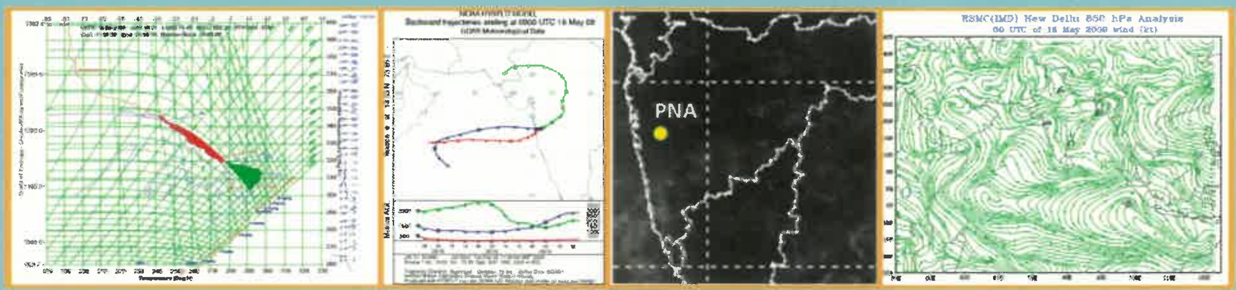
CAIPEEX REPORT

Cloud Aerosol Interaction and Precipitation Enhancement Experiment

SALIENT FEATURES OF THE WEATHER PREVAILING OVER INDIAN REGION DURING CAIPEEX MISSION (14 May - 30 September 2009)

V.R. Mujumdar and J.R. Kulkarni



Indian Institute of Tropical Meteorology, Pune

**Ministry of Earth Sciences
Government of India**

The Silent features of the weather prevailing over Indian region During CAIPEEX Mission (14 May - 30 September 2009)

(V.R. Mujumdar and J.R. Kulkarni)

Contents

The Salient features of the weather prevailing over Indian region During CAIPEEX Mission (14 May -30 September 2009)

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Pre-Phase

Thirteenth World Meteorological Congress in May 1999 noted the emerging new aspects of weather modification and its application to water resource management. Impending water stresses for two-thirds of the world population were cited by the year 2025. It was noted that weather modification techniques need to be more fully understood and developed to establish if they can contribute to the management of the world's water resources. The meteorological community must be prepared to offer advice on the efficacy of cloud seeding. It is important to note that although promising results have been obtained with hygroscopic seeding, some fundamental questions remain that need to be answered in order to provide a sound scientific basis for this technology (WMO Report 1999).

Figure 1

Figure 2

The above three factors prompted Indian Institute of Tropical Meteorology (IITM), Pune to take up a multi-year, multi-institutional programme viz., "Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX)" for the period 2009-2012 under the directives of Ministry of Earth Sciences (MoES), Govt. of India. CAIPEEX program is intended to address the intricacies of the aerosol-cloud-rainfall interactions. It has two components viz. (1) Understanding Cloud– Aerosol interaction and (2) Precipitation Enhancement. The experiment is being carried out in three phases. The Phase I was successfully completed during May- September 2009. With more than 200 hours of flying over different parts of India, from carefully chosen base stations and selected periods (fig. 1), intensive cloud and aerosol observations were taken during this Phase using instrumented, twin engine Piper Cheyene pressurized aircraft N361JC (fig.2). In Phase II, precipitation enhancement experiment would be carried out by artificially seeding the clouds in the years 2010 and 2011. The analysis of the data will be carried out in phase III in the year 2011-12.

This experiment being the first of its kind, the data is immediately made available to all the scientist and researchers. The large scale weather and microphysics influence the character and structure of clouds. The knowledge of large scale weather is very essential to understand the comparison of the cloud formation due to microphysical processors. With this objective, we are documenting the important daily synoptic features during the operational period of the experiment. We hope that this will serve as a ready reference for the scientist.

Introduction

The Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX) is primarily based on the objective to understand and study the convective clouds and its interaction with aerosols leading to the precipitation. Over the Indian region large scale moisture advection takes places during pre-monsoon to monsoon season comprising of the months May through September. The planetary as well as the regional scale atmospheric circulation play a dominant role in converting this abundant available water vapour in to the formation of clouds and rainfall. However, in absence such a strong circulation, formation of clouds and rain mainly rely on micro-physical cloud processes involving local convection and cloud aerosol interaction. To study such processes it is essential to understand the background large scale features of the atmospheric circulation. In this report we document the salient features of the large scale atmospheric circulation over Indian continent during the period of the CAIPEEX mission carried out in the year 2009. The thermodynamic structure of the atmosphere, the aerosol advection at different levels and the cloud condition as seen from the satellite during the operation over the base station of the mission are also given to understand the local environmental conditions of the experiment. We are sure that this report will serve as a quick reference for any microphysical study of the cloud aerosol interaction.

The first Phase of CAIPEEX (CAIPEEX-09) was executed by conducting special missions over 6 base stations viz, Pune (15 -21 May, 16-24 Sep,), Pathankot (23-28May), Bangaluru (30May-9 Jun, 24 June-14 July), Hyderabad (11-22 JUN, 14-18 August and 26-29 September), Bareilly (16-23 July, 19-25 August) and Guwahati (29August-8September) (fig.1). The instrumented Aircraft made vertical profiles and horizontal travels from the base stations within a periphery of about 200-250 km radius and the observations regarding cloud parameters and aerosols were conducted. The selections of the stations and the periods for the mission were decided primarily on the progress, establishment and withdrawal of monsoon, and availability of convection. Section 1 describes the data source and gives details of the various figures shown in section 3 for each day of the mission. The section 2 of this report delineates the broad scale features of the monsoon 2009

1 Data and daily atmospheric features during the CAIPEEX Mission :

The CAIPEEX Data Centre was established in IITM to download weather data consisting of analised fields, satellite imageries, synoptic charts etc. from national and international weather centers in addition to archive the aircraft data. Such information and figures are extensively used while preparing this report. The effort is made to include the information and the figures which will be useful in understanding large scale and local atmospheric feature for the mission day. However, on very few occasions some data gaps have occurred due to the failure of the net work or absence of data on the web site. As far as possible these gaps are filled up with similar type of alternate data.

The various atmospheric features on the day of the operational mission presented in the report are :

- **Weather summary :** The weather summary is downloaded from the web site of India Meteorological department (IMD) viz. www.imd.gov.in, to understand the large scale salient features of the weather prevailing over India during the day.
- **Flight :** It indicates the base and the period of the aircraft operation.
- **RS/RW Sounding :** The special radio sonde observations were arranged at the base stations with VAISALA soundings. The Tephigram of the same represents the thermodynamic structure of the atmosphere over the operational area. In absence of such observations, atmospheric soundings from Wyoming University for the base station or nearest available station are given.
- **Rainfall Map:** The daily rainfall distribution over India during the day as reported by IMD at 8.30 am of local time on next day is shown in the figure. The rainfall is rounded to nearest centimeter. The + sign indicates rainfall less than 1cms. The rainfall maps are available from 31 May onwards.
- **Large scale Synoptic Features :** i)The daily Mean sea level pressure analysis at 03 UTC published by IMD in the Indian Daily weather Report (IDWR) and the upper air circulation features for 00 UTC of the day, over the region 10°S to 45°N and 50°E to 125°E, comprising of ii) stream line analysis at 850 hPa level iii) winds at 500 hPa and iv) at 200hPa. The upper air circulations are downloaded from the analysis of Limited Area Model available on the web site of IMD. In absence of these analyses, the maps plotted with actual data for the corresponding levels, downloaded from IMD site, are put up.
- **Back Trajectory :** To trace the source of the aerosols over the base station at different heights, two maps of 72 hour back trajectories for 1) 500,1500 and 3000 meters and 2) 4000, 5000 and 6000 meters above ground level, are constructed using HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) model from the NOAA web site (http://www.arl.noaa.gov/HYSPLIT_info.php). HYSPLIT model is a complete system for computing simple air parcel trajectories to complex dispersion and deposition simulations and is developed by NOAA and Australia's Bureau of Meteorology. As most of the time the operations were held during afternoon hours the trajectories are evaluated for 9.00 UTC of the day.
- **Satellite cloud imagery :** A INSAT cloud imagery superimposed with OLR counters, published by IMD, shows the cloud condition during period of aircraft operation for the Indian region. A close view of the imagery shows the details of the cloud condition over the operational area. The location of the base station is marked over the cloud imagery.

2 The Over view of Monsoon 2009 :

Onset and withdrawal of Southwest Monsoon :

The Southwest monsoon of 2009 set over Andaman Sea around its normal date of 20th May and over Kerala on 23rd May. After two stagnations in its northward progress, i.e. during 1-5 June and 7-20 June, monsoon covered the entire country on 3rd July (fig.3). The withdrawal of SW Monsoon from west Rajasthan started on 25th September (a delay of more than 3 weeks). Subsequently, it withdrew from most parts of the northwestern states and from the northern parts of Gujarat on 28th September. On 22nd October the southwest monsoon withdrew from the entire country (fig.4).

Onset 2009

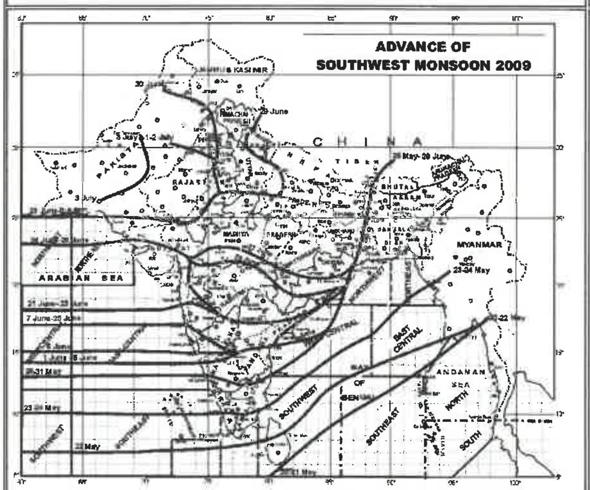


Figure 3

Withdrawal 2009

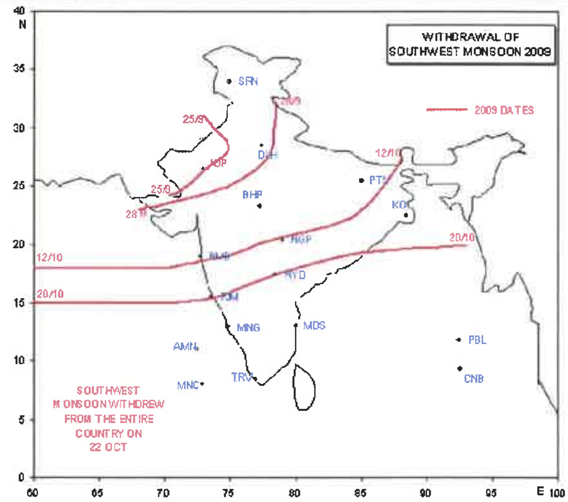


Figure 4

The Temperature :

In 2nd and 3rd week of May heat wave condition prevailed over northern, central and peninsular part of the country with severe condition over Parts of Rajasthan during some days of the 3rd week. Sever heat wave/ Heat wave conditions were experienced with 5-10°C above normal temperatures during 2nd fortnight of June over the central northern parts of the country and parts of Coastal Andhra Pradesh and Telangana. There were no heat waves during July, August and September but the maximum and minimum temperatures remained above normal by 1° to 2°C over almost all the country. During last 10 days of September maximum temperatures were appreciably above normal (40°C or more) over many parts of Rajasthan.

The Circulation features :

The Sea level surface pressure anomalies were positive (about 0.5 hPa) over most parts of the country except the northeastern parts of south peninsula and northern India (fig.5). The mean monsoon circulation over lower troposphere (850 hPa level) showed anomalous cyclonic circulation over south Arabian sea and an anomalous anticyclonic circulation over entire Bay of Bengal (fig.6). The middle troposphere (500 hPa) an anomalous anticyclonic circulation remained over extreme northwestern region and neighbourhood and over northeastern region (fig.7). The wind anomaly at 200 hPa level shows that the anomalous anticyclonic circulation of northeastern region has extended up to upper troposphere (fig 8).

Surface Pressure Anomaly

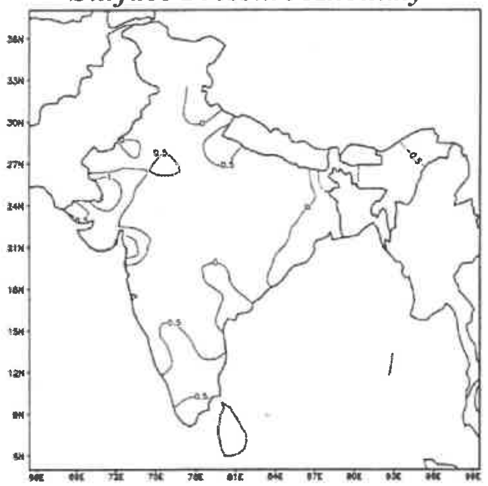


Figure 5

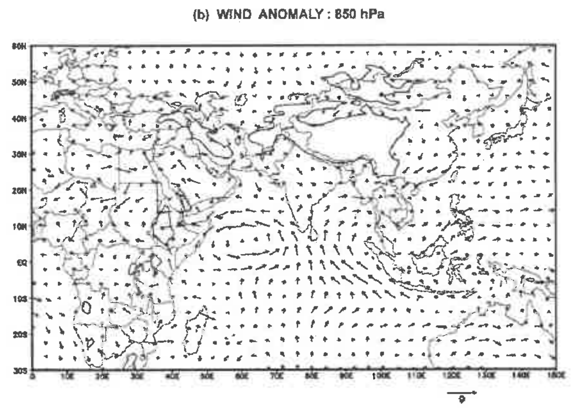


Figure 6

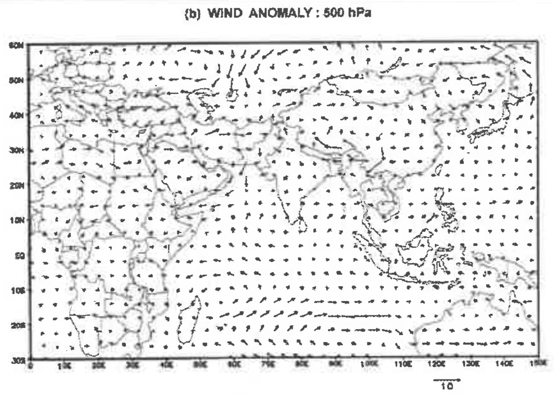


Figure 7

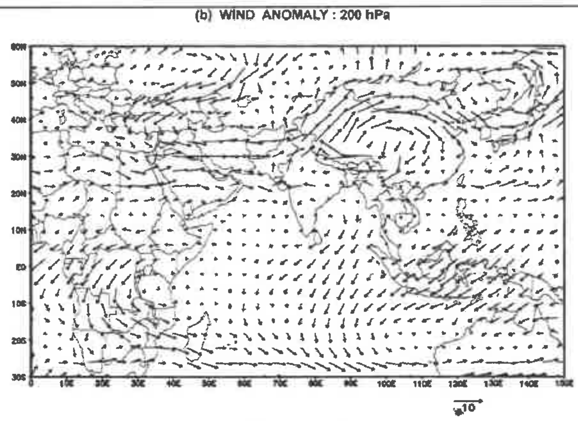


Figure 8

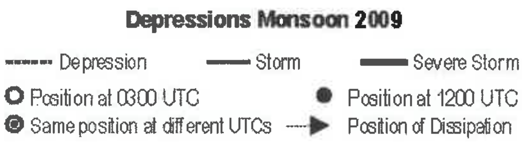
Low pressure Systems :

During the CAIPEEX period (14May – 30 September) a severe cyclonic storm, named AILA, formed over Bay of Bengal during 24-26 May and crossed Bay of Bengal coast. During monsoon season (June- September) 4 depressions (2each over Arabian Sea and Bay of Bengal formed. Apart from these systems five low pressure areas (one each in June, August and September and two in July) formed during the season. The table 1 and the figures 9-11, show the details of the periods and the tracks of the low pressure systems.

Low pressure Systems during CAIPEEX mission (15 May – 30 September)

Month	L/WL Date	Area	Total	D/DD/SCS Date	Area	Total
May				24-26 SCS	Bay of Bengal	1
June	4-7	Northwest Bay of Bengal and neighbourhood		23-24	East central Arabian Sea-west coast- south Gujarat coast	2
			1	25-26	Northeast Arabian Sea	
July	6-8	Near Jharkhand	2	20-21 DD	Northwest Bay of Bengal-monsoon trough zone	1
	13-16	Northwest Bay of Bengal-monsoon trough zone				
August	25-29	Northwest Bay of Bengal and adjoining coastal Orissa	1			
September	28-30 WL	West central Bay of Bengal	1	5-7 DD	Northwest Bay of Bengal off Orissa coast	1
Total			**5**	**Total**		**5**

Table 1



....33

Cyclonic Storm AILA formed in May 2009

Figure 9

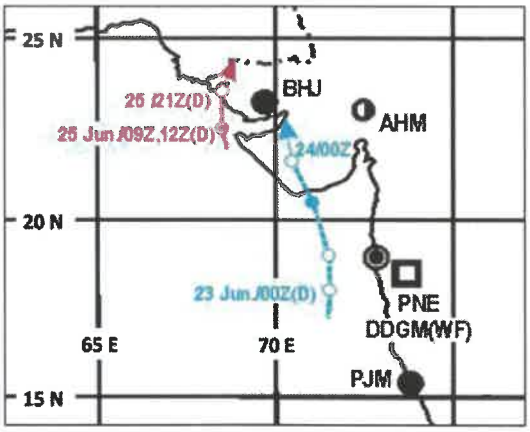


Figure 10

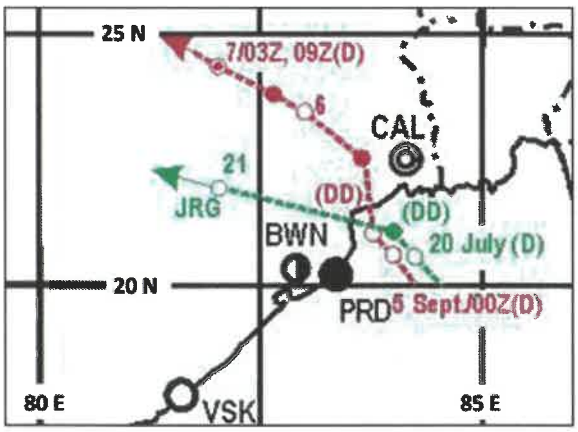


Figure 11

Rainfall :

For the country as a whole, the rainfall for the monsoon season (June-September) was 78% of its long period average (LPA). Monthly rainfall was 88% of its LPA in May, 53% of LPA in June, 96% of LPA in July, 73% of LPA in August and 80% of LPA in September. The seasonal rainfall all India and the four broad geographical regions are shown in Table 2.

Region	Actual (mm)	Long Period Average (LPA) (mm)	Actual % of LPA	Coefficient Of Variation (CV) % of LPA
All-India	698.1	892.2	78	10
Northwest (NW) India	394.6	611.6	65	19
Central India	795.0	993.9	80	14
South peninsula	682.4	722.6	94	15
Northeast (NE) India	1098.1	1427.3	77	8

Table 2

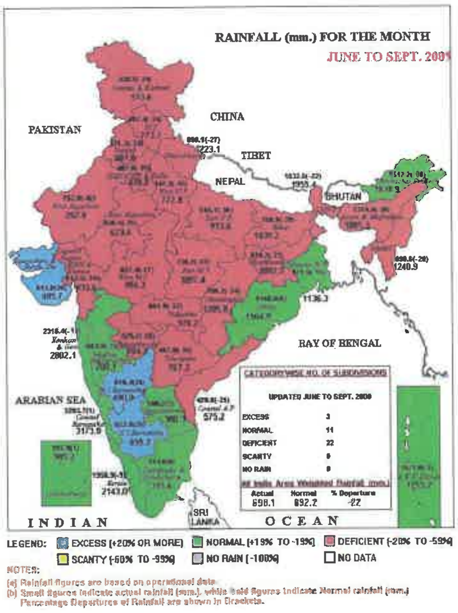


Figure 12

The sub-divisionwise season rainfall record shows 22 deficient subdivisions out of 36. Out of the remaining 14 subdivisions, only 3 subdivisions (Saurashtra & Kutch, North Interior Karnataka and South Interior Karnataka) recorded excess rainfall and remaining 11 subdivisions recorded normal rainfall (Fig12).

Considering the entire country, only about 20 to 25 days in the season has experienced more than daily normal rainfall. The all India daily cumulative rain fall has remained below normal during entire season.

DAILY EVOLUTION OF 2009 ALL-INDIA SUMMER MONSOON RAINFALL

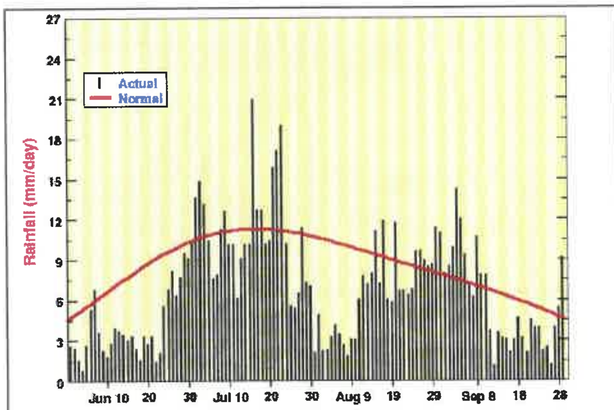


Figure 13

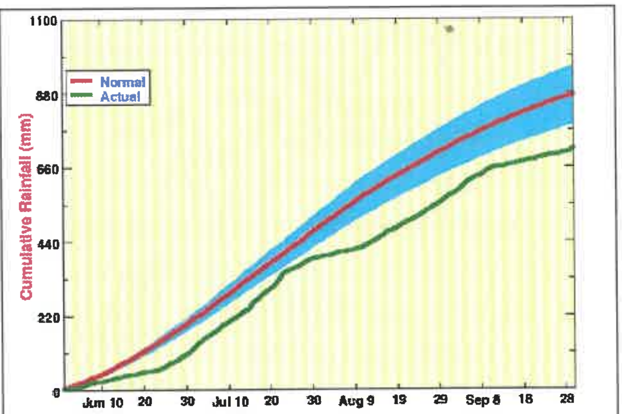


Figure 14

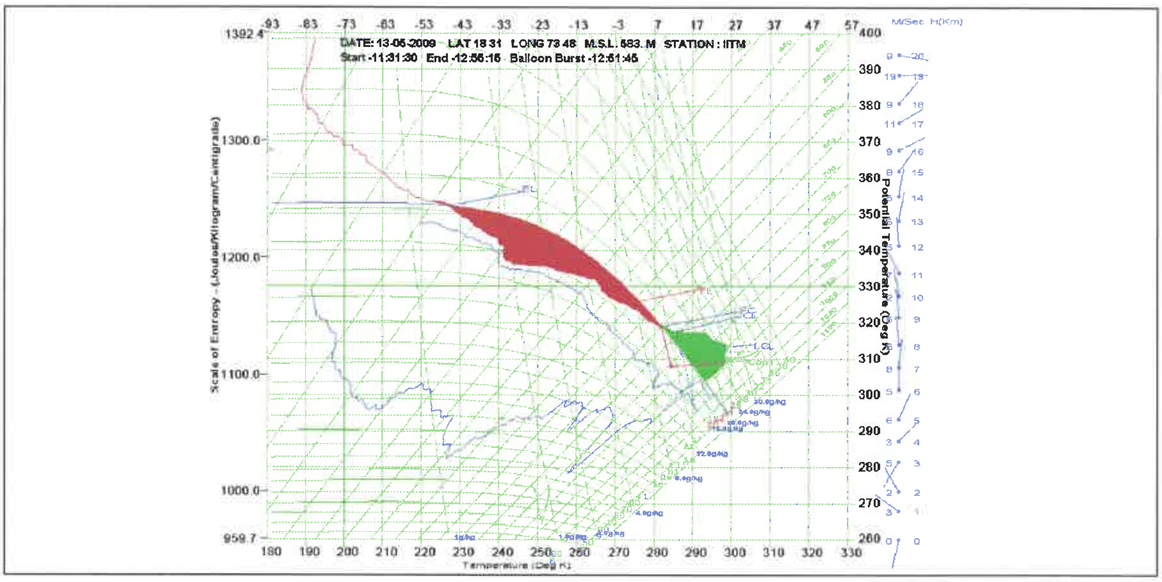
3

Daily weather summary during CAIPEEX MISSION 2009

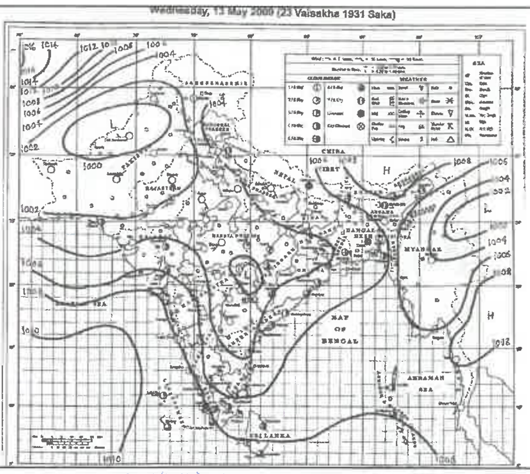
13 May 2009 (Base Pune)

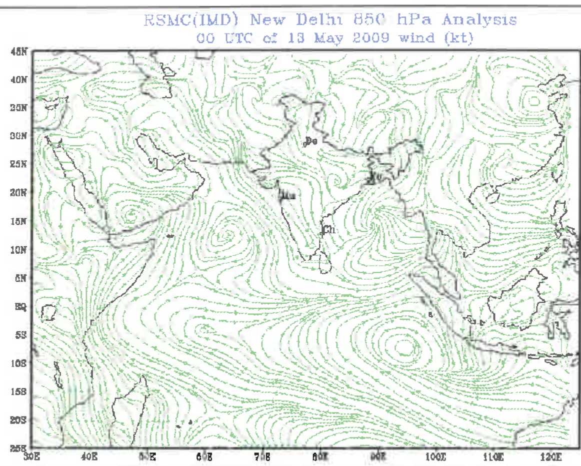
Weather summary :

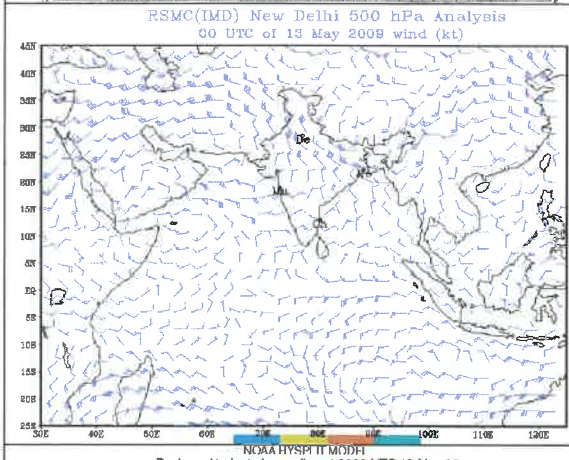
- Trough in lower level westerlies from Sub Himalayan west Bengal & Sikkim to northwest Bay of Bengal extends between3.6 and 4.5 kms a.s.l.
- Cyclonic circulation extends up to 0 .9 kms a.s.l. over west Rajasthan and adjoining south Pakistan.
- Heat wave condition prevails in some parts of Vidarbha, Rayalseem and at isolated places in west Rajasthan and north Tamilnadu
- Rain or thundershowers have occurred at most places in West Bengal & Sikkim; at a few places in Assam & Meghalaya, Nagaland-Manipur-Mizoram-Tripura, Orissa, Jharkhand and Kerala and at isolated places in Andaman & Nicobar Islands and Tamil Nadu. Very light rain has occurred in Arunachal Pradesh and Bihar. Mainly dry weather prevailed over the rest of the country.



13 May 2009


Wednesday, 13 May 2009 (23 Vaisakha 1931 Saka)
BAY OF BENGAL
SRI LANKA
MYANMAR
CHINA
ANDAMAN SEA


RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 13 May 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
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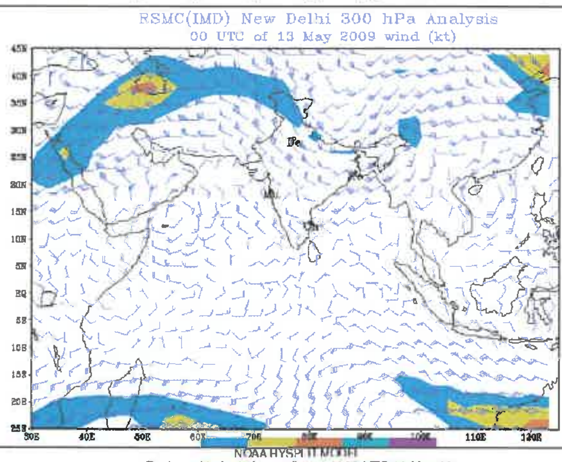
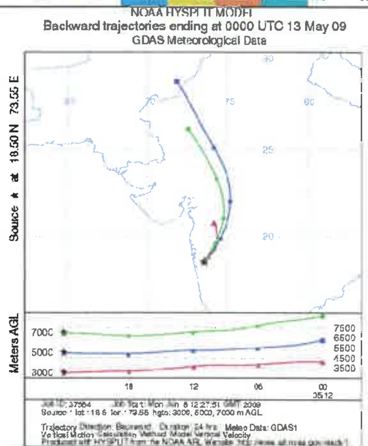
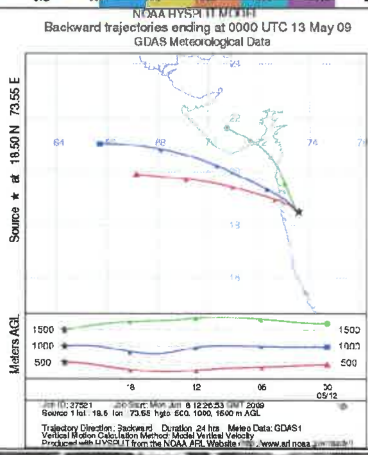

RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 13 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0000 UTC 13 May 09
GDAS Meteorological Data
Source ★ at 18.50 N 73.55 E
Meters AGL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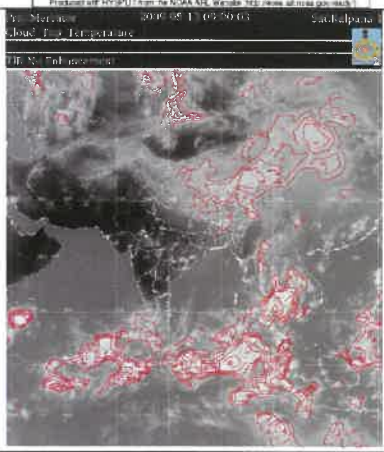

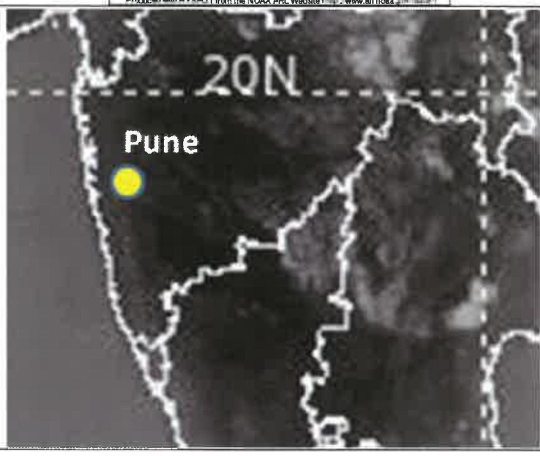
20N
Pune

14 May 2009 (Base Pune)

Weather summary :

- Heat wave conditions are prevailing over many parts of Rajasthan, coastal Tamilnadu and isolated pockets of Vidarbha.
- Highest maximum temperature of 46.5°C was recorded at Churu and Kota (Rajasthan).
- The trough in lower level westerlies from Sub Himalayan west Bengal & Sikkimto northwest Bay of Bengal now runs from Assam & Meghalaya to northeast Bay of Bengal between 3.1 & 5.8 kms a.s.l.
- A Heat wave conditions prevailed in west Rajasthan; some parts of Tamil Nadu and at isolated places in Madhya Maharashtra, Marathwada, Vidarbha, Telangana and Rayalaseema.
- Rain or thundershowers have occurred at most places in Assam & Meghalaya and Nagaland-ManipurMizoram-Tripura and Gangetic West Bengal; at many places in Arunachal Prädesh; at a few places in Andaman & Nicobar Islands and Sub-Himalayan West Bengal & Sikkirn and at isolated places in Orissa, Bihar and west Madhya Pradesh. Very light rain has also occurred at isolated places in Uttarakhand, east Rajasthan, Chattisgarh, coastal Andhra Pradesh and Telangana. Mainly dry weather prevailed over the rest of the country.

Flight :

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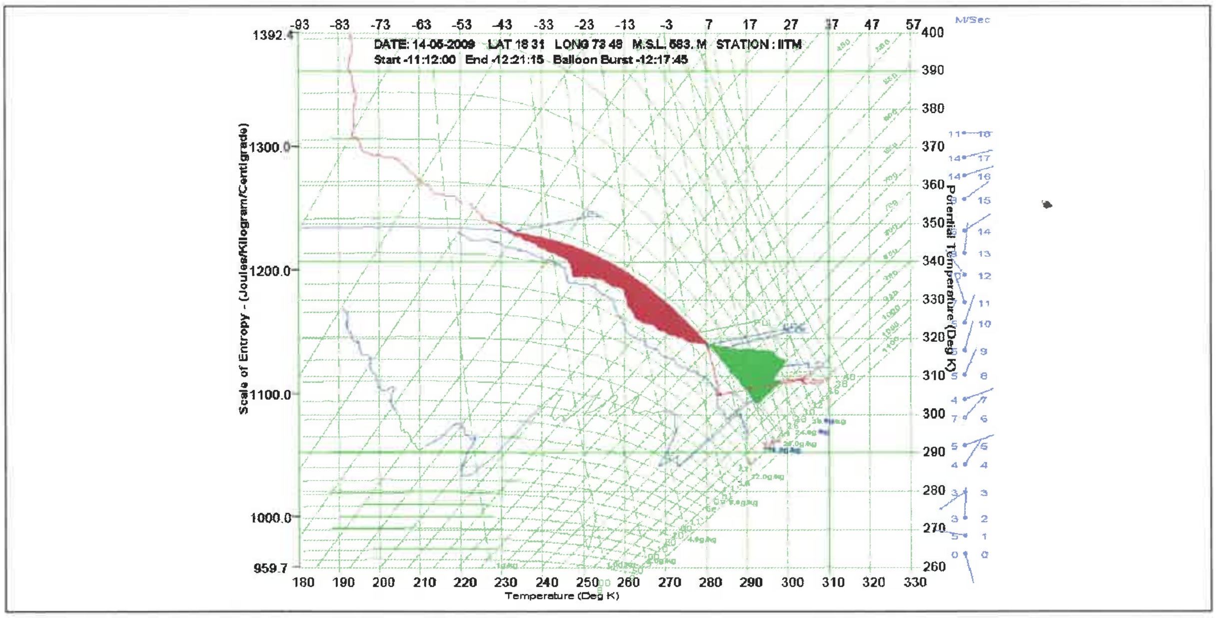
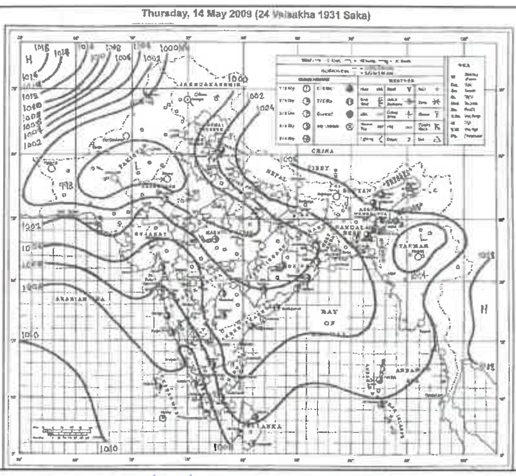
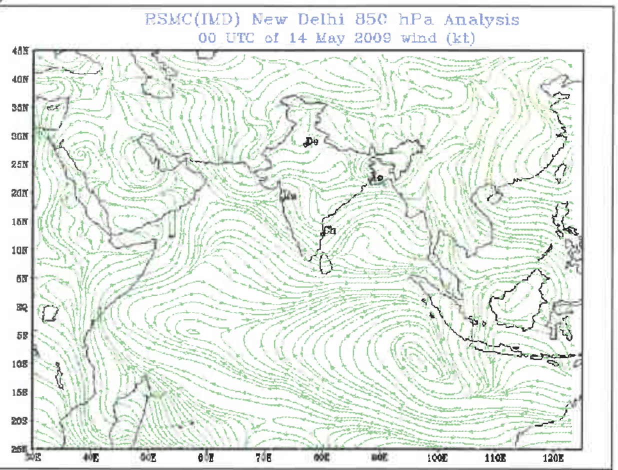
- Engin on : 14:00
- Engin off : 17:50



14 May 2009


Thursday, 14 May 2009 (24 Vaisakha 1931 Saka)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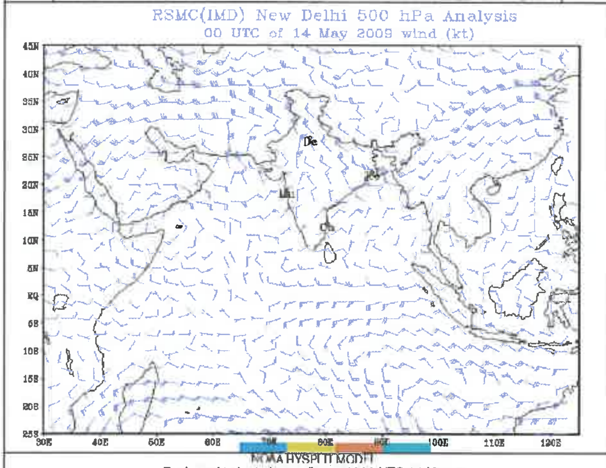
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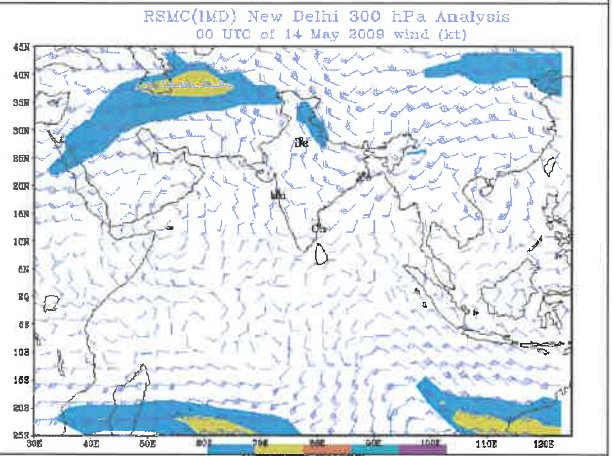
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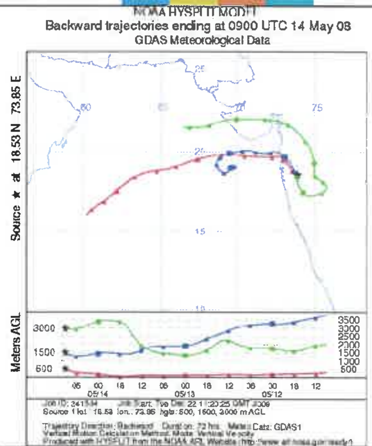
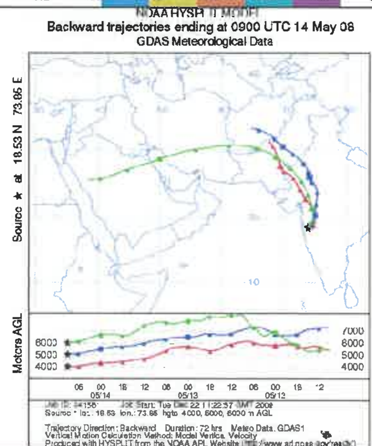

NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 14 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL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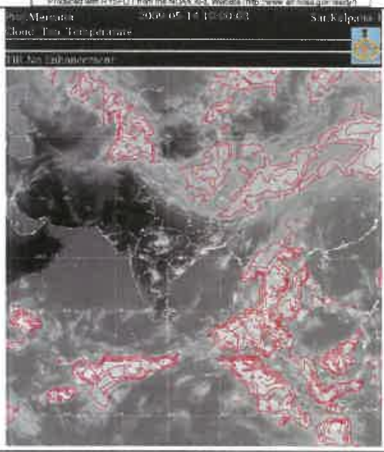
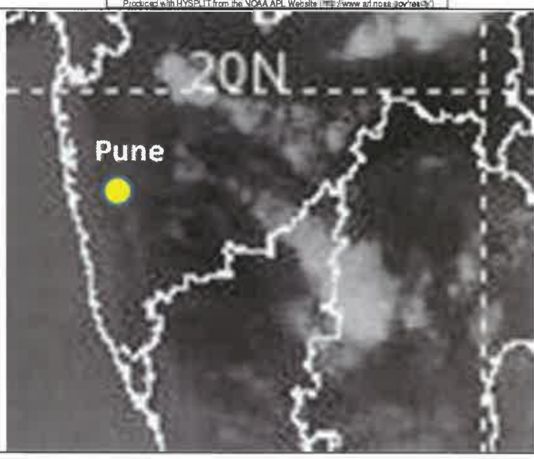


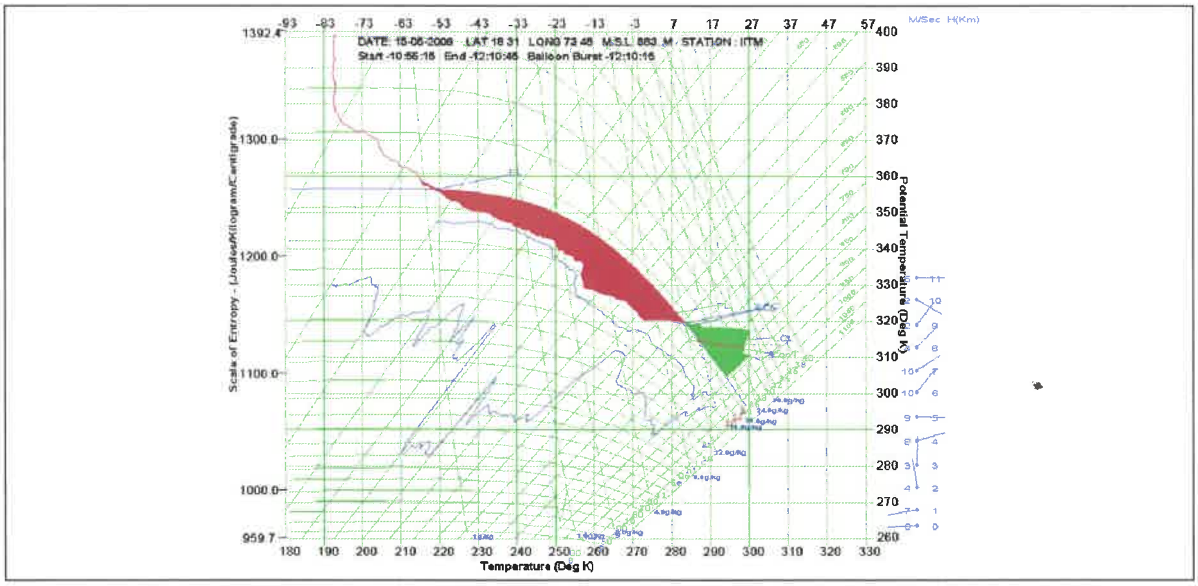

20N
Pune

15 May 2009 (Base Pune)

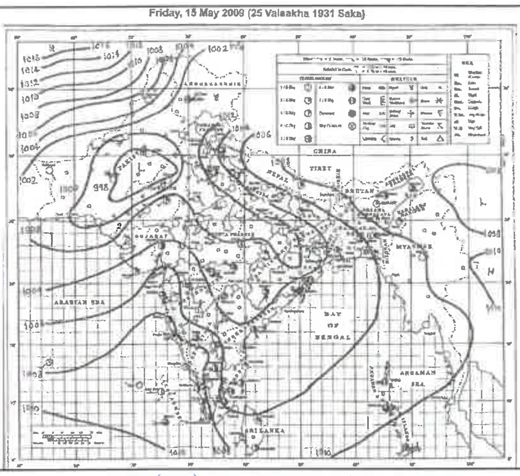
Weather summary :

- Heat wave conditions over Rajasthan, coastal Tamil Nadu and Vidarbha
- The cyclonic circulationextending upto 0.9 km a.s.l, lies over Punjab and neighbourhood.
- Heat wave conditions prevailed in Rajasthan and in some parts of Vidarbha, coastal Andhra Praclesh and Tamil Nadu.
- Rain or thundershowers have occurred at many places in Añdaman & Nicobar Islands; at a few places in Arunachal Pradesh, Orissa, Uttarakhand and Marathwada and at isolated places in Assam & Meghalaya, Nagaland-Manipur-Mizoram-Tripura, West Bengal & Sikkim, Himachal pradesh, Madhya Pradesh, Vidarbha, coastal Andhra Pradesh and Tamil Nadu. Very light rain has also occurred at isolated places in Madhya Maharashtra, Chattisgarh, Telangana, Rayalaseema, and north interior Karnataka.

Flight :Nil



15 May 2009


Friday, 15 May 2009 (25 Vaisakha 1931 Saka)
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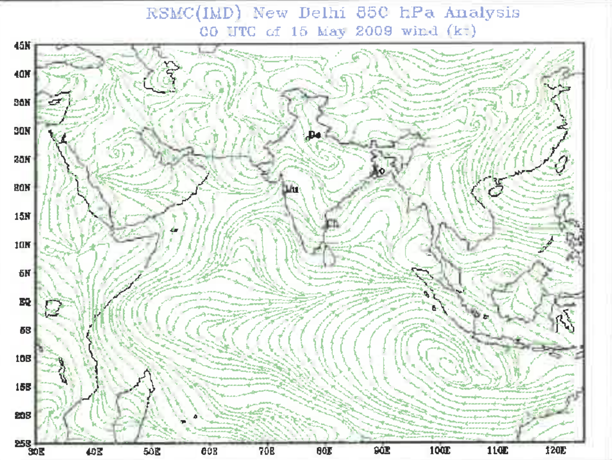
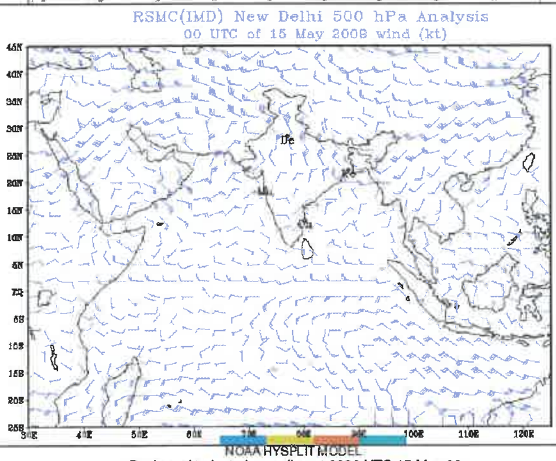
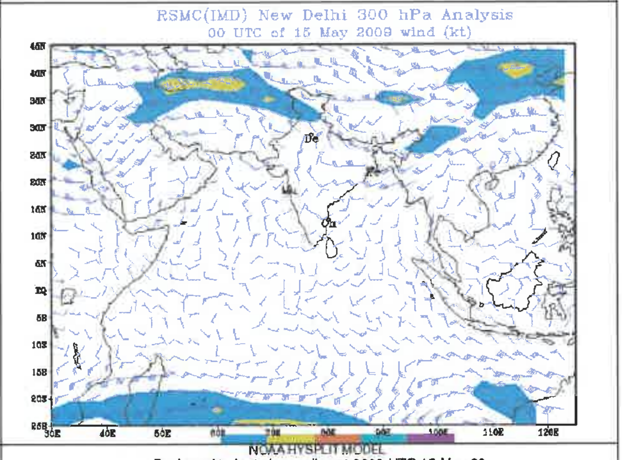
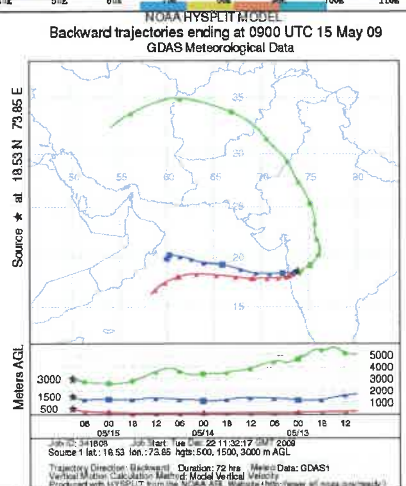
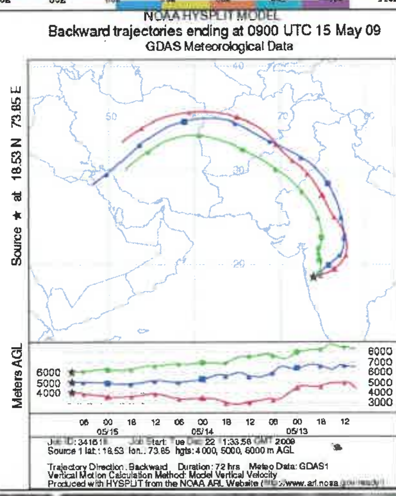
BAY OF BENGAL
ANDAMAN SEA
SRI LANKA
CHINA
TIBET
NEPAL
BHUTAN
MYANMAR

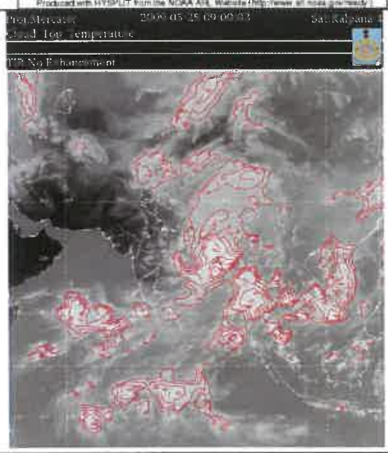

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 15 May 2009 wind (kt)

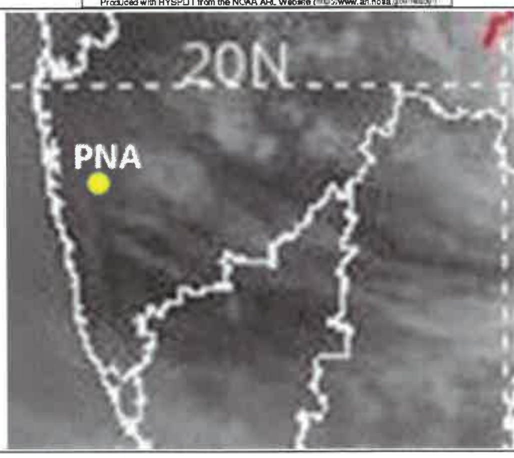

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 15 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 15 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL
Source 1 lat.: 18.53 lon.: 73.85 hgts: 500, 1500, 3000 m AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1
Vertical Motion Calculation Method: Model Vertical Velocity


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL
Source 1 lat.: 18.53 lon.: 73.85 hgts: 4000, 5000, 6000 m AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1
Vertical Motion Calculation Method: Model Vertical Velocity


Cloud Top Temperature

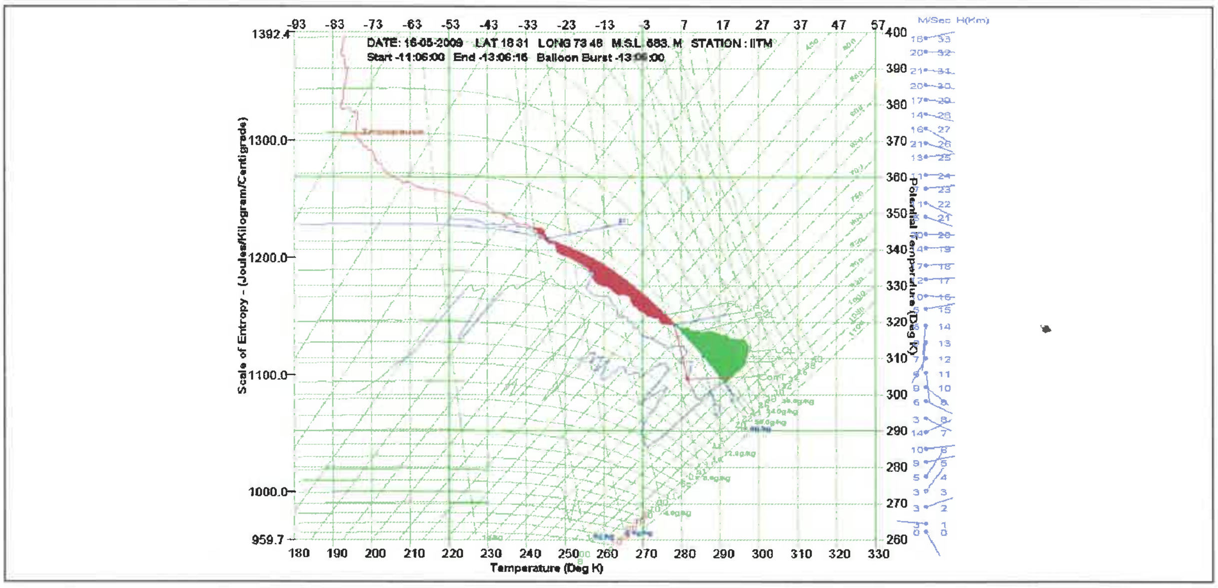

20N
PNA

16 May 2009 (Base Pune)

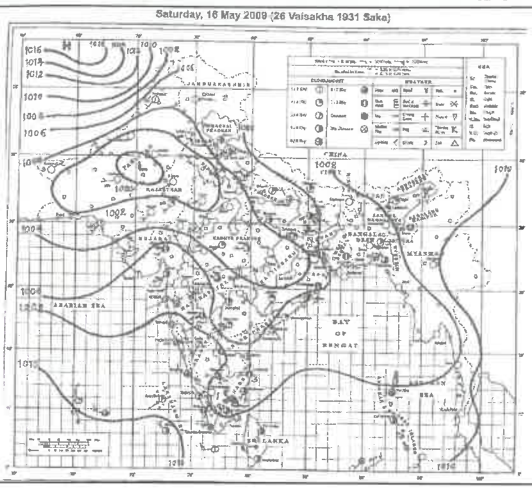
Weather summary :

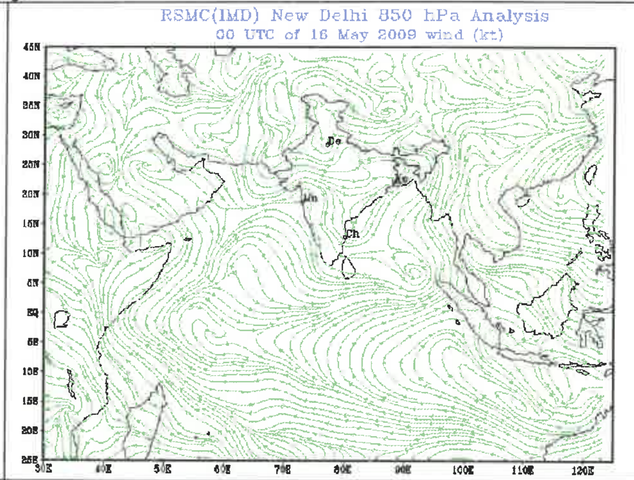
- A trough extending upto 0.9 km a.s.l. runs from west Raajsthan to Gangetic West Bengal with an embedded cyclonic circulation over east Rajasthan & neighbourhood. east Madhya Praclesh & neighbourhood and Gangetic West Bengala & neighbourhood. A cyclonic circulation between 1.5 & 5.8 kms a.s.l. lies over south Andaman sea and adjoining southeast Bay of Bengal.
- Severe heat wave conditions prevailed in north Rajasthan. Heat wave conditions prevailed in some parts of south Rajasthan and Vidarbha and at isolated places in north Gujarat region and coastal Tamil Nadu.
- The highest maximum temperature of 47.2°C was recorded at Jaisalmer (Rajasthan).
- Rain or thundershowers have occurred at most places in Andarnan & Nicobar Islands and Gangetic West Bengal; at many places in Jharkhand, Bihar and Tamil Nadu; at a few places in Nagaland-Manipur-MizoramTripura, Marathwada and south interior Karnataka and at isolated places in Assarn & Meghalaya, Orissa. Madhya Pradesh, Vidarbha, Chattisgarh, Rayalaseema and Kerala. Very light rain has also. occurred at isolated places in West Uttar Prad~sli, Uttarakhand, Himachal Pradesh, Jammu & Kashmir and coastal Andhra Pradesh.

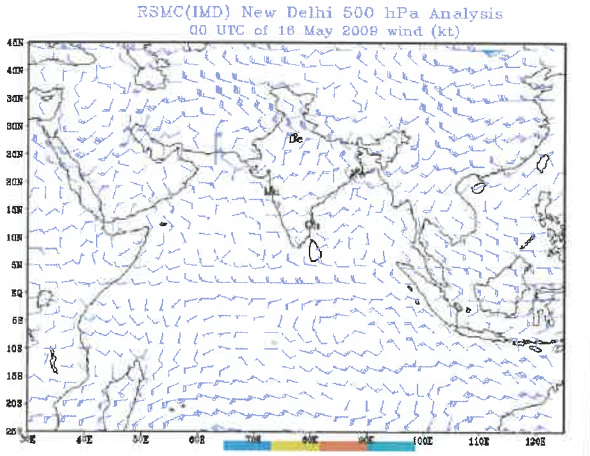
Flight *Nil*

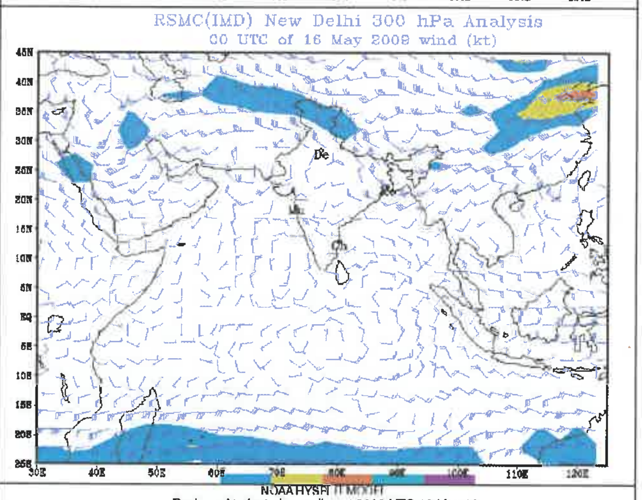


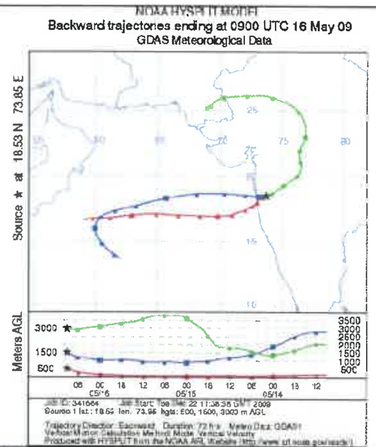
16 May 2009

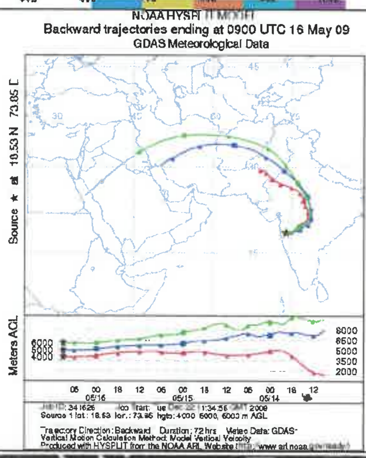

Saturday, 16 May 2009 (26 Vaisakha 1931 Saka)
ARABIAN SEA
BAY OF BENGAL
SRI LANKA

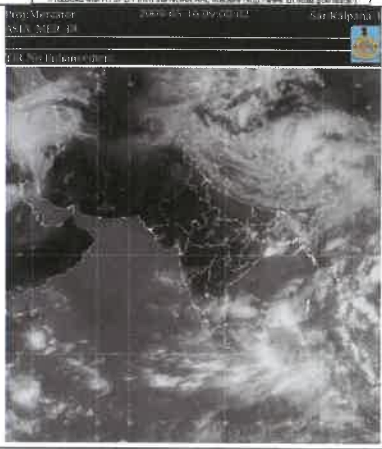

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 16 May 2009 wind (kt)

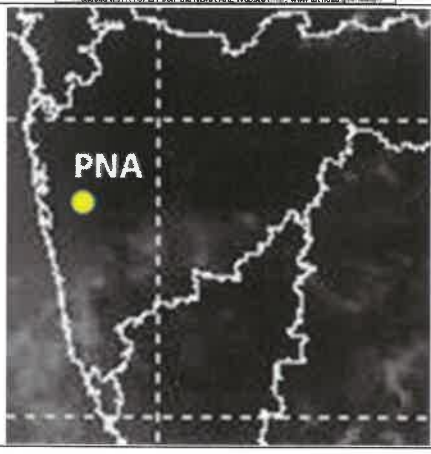

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 16 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 16 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 16 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 16 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL




PNA

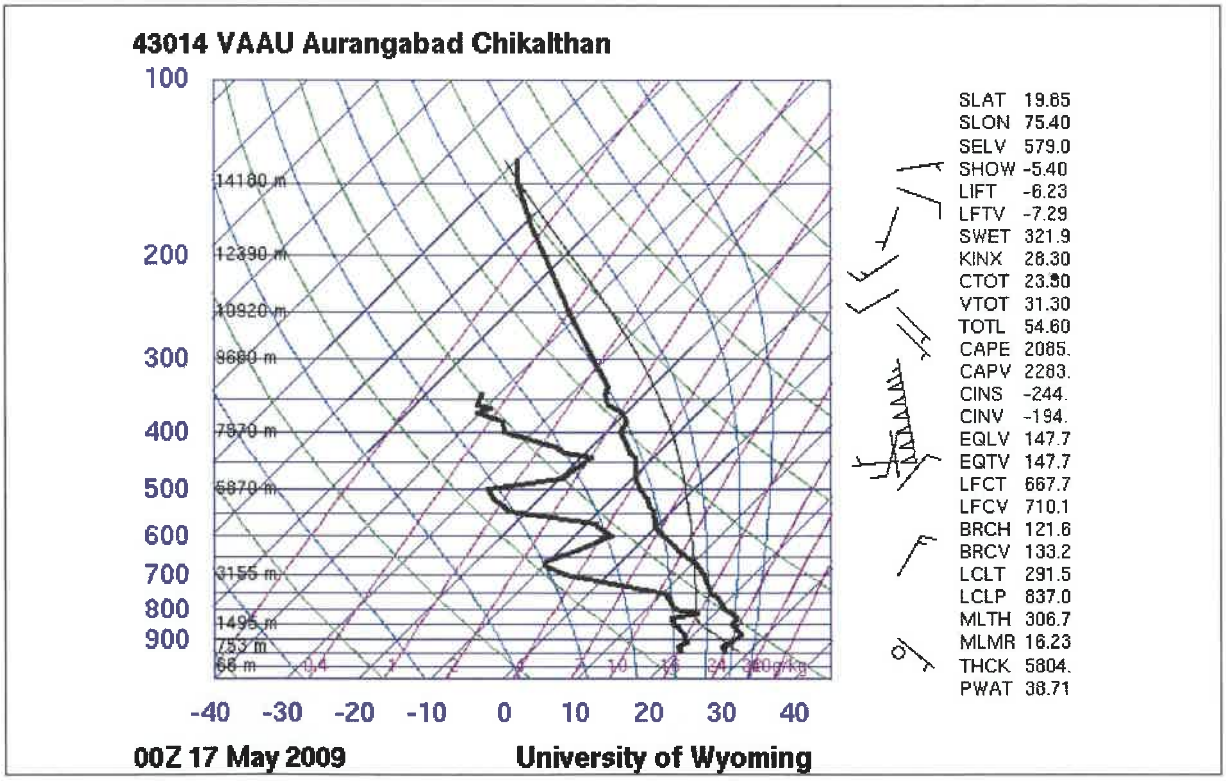
17 May 2009 (Base Pune)

Weather summary :

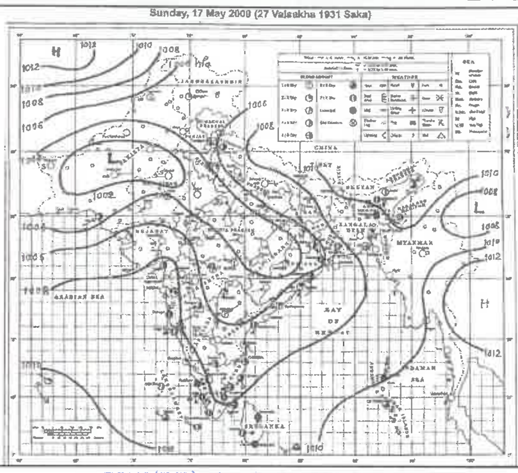
- Trough extending upto 0.9 km a.s.l. runs from northwest Rajasthan to Gangetic West Bengal with embedded cyclonic circulations one over northwest Rajasthan and another over east Madhya Pradesh & neighbourhood.
- The cyclonic circulation between I .5 & 5.8 kms a.s.l. over south Andaman Sea and adjoining southeast Bay of Bengal Persists.
- Heat wave to severe heat wave conditions are prevailing over most parts of Rajasthan and some parts of Vidarbha .
- Heat wave conditions are also prevailing over isolated pockets of West Madhya Pradesh, Haryana and Chhattisgarh .
- The highest maximum temperature of 47.5°C was recorded at Churu (Rajasthan).
- Rain or thundershowers have occurred at many places in Andaman & Nicobar Islands and Nagaland-Manipur—Mizoram—Tripura; at a few places **iii** Jharkhand, Uttarakhancl, north interior Karnataka and Kerala and at isolated places in Assam & Meghalaya, West Bengal & Sikkim, Orissa, Bihar, Madhya Pradesh and south interior Karnataka.
- Very light rain has also occurred at isolated places in Himachal Pradesh, east Rajasthan, Madhya Maharashtra, Marathwada, Chattisgarh, coastal Andhra Pradesh, Telangana and Tamil Nadu.

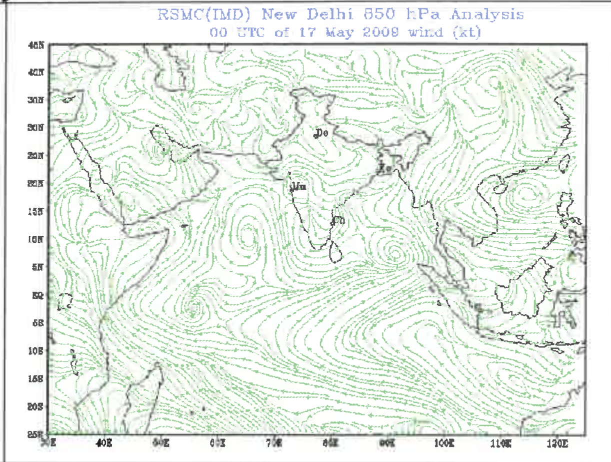
Flight :

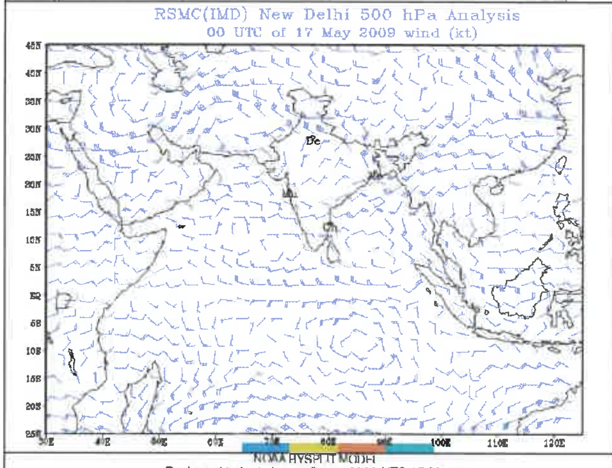
Station : Pune
Engin on : 12:10
Engin off : 13:15

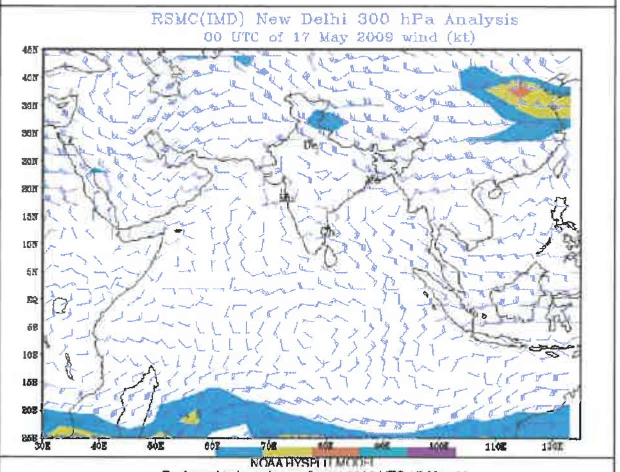


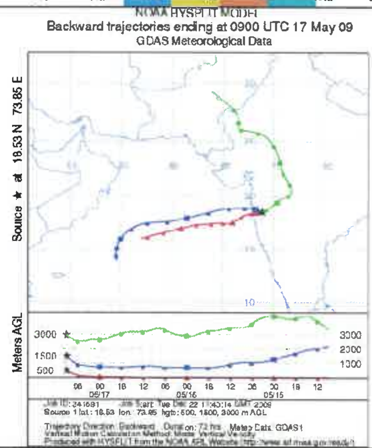
17 May 2009

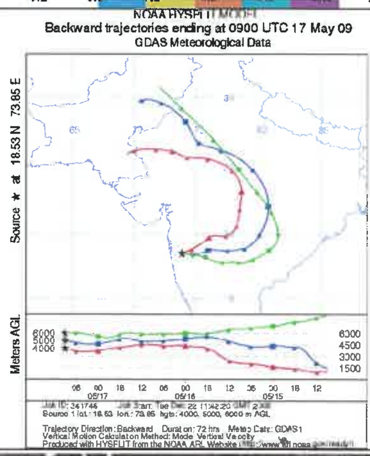

Sunday, 17 May 2009 (27 Vaisakha 1931 Saka)

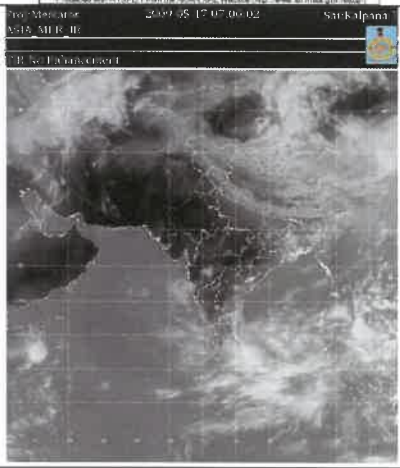

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 17 May 2009 wind (kt)

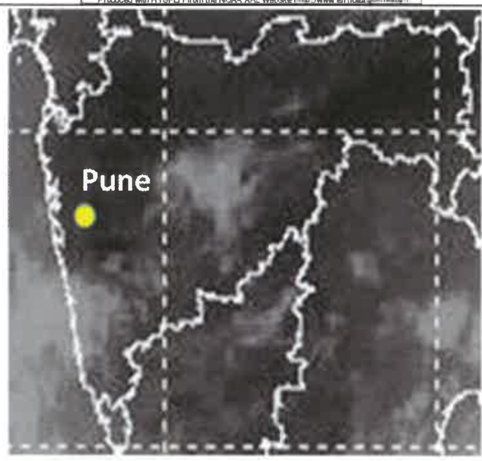

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 17 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 17 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL



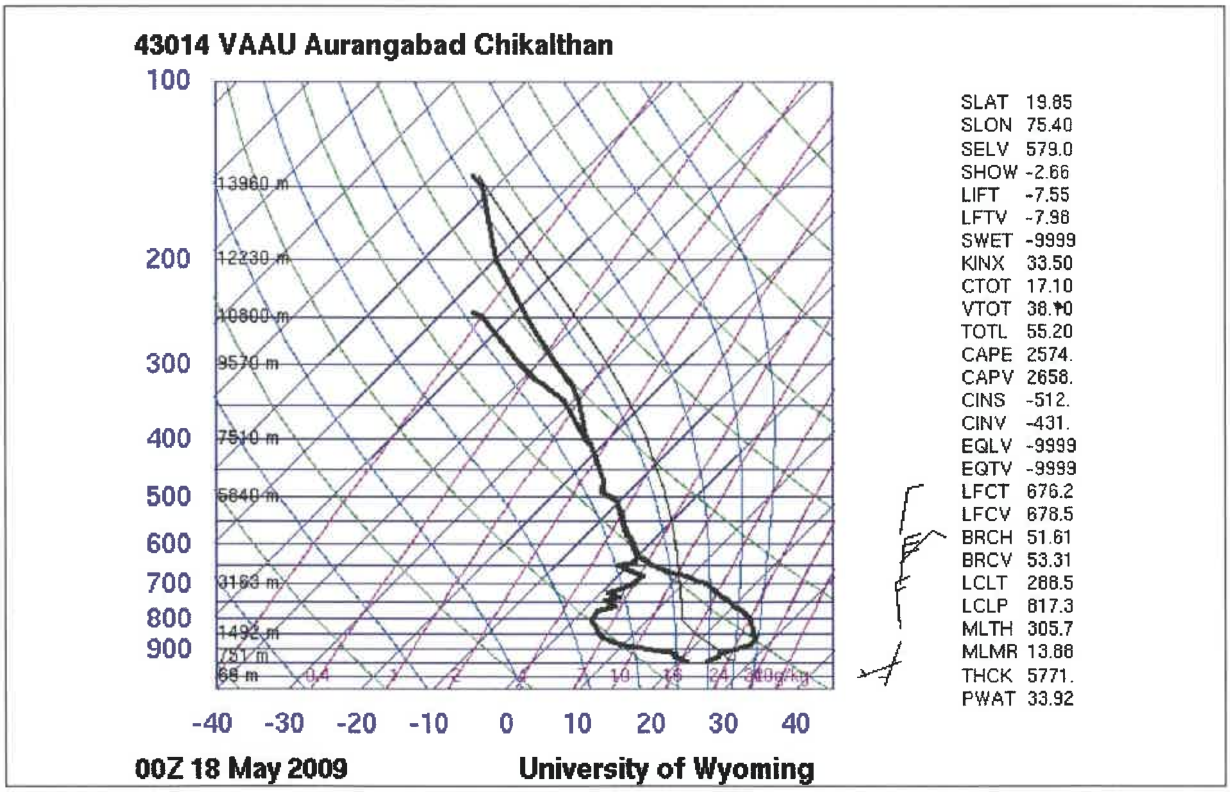

Pune

18 May 2009 (Base Pune)

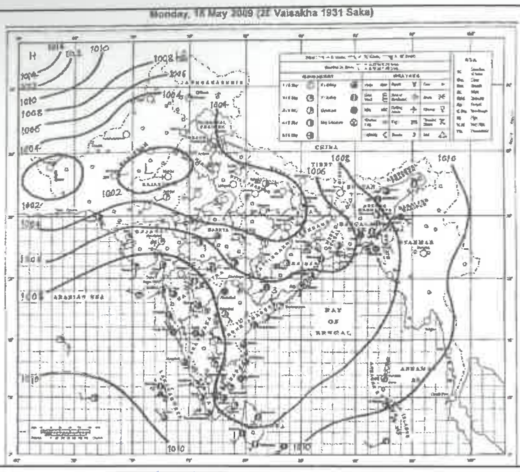
Weather summary :

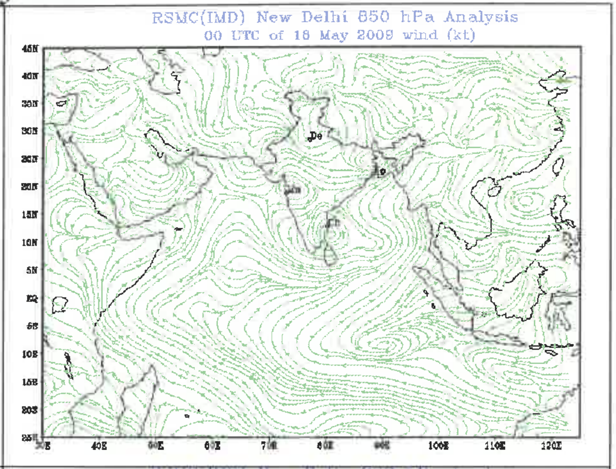
- The trough extending upto 0.9 km a.s.l. from northwest Rajasthan to Gangetic West Bengal persists now with embedded cyclonic circulations one over west Uttar Pradesh and nieghbotirhood and other over Jharkhand and neighbourhood.
- The cyclonic circulation between i 3 & 5.8 kms a.s.l. over south Andaman Sea and adjoining southeast Bay of Bengal persists and extends upto 5.8 kms a.s.l.
- A trough/ wind discontinuity at 0.9 km a.s.l. runs from Chattisgarh to Kerala through Telangana. Ravalaseema and south interior Karnataka.
- Severe heat wave conditions prevailed at isolated places in west Rajasthan. Heat wave conditions also prevailed in some parts of Haryana, east Rajasthan, west Madhya Pradesh and of Vidarbha; isolated places in Orissa, east Madhya Pradesh and of Chattisgarh and in remaining parts of west Rajasthan.
- Rain or thundershowers have occurred at most places in Nagaland-Manipur-Mizoram-Tripura and coastal Kamnataka; at many places in Andaman & Nicobar Islands, Jharkhand, Interior Karnataka and Lakshadweep; at a few places in Arunachal Pradesh, Assam & Meghalaya, Orissa, Bihar, West Madhya Pradesh, Marathwada and Chattisgarh and at isolated places in West Bengal & Sikkim, east Rajasthan, east Madhya Pradesh, Madhya Maharashtra. Vidarbha, Telangana, Tamil Nadu and Kerala.
- Very light rain has also occurred in Rayalaseema. Mainly dry weather prevailed over the rest of the country.

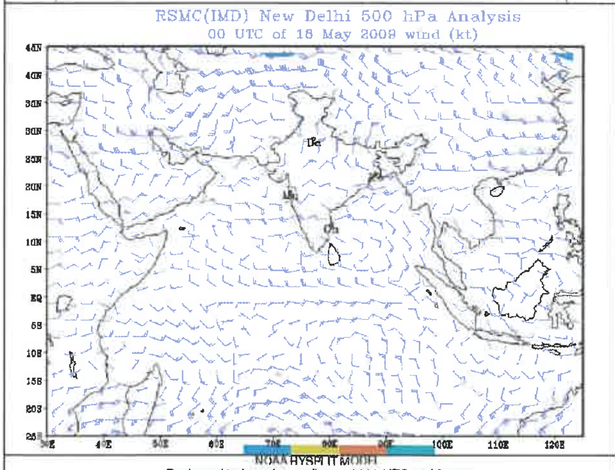
***Flight :** Nil*

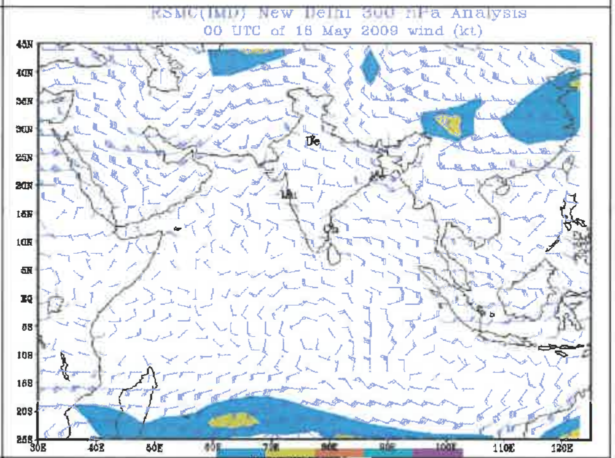


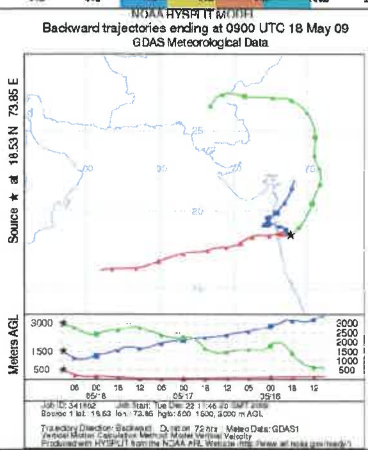
18 May 2009

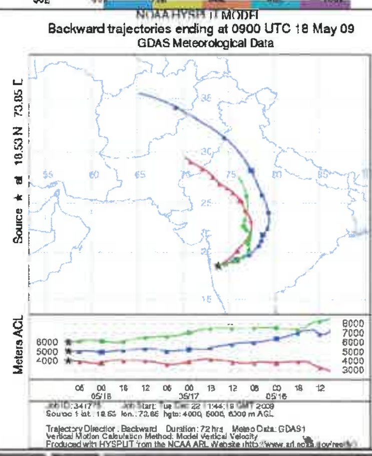

Monday, 18 May 2009 (28 Vaisakha 1931 Saka)

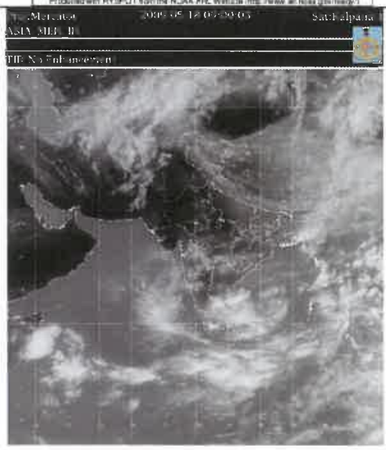

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 18 May 2009 wind (kt)

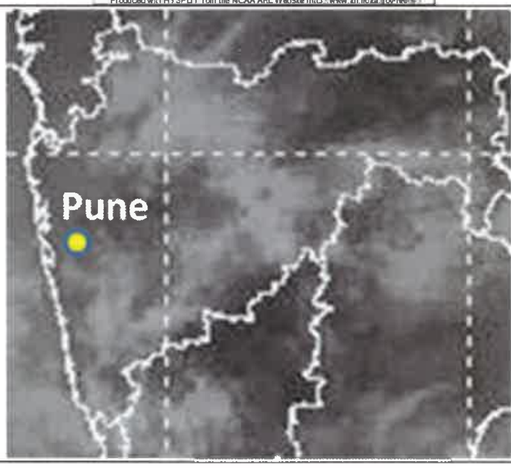

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 18 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 18 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL




Pune

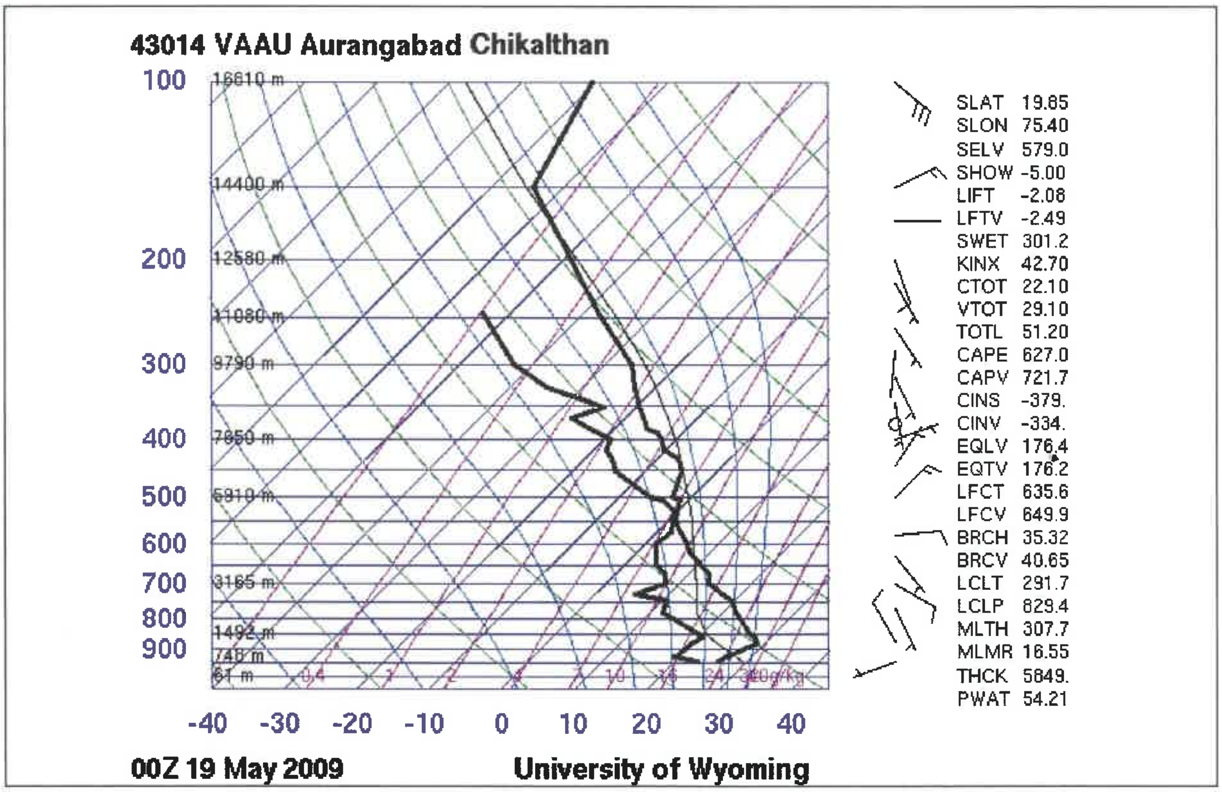
19 May 2009 (Base Pune)

Weather summary :

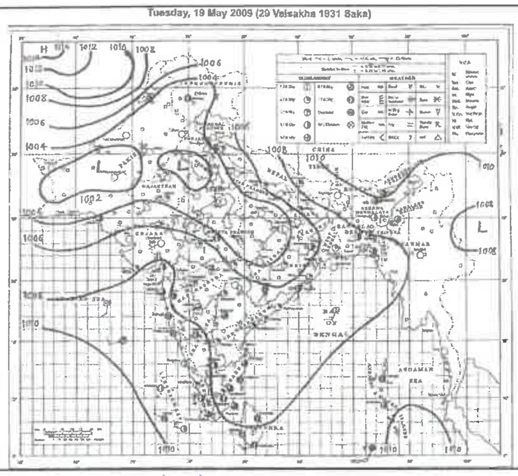
- The trough extending up to 0.9 Km. a.s.l. runs from Punjab to Orissa with an embedded cyclonic circulation over Punjab and adjoining Haryana. The cyclonic circulation lies over southwest and adjoining southeast Bay of Bengal and extends between 1.5 & 5.8 kms a.s.l. A western disturbance as an upper air system lies over Jammu & Kashmir and adjoining north Pakistan.
- Severe heat wave conditions prevailed in some parts of west Rajasthan. Heat wave conditions also prevailed in east Rajasthan and in some parts of west Uttar Pradesh, Haryana and of madhya Pradesh and at isolated places in Orissa and Punjab.
- Rain or thundershowers have occurred at many places in south interior Karnataka; at a few places in Andaman & Nicobar Islands, Nagaland-Manipur-Mizoram-Tripura. Gangetic West Bengal, Tamil Nadu, north interior Karnataka, Kerala arid Lakshadweep and at isolated places in Assam & Meghalaya, Orissa, east Rajasthan, Madhya Pradesh, Chattisgarh, Rayalaseema and coastal. Karnataka.

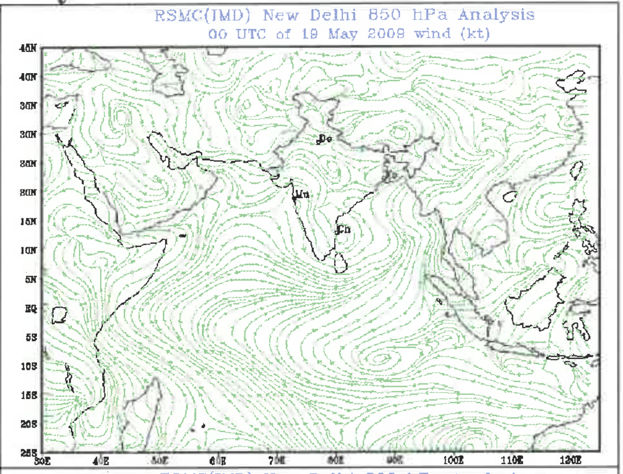
Flight :

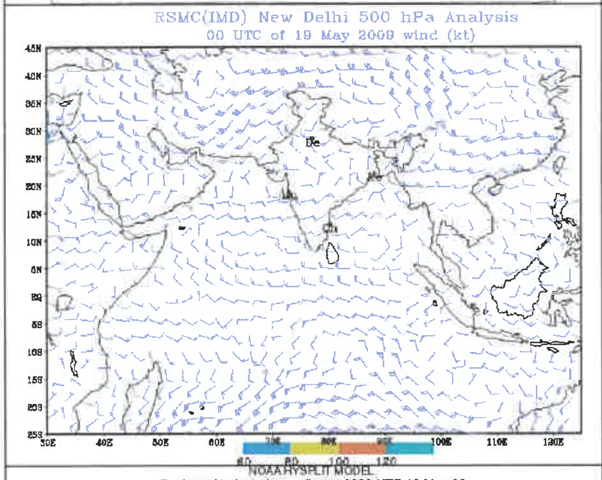
Station : Pune
Engine on : 15:10
Engine off : 16:15

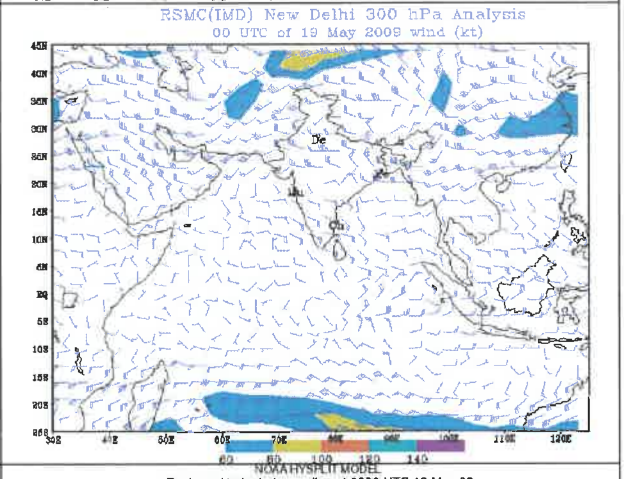


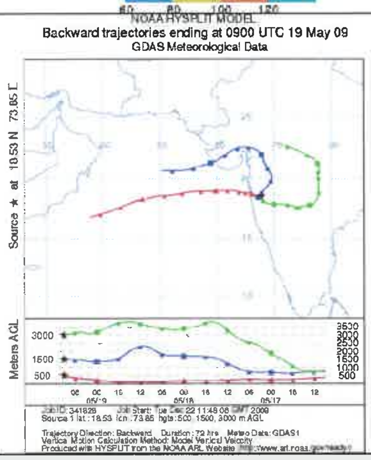
19 May 2009

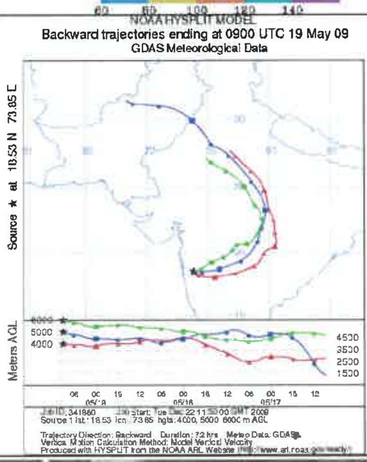

Tuesday, 19 May 2009 (29 Vaisakha 1931 Saka)

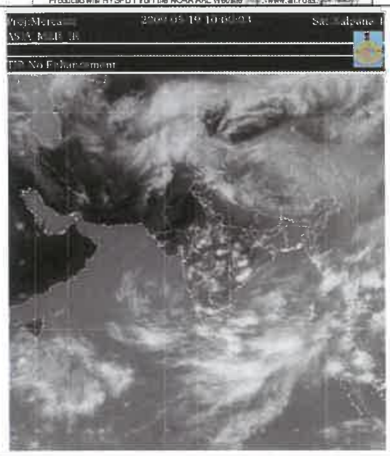

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 19 May 2009 wind (kt)

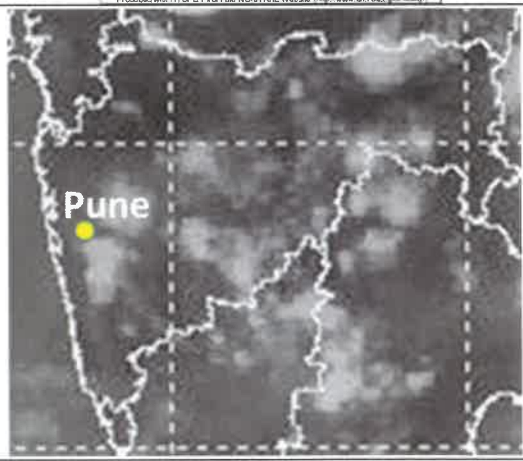

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 19 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 19 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL




Pune

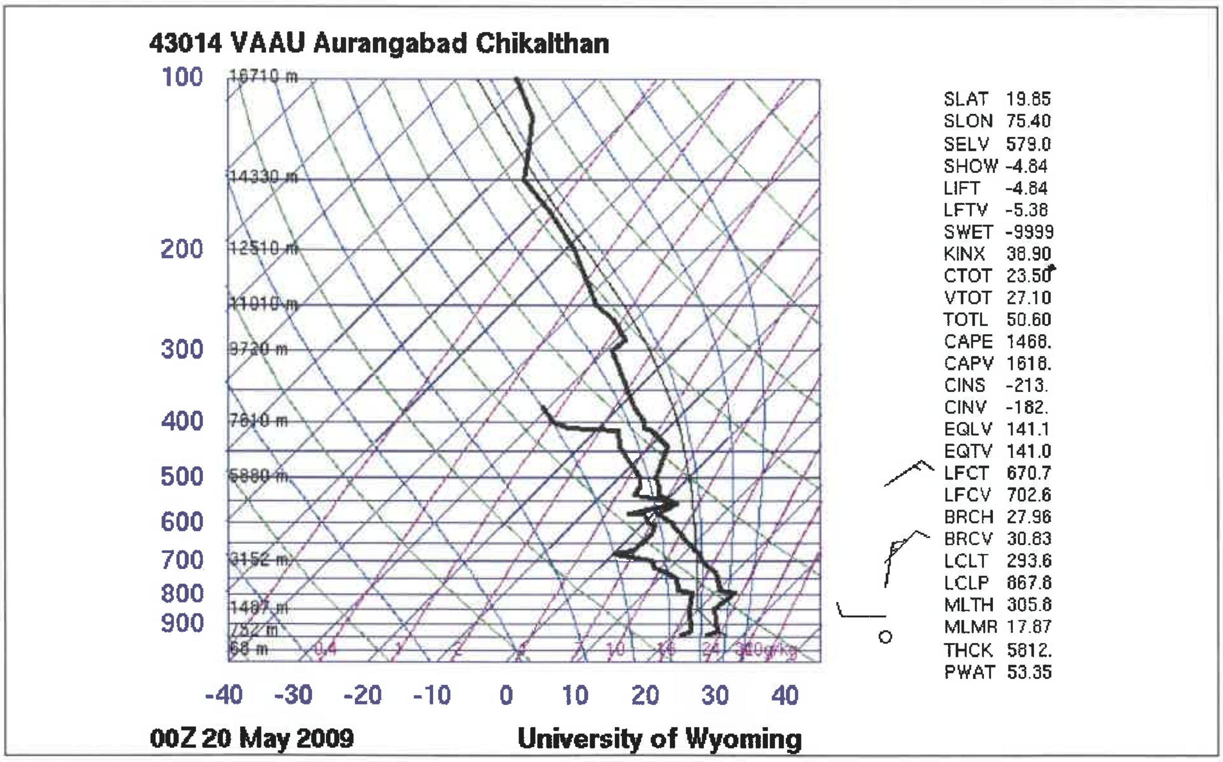
20 May 2009 (Base Pune)

Weather summary :

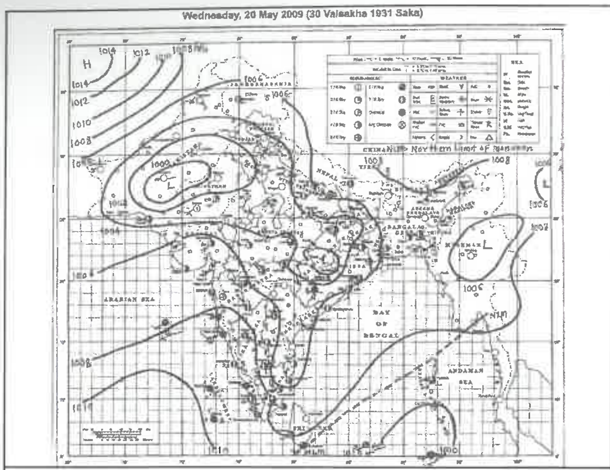
- Southwest monsoon has set in over some parts of south Bay of Bengal and entire Andaman Sea. The northern limit of monsoon passes through Lat. 5.0°N/Long 80.0°E, Lat. 9.0°N/Long 85.0°E, Lat. 12.0°N/Long 90.0°E, Lat. 14.0°N/Long 93.0°E and Lat. 17.0°N/Long 97.0°E.
- Maximum temperatures have fallen by about 2°C over parts of northwest India.
- Severe heat wave conditions prevailed in some parts of west Rajasthan. Heat wave conditions also prevailed in cast Rajasthan and in some parts of west Uttar Pradesh and of east Madhya Pradesh and in remaining parts of west Rajasthan and at isolated places in Orissa, Haryana and west Madhya Pradesh.
- The highest maximum temperature of 46.5°C was recorded at Sri Ganganagar.
- Rain or thundershowers have occurred at most places in Lakshadweep; at many places in Andaman & Nicobar Islands, Jammu & Kashmir, Marathwada, Rayalaseema and Interior Karnataka; at a few places in Jharkhand. Uttar Pradesh, Telangana. Tamil Nadu amid Kerala and at isolated places in Assam & Meghalaya, Uttarakhand, Punjab, Himachal Pradesh, west Madhya Pradesh, Madhya Maharashtra, Chattisgarh and coastal Karnataka. Very light rain has also occurred at isolated places in Nagaland-Manipur-Mizoràm-Tripura, Orissa, Haryana, and Konkan & Goa

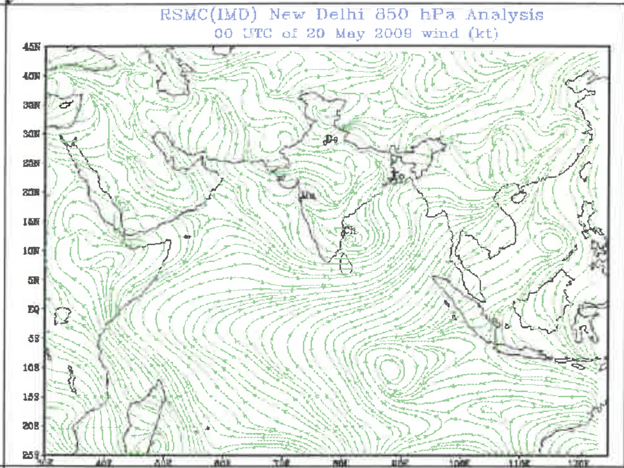
Flight :

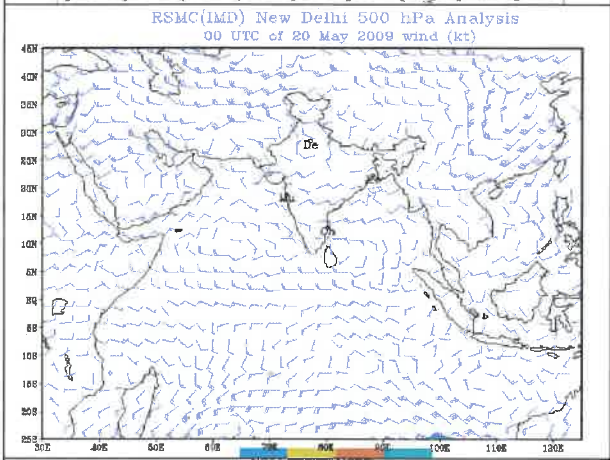
- Station : Pune
- Engine on : 11:00
- Engine off : 12:15

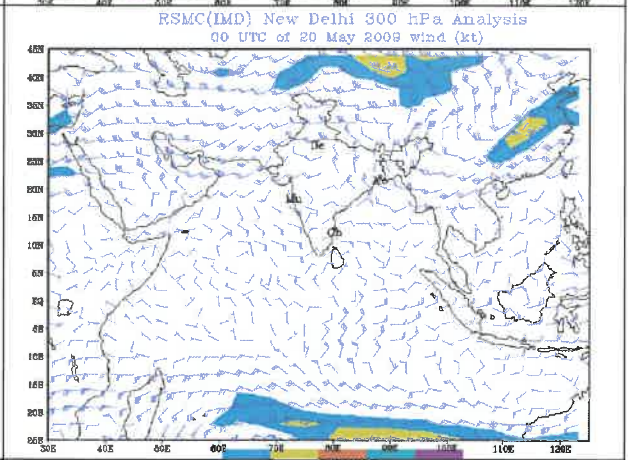


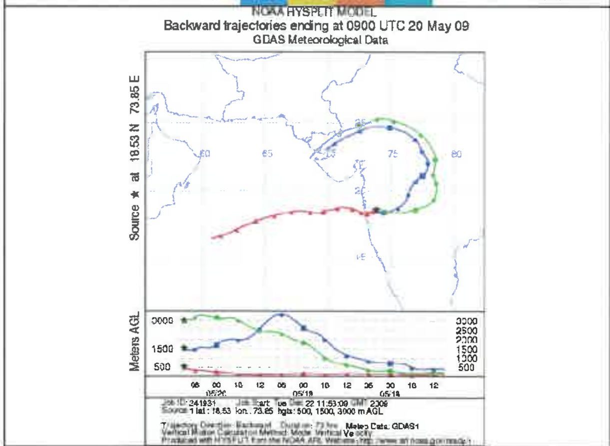
20 May 2009

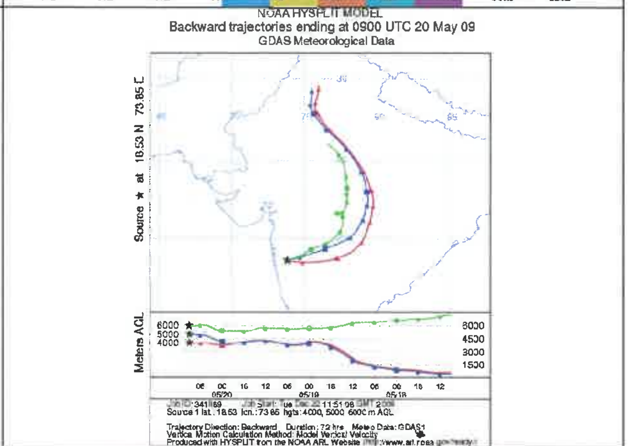

Wednesday, 20 May 2009 (30 Vaisakha 1931 Saka)
ARABIAN SEA
BAY OF BENGAL
ANDAMAN SEA

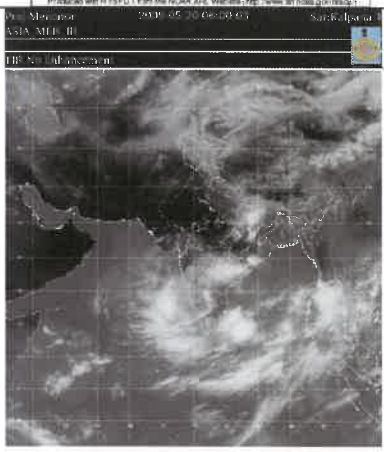

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 20 May 2009 wind (kt)

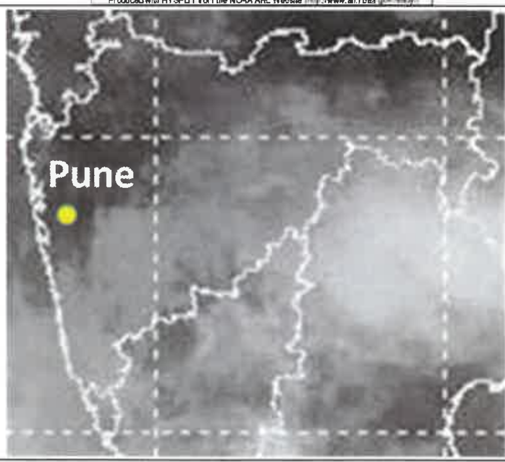

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 20 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 20 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 20 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 20 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.85 E
Meters AGL




Pune

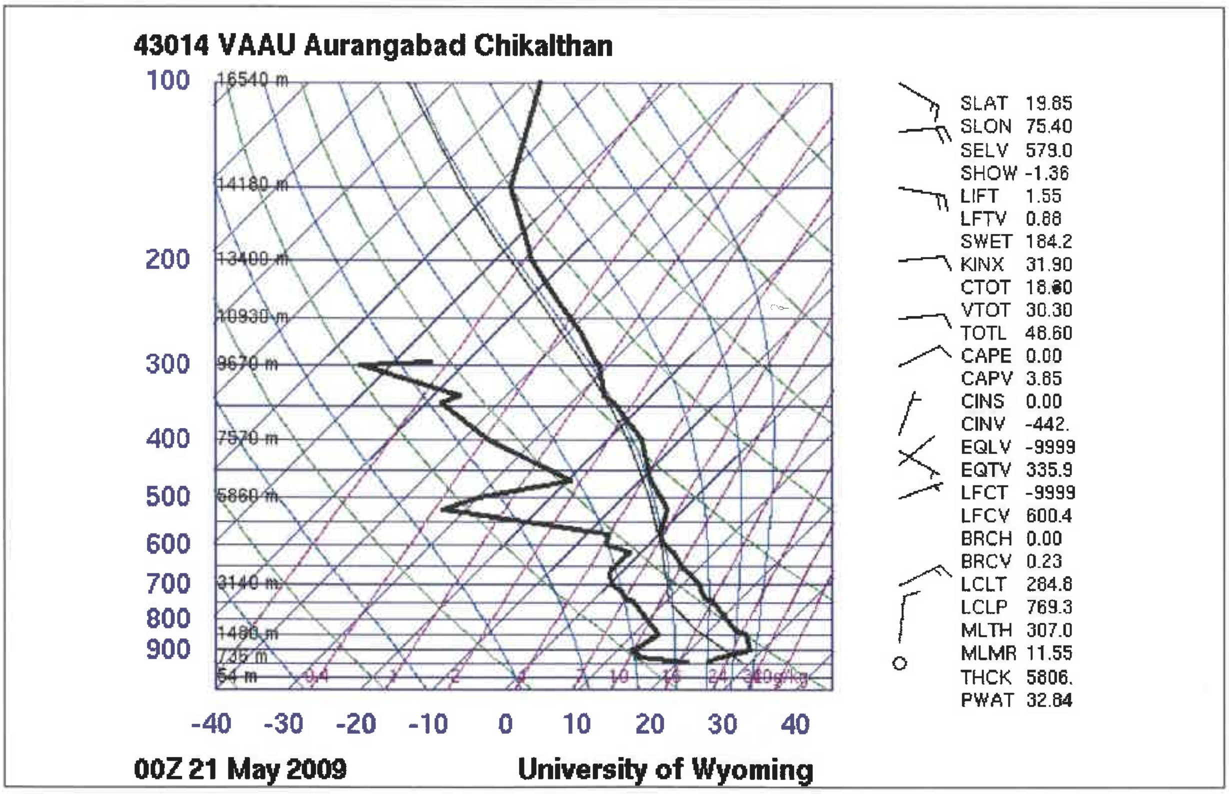
21 May 2009 (Pune-Jaipur)

Weather summary :

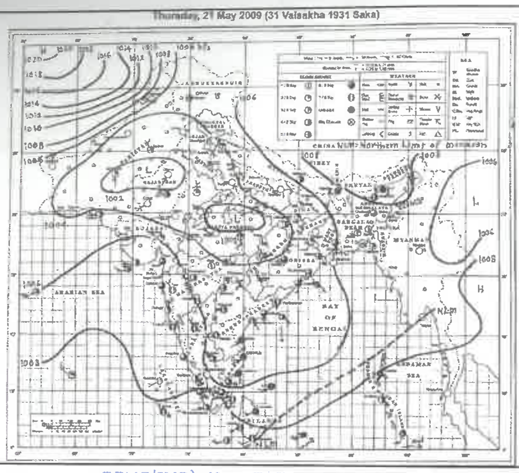
- The cyclonic lies over southwest Bay of Bengal and adjoining Tamil Nadu between 1.5 & 5.8 kms a.s.l. The western disturbance as an upper air system over Jammu & Kashrmr and neighbourhood persists.
- Severe heat wave conditions prevailed in some parts of west Rajasthan. Heat wave conditions also prevailed in northwest Madhya Pradesh; some parts of east Rajasthan and at isolated places in Orissa, Haryana, Punjab and east Madhya Pradesh and in remaining parts of west Rajasthan
- The highest maximum temperature of 45.8° C was recorded at Bikaner (Rajasthan).
- Rain or thundershowers have occurred at most places in Andaman & Nicobar Islands and Kerala; at many places in Lakshadweep; at a few places in Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Jharkhand, Madhya Maharashtra, Vidarbha and Tamil Nadu and at isolated places in Gangetic West Bengal, Orissa, east Uttar Pradesh, Rajasthan, Madhya Pradesh and Chattisgarh. Very light rain has also occurred in Bihar, Jammu & Kashmir, Konkan & Goa, Marathwada, Telangana and Karnataka State

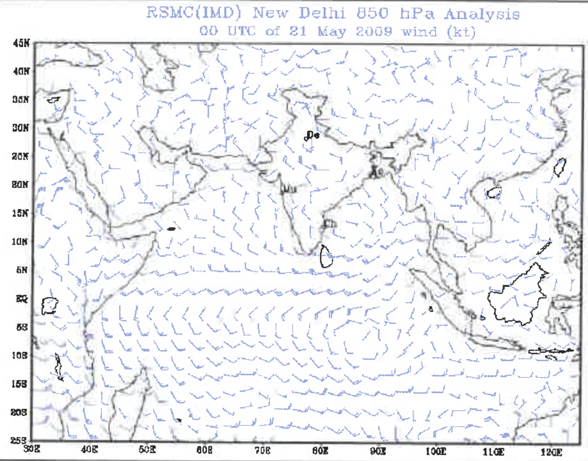
Flight :

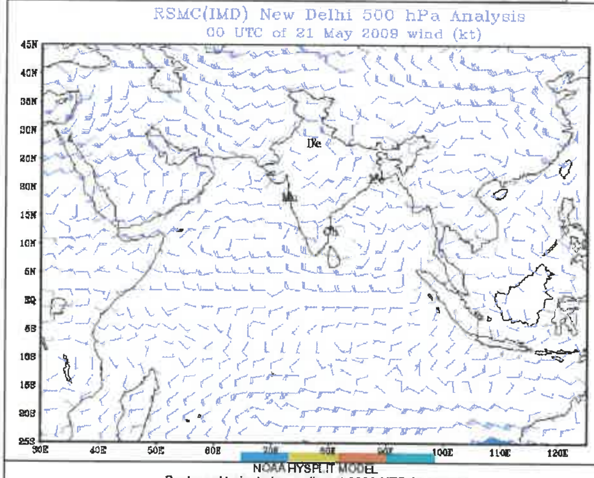
• Station : Pune	• Station : Pune -Jaipur
• Engine on : 11:40	• Engine on : 15:05
• Engine off : 12:40	• Engine off : 17:45

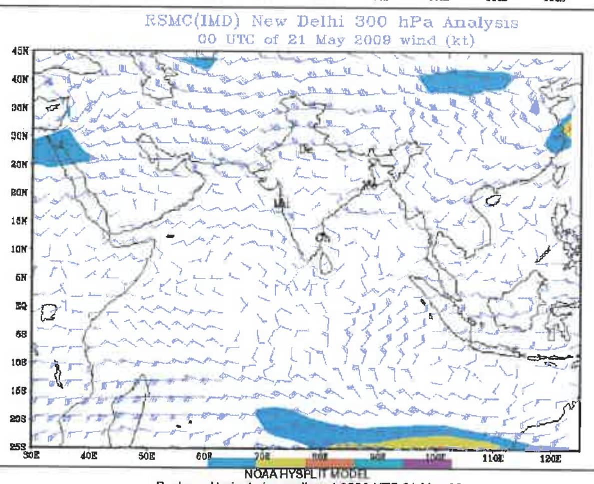


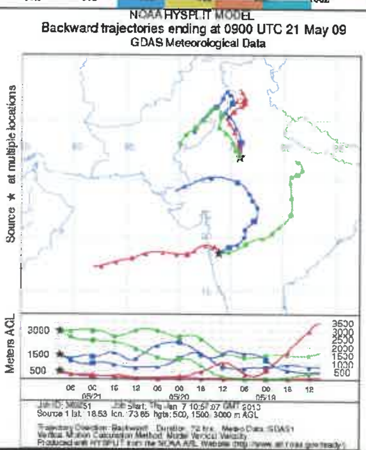
21 May 2009

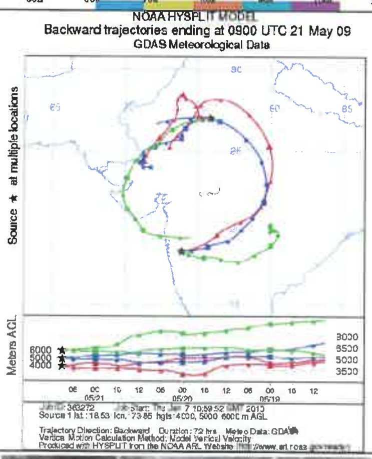

Thursday, 21 May 2009 (31 Vaisakha 1931 Saka)

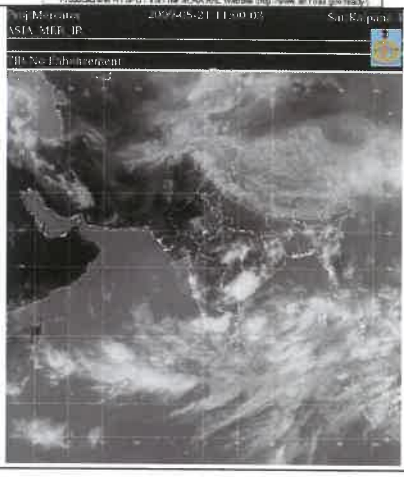

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 21 May 2009 wind (kt)

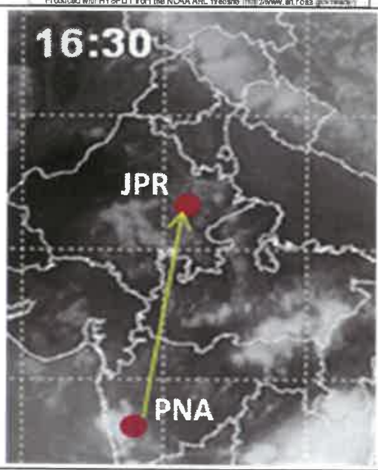

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 21 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 21 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL




16:30
JPR
PNA

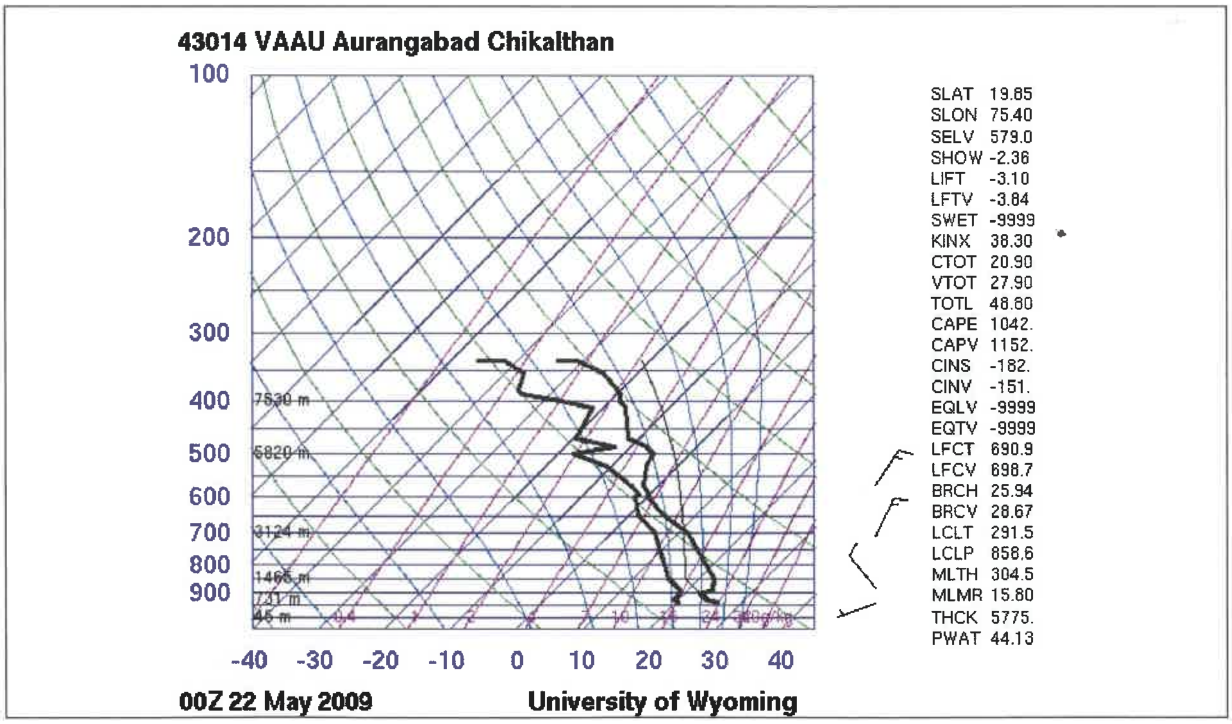
22 May 2009 (Jaipur-Pathankot)

Weather summary :

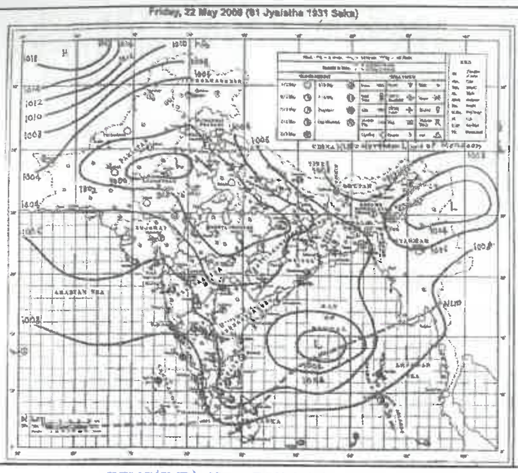
- Southwest monsoon has advanced into some parts of south Arabian Sea, some more parts of south Bay of Bengal and some parts of east Central Bay of Bengal.
- The northern limit of monsoon passes through Lat. 7.0°N/Long 60.0°E, Lat. 7.0°N/Long 70.0°E, Lat. 8.0°N/Long 80.0°E, Lat. 12.0°N/Long 85.0°E, Lat. 14.0°N/Long 89.0°E and Lat. 17.0°N/Long 97.0°E.
- Heat wave conditions prevailed in some parts of Rajasthan and of west Madhya Pradesh and at isolated places in Haryana and Vidarbha The highest maximum temperature of 46.5°C was recorded at Churu (Rajasthan)
- The low pressure area has formed over east central & adjoining west central Bay of Bengal. Associated cyclonic circulation extends up to mid tropospheric levels
- Rain or thundershowers have occurred at most places in Rayalaseema and Karnataka State; at many places in Andaman & Nicobar Islands, Arunachal Pradesh, Marathwada, Telangana and Kerala; at a few places in Sub-Himalayan West Bengal & Sikkim, Jharkhand, Madhya Maharashtra, coastal Andhra Pradesh, Tamil Nadu and Lakshadweep and at isolated places in Assam and Meghalaya , Nagaland—Manipur—Mizoram—Tripura, Himachal Pradesh, Jammu & Kashmir, Konkan & Goa, Vidarbha and Chhattisgarh. Very light rain has also occurred at isolated places in Punjab antI Madhya Pradesh. Mainly dry weather prevailed over the rest of the country.

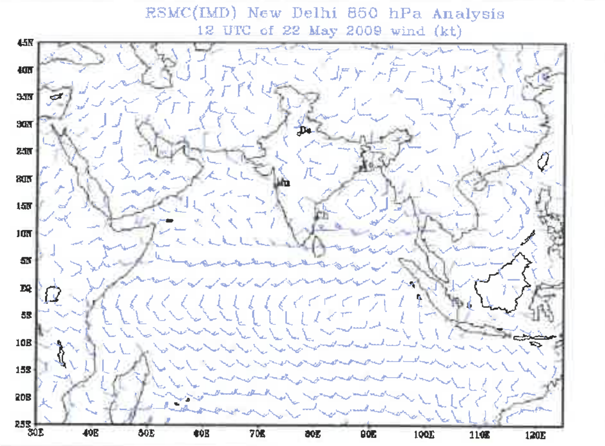
Flight :

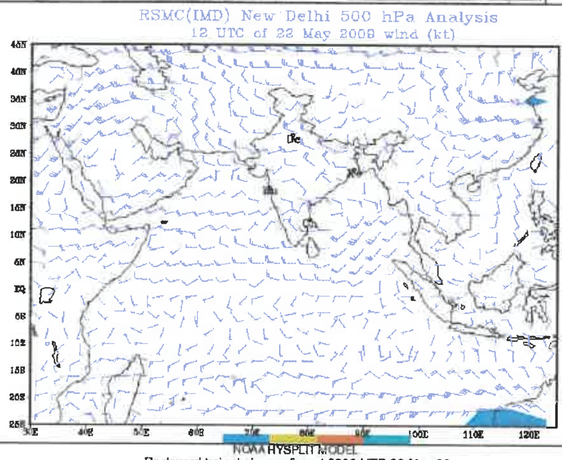
- Station : Jaipur - Pathankot
- Engine on : 08:00
- Engine off : 09:55

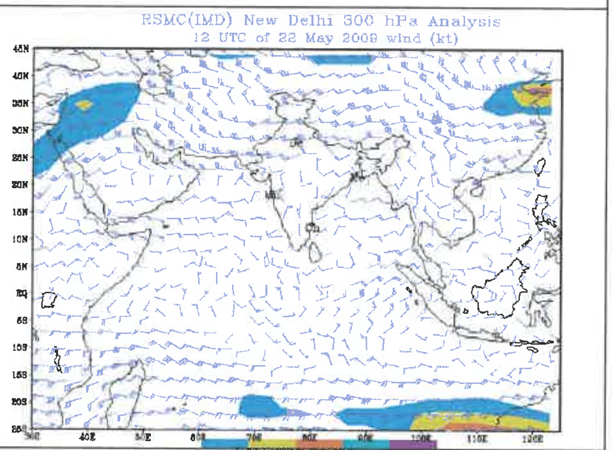


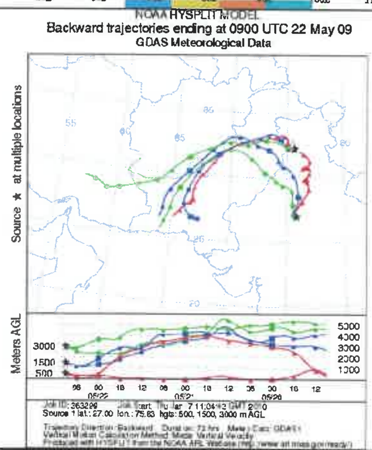
22 May 2009

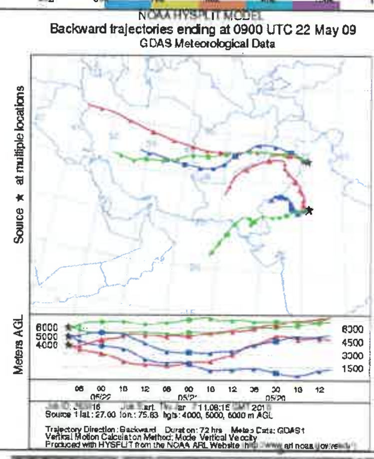

Friday, 22 May 2009 (01 Jyaistha 1931 Saka)

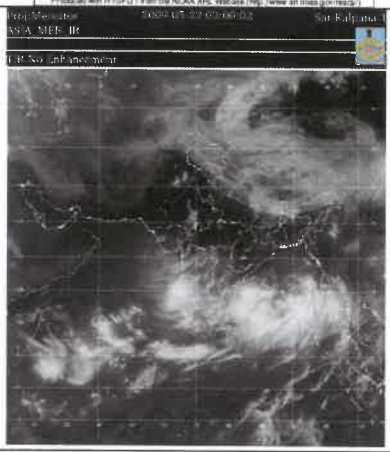

RSMC(IMD) New Delhi 850 hPa Analysis
12 UTC of 22 May 2009 wind (kt)

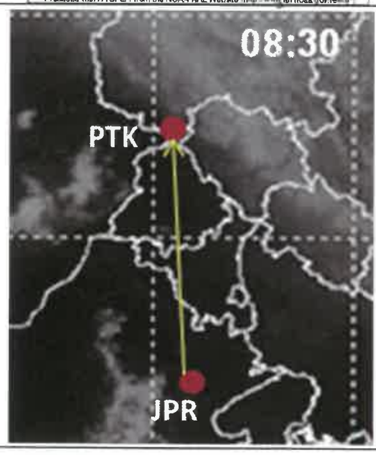

RSMC(IMD) New Delhi 500 hPa Analysis
12 UTC of 22 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
12 UTC of 22 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL




08:30
PTK
JPR

23 May 2009 (Base Pathankot)

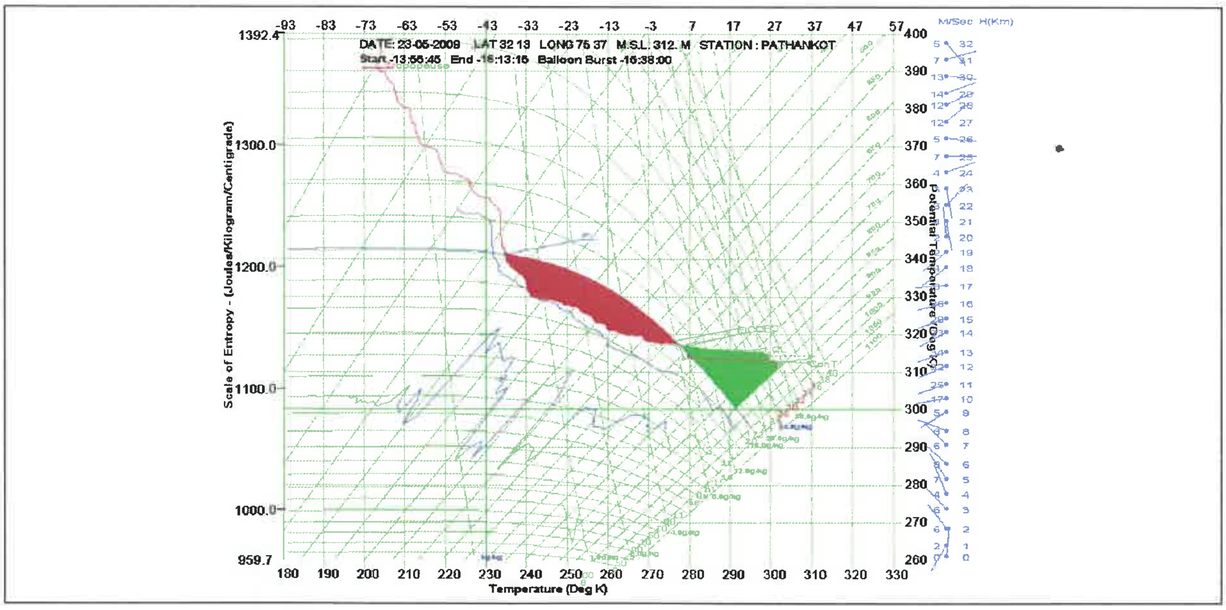
Weather summary :

<u>Onset of southwest monsoon over Kerala</u>:

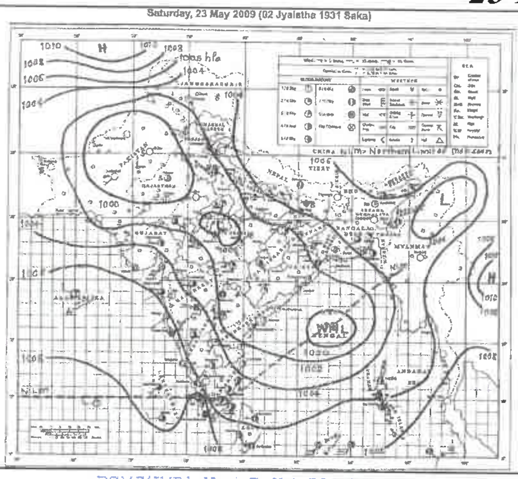
- The southwest monsoon has advanced over some more parts of south Arabian Sea, some parts of Kerala and Tamil Nadu, most parts of southwest & eastcentral Bay of Bengal and some parts of westcentral & northeast Bay of Bengal.
- The northern limit of monsoon passes through Lat. 10.0°N/Long 60.0°E, Lat. 10.0°N/Long 70.0°E, Kochi, Madurai, Lat. 13.0°N/Long 83.0°E, Lat. 16.0°N/Long 88.0°E and Lat. 20.0°N/Long 93.0°E.
- The depression formed in the evening over westcentral Bay of Bengal remained practically stationary and lay centered at 1430 hours IST of today, the 23rd May, 2009, near Lat. 16.5°N and Long 88.0°E about 470 kms south-southeast of Paradip and 600 kms south of Sagar Island.
- The Western disturbance as an upper air system over Jammu & Kashmir and neighbourhood persists. A fresh western disturbance as an upper air system lies over north Pakistan and neighbourhood.
- Heat wave conditions prevailed in west Rajasthan and west Madhya Pradesh and in some parts of east Rajasthan and of east Madhya Pradesh and at isolated places in west Uttar Pradesh and Punjab
- Rain or thundershowers have occurred at most places in Andaman & Nicobar Islands and Kerala~ at a few places in Uttar Pradesh, Uttarakhand, Haryana and Lakshadweep and at isolated places in West Bengal & Sikkim, Madhya Pradesh, Konkan & Goa, Vidarbha, Chattisgarh, Telangana and Tamil Nadu. Very light rain has also occurred at isolated places in Assam & Meghalaya, Nagaland-Manipur-Mizorarn-Triptira, Bihar, east Rajasthian, Madhya Maharashtra, Rayalaseema and Karnataka State.

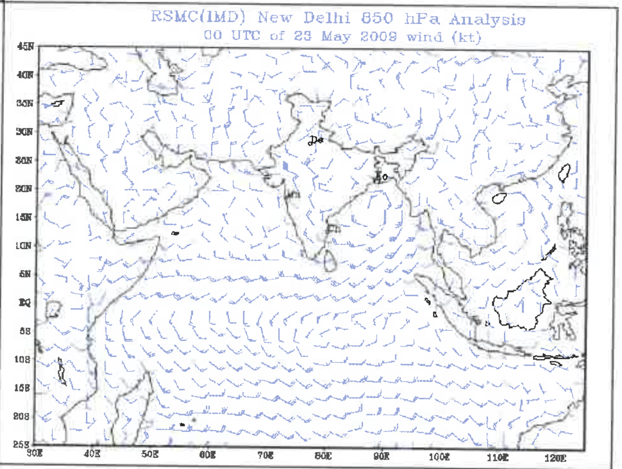
Flight :

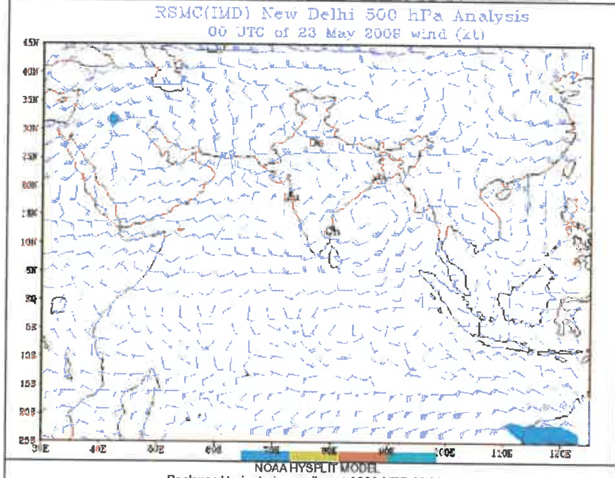
- Station : Pathankot
- Engine on : 13:20
- Engine off : 15:15

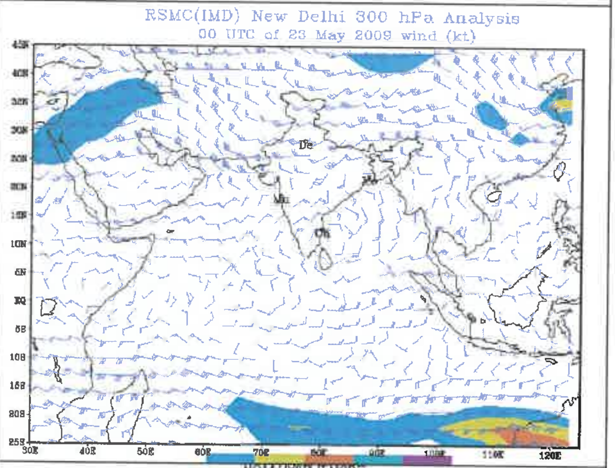


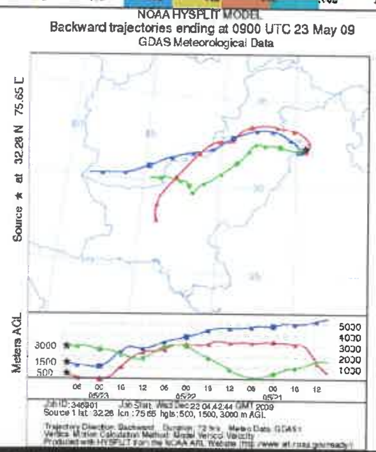
23 May 2009

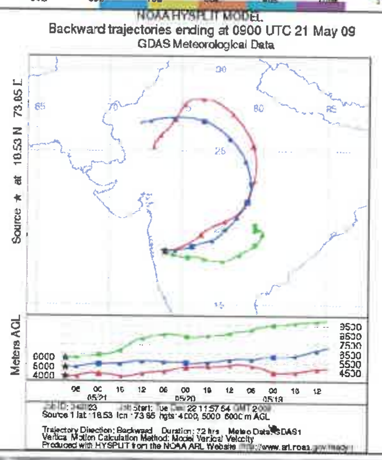

Saturday, 23 May 2009 (02 Jyaistha 1931 Saka)

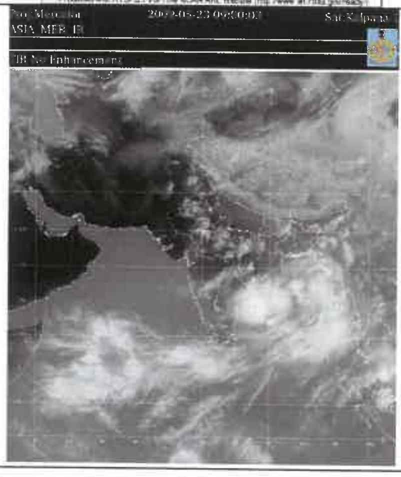

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 23 May 2009 wind (kt)

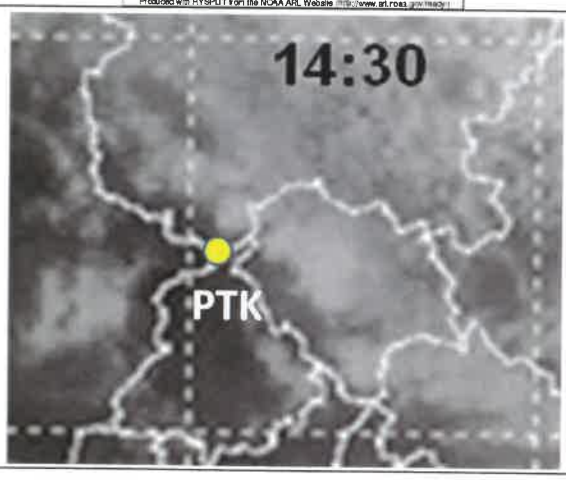

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 23 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 23 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 23 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 May 09
GDAS Meteorological Data
Source ★ at 18.53 N 73.65 E
Meters AGL




14:30
PTK

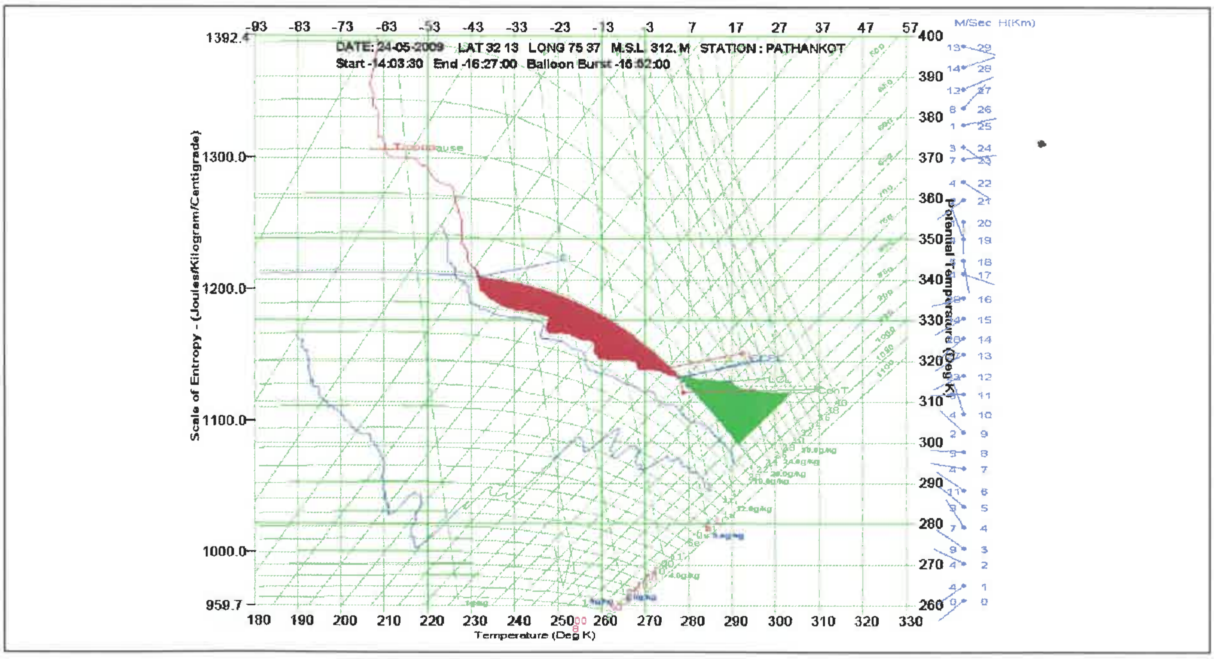
24 May 2009 (Base Pathankot)

Weather summary :

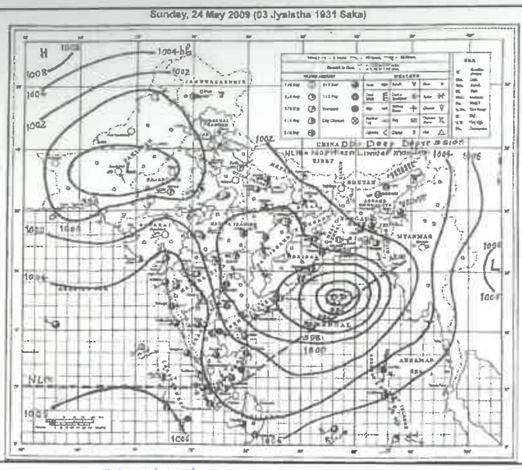
- The southwest monsoon has advanced over some more parts of south Arabian Sea, some parts of Kerala and Tamil Nadu, most parts of southwest & eastcentral Bay of Bengal and some parts of westcentral & northeast Bay of Bengal on 23rd.
- The northern limit of monsoon passes through Lat. 10.0°N/Long 60.0°E, Lat. 10.0°N/Long 70.0°E, Kochi, Madurai, Lat. 13.0°N/Long 83.0°E, Lat. 16.0°N/Long 88.0°E and Lat. 20.0°N/Long 93.0°E.
- Yesterdays depression moved northwards and intensified into a Deep Depression and now lies centred at 0830 hrs 1ST within half a degree of Lat 1800 N / Long. 88.50 E about 350 kms southeast of Paradip. It intensified into a cyclonic storm "AILA" and lay centred at 1730 hours IST near lat. 18.5^0 N and long. 88.5^0 E, about 300 km east-southeast of Paradip, 350 km south-southeast of Sagar Island and 420 km south-southwest of Khepupara (Bangladesh).
- Heat wave conditions prevailed in west Rajasthan and in some parts of Vidarbha and at isolated places in east Rajasthan and west Madhya Pradesh.
- The highest maximum temperature of 45.3^0 C was recorded at Jaisalmer (Rajasthan).
- Rain or thundershowers have occurred at most places in Andaman & Nicobar Islands and Kerala; at many places in coastal Andhra Pradesh, coastal Karnataka and Lakshadweep; at a few places in Nagaland-Manipur-Mizoram-Tripura, Gangetic West Bengal, Telangana and Rayalaseema and at isolated places in Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Orissa, Bihar, west Uttar Pradesh, east Rajasthan, east Madhya Pradesh, Vidarbha and Tamil Nadu. Very light rain has also occurred at isolated places in Jharkhand, Uttarakhand, Haryana, Himachal Pradesh, Jammu & Kashmir, west Madya Pradesh, Chattisgarh and south interior Karnataka.

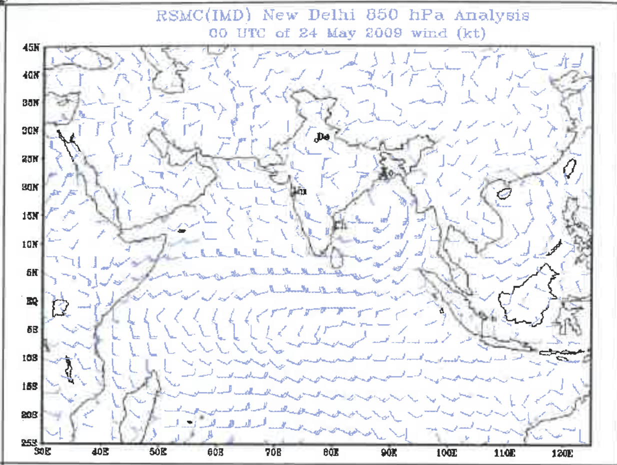
Flight :

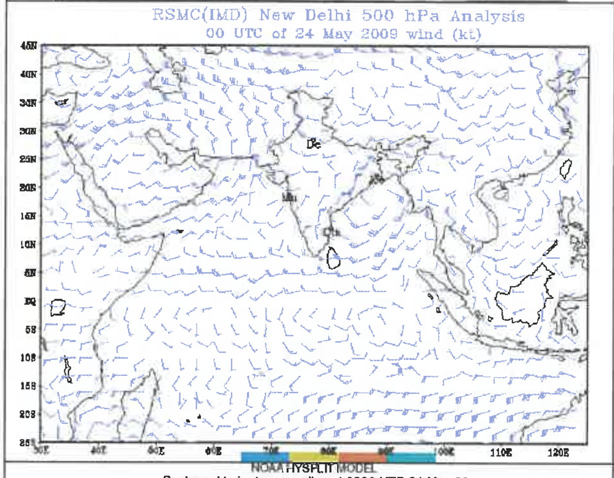
- Station : Pathankot
- Engine on : 14:00
- Engine off : 16:00

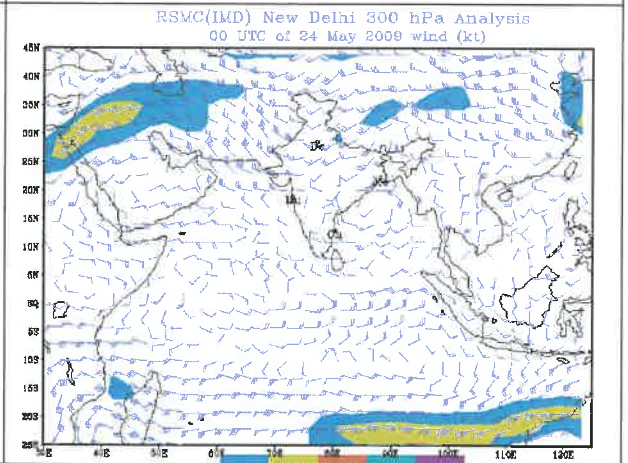


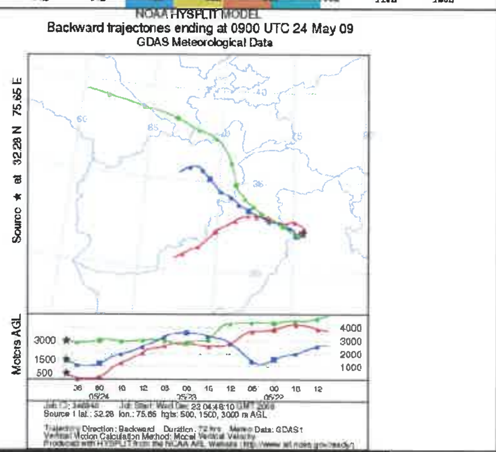
24 May 2009

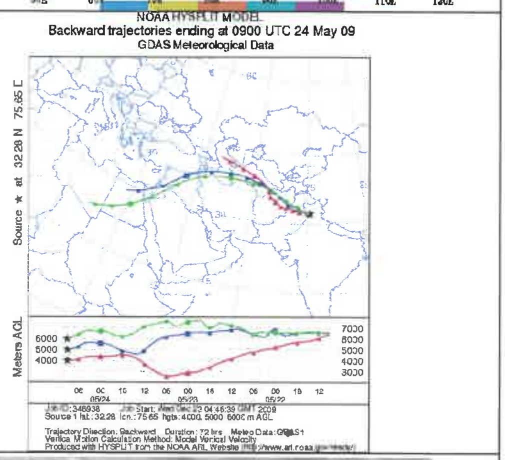

Sunday, 24 May 2009 (03 Jyaistha 1931 Saka)

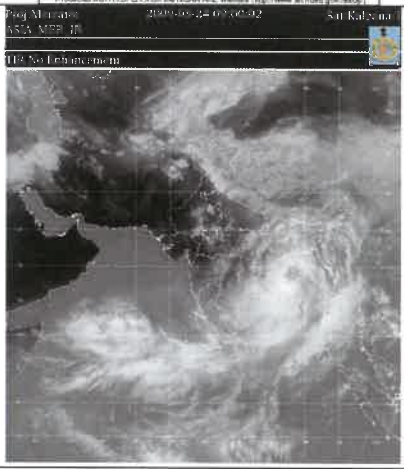

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 24 May 2009 wind (kt)

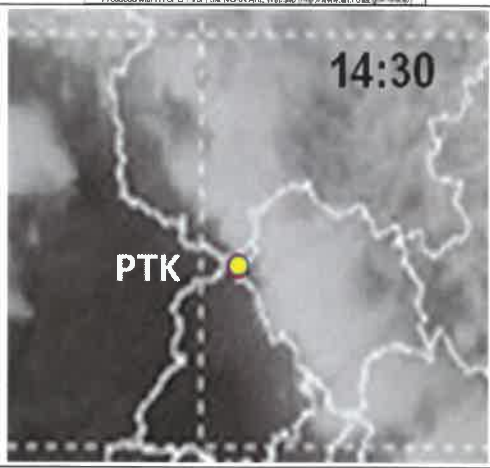

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 24 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 24 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL



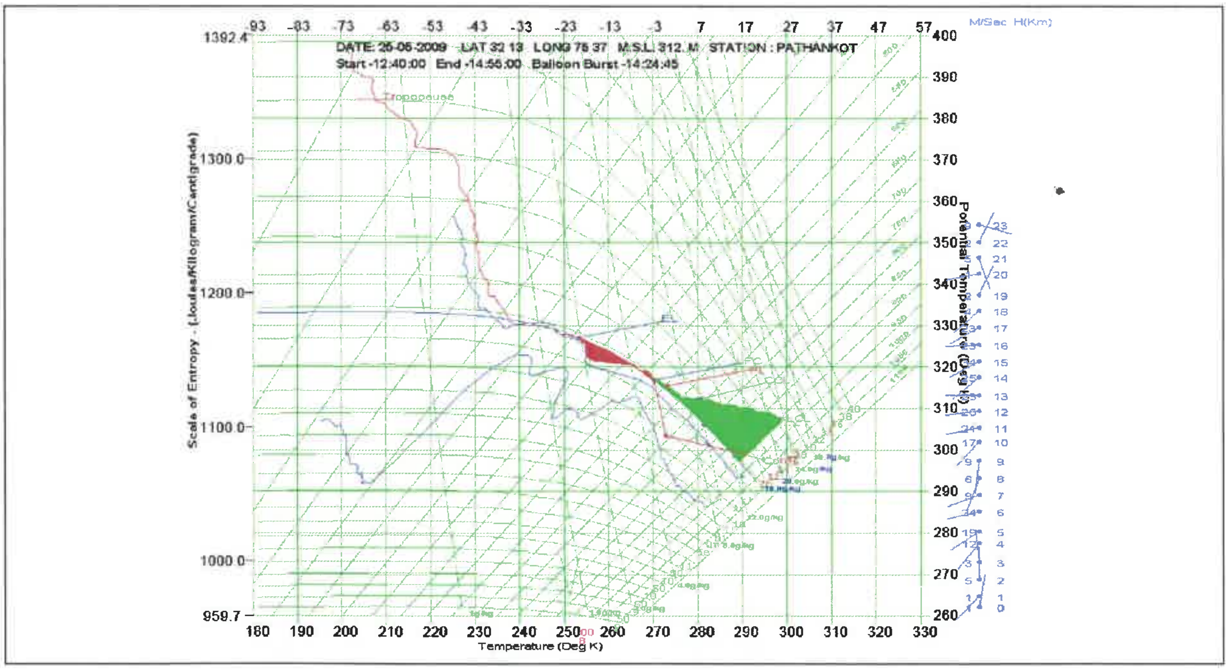

14:30
PTK

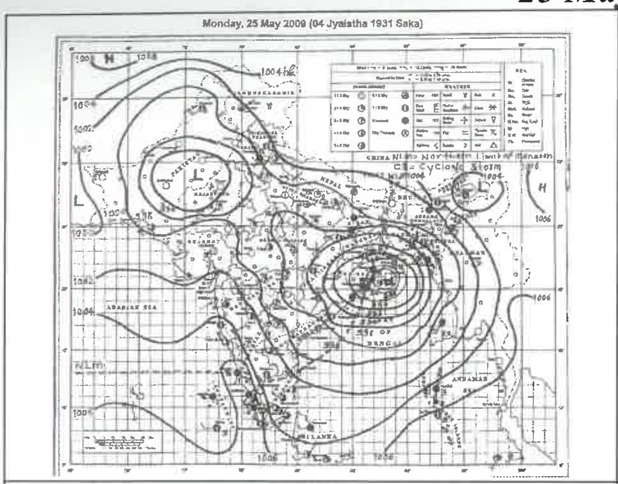
25 May 2009 (Base Pathankot)

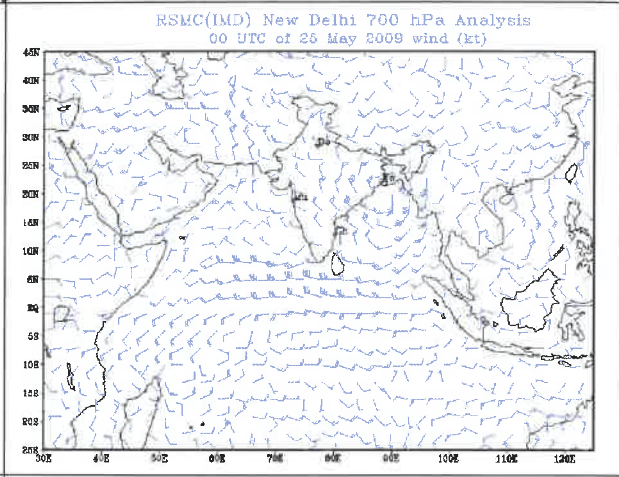
Weather summary :

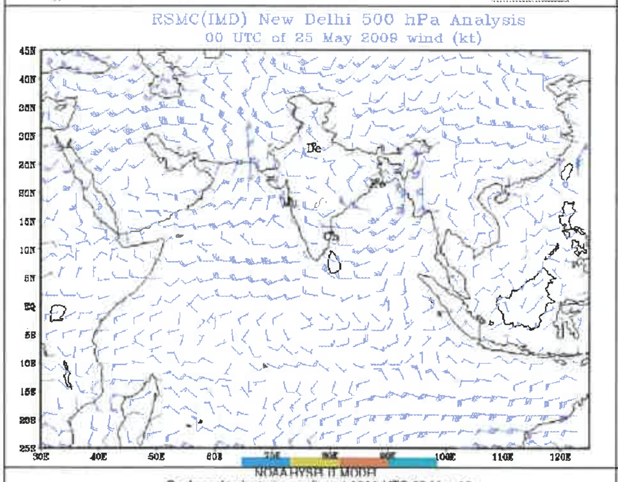
- The southwest monsoon has advanced over some more parts of south Arabian Sea, remaining parts of Kerala and Tamil Nadu, some parts of coastal Karnataka, most parts of Bay of Bengal, entire northeastern states, some parts of north coastal Orissa and most parts of West Bengal & Sikkim.
- The northern limit of monsoon passes through Lat. 13.0°N/Long 60.0°E, Lat. 13.0°N/Long 70.0°E, Mangalore, Dharampuri, Chennai, Lat. 15.0°N/Long 83.0°E, Lat. 17.0°N/Long 85.0°E, Paradeep, Balasore, Bankura and Gangtok.
- The severe cyclonic storm "AILA" intensified and now lies over northwest and adjoining central Bay of Bengal centred within half a decree of Lit. 20.50 NI Long. 88.00 E, about 140 kms eastsoutheast of Chandhali. at 0830 hours 1ST of today, the 25th Max' 2009. It crossed west Bengal coast close to Sagar Island between 1330 and 1430 hrs IST and lay centred at 1430 hours of today, over Gengetic west Bengal close to Diamond Harbour.
- The trough at (1.9 km a.m.l. now runs from West Rajasthan to the centre of Cyclonic Storm through north Madhya Pradesh, north Chattiscarh and north Orissa. The western disturbance lies over Jammu & Kashmir and neighbourhood. A flesh western disturhaiice as an upper air system lies over north Pakistan and neighbourhood.
- Southwest monsoon has been vigorous in Gangetic West Bengal and active in Sub-Himalayan West Bengal & Sikkirn and Kerala. Rain or thundershowers have occurred at most places in Andaman & Nicohar Islands. West Bengal & Sikkim. coastal Karnataka, Kerala and Lakshadweep, at many places in Assam & Meghalava. Orissa. Jharkhand and Himachal Pradesh; at a few places in Nagaland—Manipur—Mizoram—Tripura, Uttarakhand and Jammu & Kashmir and at isolated places in Uttar Pradesh. Hariyana, Punjab, east Rajasthan, Vidarbha, Telagana, Rayalaseema and Tamil Nadui. Very light rain has also occurred at isolated places in Madhya Pradesh, Chattisgarh, coastal Andhra Pradesh and south interior Karnataka

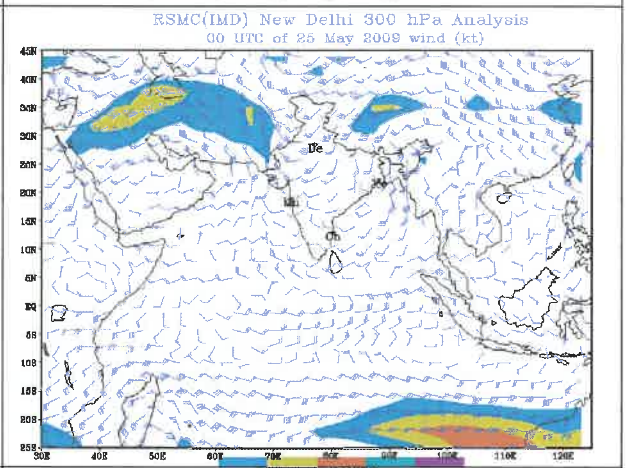
Flight : ***Nil***

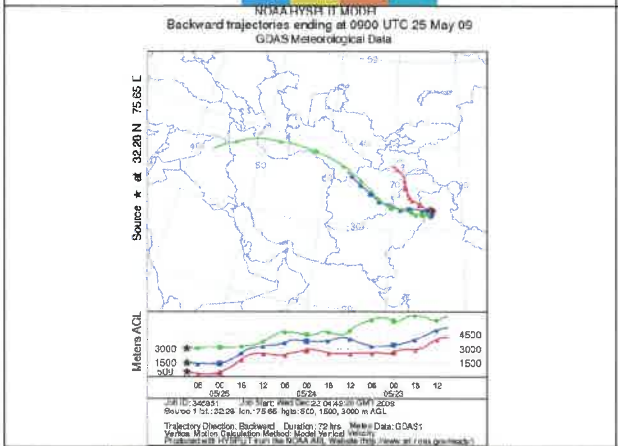


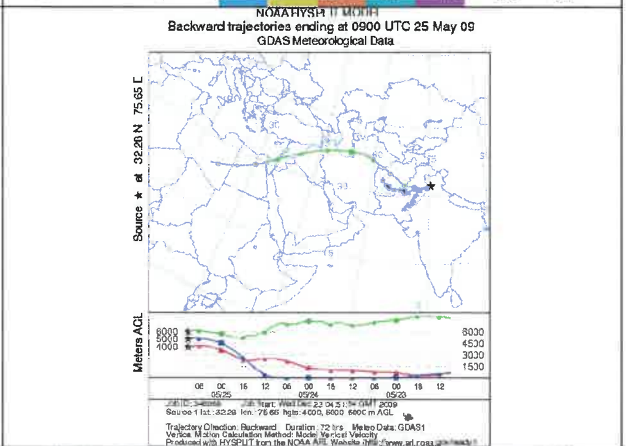

Monday, 25 May 2009 (04 Jyaistha 1931 Saka)
CS= Cyclonic Storm

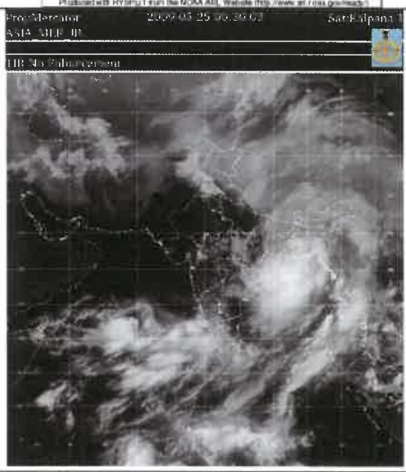

RSMC(IMD) New Delhi 700 hPa Analysis
00 UTC of 25 May 2009 wind (kt)

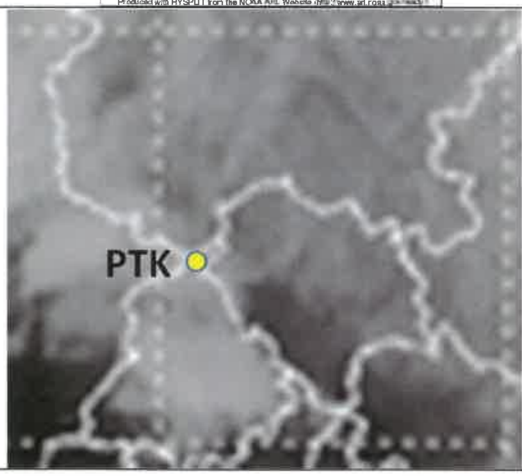

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 25 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 25 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 25 May 09
GDAS Meteorological Data
Source ★ at 32.20 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 25 May 09
GDAS Meteorological Data
Source ★ at 32.20 N 75.65 E
Meters AGL




PTK

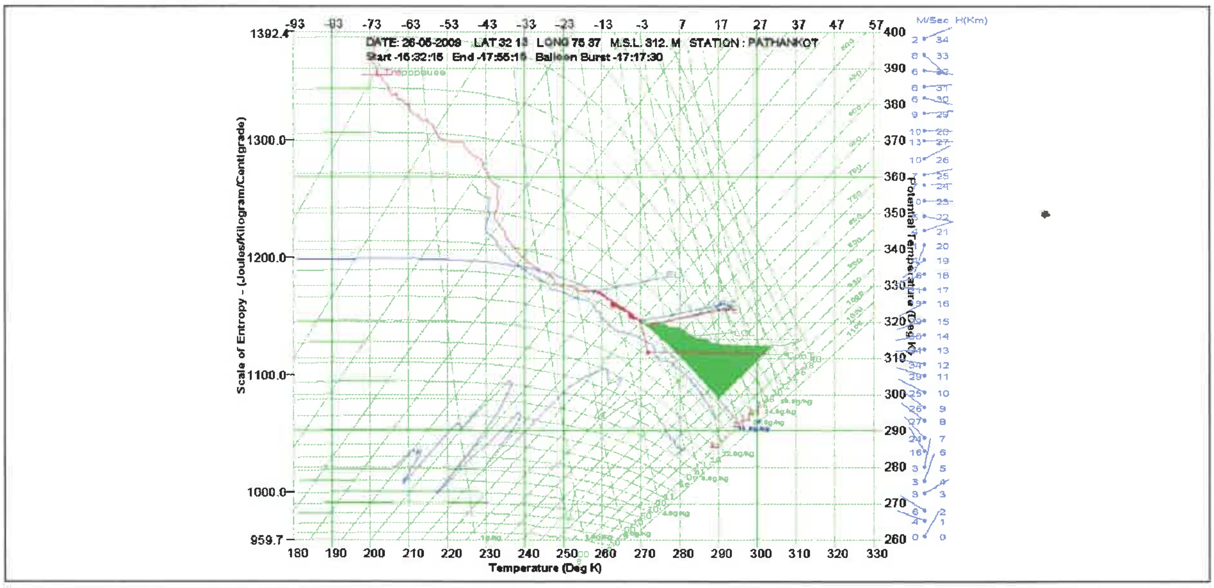
26 May 2009 (Base Pathankot)

Weather summary :

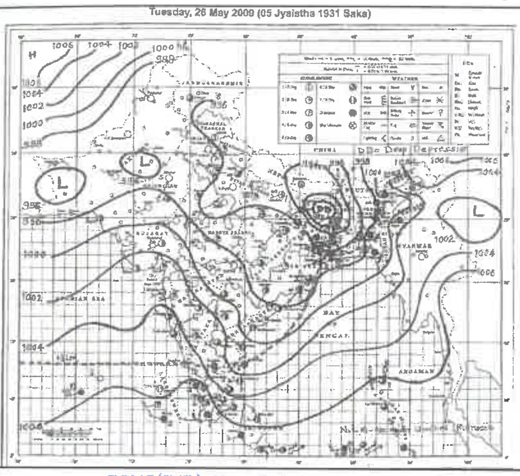
- The cyclonic storm weakened into a Deep Depression and lies over Sub Himalayan west Bengal centred about 50 kms north of Malda at 0830 hours. *The Deep Depression over Sub Himalayan west Bengal and Sikkim further weakened into a well marked low pressure area at 1430 hours. It became less marked at 1730 hrs.*
- Maximum temperatures are below normal by 4-6°C over Sub-Himalayan West Bengal & Sikkim and west Assam and by 2-4°C over Uttar Pradesh, Bihar, Jharkhand, parts of Punjab and extreme south peninsular India. They are near normal over the rest parts of the country.
- Heat wave conditions prevailed in some parts of coastal Andhra Pradesh and at isolated places in west Rajasthan. In the regions where the southwest monsoon has yet to set in.
- The highest maximum temperature of 44.5°C was recorded at Nagpur (Maharashtra).
- The western disturbance as an upper air system over north Pakistan and neighbourhood now lies over Jammu & Kashmir and neighbourhood.
- Southwest monsoon has been vigorous in West Bengal & Sikkim and active in Assam & Meghalaya, Nagaland, Manipur, Mizoram-Tripura and Kerala. Rain or thundershowers have occurred at most places in Assam & Meghahaya, Nagaland-Manipur-Mizoram-Tripura- West Bengal & Sikkim, Jharkhand, Bihar and Kerala; at many places in Andaman & Nicobar Islands, Orissa and Lakshadweep; at a few places in east Uttar Pradesh and Jammu & Kashmir and at isolated places in Haryana, west Madhya Pradesh , Madhya Maharashtra, Marathwada, Vidarbha and Tamil Nadu. Very light rain has also occurred at isolated places in Arunachal Pradesh, Himachal Pradesh, east Madhya Pradesh and coastal & south interior Karnataka.

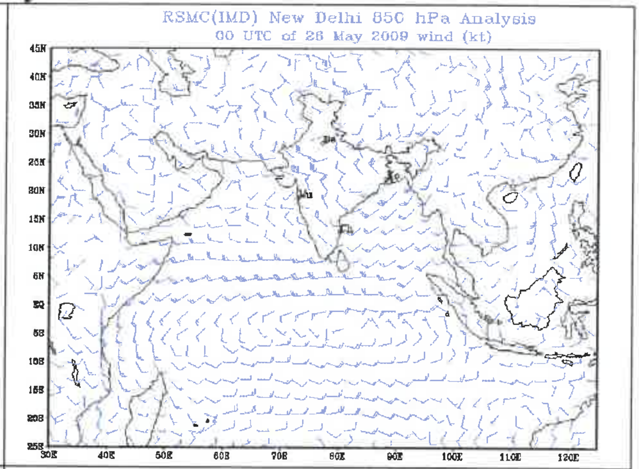
Flight :-

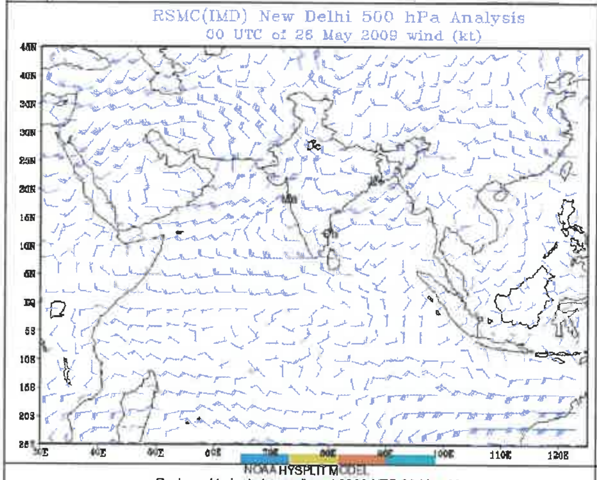
- Station : Pathankot
- Engine on : 14:35
- Engine off : 18:00

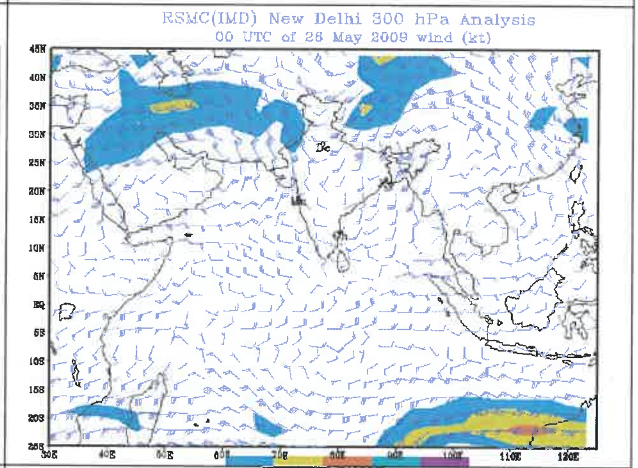


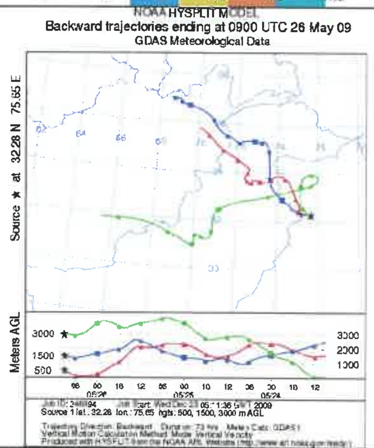
26 May 2009

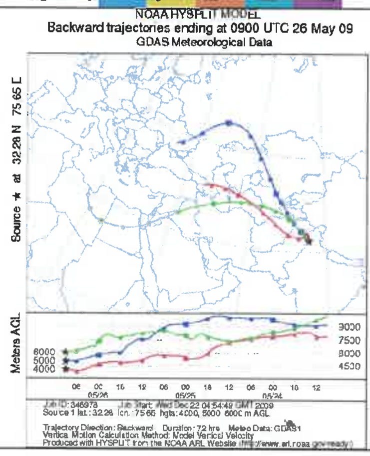

Tuesday, 26 May 2009 (05 Jyaistha 1931 Saka)

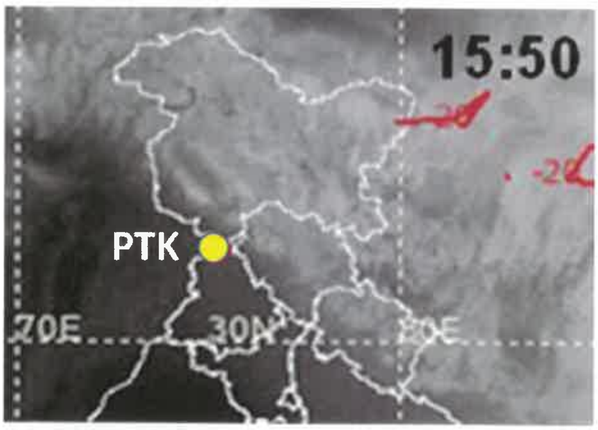

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 26 May 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 26 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 26 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 26 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 26 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


15:50
PTK
70E
30N

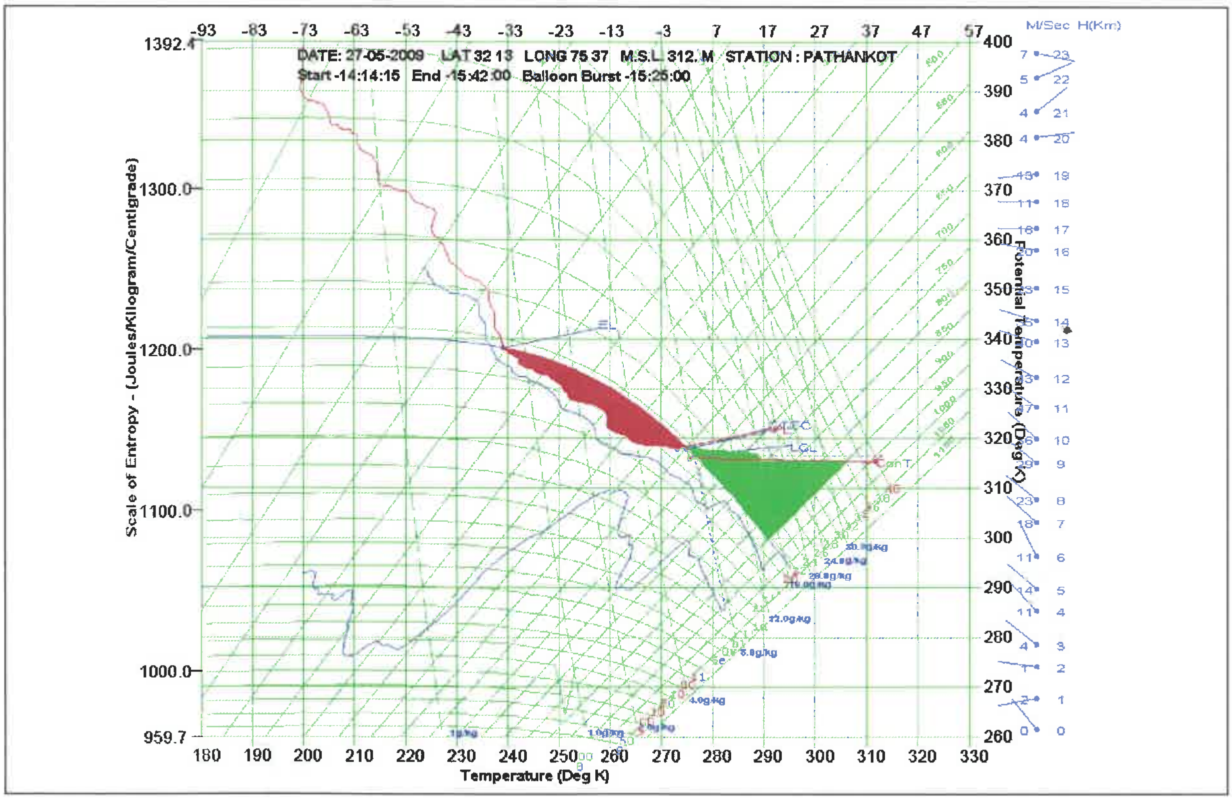
27 May 2009 (Base Pathankot)

Weather summary :

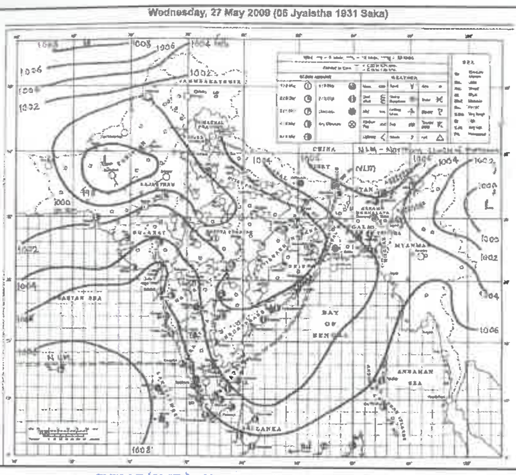
- Heat wave conditions prevailed in some parts of Vidarbha and of coastal Andhra Pradesh.
- The highest maximum temperature of 46.3°c was recorded at Khajuraho (Madhya Pradesh)
- Southwest monsoon has been active in Nagaland-Manipur-Mizorarn-Tripura and Sub - Himalayan West Bengal & Sikkim. Rain or thundershowers have occurred at most places in Assam & Meghalaya, Nagaland-Manipur-Mizoram-Tripuira and Lakshadweep; at many places in Sub Himalayan West Bengal & Sikkim and Kerala; at a few places in Arunachal Pradesh and Jharkhand and at isolated places in Andaman & Nicobar Islands, Madhya Maharashtra, Tamil Nadu and south interior Karnataka. Very light rain has also occurred at isolated places in Gangetic West Bengal, Bihar, east Uttar Pradesh, Himachal Pradesh, Konkan & Goa, Marathwada and coastal & north interior Karnataka
- A cyclonic circulation extending upto 0.9 km a.s.l. lies over Punjab and neighbourhood. The western disturbance as an upper air system over Jammu & Kashmir and neighbourhood persists.

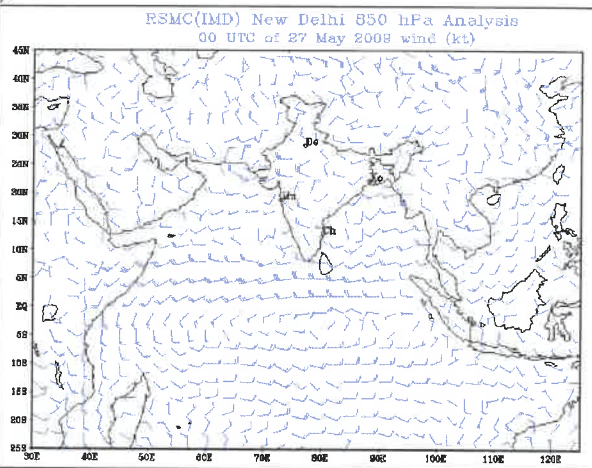
Flight :

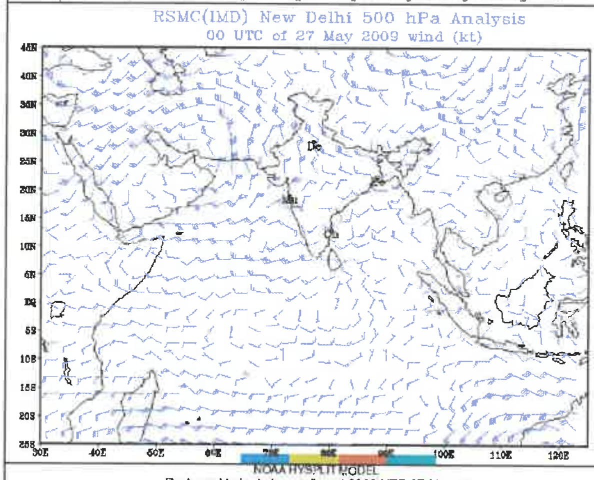
- Station : Pathankot
- Engin on : 13:40
- Engin off : 16:50

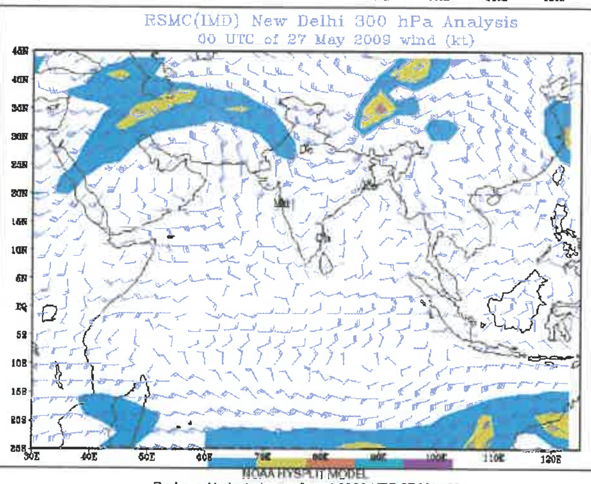


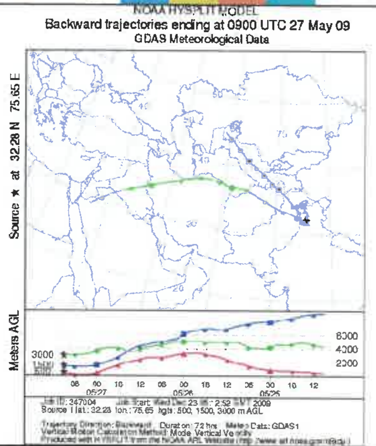
27 May 2009

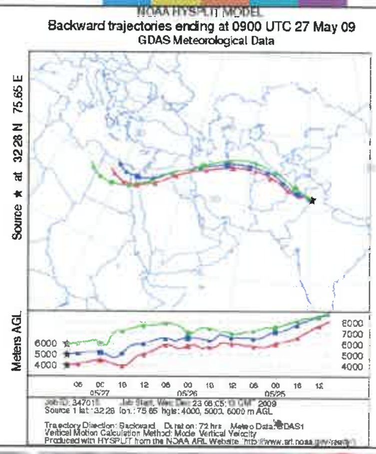

Wednesday, 27 May 2009 (06 Jyaistha 1931 Saka)

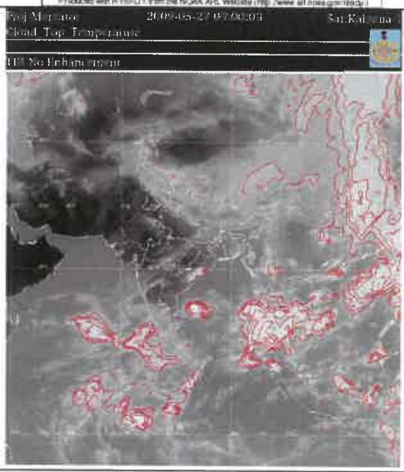

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 27 May 2009 wind (kt)

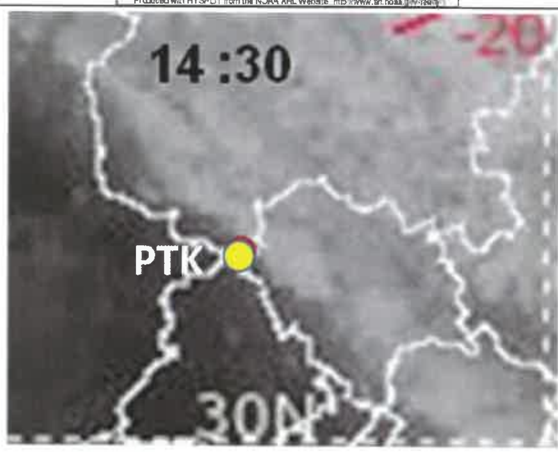

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 27 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 27 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 27 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 27 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


Cloud Top Temperature

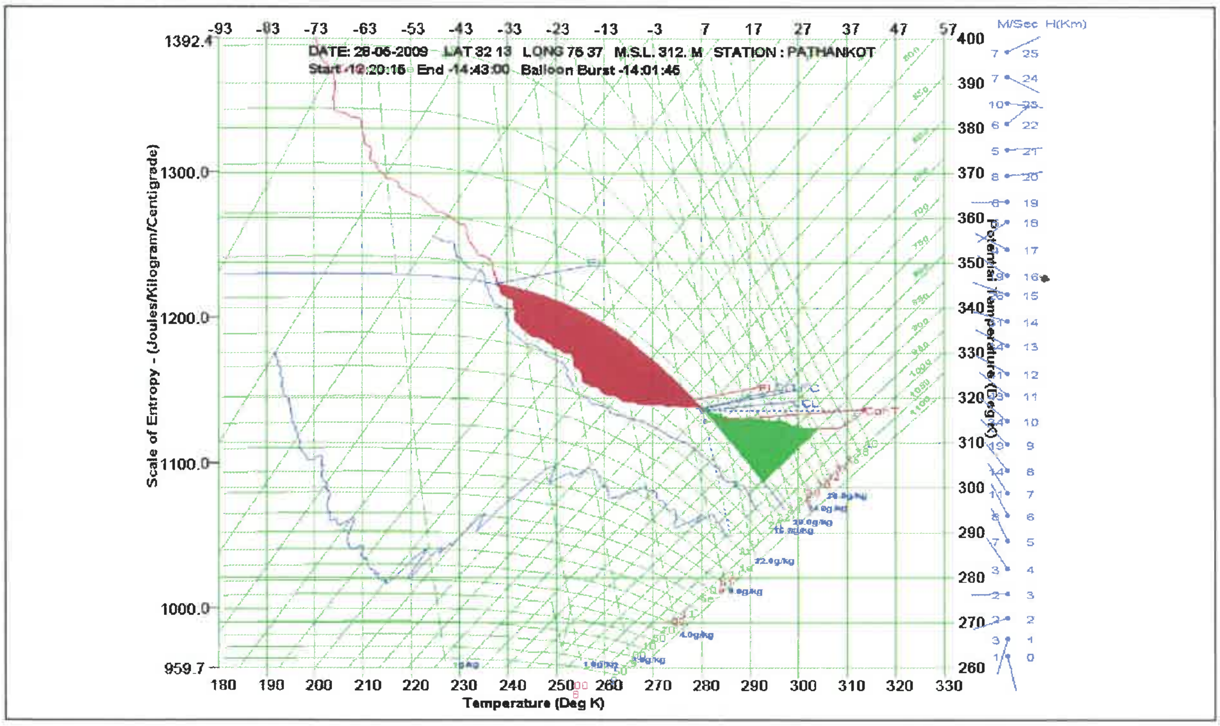

14 :30
PTK
30N

28 May 2009 (Base Pathankot)

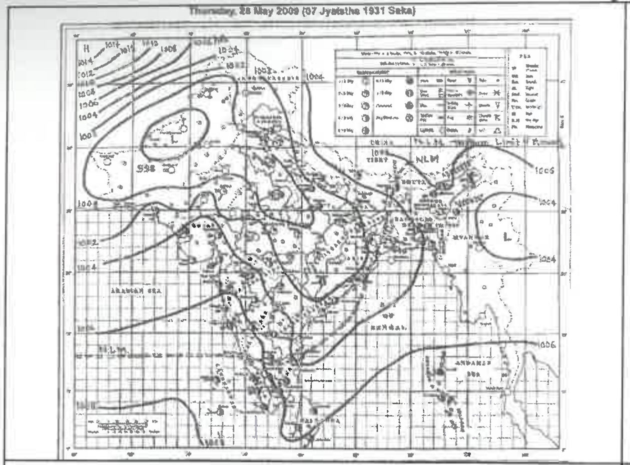
Weather summary :

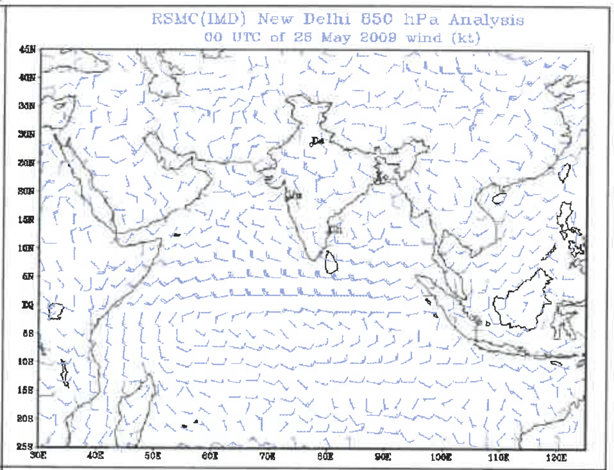
- A trough / wind discontinuity at 0.9 kms a.s.l. runs from Jharkhand to Kerala through Chattisgarh. Vidarbha, Telanagna and interior Karnataka. Another trough at 0.9 kms a.s.l. runs from northwest Rajastlian to Jharkhand with an embeded cyclonic circulation over west Uttar Pradesh. The cyclonic circulation extending upto 1.5 kms a.s.l. over Chattisgarh and neighbourhood now lies over Gangetic West Bengal and adjoining Jharkhand. The cyclonic circulation extending upto 0.9 km a.s.l. over Punjab and neighbourhood persists.
- Heat wave conditions prevailed at a some Places in interior Orissa, West Rajasthan, east Madhya Praclesh, Vidarbha and at isolated places in west Uttar Pradesh, east Rajasthan, north Madhya Maharashtra and Chattisgarh.
- Highest maximum temperature of 46.1°C was recorded at Ganga Nagar (Rajasthan)
- Rain or thundershowers have occurred at most places in Gangetic West BengaL at many places in Andaman & Nicobar Islands, Assam & Meghalaya and Lakshadweep; at a few places in Arunachal Pradesh, coastal Andhra Pradesh and coastal & south interior Karnataka and at isolated places in Sub-Himalayan West Bengal & Sikkim, Uttarakhand, Himachal Pradesh, east Rajasthan, Telangana, Rayalaseema, Tamil Nadu, north interior Karnataka and Kerala. Very light rain has also occurred at isolated places in Nagaland-Manipur-Mizoram-Tripura, Orissa, west Rajasthan, Madhya Pradesh and Chattisgarh.

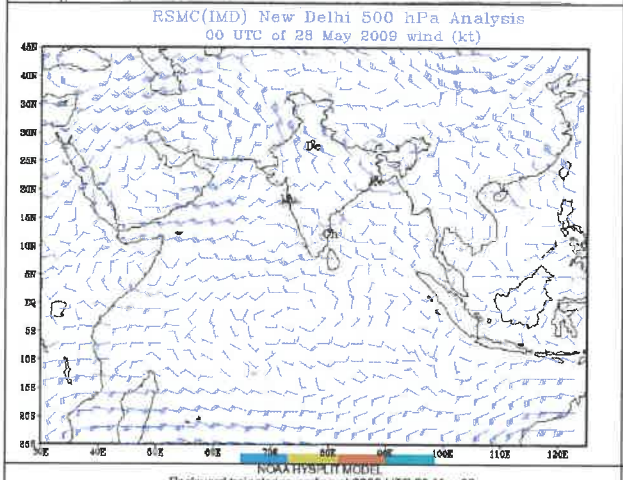
- Station : Pathankot
- Engine on : 13:00
- Engine off : 15:50

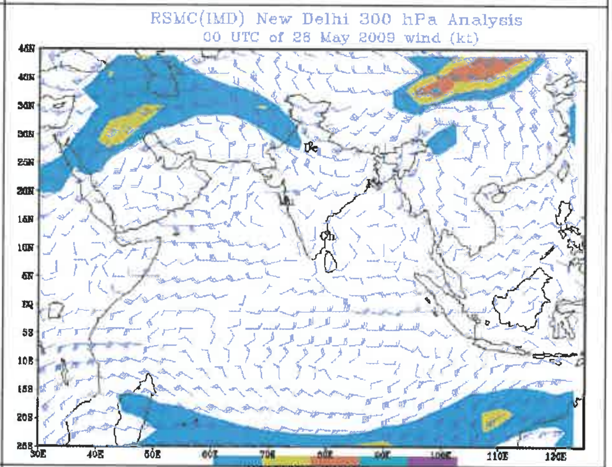


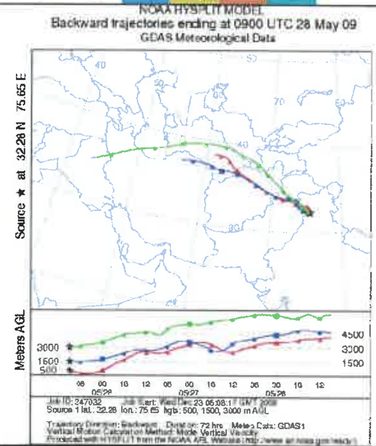
28 May 2009

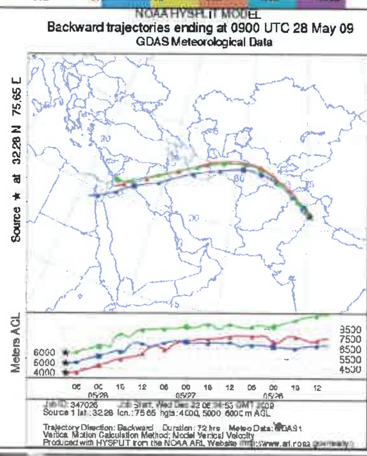

Thursday, 28 May 2009 (07 Jyaistha 1931 Saka)

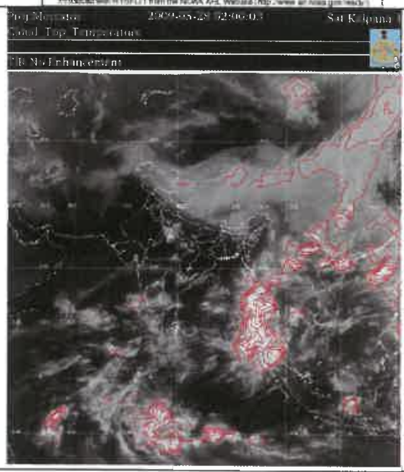

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 28 May 2009 wind (kt)

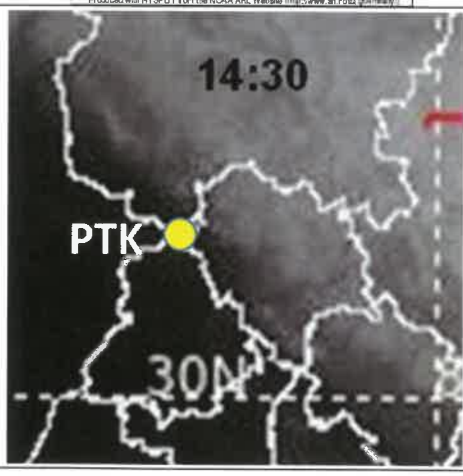

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 28 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 28 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 28 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 28 May 09
GDAS Meteorological Data
Source ★ at 32.28 N 75.65 E
Meters AGL




14:30
PTK
30N

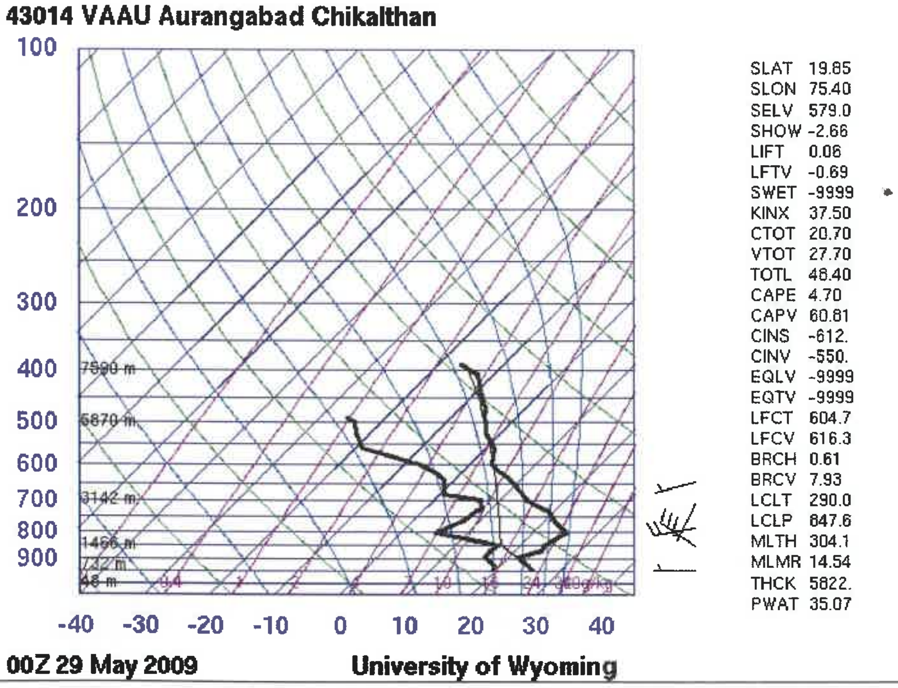
29 May 2009 (Pathankot-Ahemadabad-Bengaluru)

Weather summary :

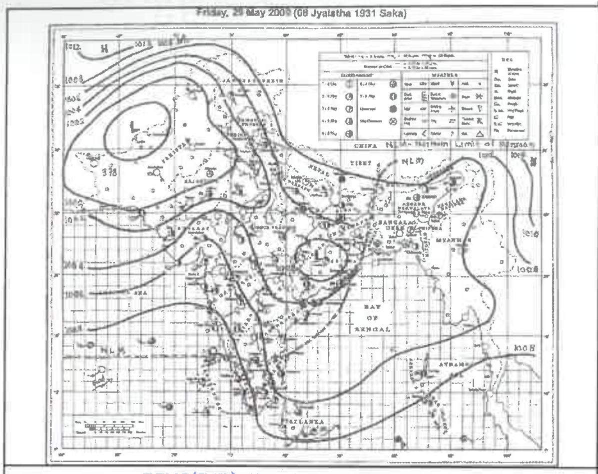
- The trough /wind discontinuity at 0.9 kms a.s.l. runs from Chattisgarh to north Tamil Nadu through Telangana and Rayalaseema. The other trough. at 0.9 kms a.s.l. runs from northwest Rajasthan to Orissa through north Madhya Pradesh and north Chattisgarh.
- The cyclonic circulation extending upto 1.5 kms a,s.l. over Gangetic West Bengal and adjoining Jharkhand persists.
- A western disturbance as an upper air system lies over north Pakistan and adjoining Jammu & Kashmir.
- Heat wave conditions prevailed in some parts of West Rajasthan, east Madhya Pradesh, Vidarbha, coastal Andhra Pradesh and at isolated places in Orissa, east Rajasthan, west Madya Pradesh, Chattisgarh.
- Rain or thundershowers have occurred at most places in Bihar and Uttarakhand; at many places in Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim and east Uttar Pradesh; at a few places in .Jharkhand, Rayalaseema, south interior Karnataka and Lakshadweep and at isolated places in Assam & Meghalaya. Nagaland-Manipur-Mizoram-Tripura, Gangetic West Bengal, west Uttar Pradesh, Himachal Pradesh, east Rajasthan, Chattisgarh, coastal Andhra Pradesh, Tamil Nadu and Kerala. Very light rain has also occurred at isolated places in Orissa, west Madhya Pradesh, Marathwada and coastal Karnataka

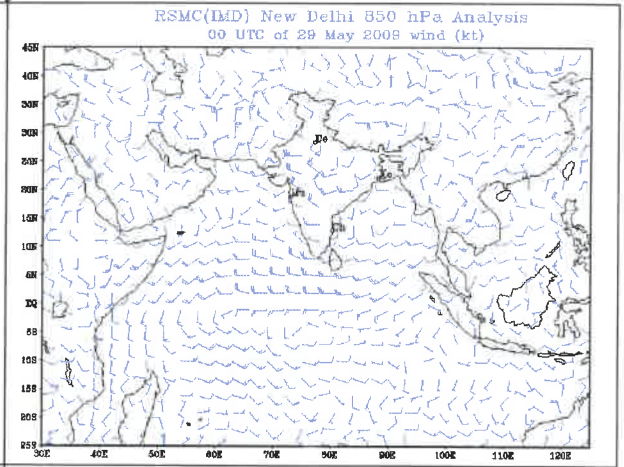
Flight

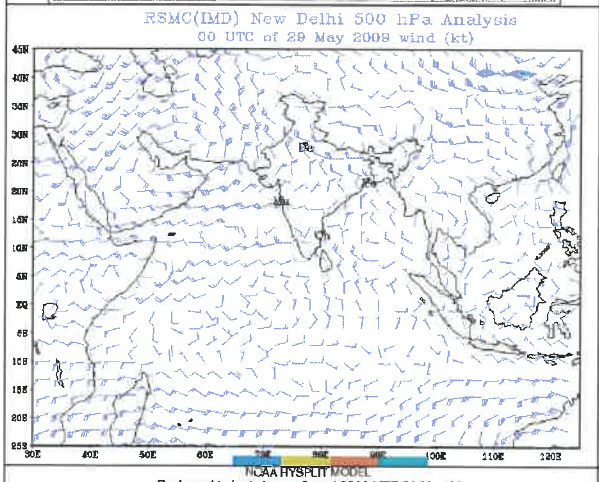
• Station : Pathankot - Ahemadabad • Engine on : 10:00 • Engine off : 13:25	• Station : Ahemadabad - Bengaluru • Engine on : 15:00 • Engine off : 18:25

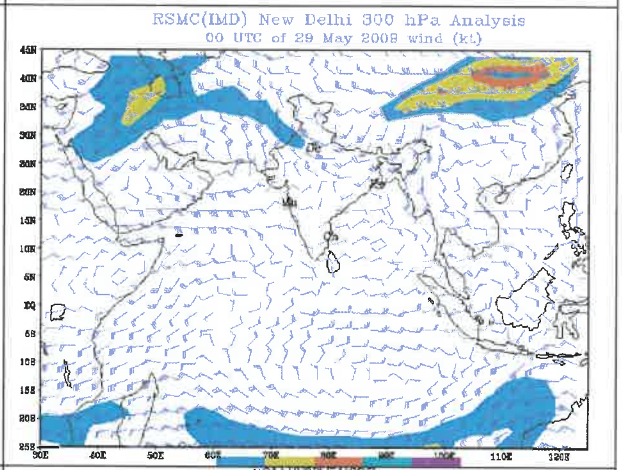


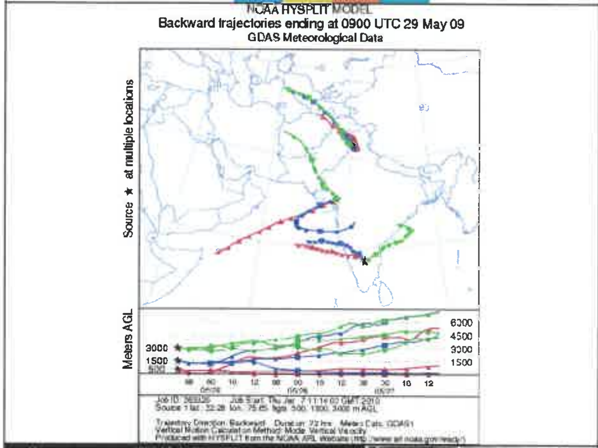
29 May 2009

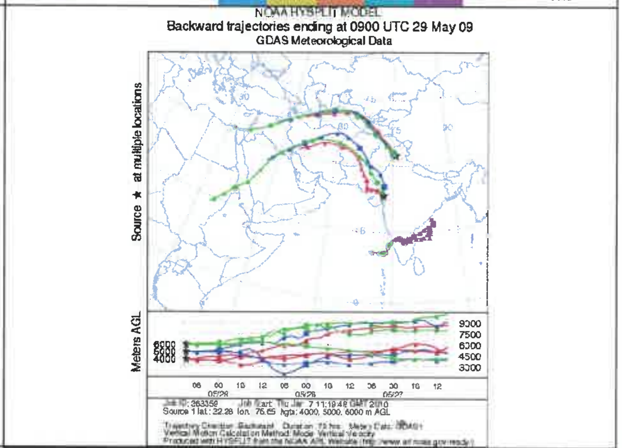

Friday, 29 May 2009 (08 Jyaistha 1931 Saka)

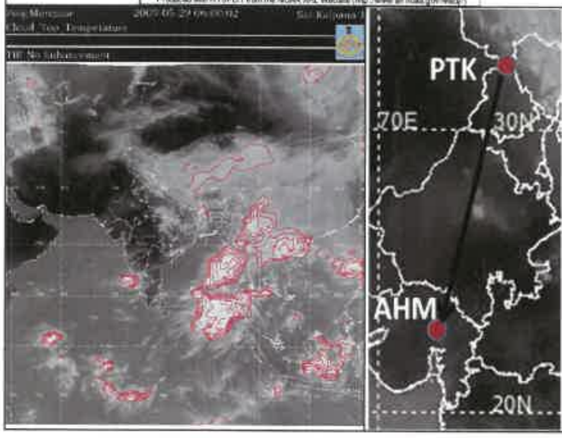

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 29 May 2009 wind (kt)

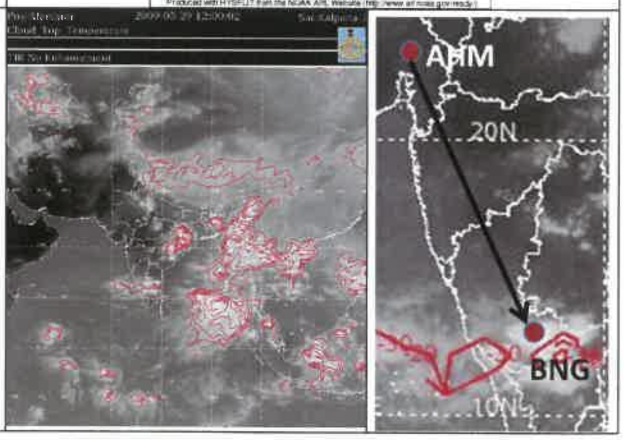

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 29 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 29 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 29 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 29 May 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


PTK
70E
30N
AHM
20N


AHM
20N
BNG
10N

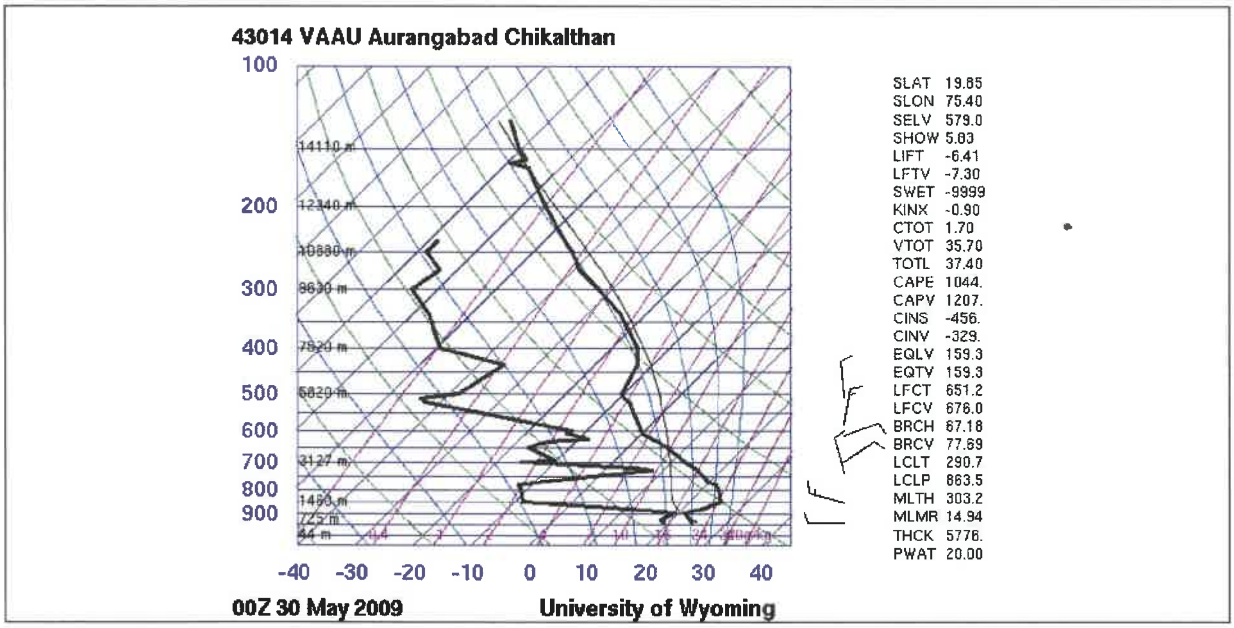
30 May 2009

Weather summary :

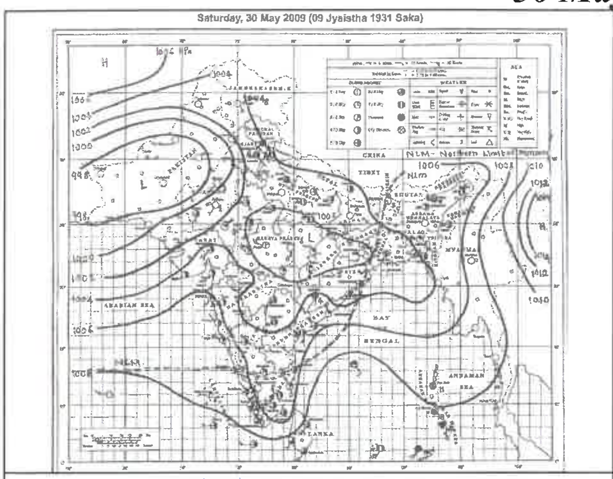
- The cyclonic circulation extending upto 1.5 kms a.s.l. lies over Jharkhand and neghbourhood. The trough / wind discontinuity at 0.9 kms a.s.l. runs from Jharkhand to south Tamil Nadu through Chattisgarh, Vidarbha. Telangana and Rayalaseema. The other trough at 0.9 kms ,a.s.l. runs from northwest Rajasthan to Jharkhand through Haryana and Uttar Pradesh.
- The western disturbance as an upper air system lies over eastern parts of Jammu & Kashmir. A fresh western disturbance as an upper air system lies over north Pakistan and neighbourhood.
- Heat wave conditions prevailed in some parts of Vidarbha and at isolated places in northwest Rajasthan.
- The maximum temperatures are below normal by 5-8^{0}C over parts of Punjab, Haryana, Uttrakhand, west Uttar Pradesh, south Chhattisgarh and north coastal Andhra Pradesh and by 2-4^{0}C over parts of east Uttar Pradesh, Rajasthan, Bihar, Jharkhand and coastal Orissa.
- The highest maximum temperature of 43.4^0 C was recorded at Sheopur (Madhya Pradesh).
- Rain or thundershowers have occurred at most places in Andaman & Nicobar islands at many places in Hariyana, Himachal Pradesh and Lakshadweep; at a few places in Arunachal Pradesh, Assam & Meghalaya. Orissa, west Uttar Pradesh, Uttarakhand, Rajasthan, Chattisgarh, coastal Andhra Pradesh. Rayalaseema and Kerala and at isolated places in Nagaland—Manipur—Mizoram—Tripura, Bihar, Punjab, Jammu & Kashmir, Madhva Pradesh. Telangaiia, Tamil Nadu and coastal Karnataka. Very light rain has also occurred at isolated places in Gangetic West Bengal, Jharkhand and south interior Karnataka.

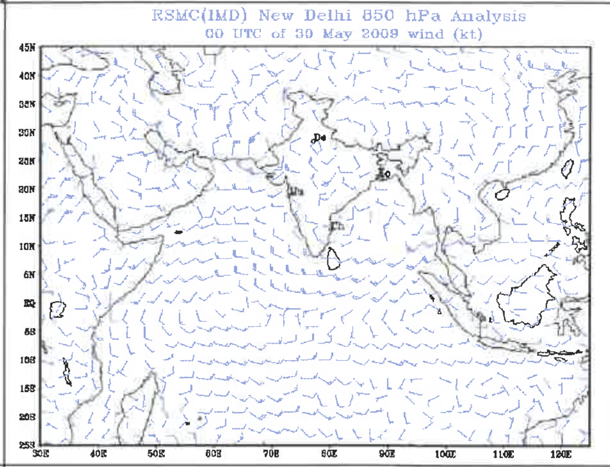
***Station** : Bengaluru*

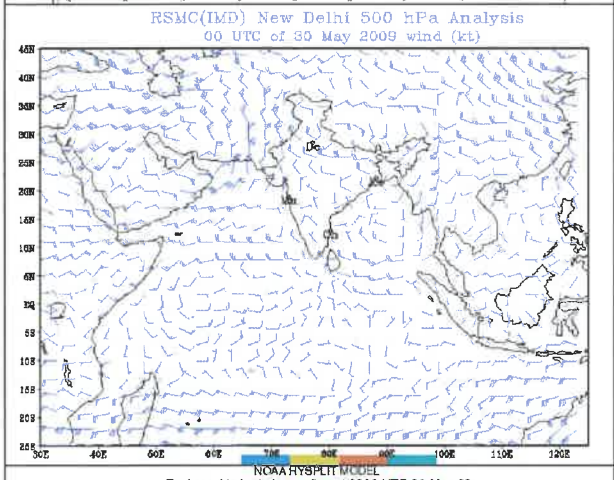
***Flight** : Nil*

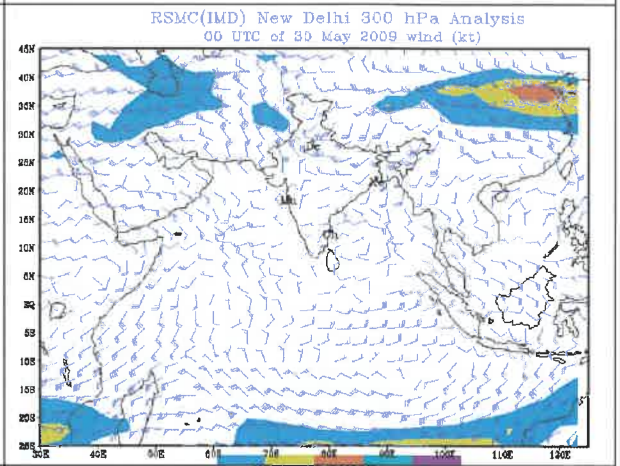


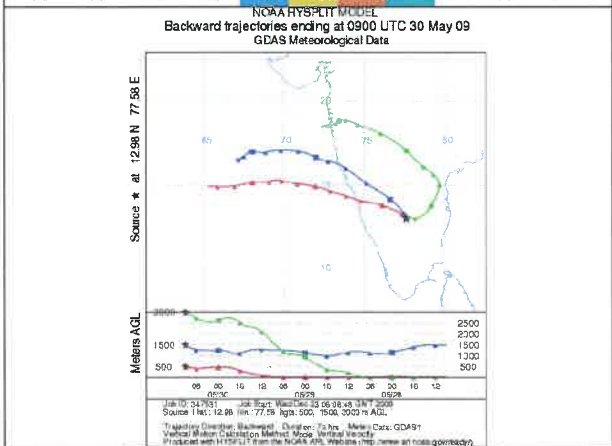
30 May 2009

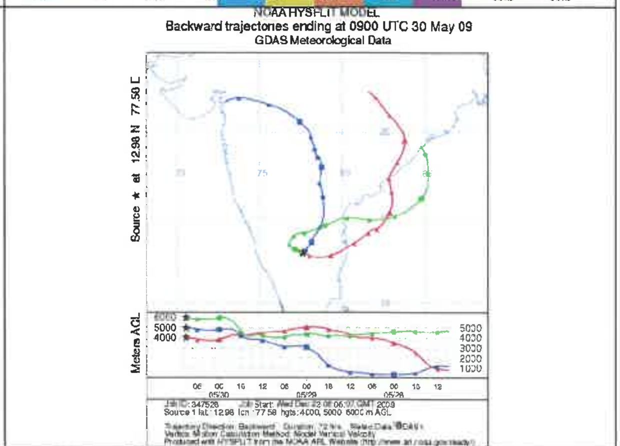

Saturday, 30 May 2009 (09 Jyaistha 1931 Saka)

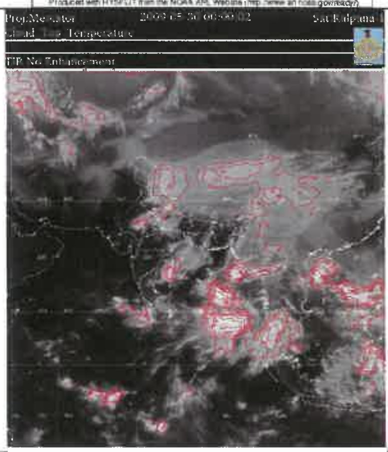

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 30 May 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 30 May 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 30 May 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 May 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 May 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.50 E
Meters AGL

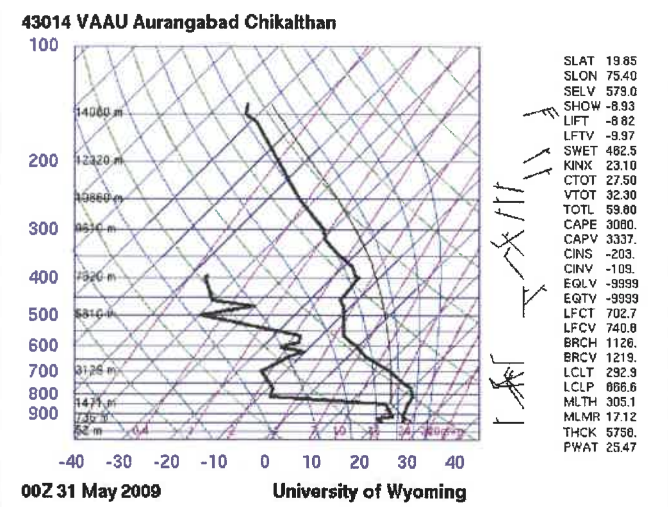

Proj:Mercator
Cloud Top Temperature
TIR No Enhancement

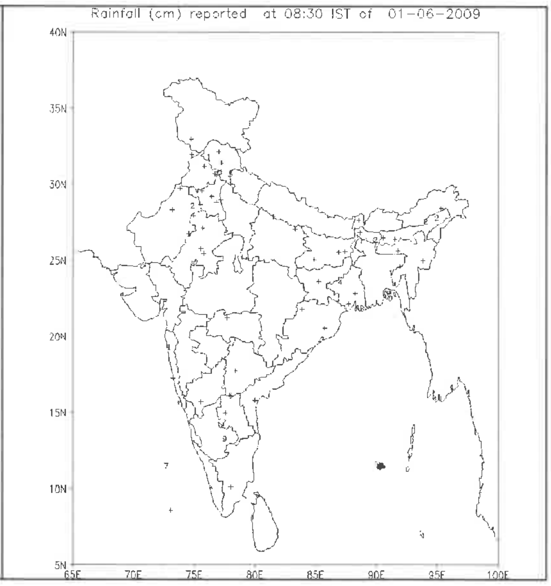

BNG

31 May 2009 (Base Bengaluru)

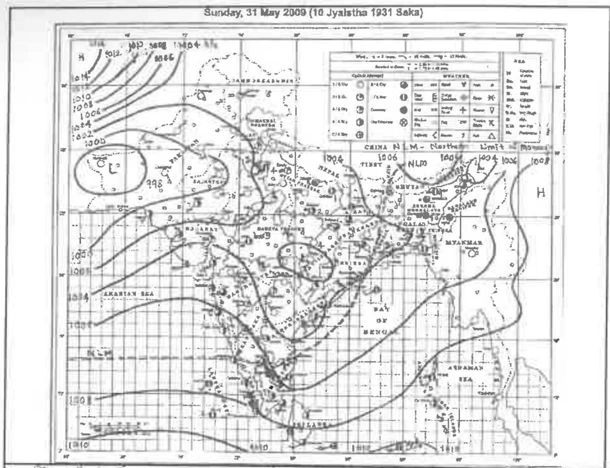
Weather summary :

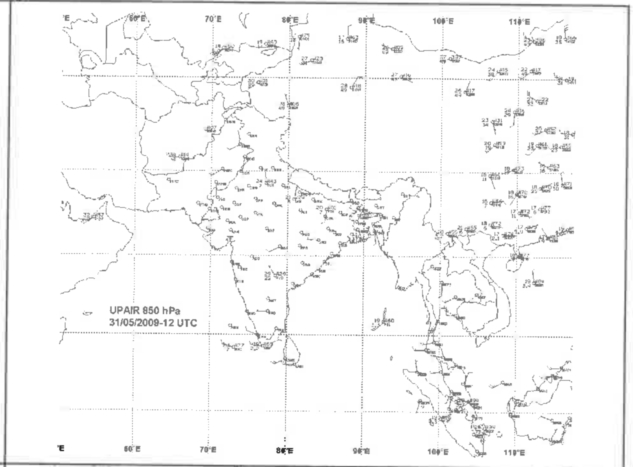
- The cyeclonic circulation over Jharkhand and neighbourhood persists and now extends upto 0.9 kms a.s.l.
- The trough / wind discontinuity at 0.9 kms a.s.lruns from Jharkhand to north coastal Andhra Pradesh through Chattisgarh. The other trough at 0.9. kms a.s.l. from northwest Rajasthan to Jharkhand through Haryana and Uttar Pradesh persists.
- The western disturbance as an upper air system over north Pakistan and neighbourhood now lies over Jammu & Kashmir and neighbourhood.
- A trough in mid & upper tropospheric westerlies with its axis at 5.8 kms a.s.l. runs from lat. 32.00 N & 87.0^{0}E to lat 18.00 N & 79.0^{0}E.
- Rain or thundershowers have occurred at many places in Anclaman & Nicohar Islands, Assam & Meghalaya, east Uttar Pradesh, east Madhya Pradesh and Kerala; at a few places in Sub-Himalayan West Bengal & Sikkim, Jharkhand, Bihar, Uttarakhand, Haryana. Himachal Pradesh, Chattisgarh and Lakshadweep and at isolated places in Nagaland-Manipur-Mizoram-Tripura, Gangetic West Bengal. Orissa, west Uttar Pradesh, west Rajasthan, west Madhya Pradesh, coastal Andhra Pradesh and Tamil Naclu. Very light rain has also occurred at isolated places in east Rajasthan and Vidarbha

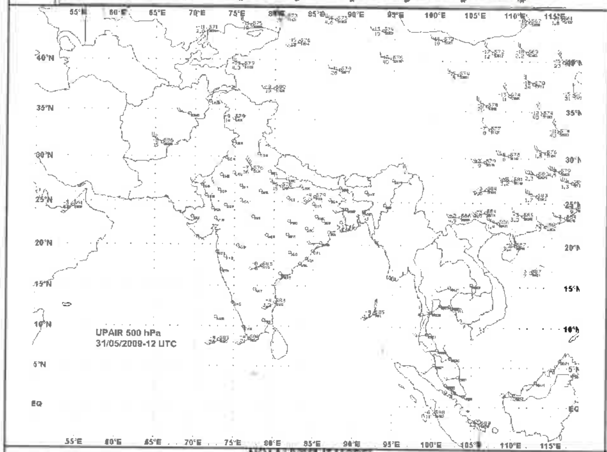


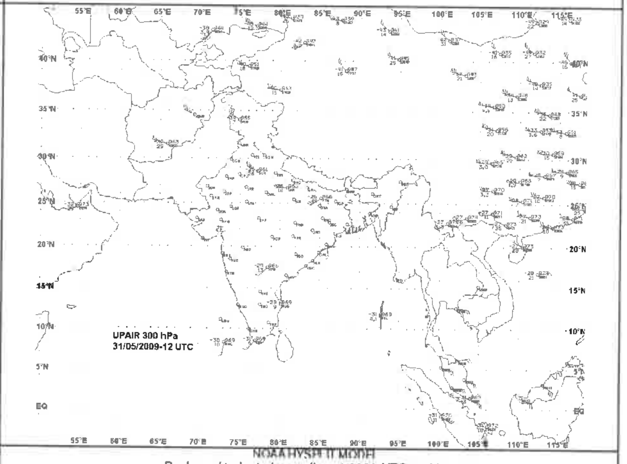


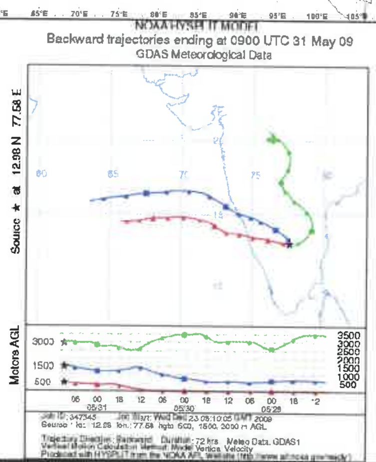
31 May 2009

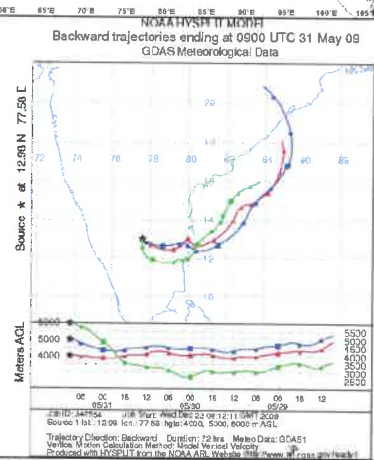

Sunday, 31 May 2009 (10 Jyaistha 1931 Saka)

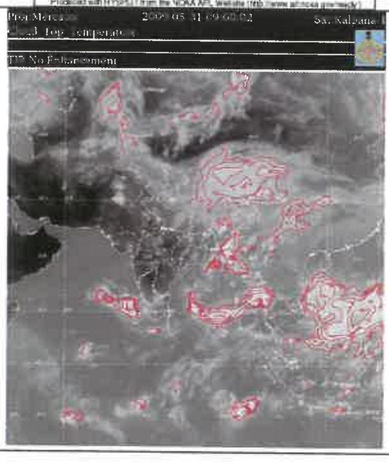

UPAIR 850 hPa
31/05/2009-12 UTC


UPAIR 500 hPa
31/05/2009-12 UTC


UPAIR 300 hPa
31/05/2009-12 UTC


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 31 May 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 31 May 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL




BNG
10N
80E

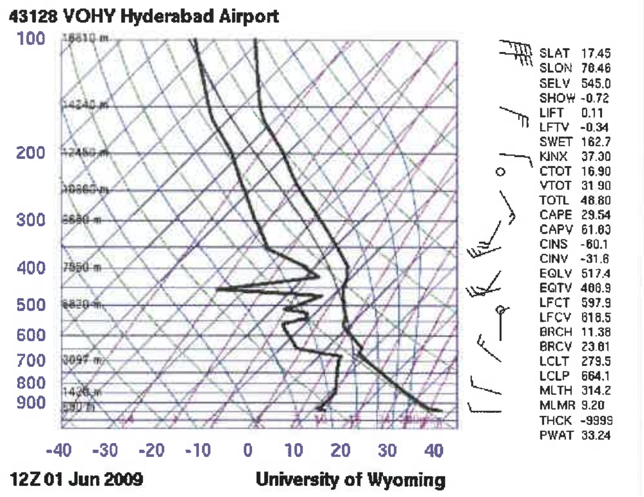
1 June 2009 (Base Bengaluru)

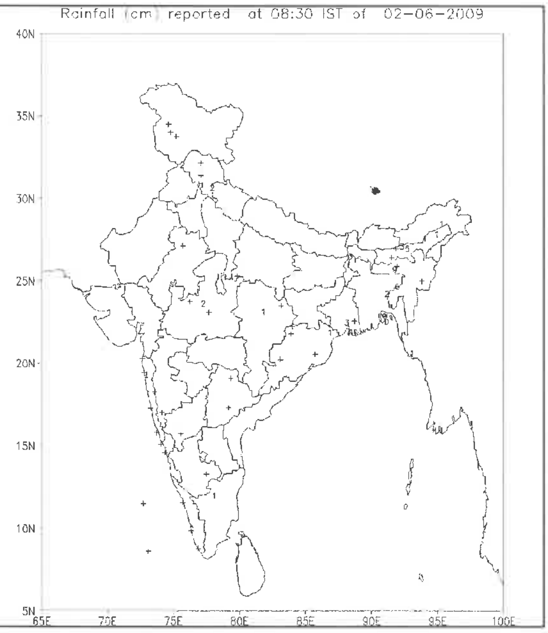
Weather summary :

- Southwest monsoon advanced into some more parts of central Arabian Sea, coastal and south interior Karnataka, some parts of Rayalaseema and south coastal Andhra Pradesh and some more parts of west central Bay of Bengal.
- The northern limit of monsoon passes through Lat. 14.0 °N/ Long. 60.0° E, Lat. 14.0 °N/ Long. 70.0° E, Udupi, Anantpur, Ongole, Lat. 17.0 °N Long. 85.0° E, Paradeep, Bankura and Gangtok.
- Strengthening of pressure gradient over Arabian Sea & Bay of Bengal.
- The cyclonic circulation extending upto 0.9 km a.s.l. over east Uttar Pradesh and adjoining Bihar.
- The trough at 0.9 km a.s.l runs from northwest Rajasthan to Gangetic West Bengal through Uttar Pradesh, Bihar and Jharkhand.
- The western disturbance as an upper air system over Jammu & Kashmir and neighbourhood persists.
- Heat wave conditions prevailed in some parts of south coastal Andhra Pradesh and at isolated places in north Madhya Maharashtra and Telangana.
- The highest maximum temperature of 42.2°C was recorded at Chanderpur(Maharashtra).
- Thunderstorm activity over plains of northwest India.

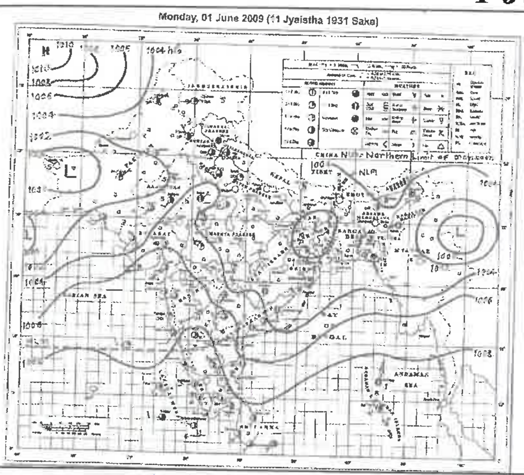
Flight :

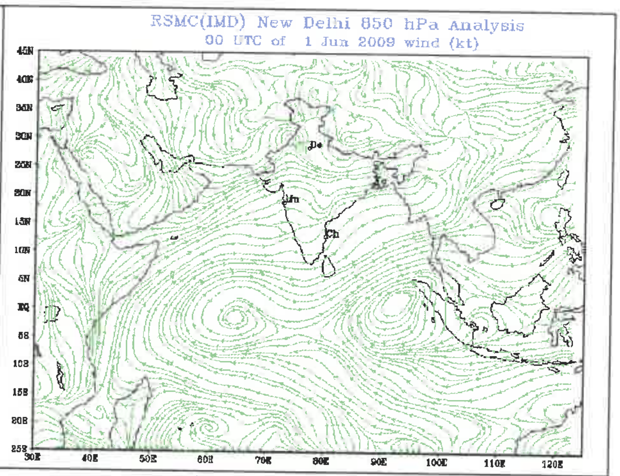
Station : Bengaluru
Engine on : 13:45
Engine off : 16:15

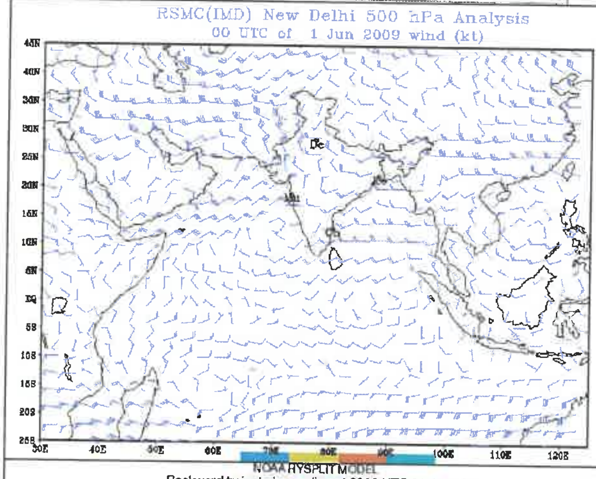


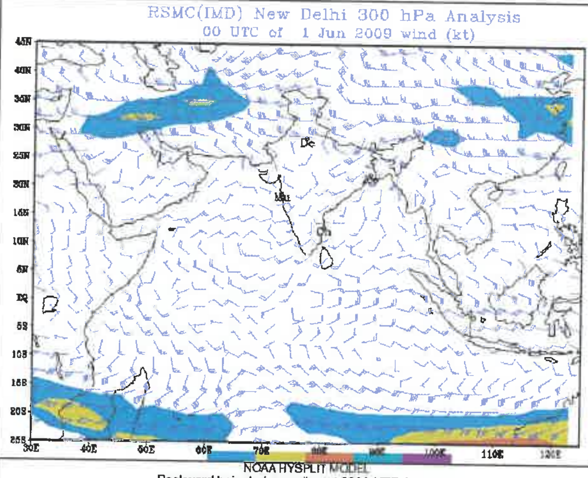


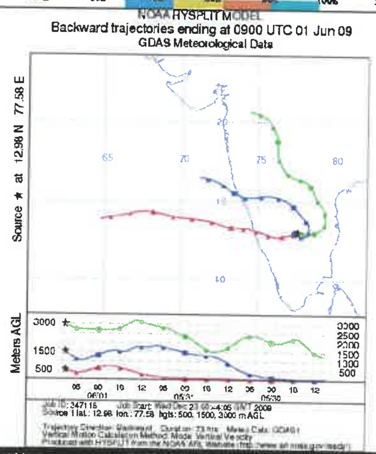
1 June 2009

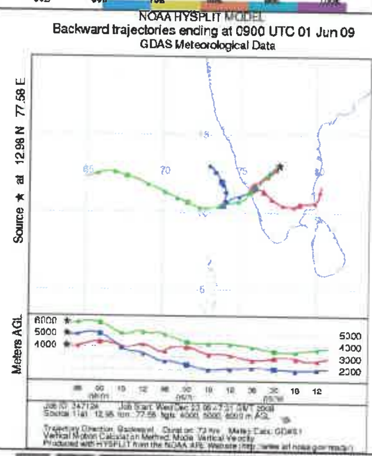

Monday, 01 June 2009 (11 Jyaistha 1931 Saka)

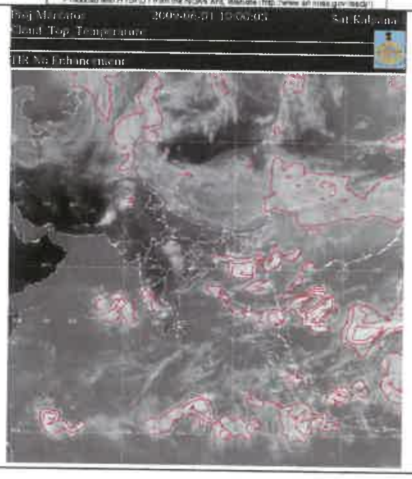

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 1 Jun 2009 wind (kt)

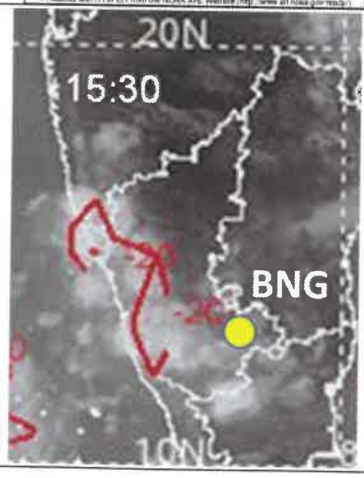

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 1 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 1 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL




20N
15:30
BNG
10N

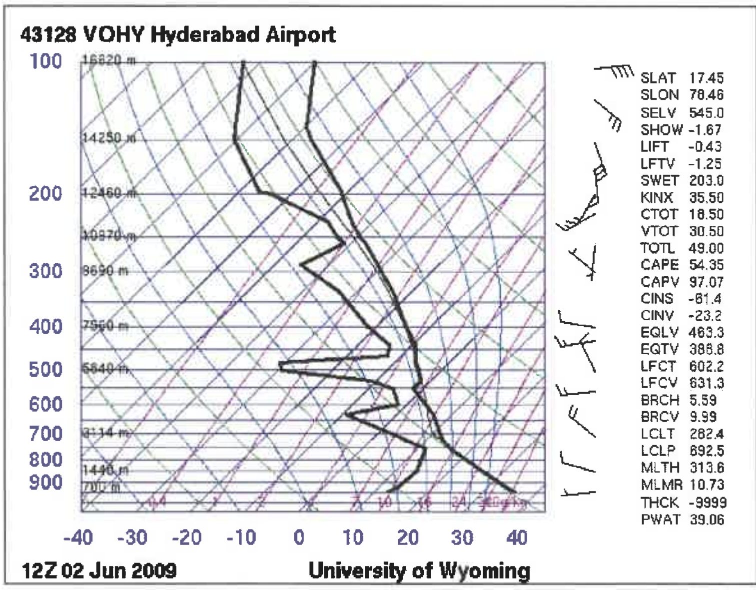
2 June 2009 (Base Bengaluru)

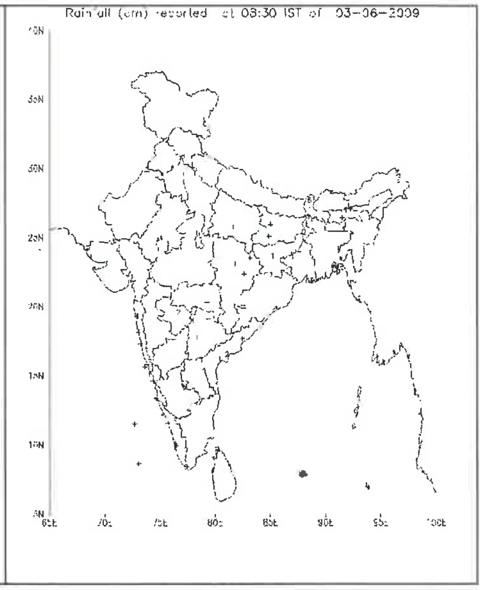
Weather summary :

- The northern limit of monsoon passed through Lat. 14.0 °N/ Long. 60.0° E, Lat. 14.0 °N/ Long. 70.0° E, Udupi, Anantpur, Ongole, Lat. 17.0 °N Long. 85.0° E, Paradeep, Bankura and Gangtok on 1st June, 2009.
- Strengthening of pressure gradient over Arabian Sea & Bay of Bengal.
- The highest maximum temperature of 42.3°c was recorded at Khajuraho (Madhya Pradesh).
- A trough in lower level westerlies runs from Sub-Himalayan West Bengal & Sikkim to northwest Bay of Bengal.
- The western disturbance as an upper air system over Jammu & Kashmir and neighbourhood has moved away northeastwards.
- The southwest **Monsoon** has been **active in Nagaland-Manipur-Mizoram-Tripura.**

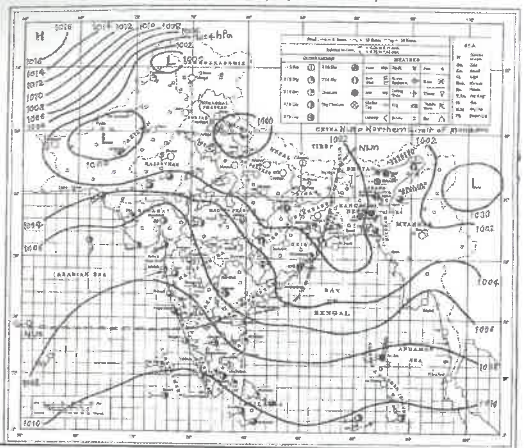
Flight :

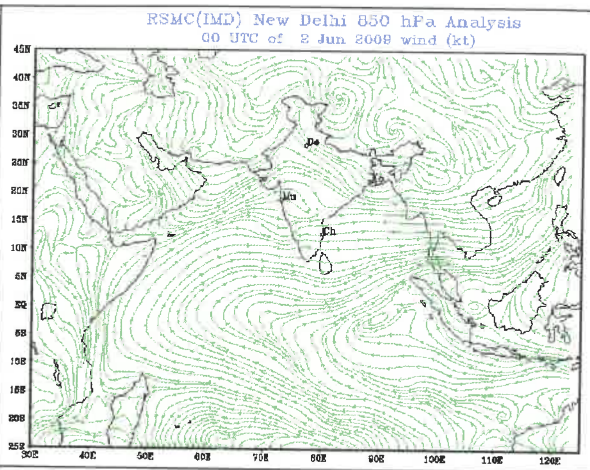
Station : Bengaluru
Engine on : 13:05
Engine off : 15:15

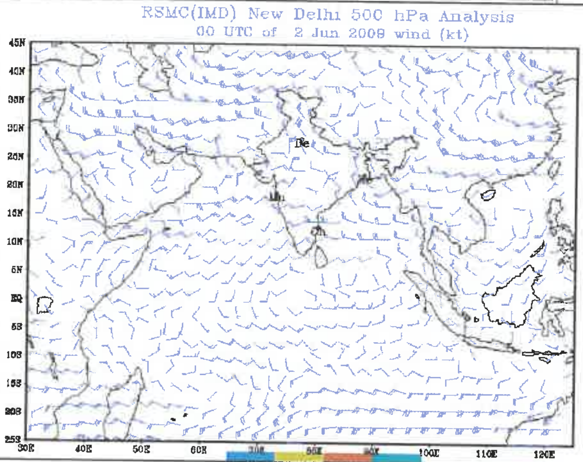


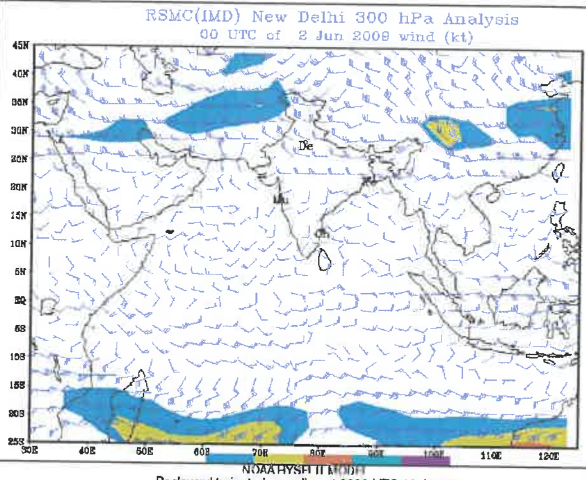


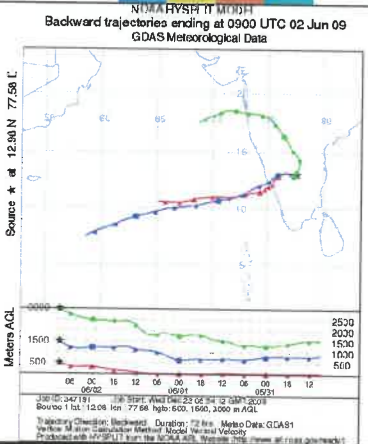
2 June 2009

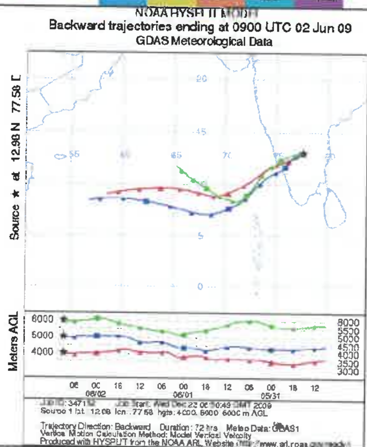

Tuesday, 02 June 2009 (12 Jyaistha 1931 Saka)

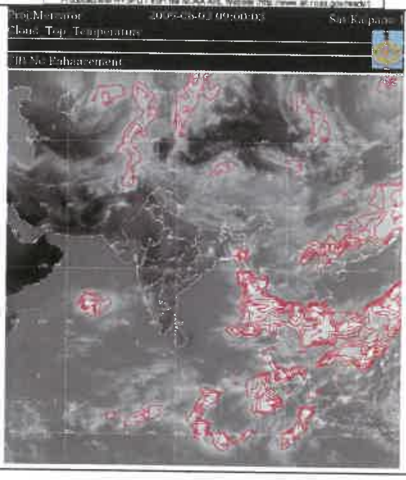

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 2 Jun 2009 wind (kt)

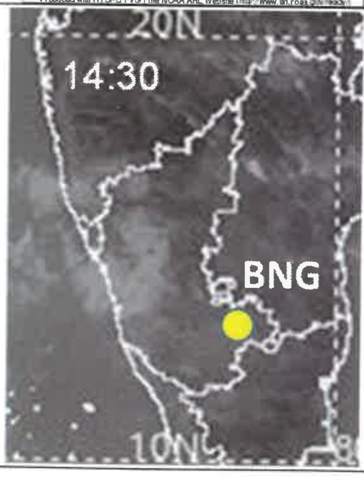

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 2 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 2 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 02 Jun 09
GDAS Meteorological Data
Source ★ at 12.90 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 02 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature


20N
14:30
BNG
10N

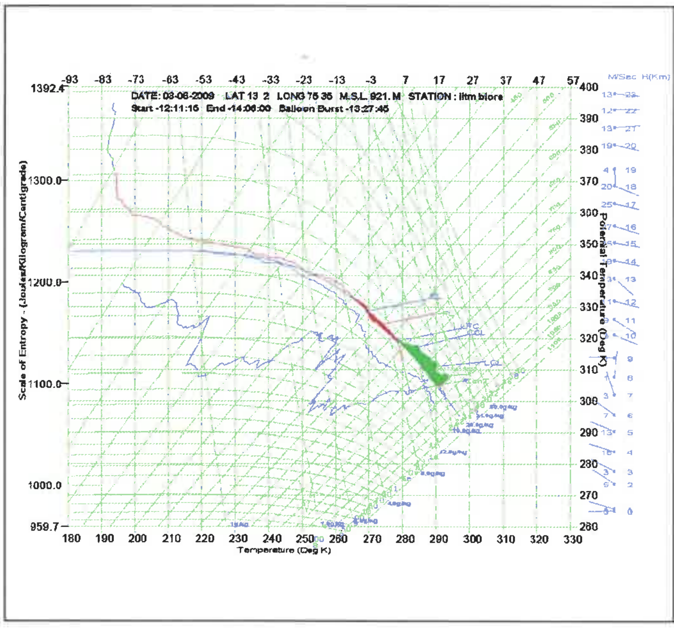
3 June 2009 (Base Bengaluru)

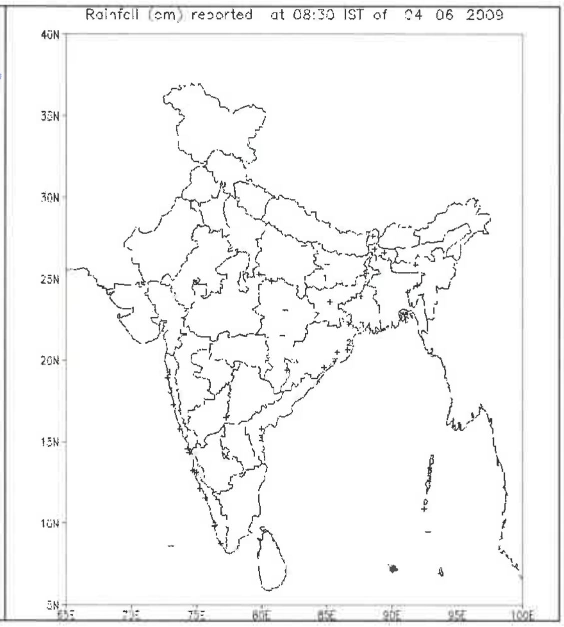
Weather summary :

- *Strengthening of pressure gradient over Arabian Sea & Bay of Bengal.*
- An off-shore trough at sea level extends from Karnataka to Kerala coast.
- The trough from Sub Himalayan west Bengal & Sikkim to northwest Bay of Bengal persists and now extends upto 3.6 kms a.s.l.
- A cyclonic circulation between 3.1 & *5.8* knis a.s.l. lies over Marathwada and neighbourhood.
- A western disturbance as an upper air system lies over north Pakistan and neighbourhood.
- Heat wave conditions prevailed in north coastal Andhra Pradesh.
- The southwest Monsoon has been active in Sub-Himalayan West Bengal & Sikkim.

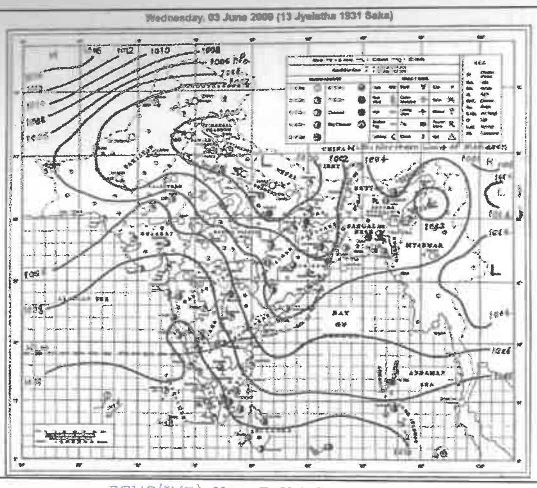
Flight :

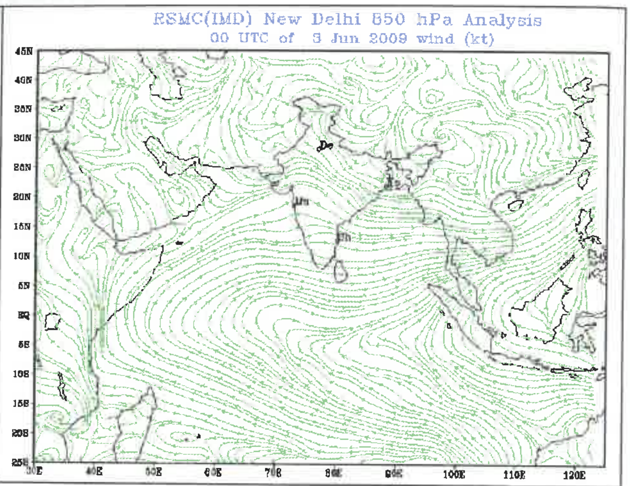
Station : Bengaluru
Engine on : 12:00
Engine off : 14:05

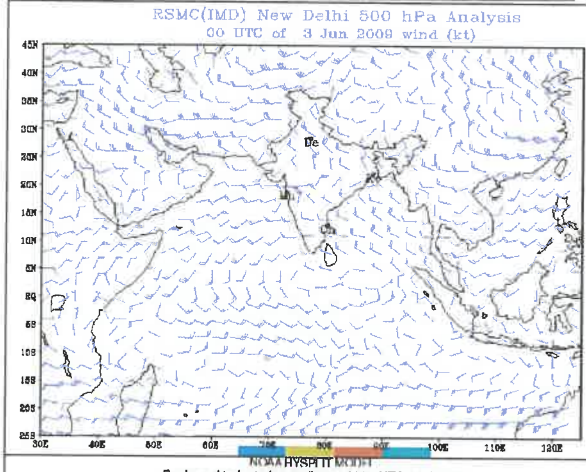


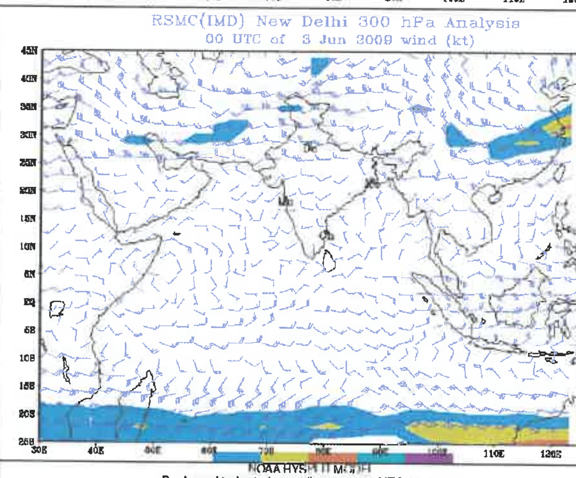


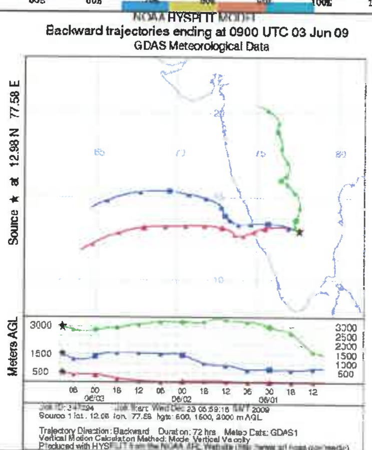
3 June 2009

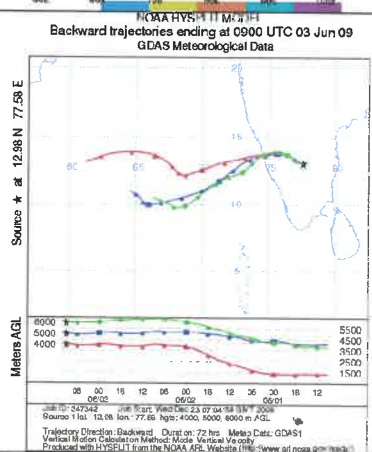

Wednesday, 03 June 2009 (13 Jyaistha 1931 Saka)

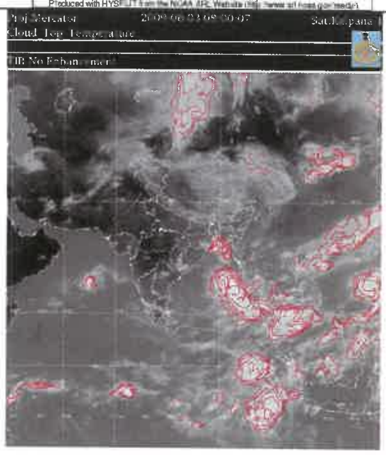

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 3 Jun 2009 wind (kt)

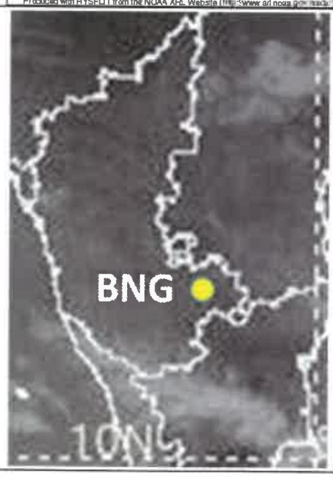

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 3 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 3 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 03 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 03 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1


Proj Mercator
Cloud Top Temperature
TIR No Enhancement


BNG
10N

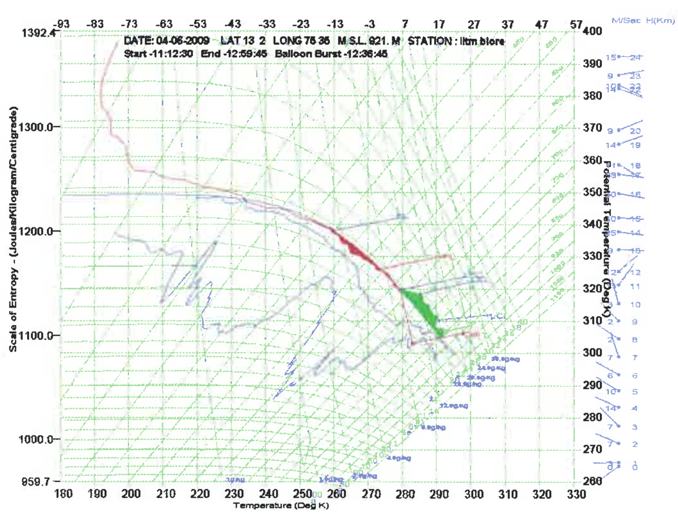
4 June 2009 (Base Bengaluru)

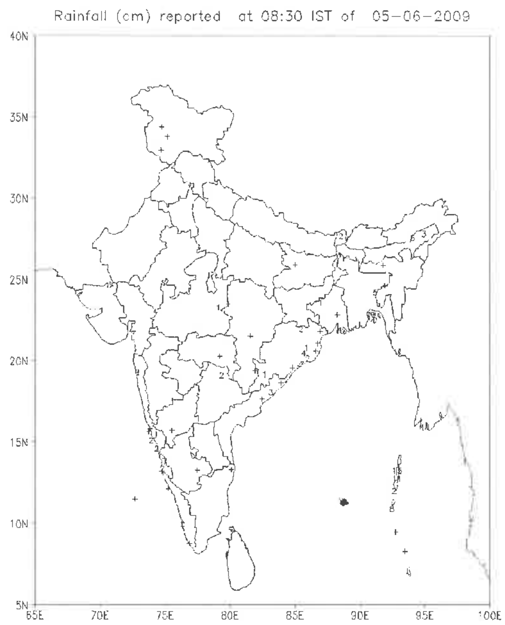
Weather summary :

- A cyclonic circulation extending upto *4.5* kms a.s.l. lies over Gangetic West Bengal and neighbourhood.
- Heat wave conditions are prevailing over coastal areas of north Andhra Pradesh, isolated pockets of Punjab and northeast Madhya Pradesh.
- The highest maximum temperature of 45.0 °C was recorded at Amritsar (Punjab).
- The western disturbance as an upper air system over Jammu & Kashmir and neighbourhood has moved away northeastwards.

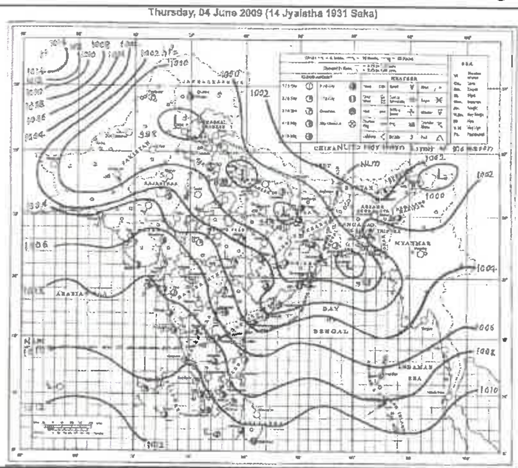
Flight :

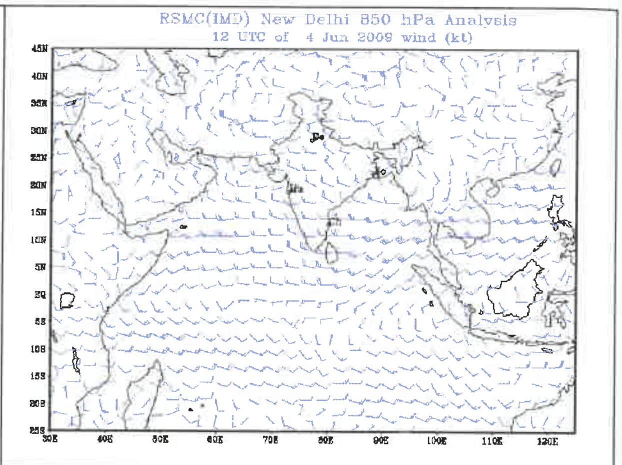
- Station : Bengaluru
- Engine on 10:25
- Engine off : 11:00

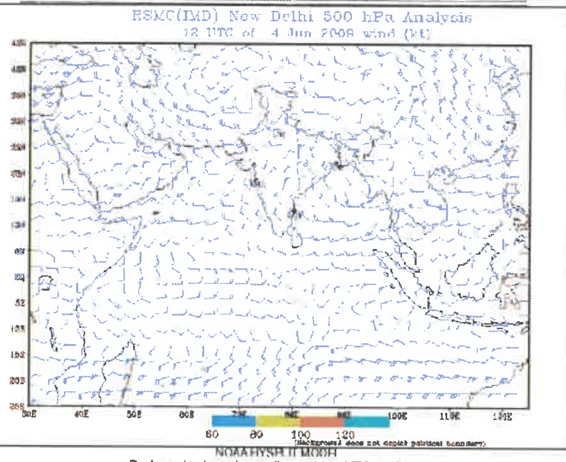


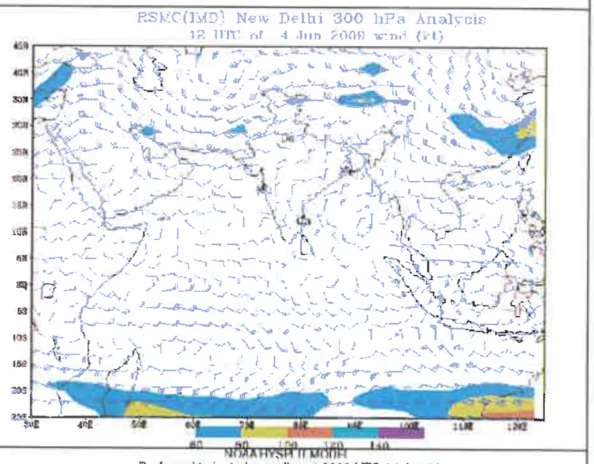


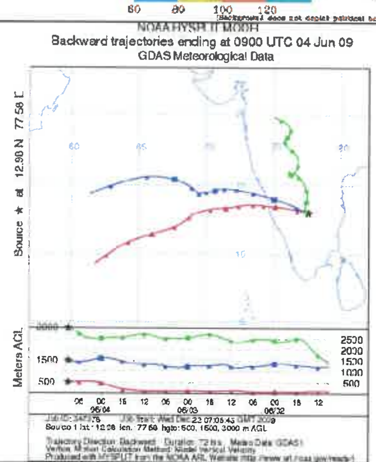
4 June 2009

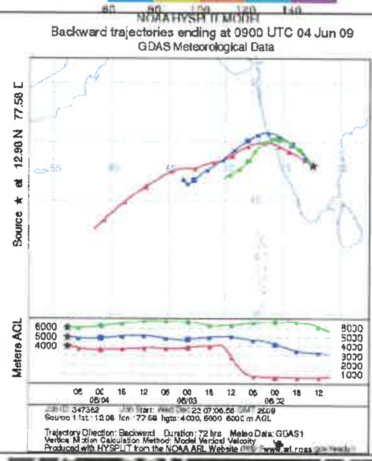

Thursday, 04 June 2009 (14 Jyaistha 1931 Saka)

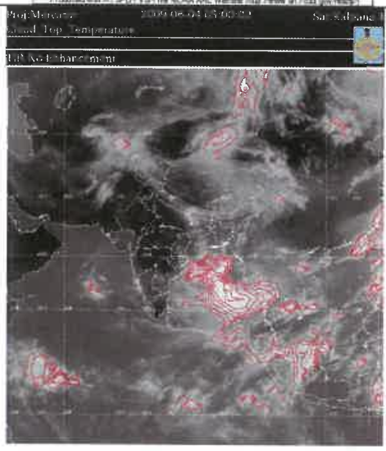

RSMC(IMD) New Delhi 850 hPa Analysis
12 UTC of 4 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
12 UTC of 4 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
12 UTC of 4 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 04 Jun 09
GDAS Meteorological Data
Source ★ at 12.90 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 04 Jun 09
GDAS Meteorological Data
Source ★ at 12.90 N 77.58 E
Meters AGL




20N
BNG
10N
80E

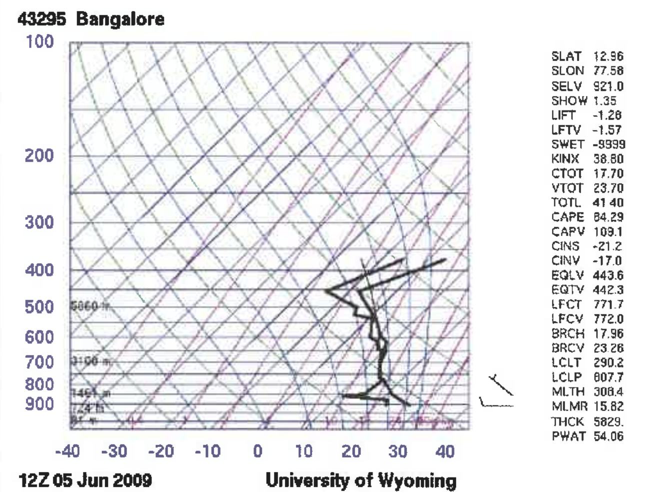
5 June 2009 (Base Bengaluru)

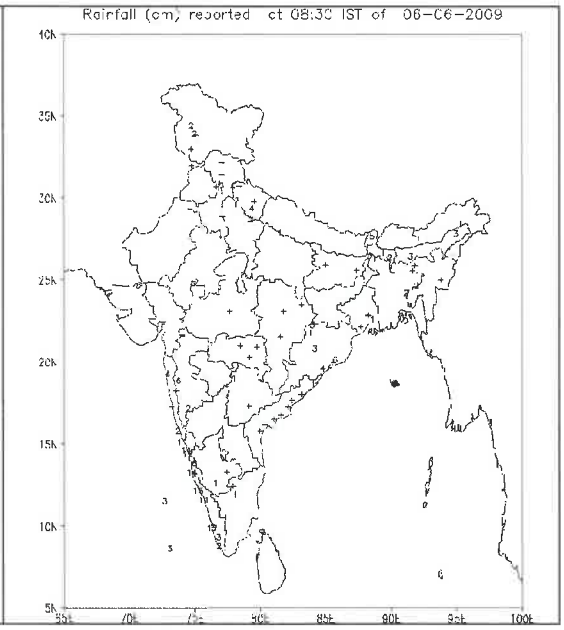
Weather summary :

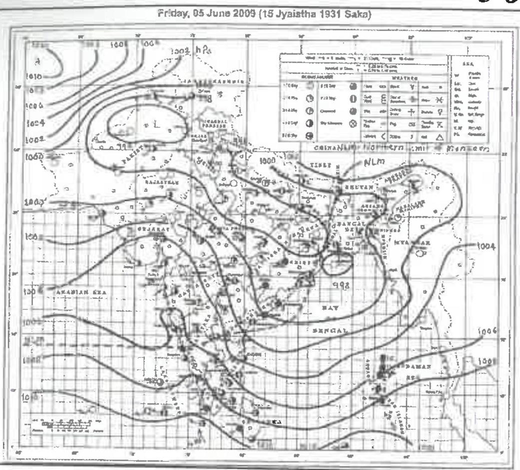
- The low pressure area over northwest Bay of Bengal and its neighbourhood persists
- A low pressure area has formed over northwest Bay of Bengal and neighbourhood. Associated cyclonic circulation extends upto mid tropospheric levels, tilting southwestwards with height.
- The trough at 0.9 km a.s.l runs from Punjab to- east central Bay of Bengal through Haryana, Uttar Pradesh, Jharkhand, West Bengal & Sikkim and the centre of low pressure area.
- An offshore trough at sea level extends from south Konkan & Goa to Karnataka coasts.
- Severe heat wave conditions prevailed in some parts of north coastal Andhra Pradesh. Heat wave conditions also prevailed in some parts of Punjab and east Madhya Pradesh
- The highest maximum temperature of 44.2°C was recorded at Jhansi (Uttar Pradesh).

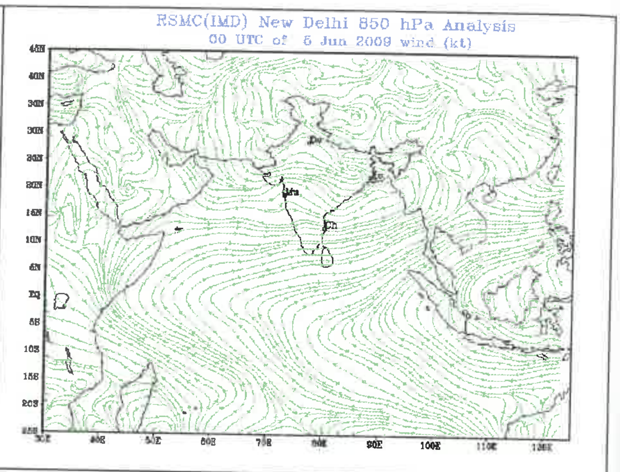
Flight :

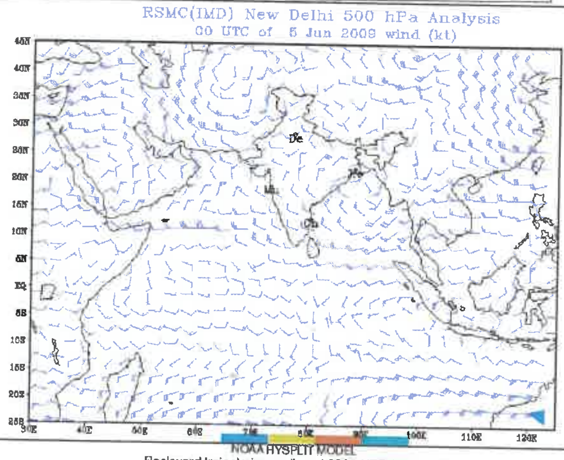
- Station : Bengaluru Hosur
- Engine on : 12:40
- Engine off : 13:05

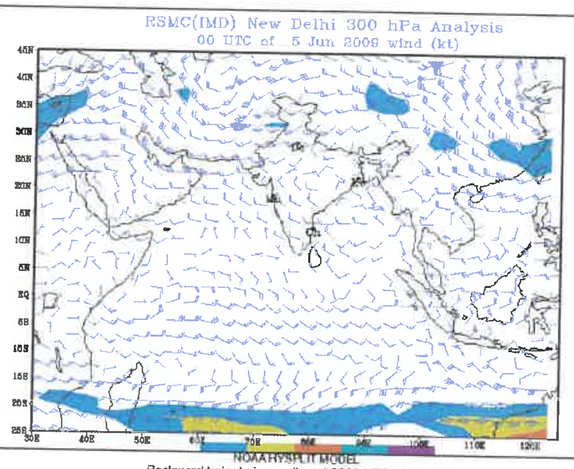


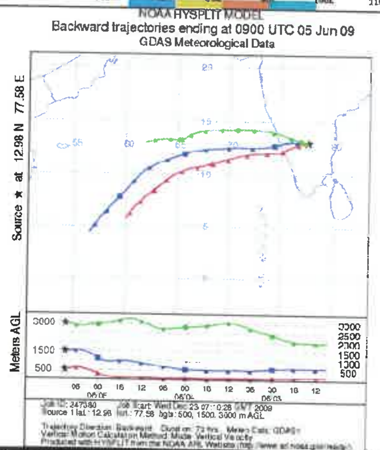


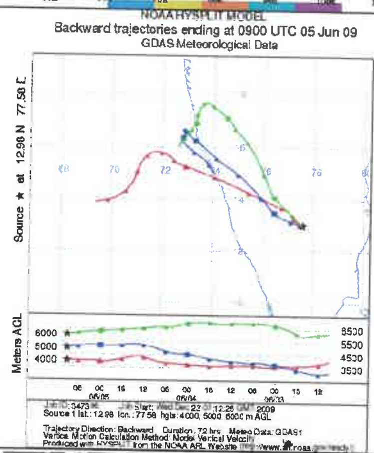

Friday, 05 June 2009 (15 Jyaistha 1931 Saka)

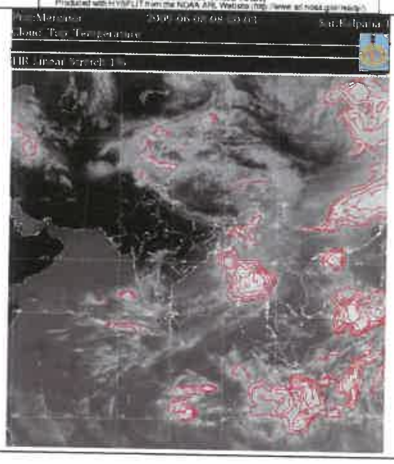

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 5 Jun 2009 wind (kt)

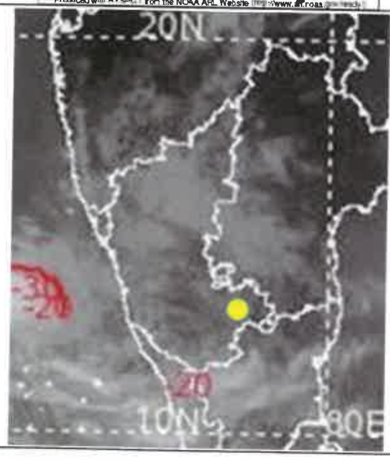

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 5 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 5 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 05 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 05 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature


20N
10N
80E

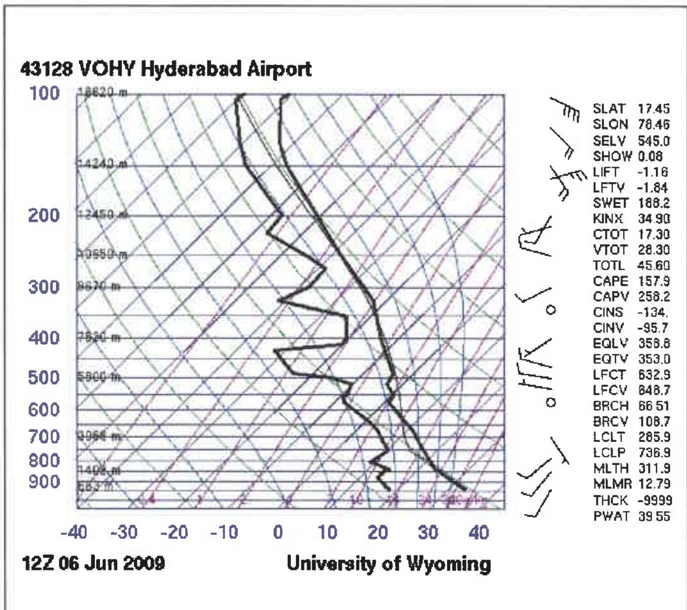
6 June 2009 (Base Bengaluru)

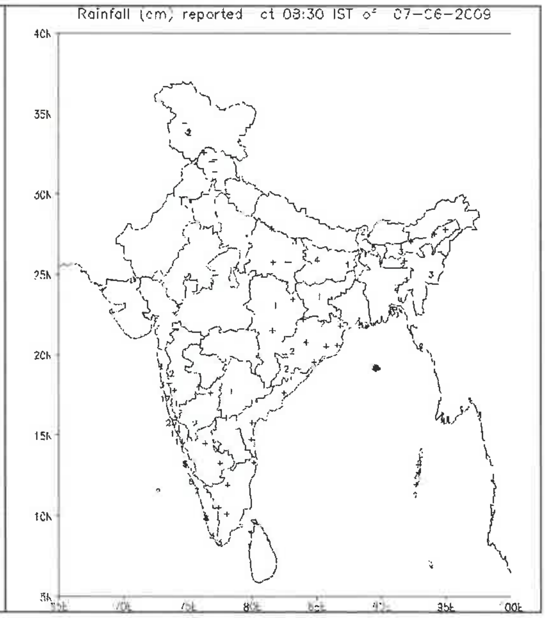
Weather summary :

- Southwest monsoon has further advanced into some more parts of central Arabian Sea, some more parts of Karnataka, remaining parts of Bay of Bengal, some parts of north coastal Andhra Pradesh and coastal Orissa.
- The northern limit of monsoon passes through Lat. 15.0° N/ Long. 60.0° E, Lat. 15.0° N/ Long. 70.0° E, Karwar, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok.
- The low pressure area over northwest Bay of Bengal and neighbourhood persists. The trough at 0.9 km a.s.l. from Punjab to east central Bay of Bengal through Haryana, Uttar Pradesh, Jharkhand, West Bengal & Sikkim and the centre of low pressure area persists.
- The offshore trough extends from south Konkan-Goa to Lakshadweep area.
- A western disturbance, as an upper air system lies over north Pakistan and adjoining Jammu & Kashmir.
- **Heat wave conditions prevailed at isolated places in north Chattisgarh**
- The highest maximum temperature of 44.2°C was recorded at Amritsar (Punjab).

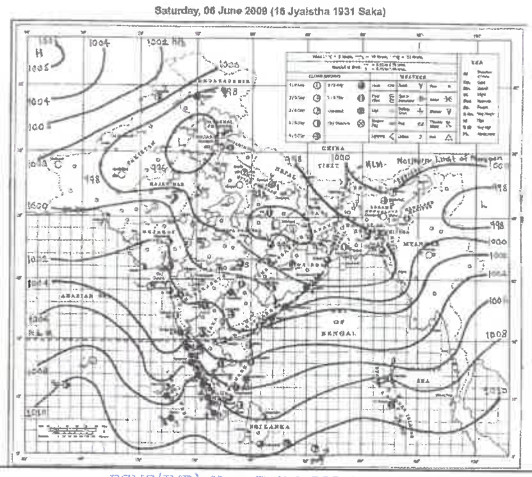
Flight :

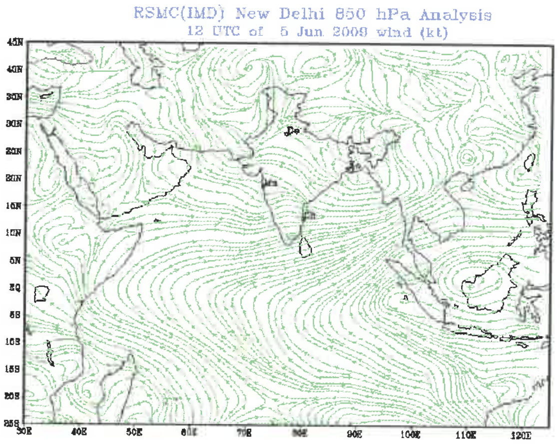
Station : Hosur - Bengaluru
Engine on : 12:30
Engine off : 13:15

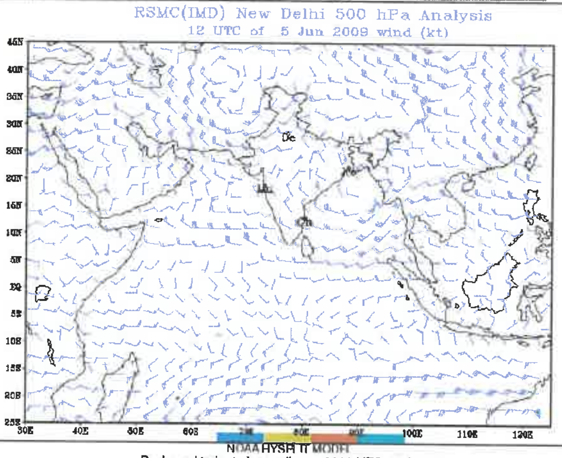


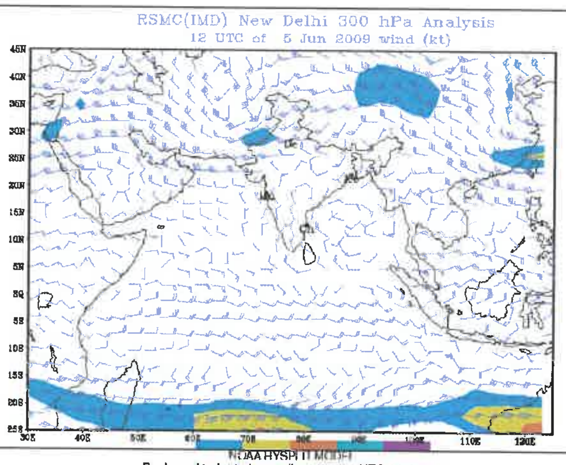


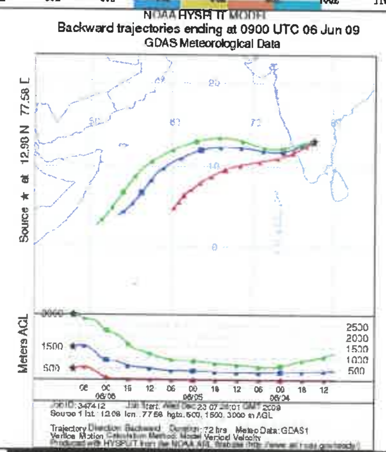
6 June 2009 *(Synoptic charts 12z 0f 5.12.09)*

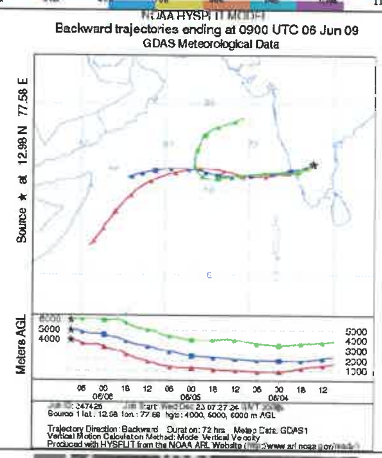


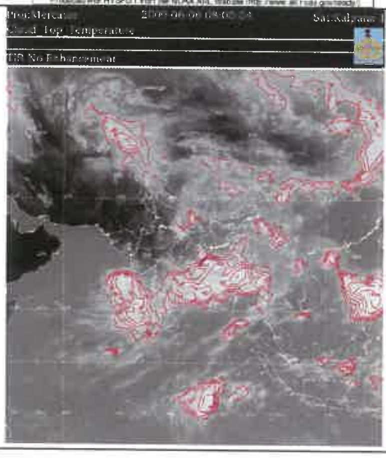










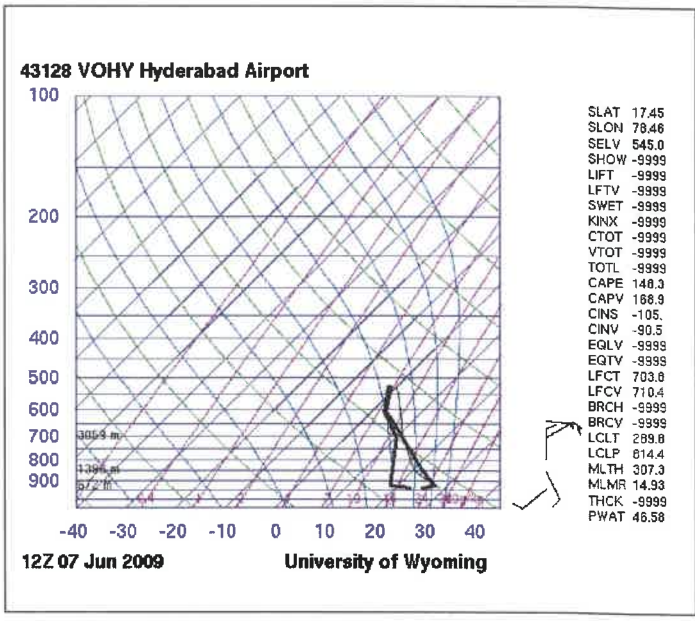


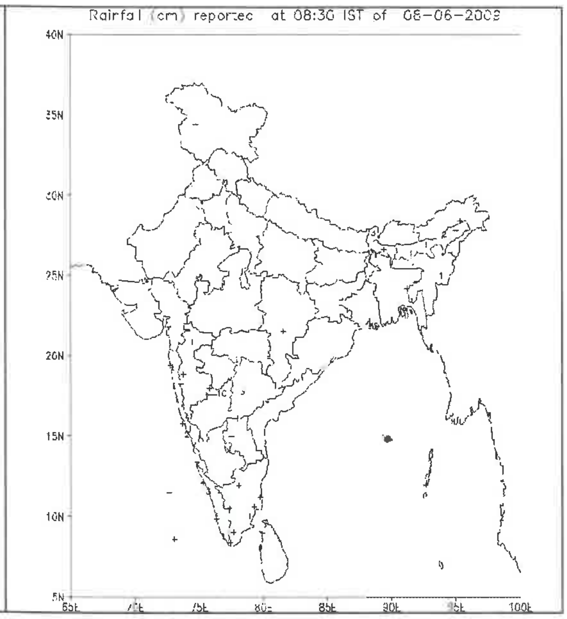
7 June 2009 (Base Bengaluru)

Weather summary :

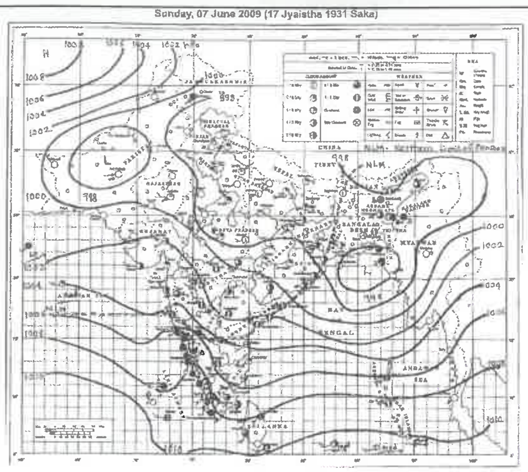
- Southwest monsoon has further advanced into some more parts of central Arabian Sea, some more parts of Karnataka, entire Goa and some parts of Konkan.
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok.
- The low pressure area over northwest Bay of Bengal and neighbourhood now lies over northeast Bay of Bengal and neighbourhood. The offshore trough at sea level from south Konkan & Goa to Lakshadweep area persists.
- A cyclonic circulation between 2.1 and 3.6 kms a.s.l. lies over Rayalaseema and neighbourhood.
- The western disturbance as an upper air system over north Pakistan and adjoining Jammu & Kashmir persists. A cyclonic circulation extending upto 2.1 kms a.s.l. lies over central Pakistan and adjoining northwest Rajasthan.
- Heat wave conditions are prevailing over isolated pockets of northeast Madhya Pradesh.
- The highest maximum temperature of 45.3°C was recorded at Khajuraho (Madhya Pradesh).

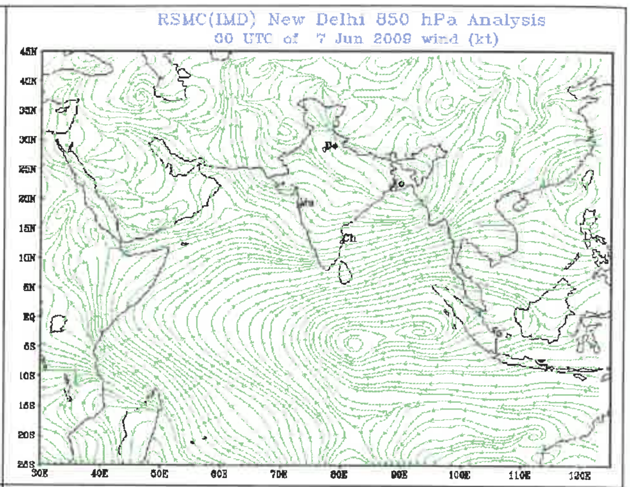
***Station** : Bengaluru*
***Flight** : Nil*

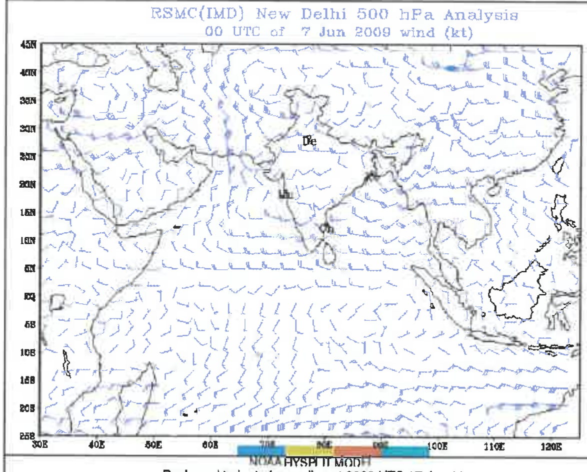


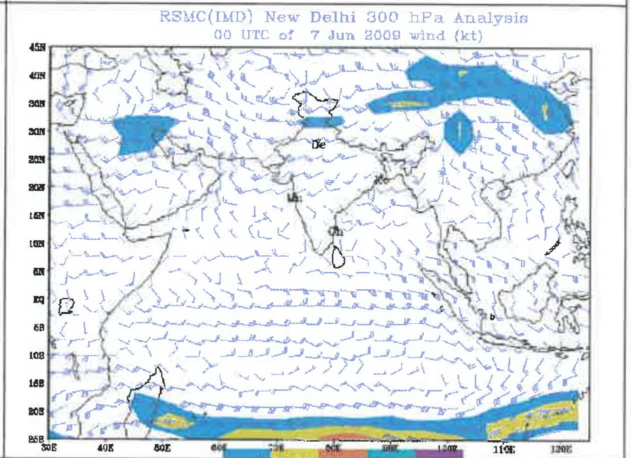


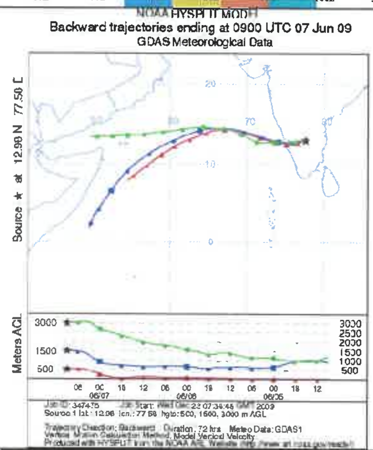
7 June 2009

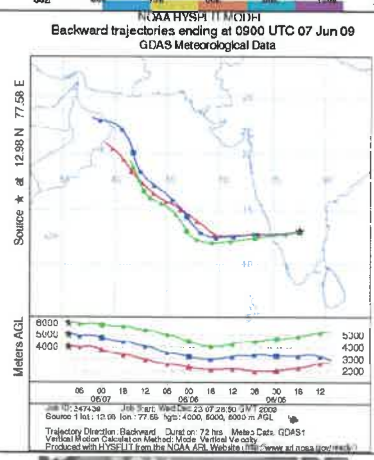

Sunday, 07 June 2009 (17 Jyaistha 1931 Saka)

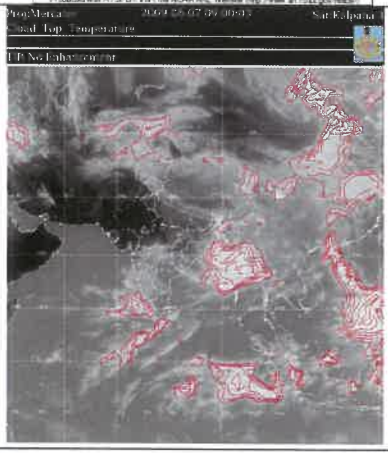

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 7 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 7 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 7 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 07 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 07 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL



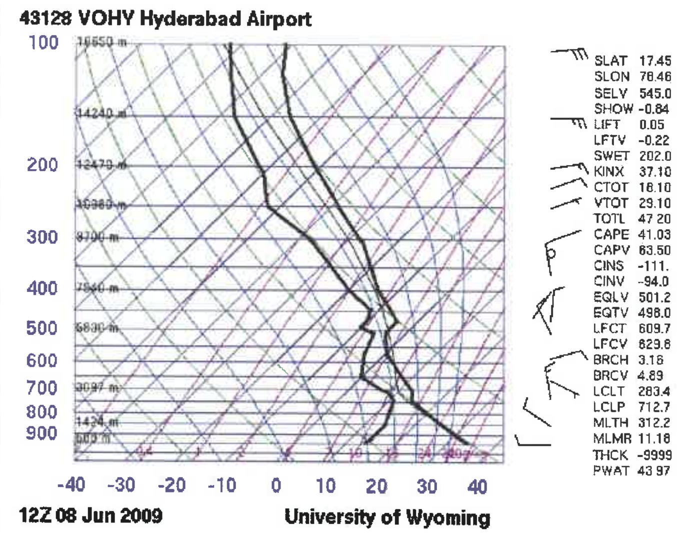

20N
80E

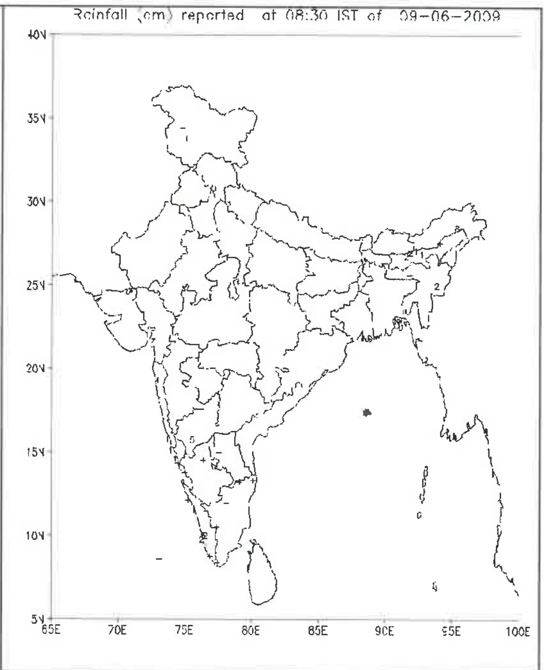
8 June 2009 (Base Bengaluru)

Weather summary :

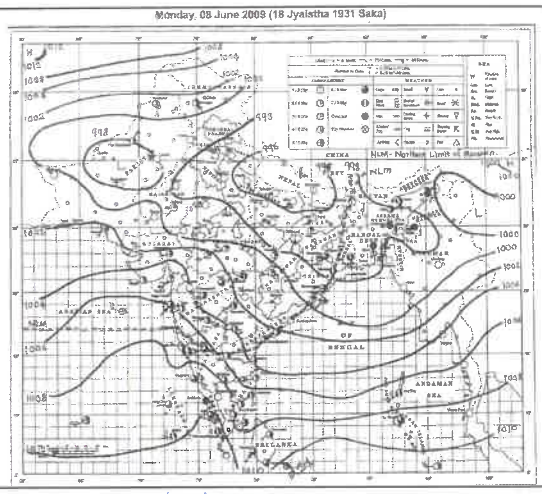
- The northern limit of monsoon passed through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratnagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok on 7th June, 2009.
- Heat wave conditions prevailed in some parts of north Madhya Pradesh.
- The off-shore trough extends from south Konkan-Goa to Kerala coasts.
- The western disturbance lies over Jammu & Kashmir and neighbourhood.
- The cyclonic circulation over central Pakistan and adjoining northwest Rajasthan persists and now extends upto 1.5 kms a.sl..
- The highest maximum temperature of 44.4 °C was recorded at Ganganagar (Rajasthan) and Khajuraho (Madhya Pradesh).
- The southwest Monsoon has been active in Kerala.

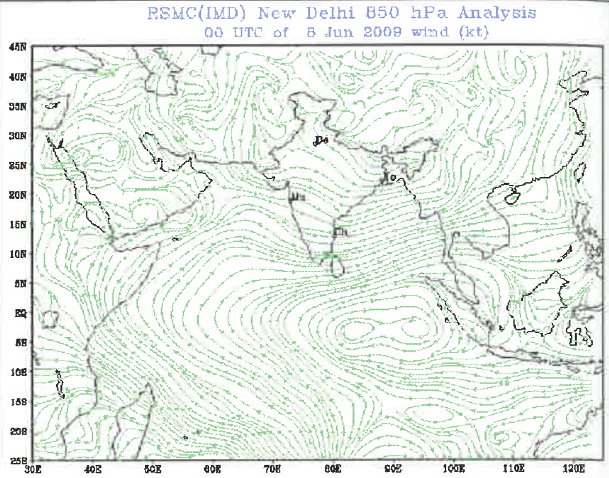
- Station : Bengaluru
- Engine on : 11:00
- Engine off : 11:50

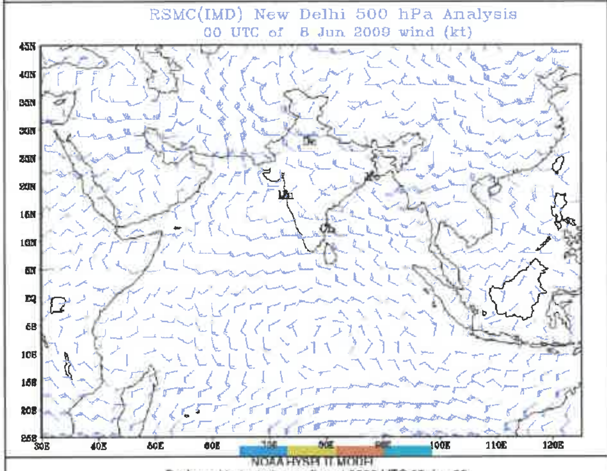


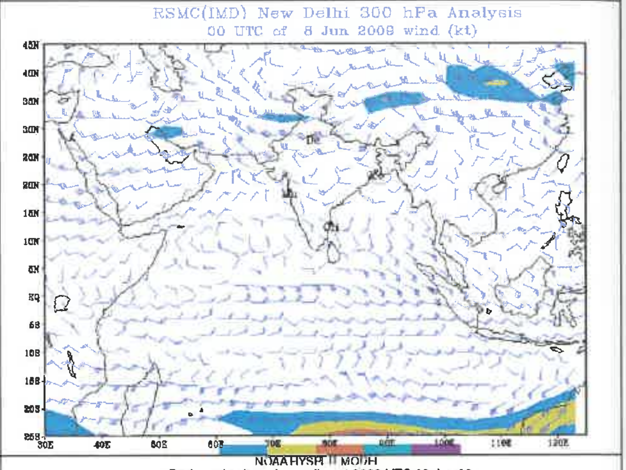


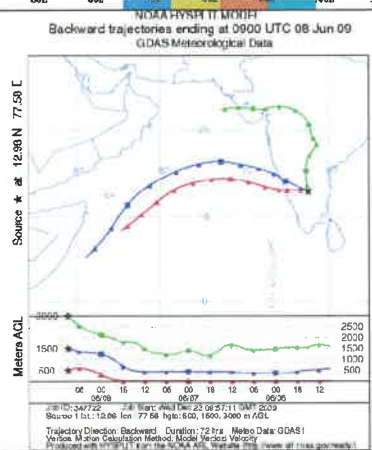
8 June 2009

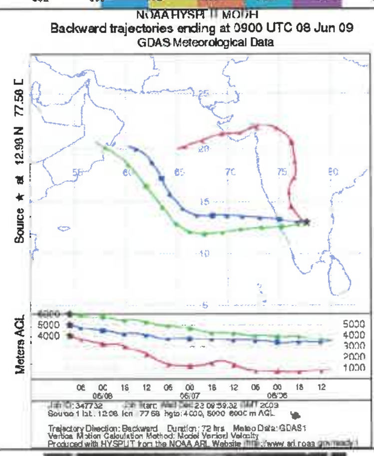

Monday, 08 June 2009 (18 Jyaistha 1931 Saka)

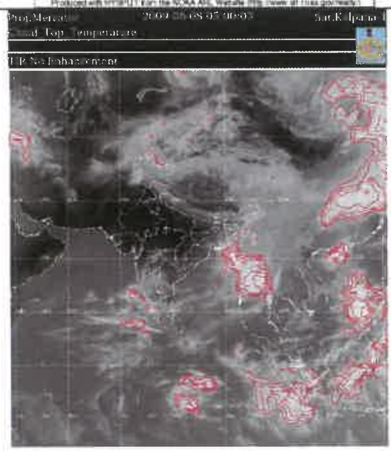

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 8 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 8 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 8 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 08 Jun 09
GDAS Meteorological Data
Source ★ at 12.90 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 08 Jun 09
GDAS Meteorological Data
Source ★ at 12.90 N 77.58 E
Meters AGL



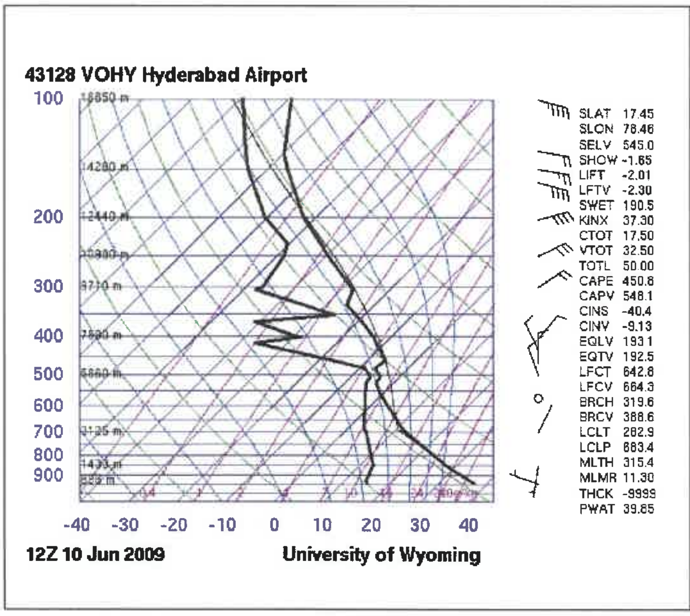

20N
BNG
-20
-20
80

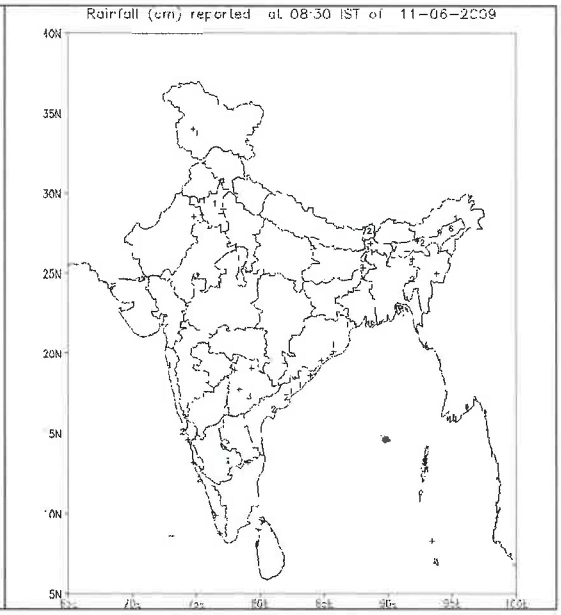
10 June 2009 (Bengaluru-Hyderabad)

Weather summary :

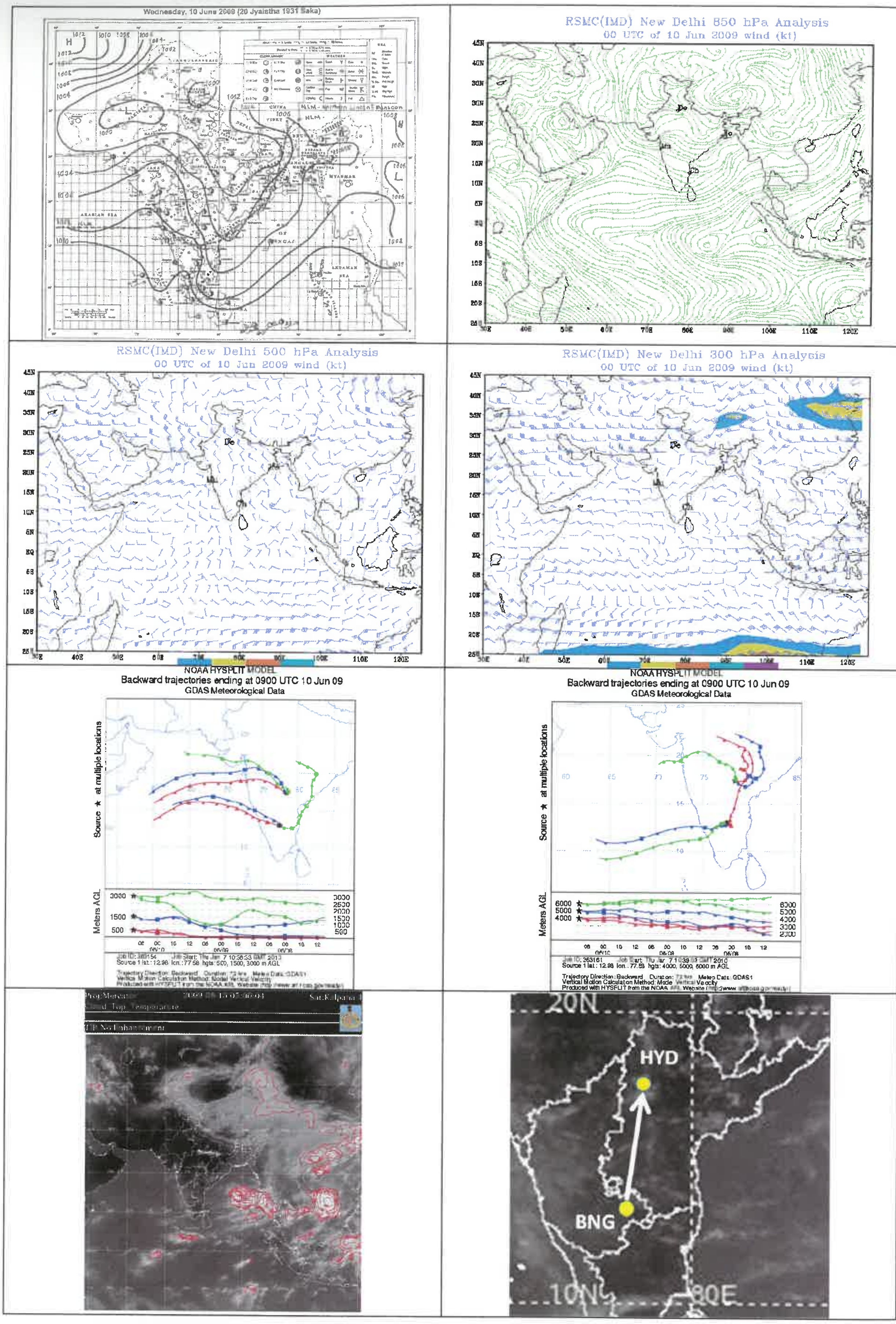
- **The northern limit of monsoon passed through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratnagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok on 7th June, 2009.**
- Heat wave conditions are prevailing over isolated pockets of north Rajasthan, Vidarbha,Madhya Pradesh, interior Orissa, Chhattisgarh and coastal Andhra Pradesh.
- The highest maximum temperature of 45.6 recorded at Ganganangar (Rajasthan) Convective clouds are seen over north Andaman Sea and parts of eastcentral & southeast Bay of Bengal. Low/medium clouds are seen over parts of southeast Arabian Sea, westcentral Bay of Bengal, Peninsular India and northeastern States.

- Station : Bengaluru - Hyderabad
- Engine on 10:00
- Engine off : 11:50





10 June 2009

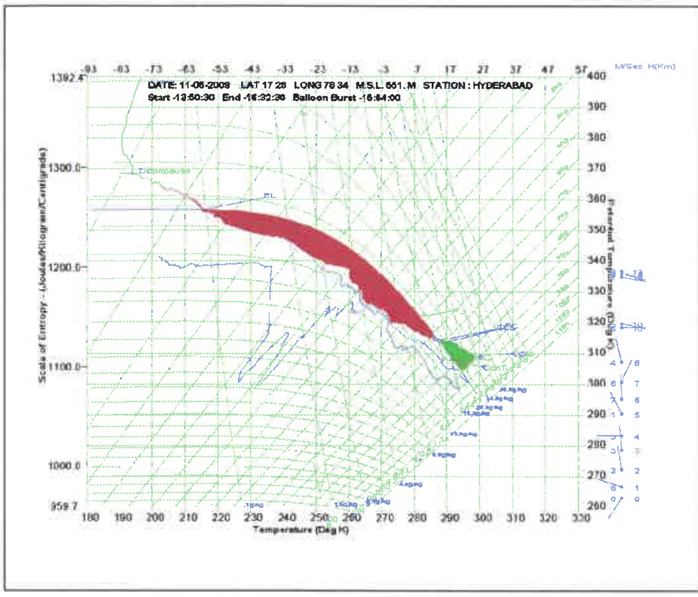

Wednesday, 10 June 2009 (20 Jyaistha 1931 Saka)
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 10 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 10 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 10 Jun 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 10 Jun 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 10 Jun 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL
20N
HYD
BNG
10N
80E

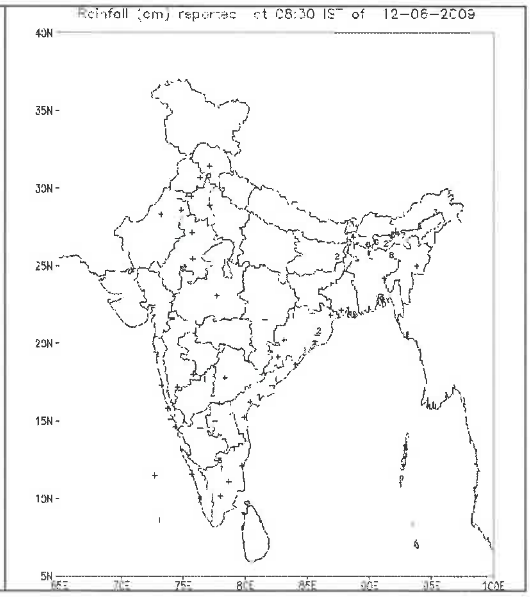
11 June 2009 (Base Hyderabad)

Weather summary :

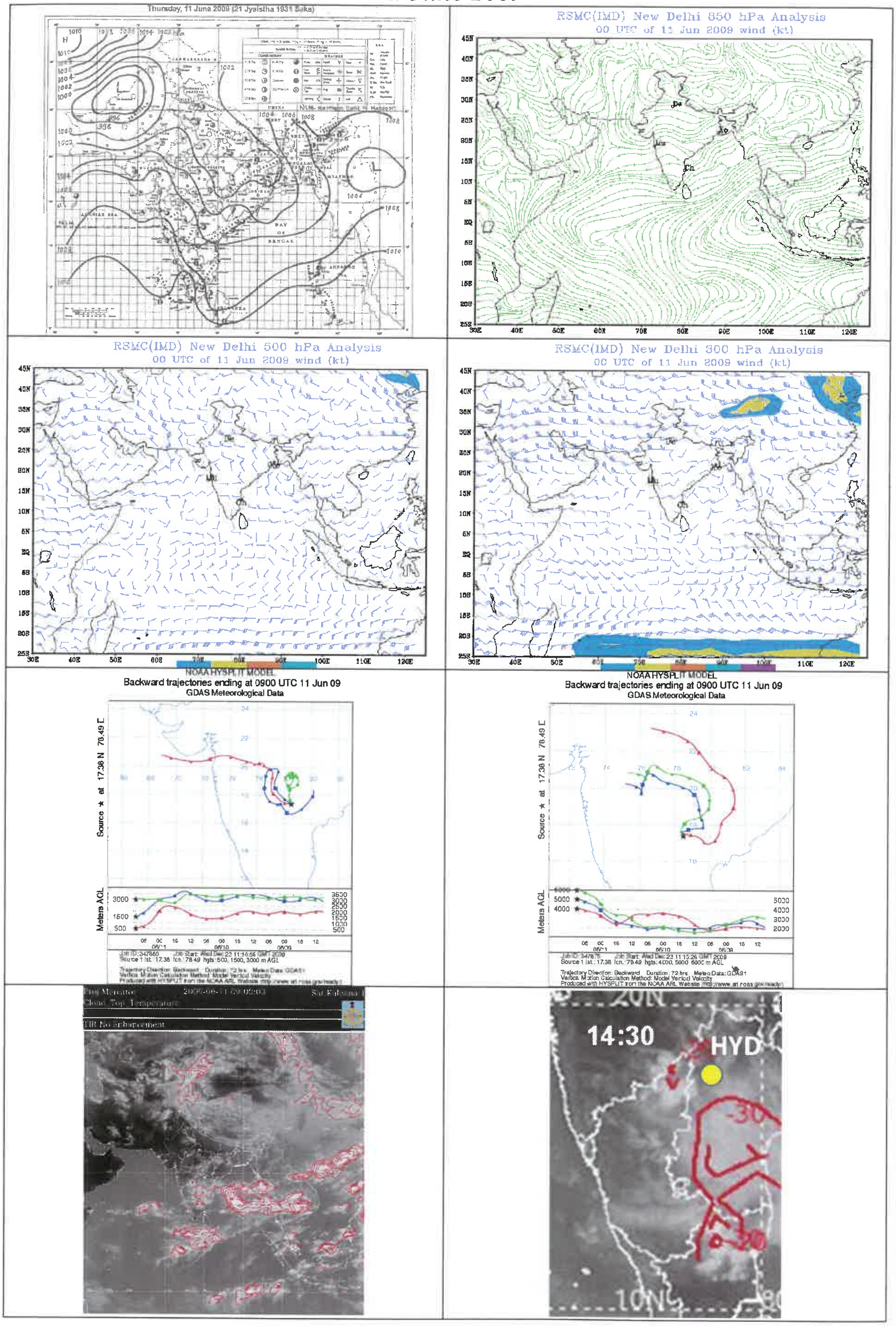
- *The northern limit of monsoon passed through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratnagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok on 7th June, 2009.*
- *A feeble off-shore trough extends from south Karnataka coast to Kerala coast*
- *Isolated thunderstorm activity over northwest and east India*
- *Heat wave conditions are prevailing over isolated pockets of northeast Madhya Pradesh and Chhattisgarh.*
- *The highest maximum temperature of 45.7 was recorded at Ganganangar (Rajasthan).*

- Station : Hyderabad
- Engine on 13:10
- Engine off : 14:50





11 June 2009

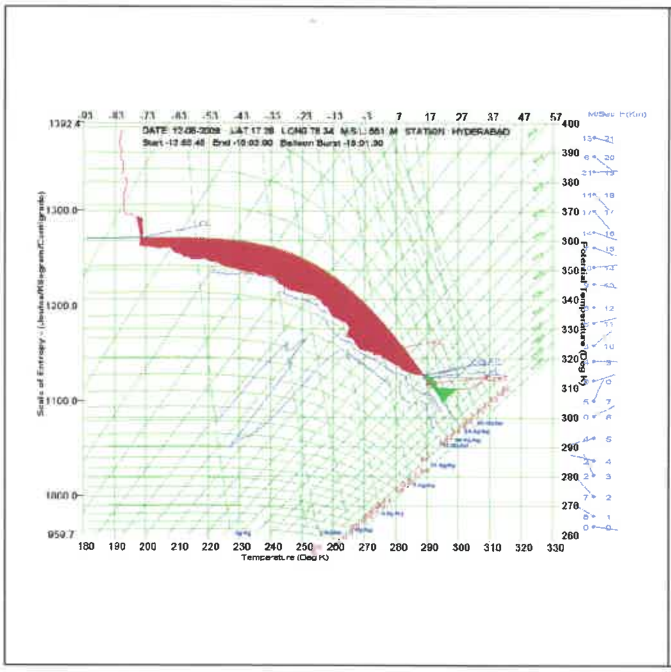

Thursday, 11 June 2009 (21 Jyaistha 1931 Saka)
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 11 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 11 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 11 Jun 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 11 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 11 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL
Cloud Top Temperature
TIR No Enhancement
14:30
HYD
20N
10N

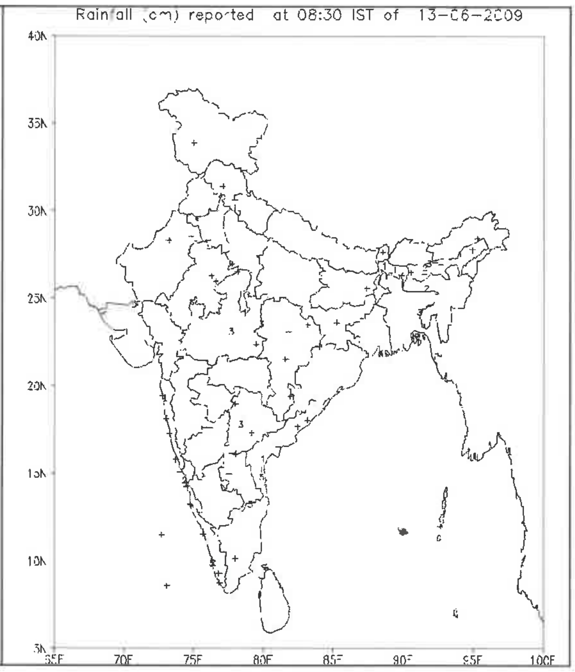
12 June 2009 (Base Hyderabad)

Weather summary :

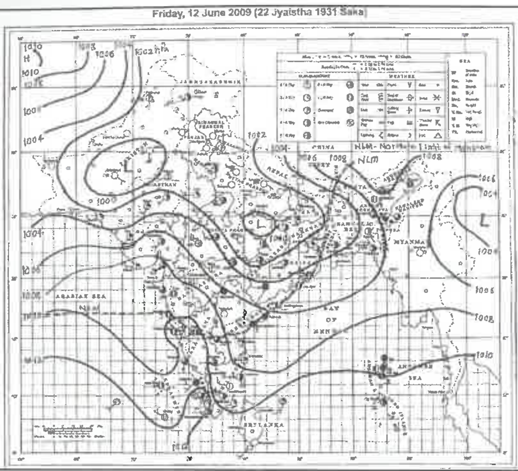
- Rainfall activity over northeastern states and Andaman & Nicobar Island
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratnagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th till date.
- A feeble off-shore trough extends from south Karnataka coast to Kerala coast,
- Isolated thunderstorm activity over northwest and east
- Heat wave conditions prevail over isolated pockets of Chhattisgarh and Jharkhand.
- The highest maximum temperature of 44.5°C was recorded at Khajuraho (Madhya Pradesh).

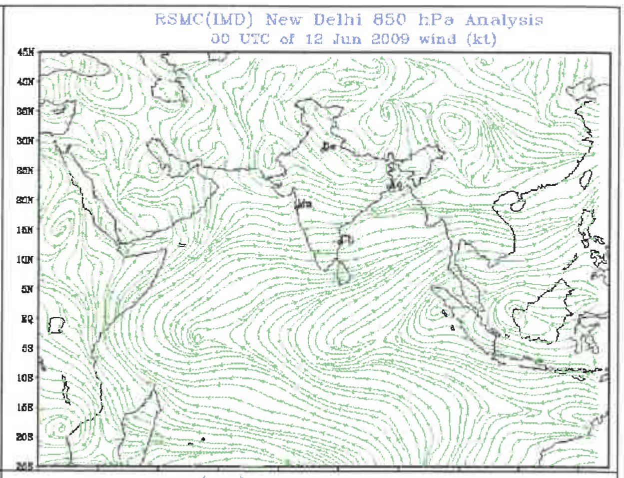
- Station : Hyderabad
- Engine on : 12:15
- Engine off : 15:15

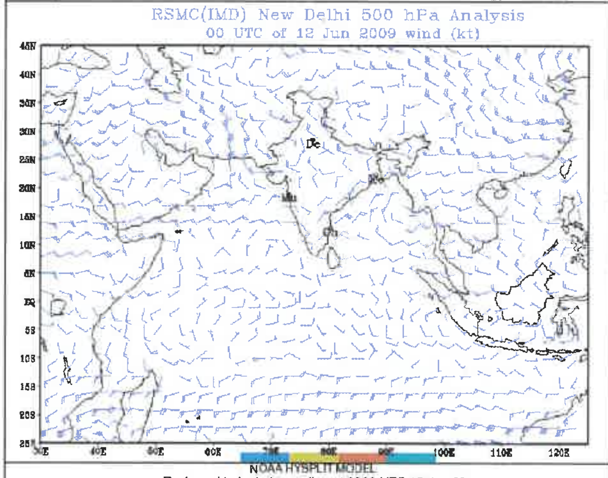


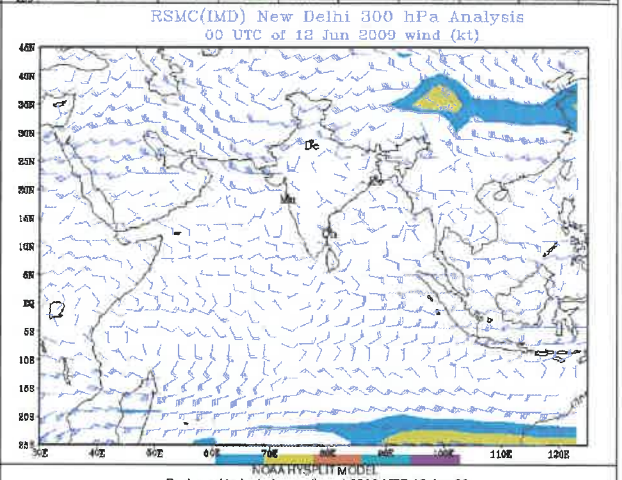


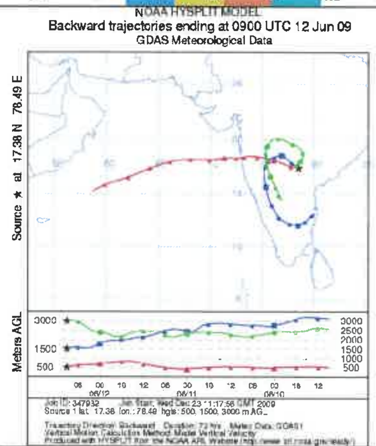
12 June 2009

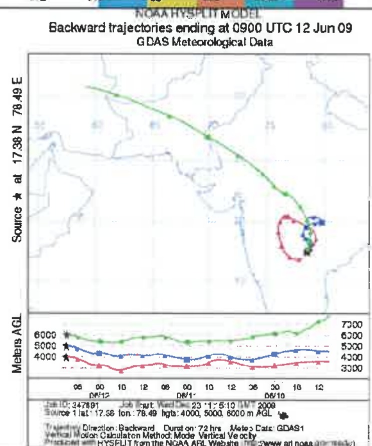

Friday, 12 June 2009 (22 Jyaistha 1931 Saka)

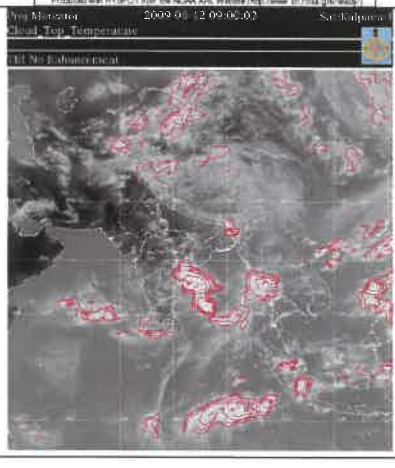

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 12 Jun 2009 wind (kt)

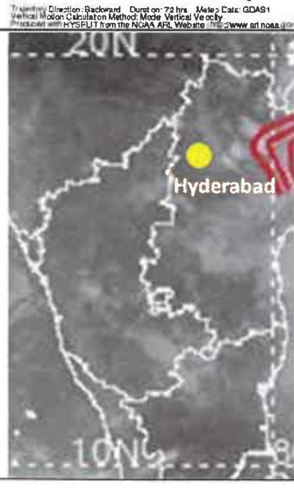

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 12 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 12 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 12 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 12 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Cloud_Top_Temperature

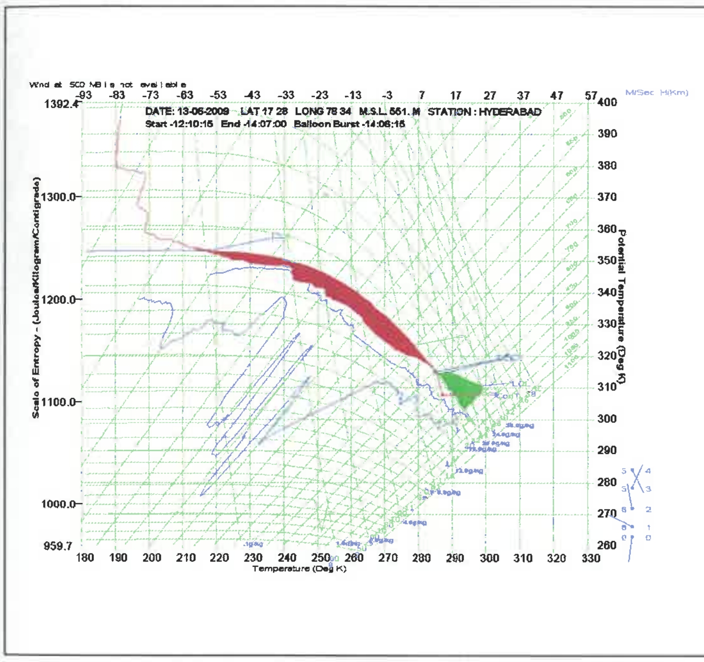

20N
Hyderabad
10N

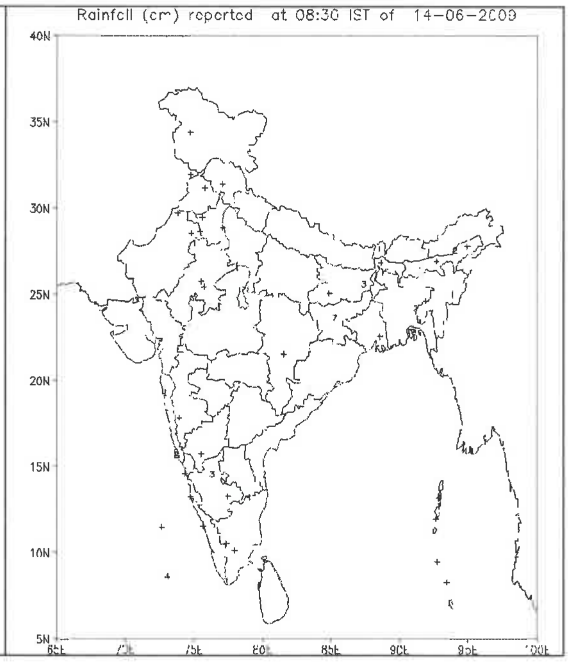
13 June 2009 (Base Hyderabad)

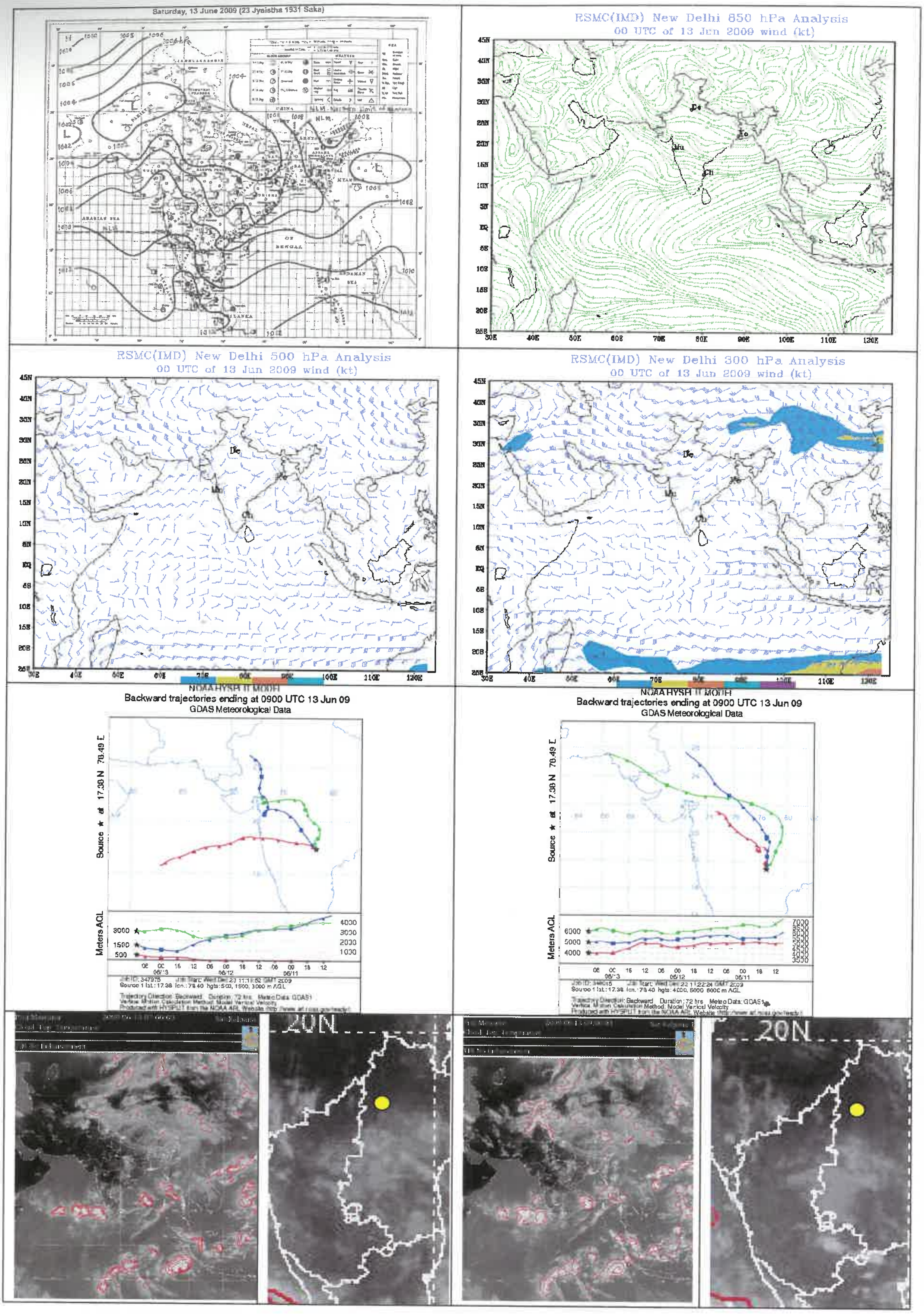
Weather summary :

- A off-shore trough extends from south Karnataka coast to Kerala coast
- The maximum temperatures are above normal by 2-4°C over many parts of plains of northwest India, central and adjoining peninsular India.
- The highest maximum temperature of 44.6 °C was recorded at Ganganagar (Rajasthan).

• Station : Hyderabad • Engine on : 11:30 • Engine off : 12:30	• Station : Hyderabad • Engine on : 14:00 • Engine off : 16:20





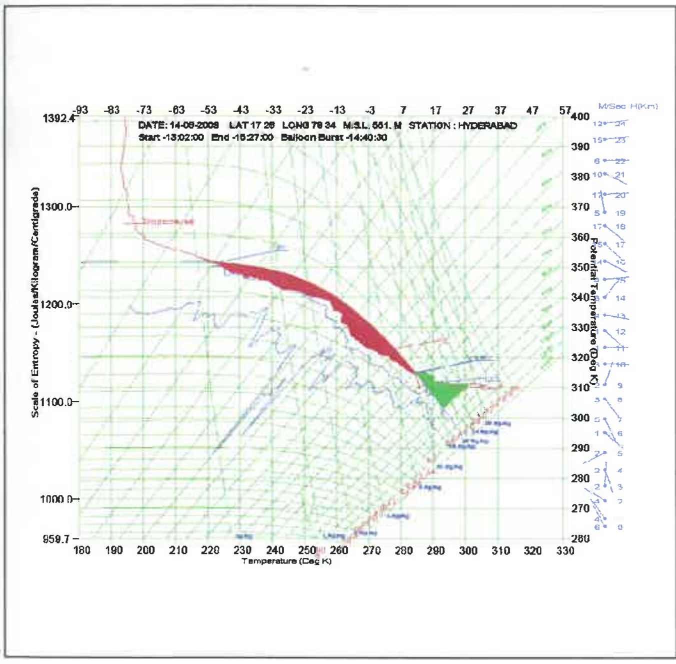

Saturday, 13 June 2009 (23 Jyaistha 1931 Saka)
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 13 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 13 Jun 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 13 Jun 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 13 Jun 09
GDAS Meteorological Data
Source ★ at 17.30 N 78.49 E
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 13 Jun 09
GDAS Meteorological Data
Source ★ at 17.30 N 78.49 E
Meters AGL
20N
20N

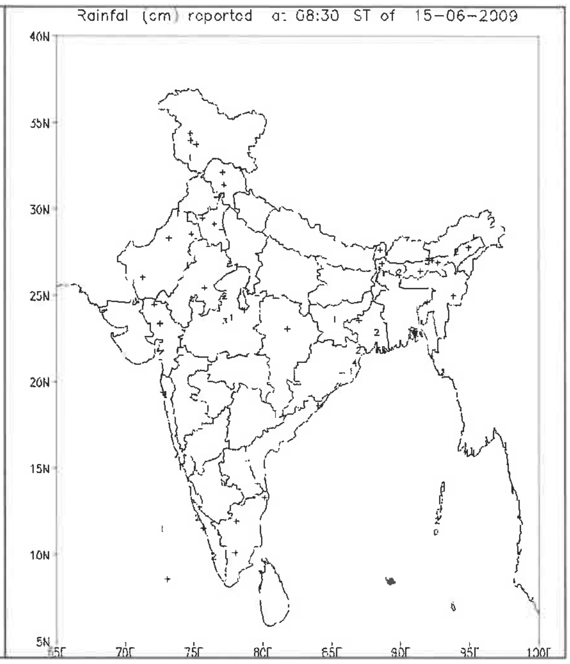
14 June 2009 (Base Hyderabad)

Weather summary :

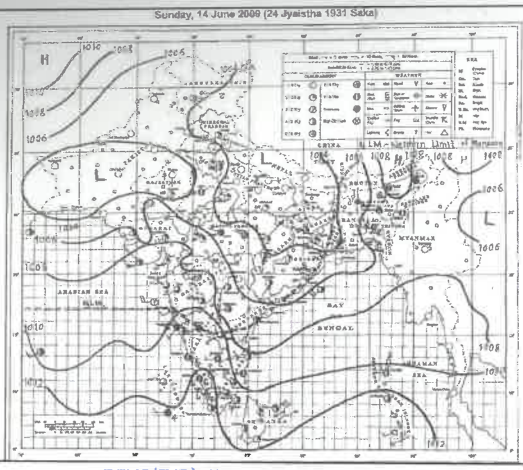
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0° E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June to till date.
- Off-shore trough extends from south Karnataka coast to Kerala coast
- Heat wave conditions are prevailing over isolated pockets of Chhattisgarh, Vidarbha, Orissa and northeast Madhya Pradesh.
- The highest maximum temperature of 44.6°C was recorded at Khajuraho (Madhya Pradesh).

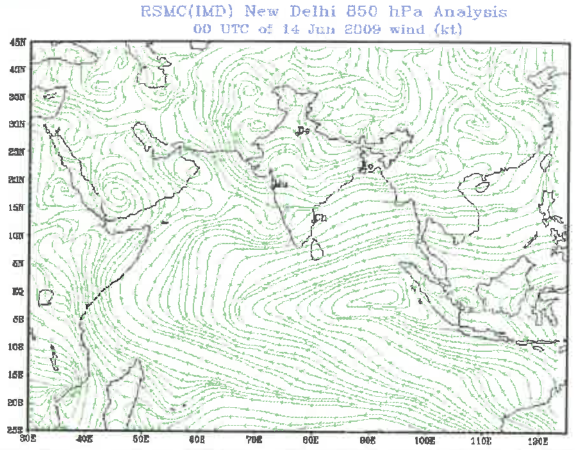
- Station : Hyderabad
- Engine on : 13:35
- Engine off : 16:20

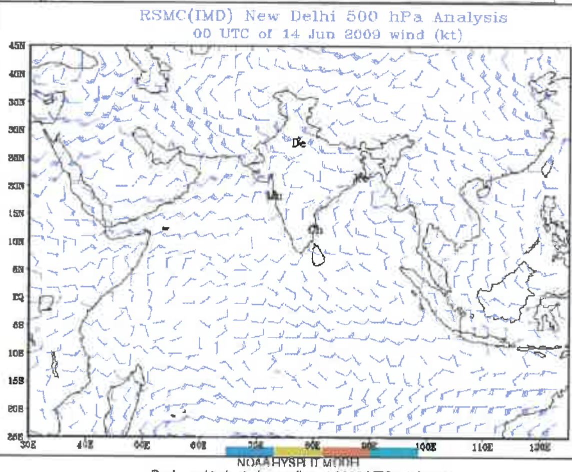


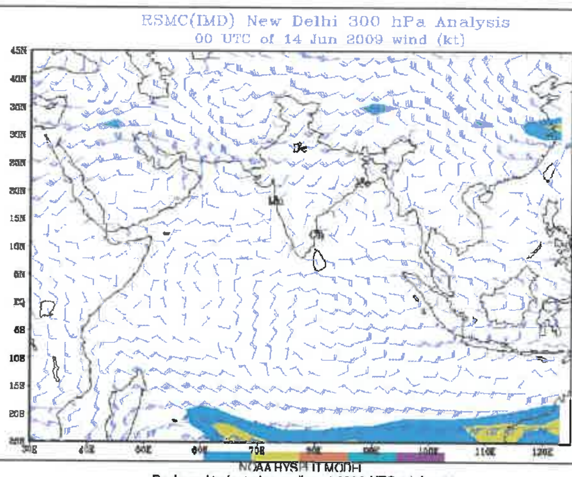


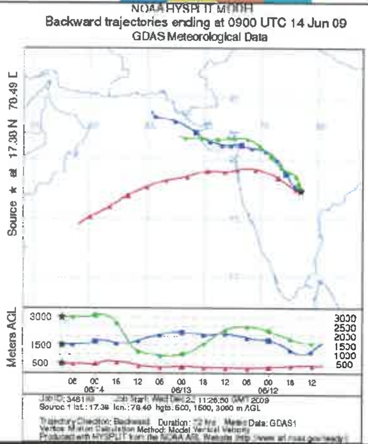
14 June 2009

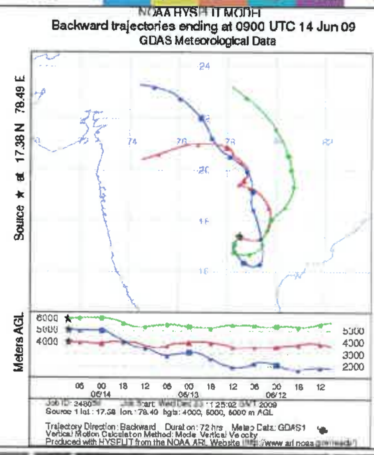

Sunday, 14 June 2009 (24 Jyaistha 1931 Saka)
ARABIAN SEA
BAY
BENGAL
MYANMAR
CHINA

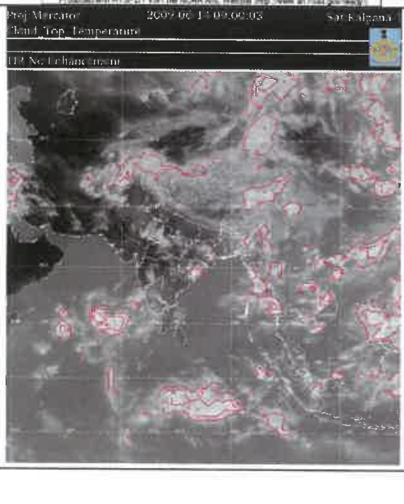

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 14 Jun 2009 wind (kt)

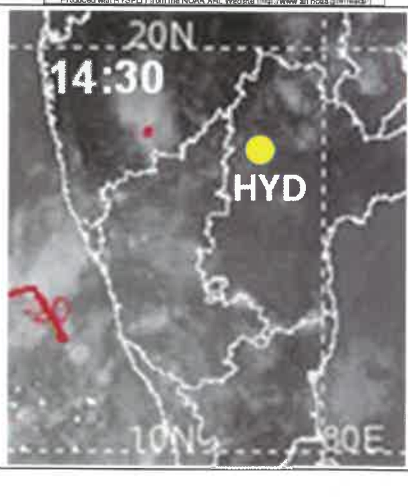

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 14 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 14 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 14 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 14 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Proj Mercator
Cloud Top Temperature
Sat:Kalpana

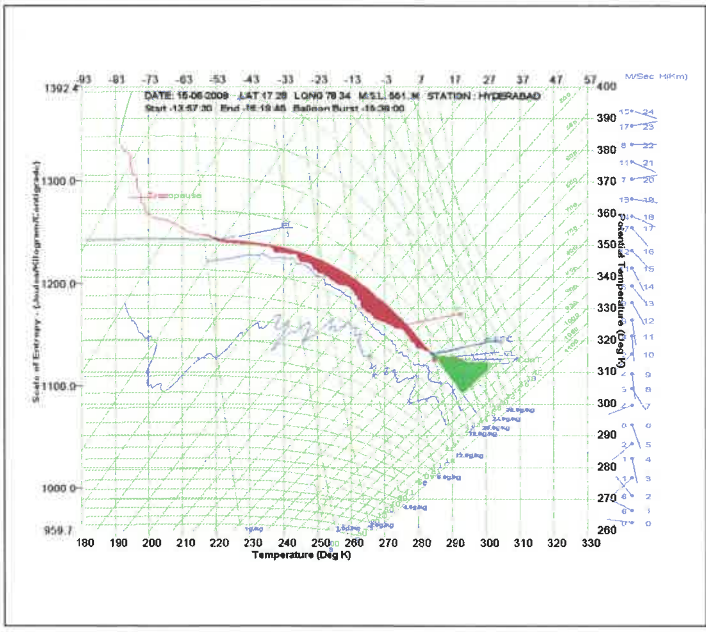

20N
14:30
HYD
10N
80E

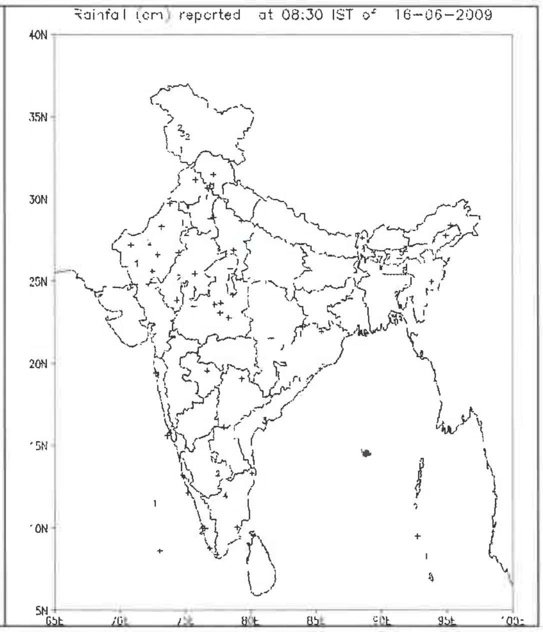
15 June 2009 (Base Hyderabad)

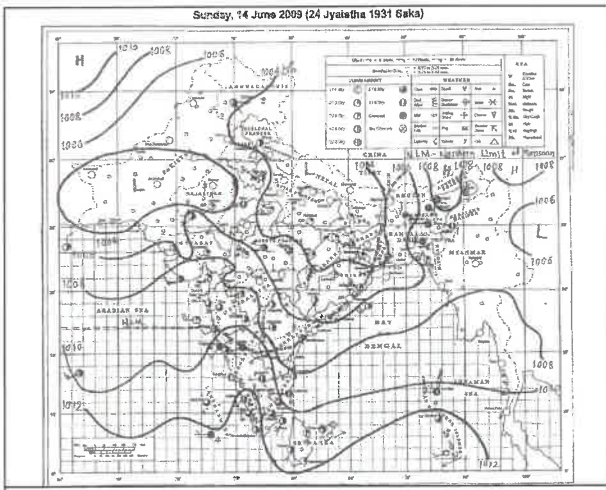
Weather summary :

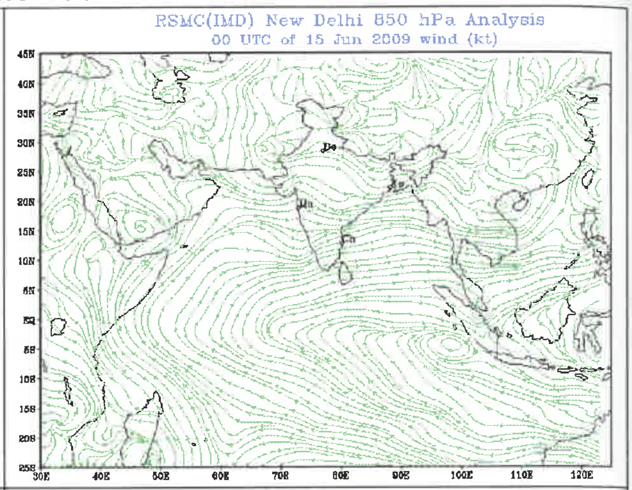
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0°E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June to till date.
- Under the influence of western disturbance as an upper air system over north Pakistan and adjoining Jammu & Kashmir and its induced cyclonic circulation over West Rajasthan and neighbourhood; rain/thundershower activities prevail over western Himalayan region and Rajasthan
- Off-shore trough extends from Karnataka coast to Kerala coast,
- Convective clouds are seen over parts of

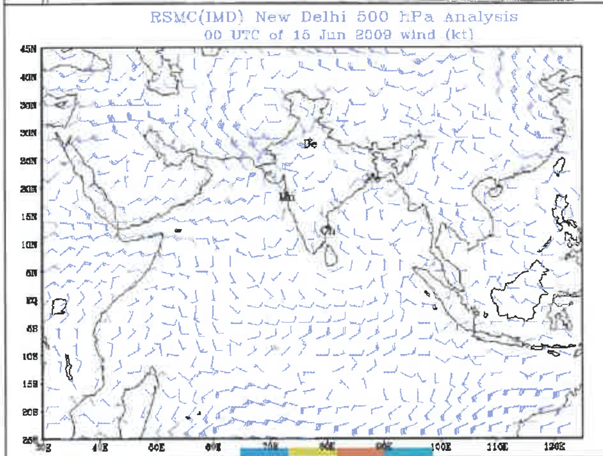
- Station : Hyderabad
- Engine on : 13:30
- Engine off : 16:00

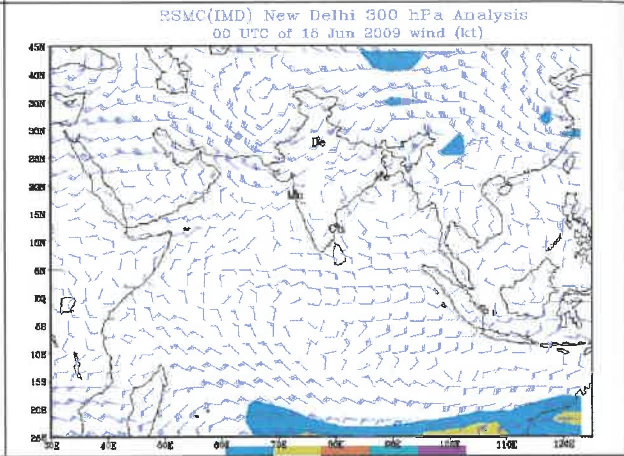


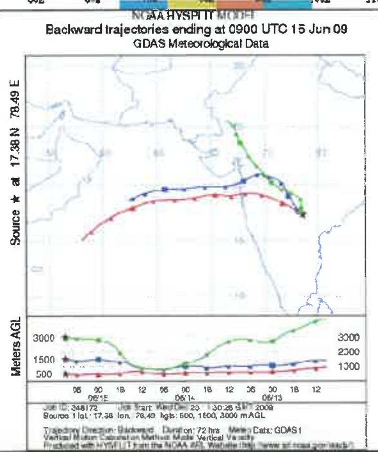


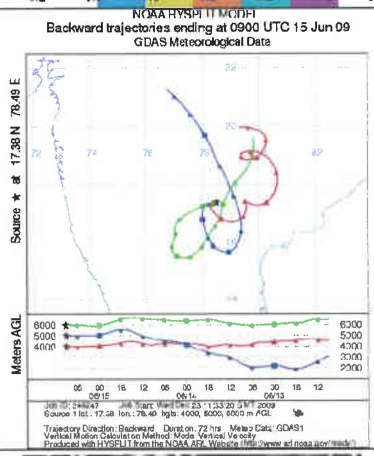

Sunday, 14 June 2009 (24 Jyaistha 1931 Saka)

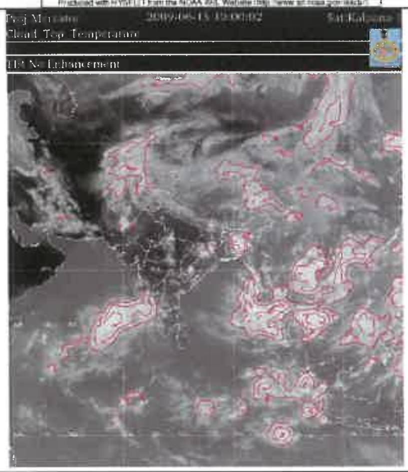

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 15 Jun 2009 wind (kt)

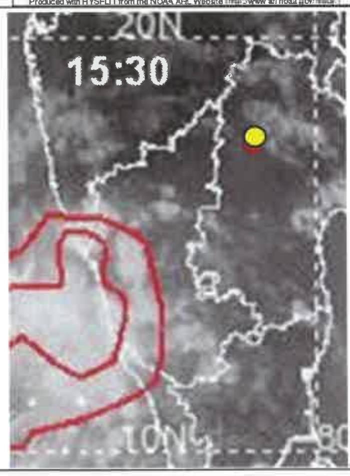

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 15 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 15 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Cloud_Top_Temperature

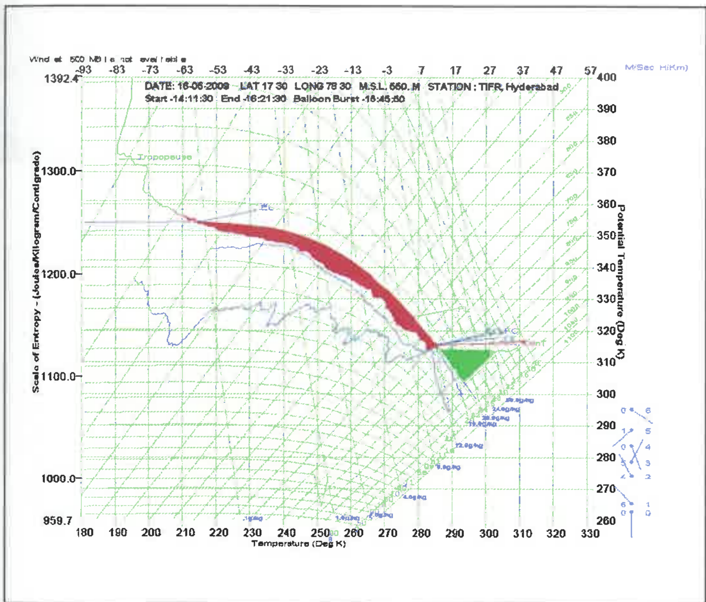

20N
15:30
10N

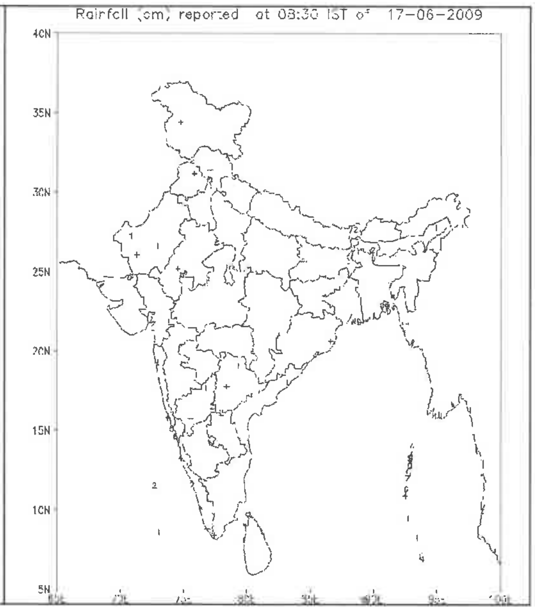
16 June 2009 (Base Hyderabad)

Weather summary :

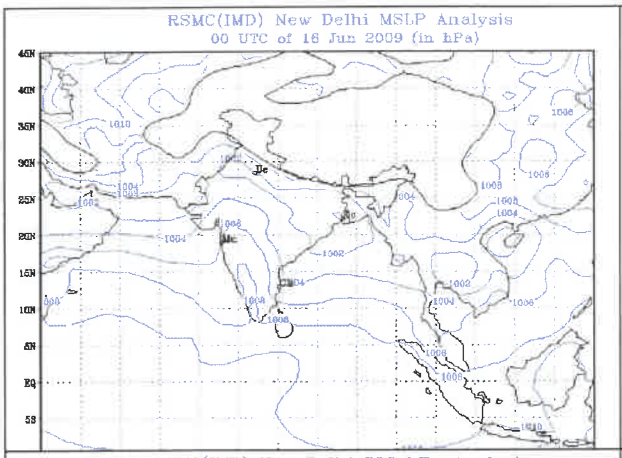
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0°E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June to till date.
- Rain/thundershower activity at a few places over western Himalayan region
- Off-shore trough extending from Konkan & Goa coast to Kerala coast
- Heat wave conditions are prevailing over some parts of Chhattisgarh, Vidarbha, coastal Andhra Pradesh, Orissa, Bihar and Jharkhand.
- The highest maximum temperature of 44.8°C was recorded at Sambalpur (Orissa).

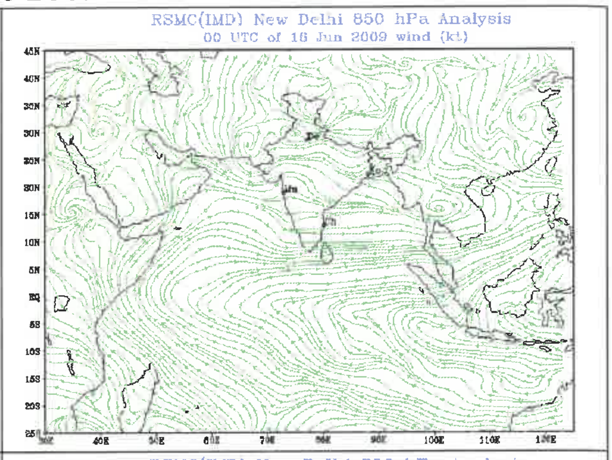
- Station : Hyderabad
- Engine on 13:40
- Engine off : 16:30

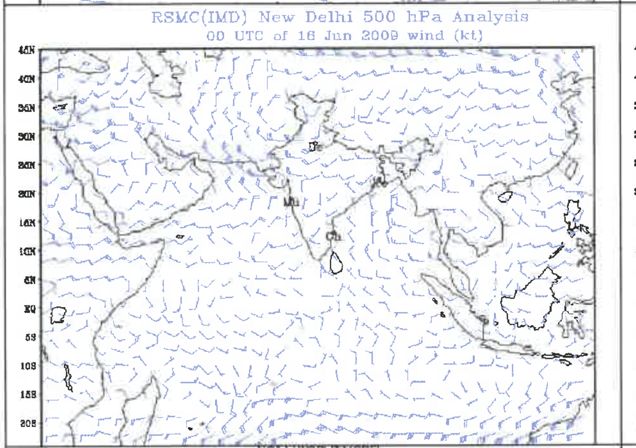


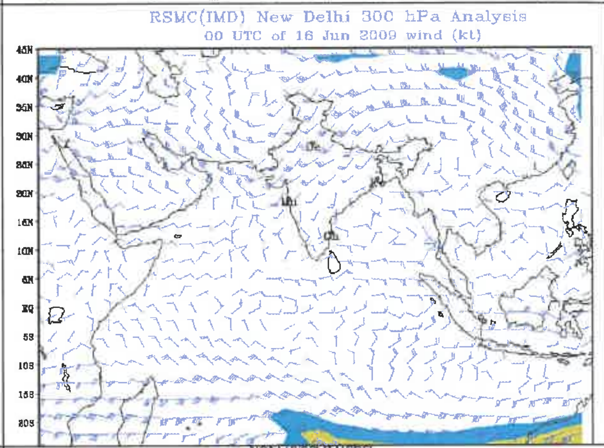


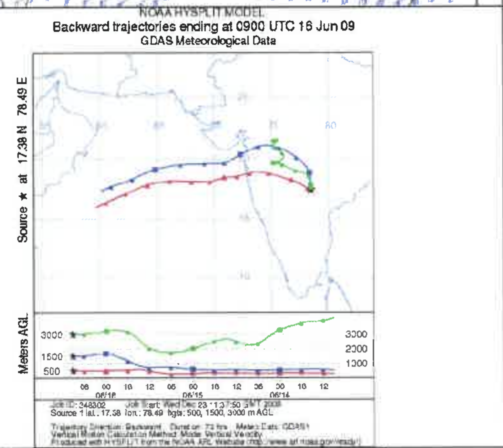
16 June 2009

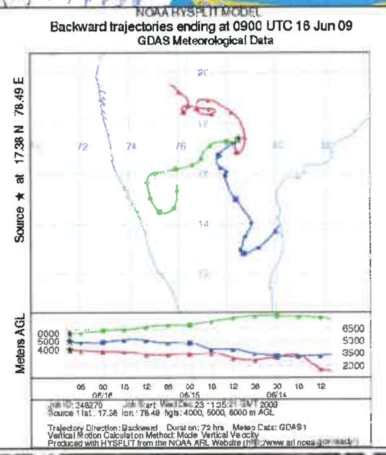

RSMC(IMD) New Delhi MSLP Analysis
00 UTC of 16 Jun 2009 (in hPa)

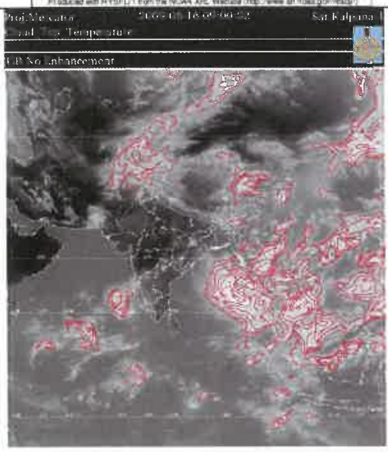

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 16 Jun 2009 wind (kt)

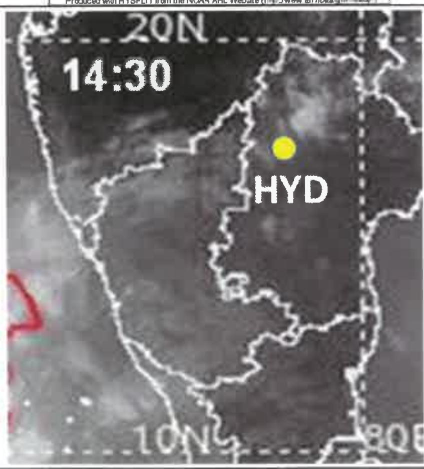

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 16 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 16 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 16 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 16 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Cloud Top Temperature
CB No Enhancement


20N
14:30
HYD
10N
80E

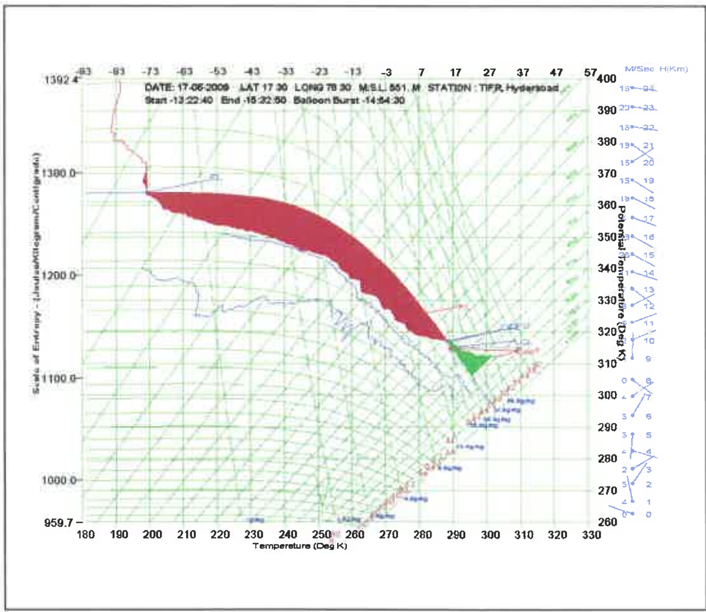
17 June 2009 (Base Hyderabad)

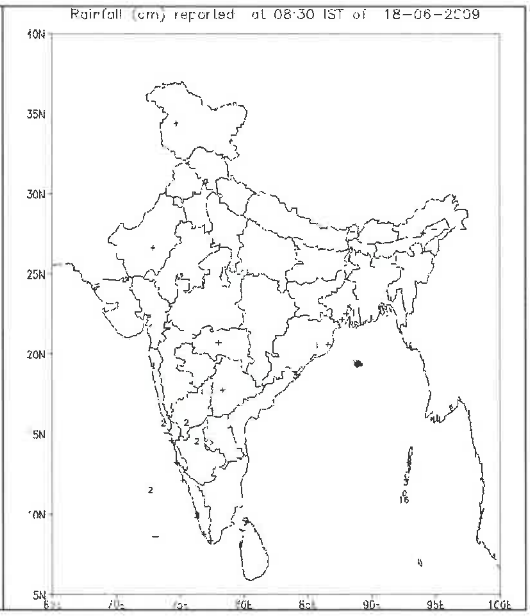
Weather summary :

- The off-shore trough at sea level from Karantaka coast to Lakshadweep area persists.
- The upper air trough extending upto 1.5 kms a.s.l. runs from Sub Himalayan west Bengal & Sikkim to coastal Andhra Pradesh through Gangetic West Bengal and Orissa.
- The western disturbance as an upper air system lies over Jammu & Kashmir and neighbourhood.
- The trough in mid and upper tropospheric westerlies with its axis at 7.6 kms a.s.l. now runs roughly along Long. 740 E, to the north of Lat. 200 N.
- Severe Heat wave conditions prevailed in interior Orissa and north coastal Andhra Pradesh. Heat wave conditions also prevailed in Vidarbha and Chattisgarh; some parts of Jharkhand and Bihar and at isolated places in east Uttar Pradesh and east Madhya Pradesh. Hot day conditions prevailed at isolated places in north Konkan.
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0°E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June to till date.

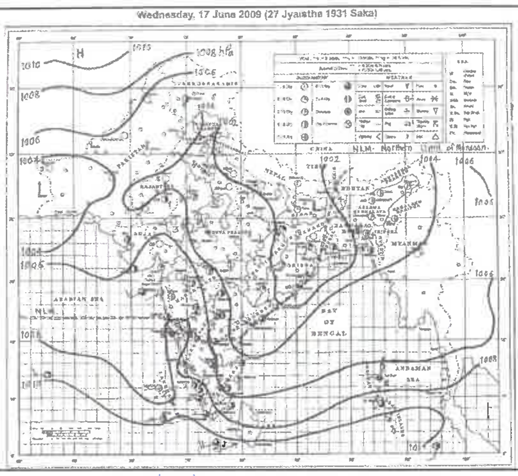
Station : Hyderabad

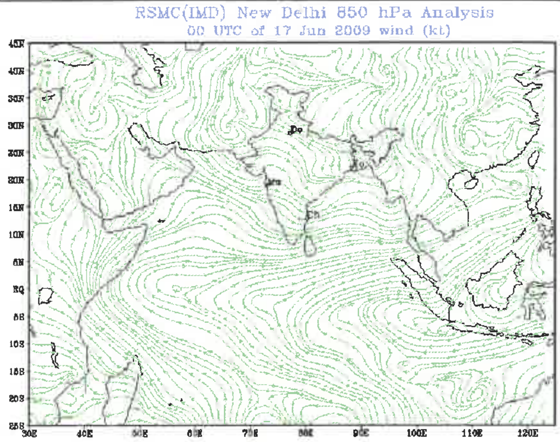
- Engine on 13:30
- Engine off : 16:30

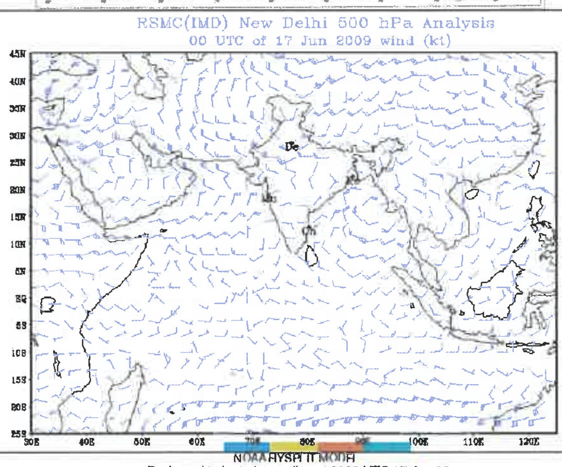


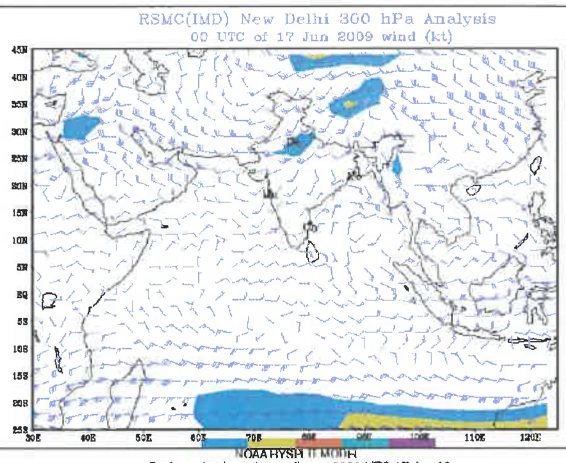


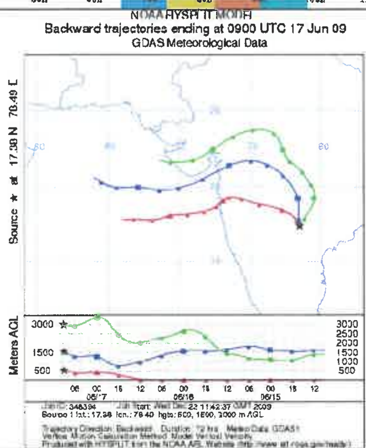
17 June 2009

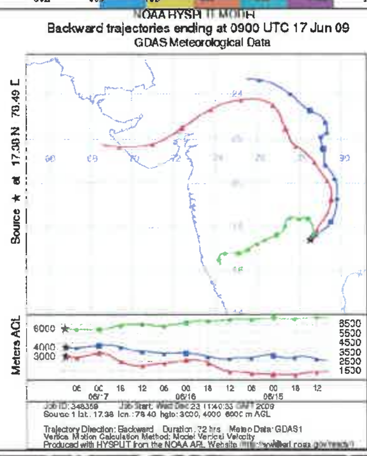

Wednesday, 17 June 2009 (27 Jyaistha 1931 Saka)

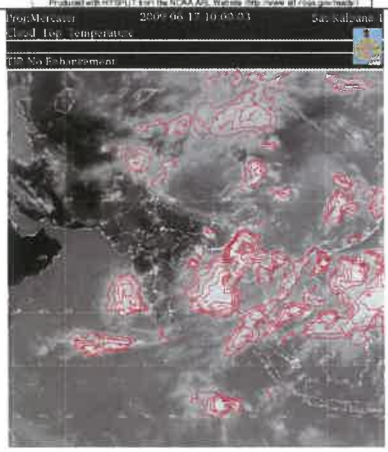

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 17 Jun 2009 wind (kt)

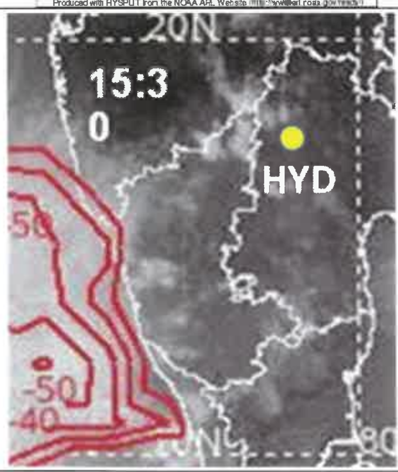

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 17 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 17 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Cloud_Top_Temperature

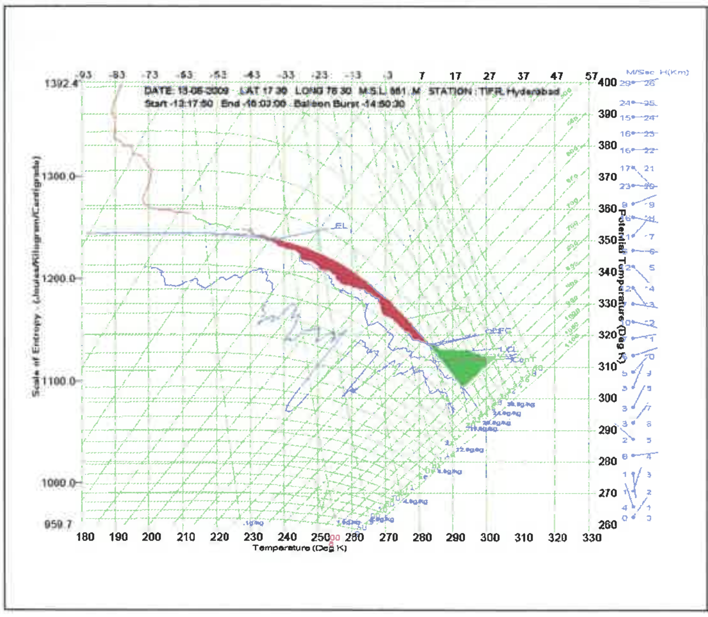

20N
15:3
0
HYD
-50
-40

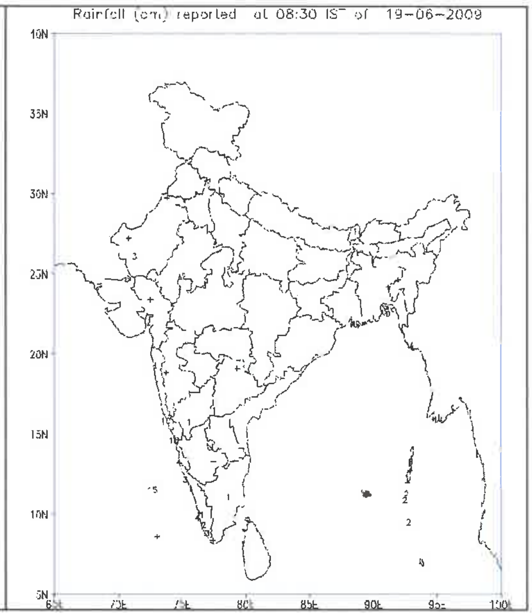
18 June 2009 (Base Hyderabad)

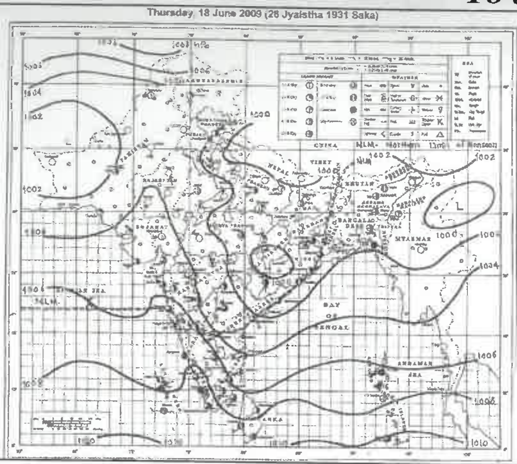
Weather summary :

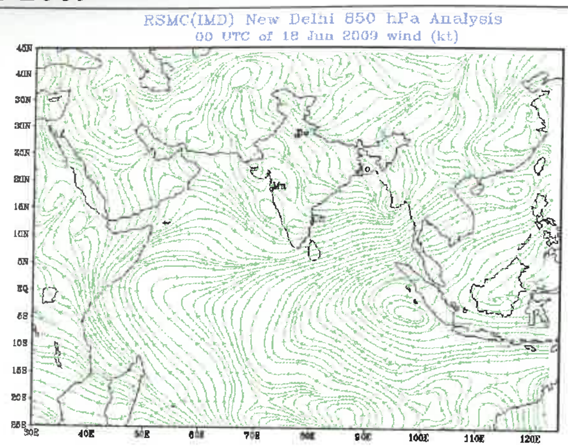
- The northern limit of monsoon passes through Lat. 17.0° N/ Long. 60.0° E, Lat. 17.0° N/ Long. 70.0°E, Ratanagiri, Gadag, Anantapur, Ongole, Kalingapattinam, Paradip, Bankura and Gangtok from 7th June till date.
- Heat wave to severe heat wave conditions continue to prevail over some parts of Chhattisgarh, Vidarbha and interior Orissa.
- Heat wave conditions are also prevailing over some parts of Bihar, Jharkhand and Madhya Pradesh
- The highest maximum temperature of 45.1 °C was recorded at Sambalpur (Orissa).
- Convective clouds are seen over north Andaman Sea, central & southeast Bay of Bengal

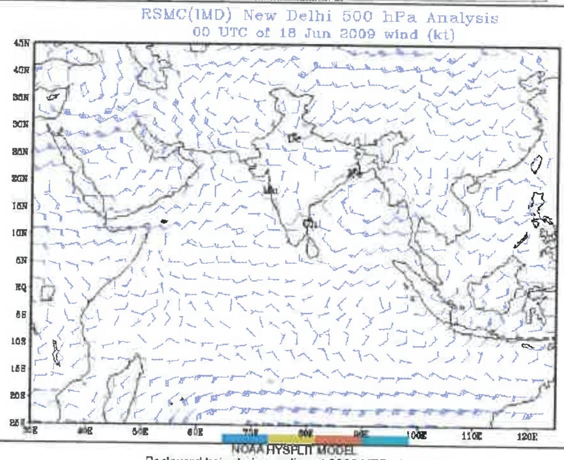
- Station : Hyderabad
- Engine on 13:00
- Engine off : 16:15

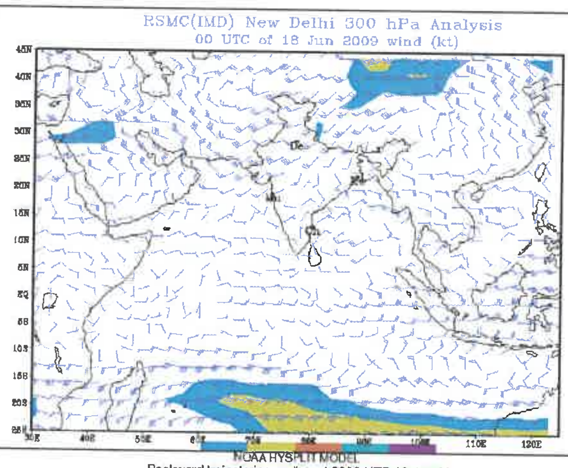


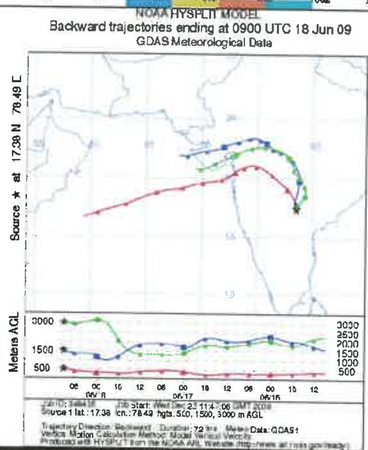


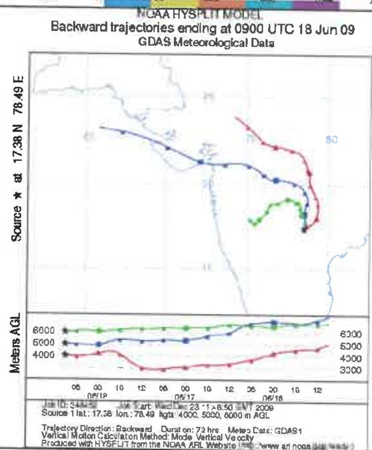

Thursday, 18 June 2009 (28 Jyaistha 1931 Saka)

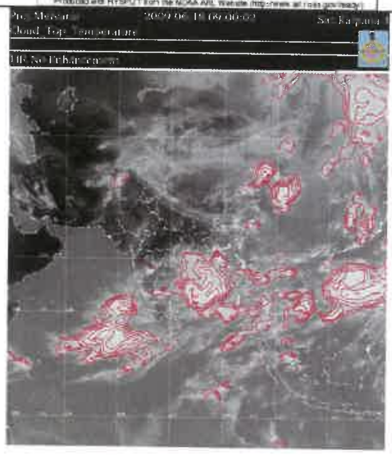

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 18 Jun 2009 wind (kt)

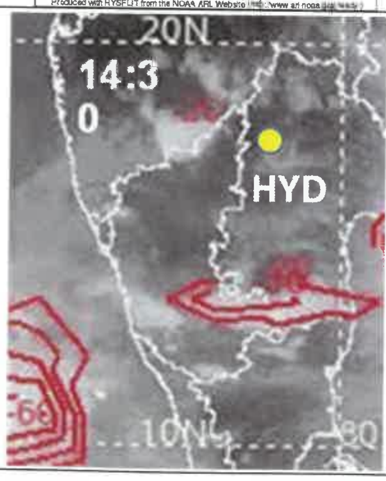

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 18 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 18 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


Cloud Top Temperature


20N
14:3
0
HYD
10N

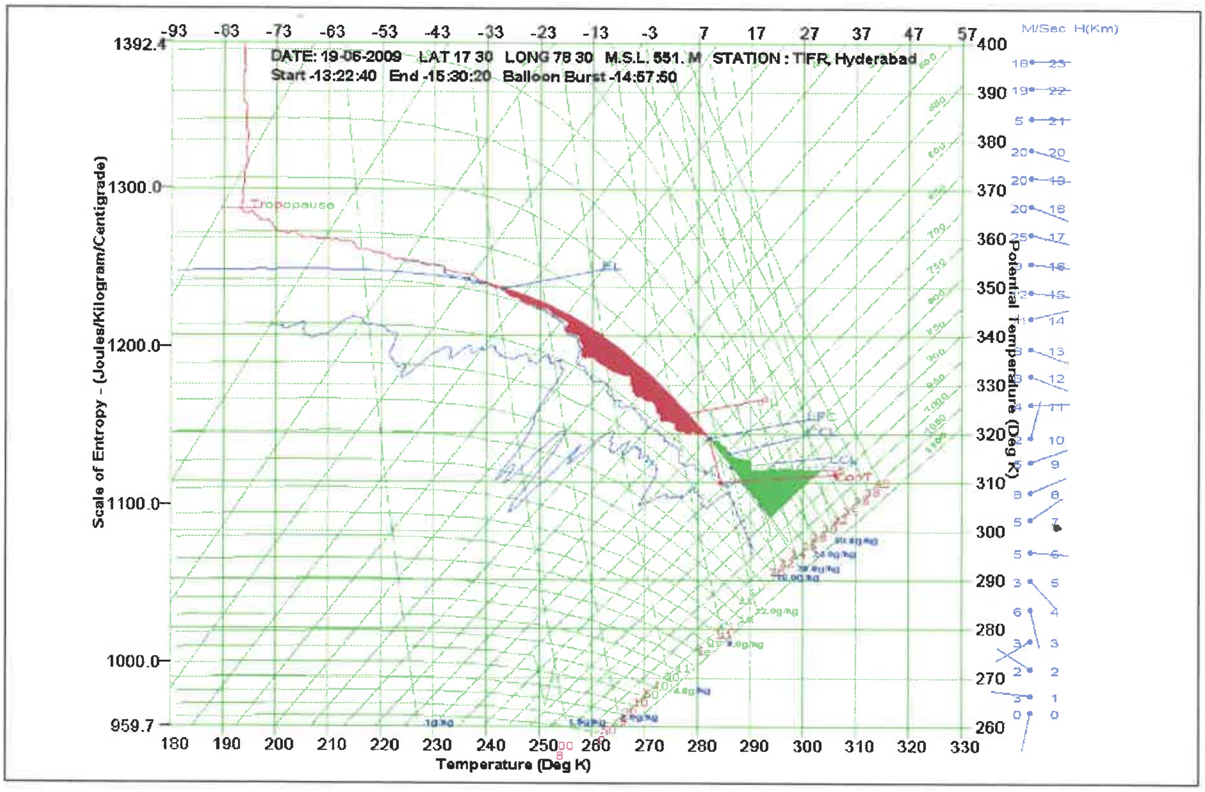
19 June 2009 (Base Hyderabad)

Weather summary :

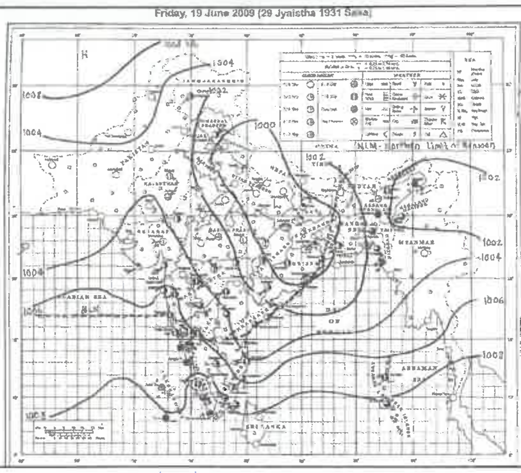
- The monsoon current strengthened over Arabian Sea.
- Rainfall activity increased with northward propagation along the west coast.
- Off-shore trough extends along the west coast during next 3-4 days.
- Severe heat wave conditions are prevailing over isolated pockets of interior Orissa, north Chhattisgarh, Bihar and Vidarbha.
- Heat wave conditions are also prevailing over remaining parts of Vidarbha, Bihar, north Chhattisgarh and Orissa, east Uttar Pradesh and east Madhya Pradesh.
- The highest maximum temperature of 44.6°C was recorded at Sambalpur (Orissa) and Champa (Chhattisgarh).

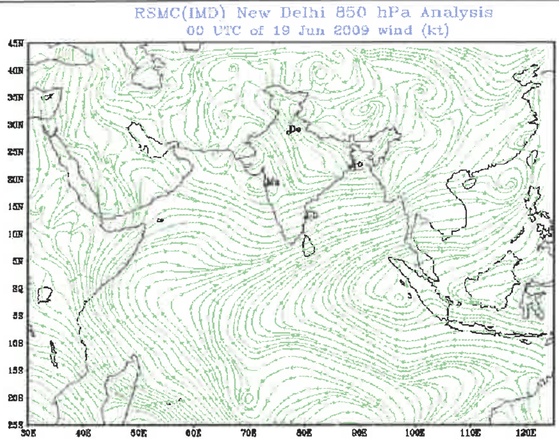
Flight :

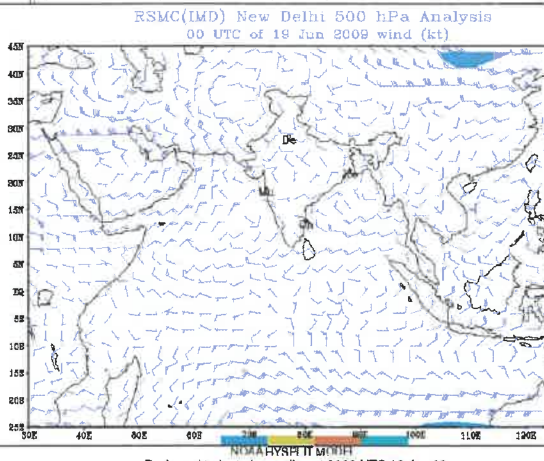
- Station : Hyderabad
- Engine on : 15:50
- Engine off : 16:50

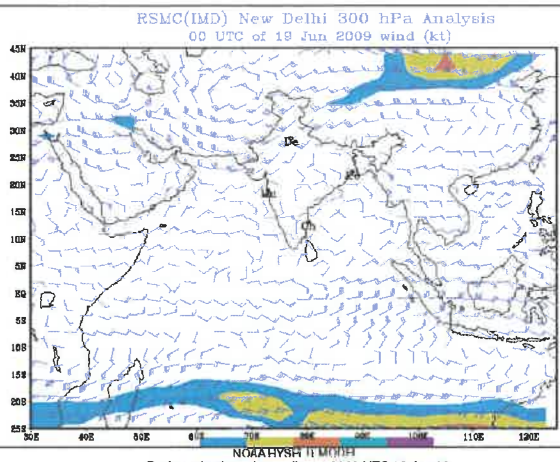


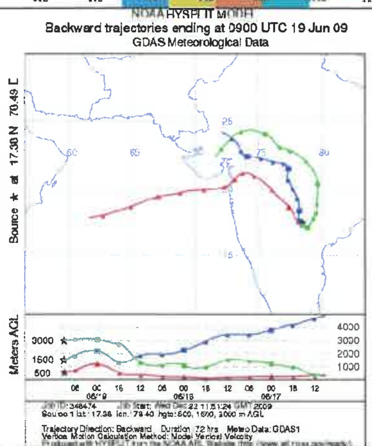
19 June 2009

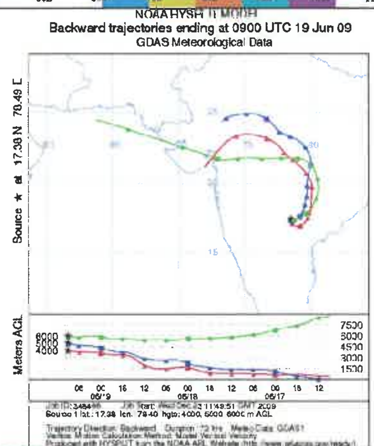

Friday, 19 June 2009 (29 Jyaistha 1931 Saka)

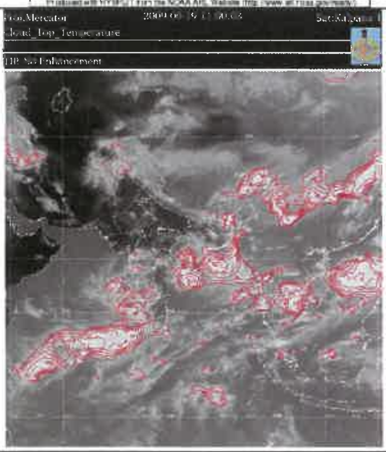

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 19 Jun 2009 wind (kt)

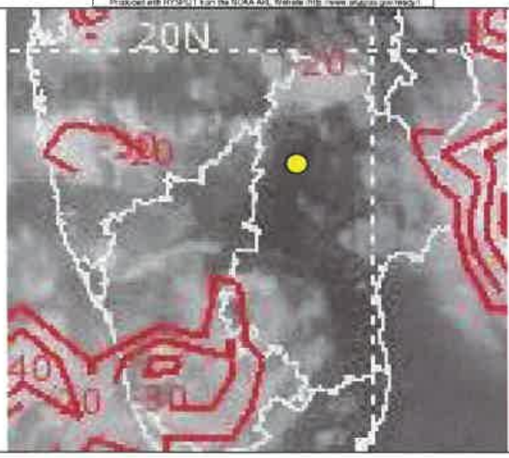

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 19 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 19 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL

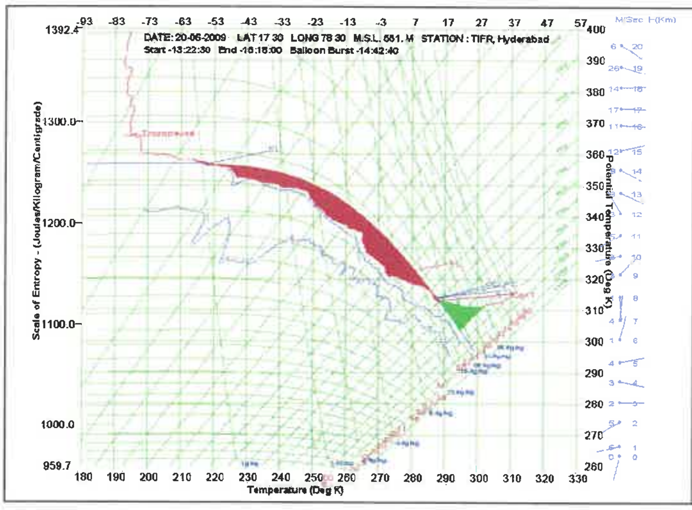

NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL

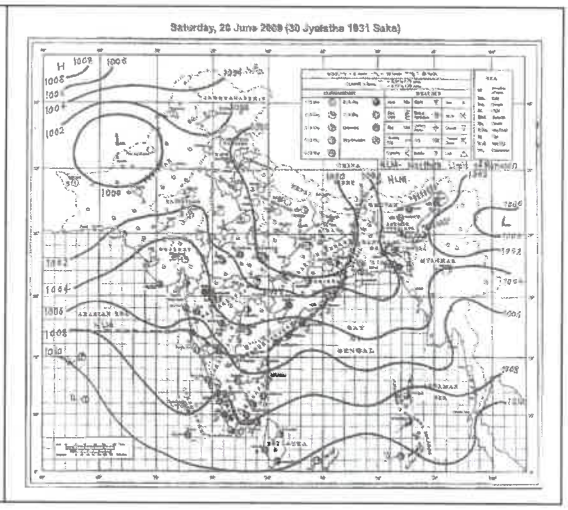

Proj:Mercator
Cloud_Top_Temperature

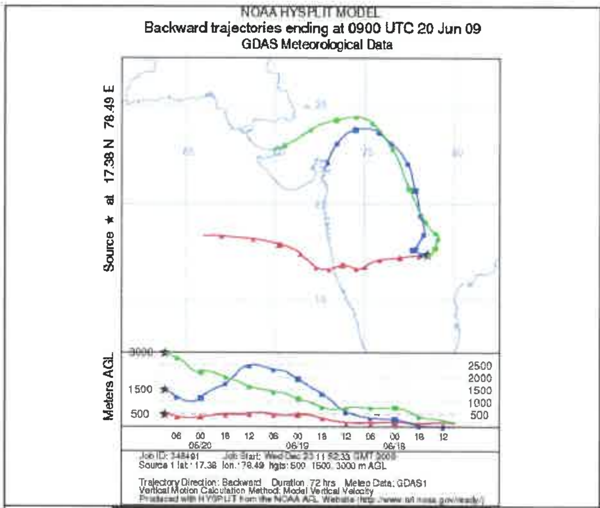

20N

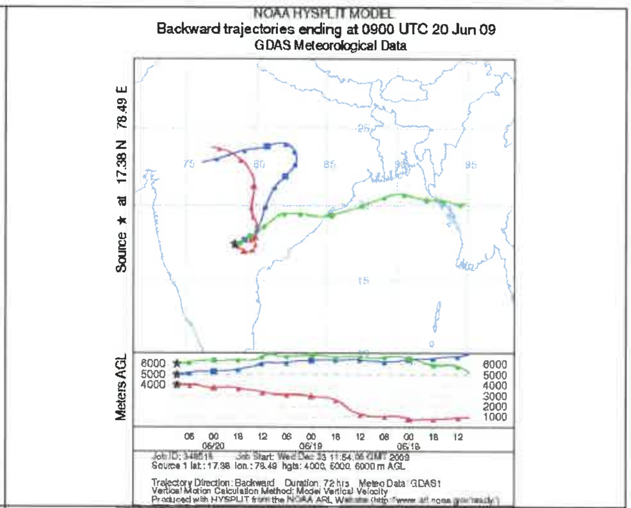
20 June 2009 (Base Hyderabad)

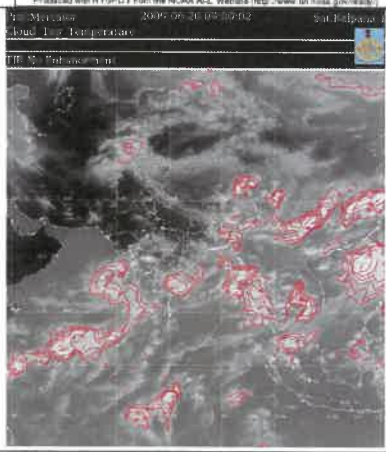
- Station : Hyderabad
- Engine on : 13:30
- Engine off : 16:35

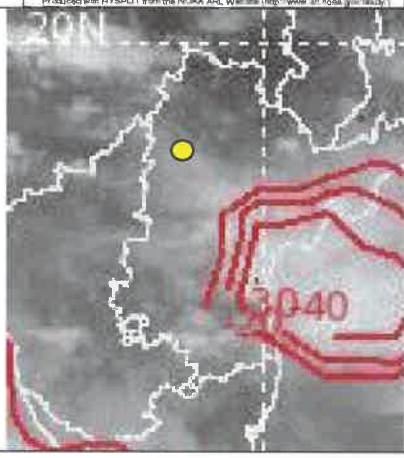












21 June 2009 (Base Hyderabad)

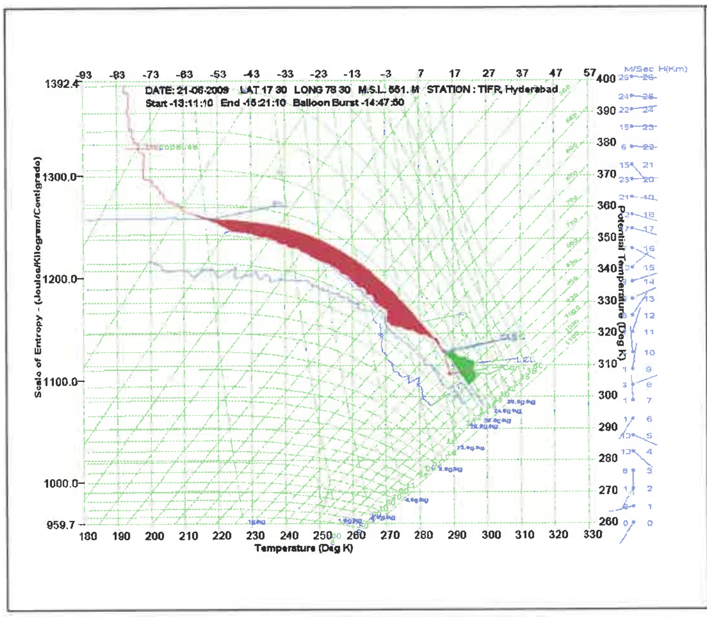
Weather summary :

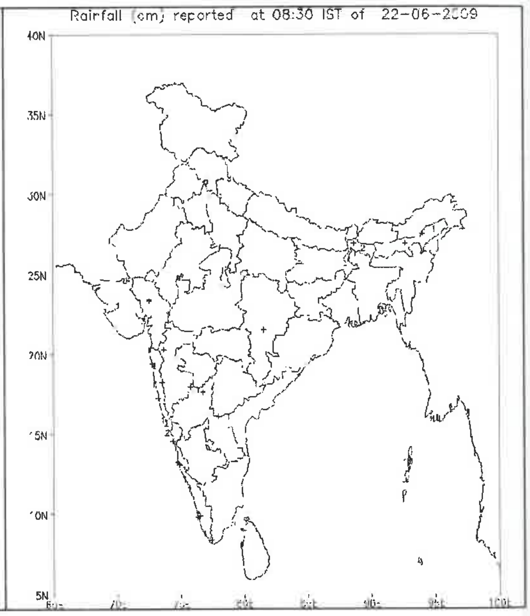
- The northern limit of monsoon on 21st June 2009 passed through Lat. 18.0°N/ Long. 70.0°E, Alibagh, Pune, Sholapur, Hyderabad, Kalingapatnam, Paradip, Bankura and Gangtok.

- The low pressure area over east central Arabian Sea and adjoining areas

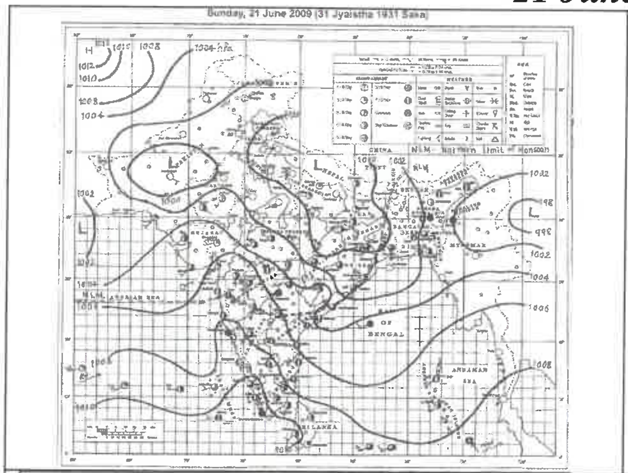
Flight

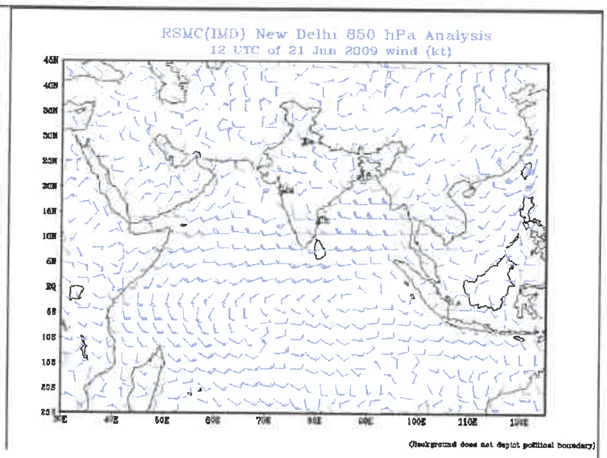
- Station : Hyderabad
- Engine on : 13:25
- Engine off : 16:20

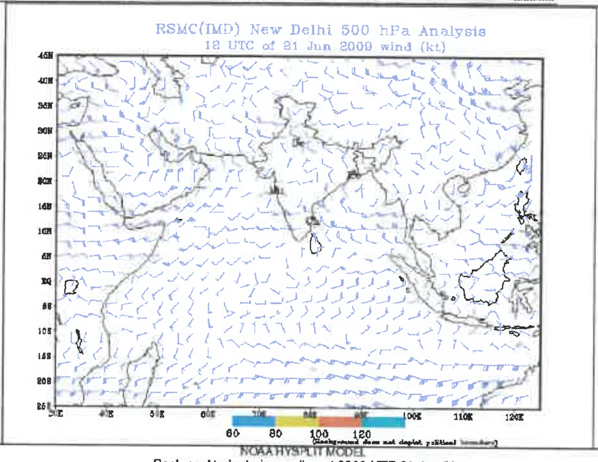


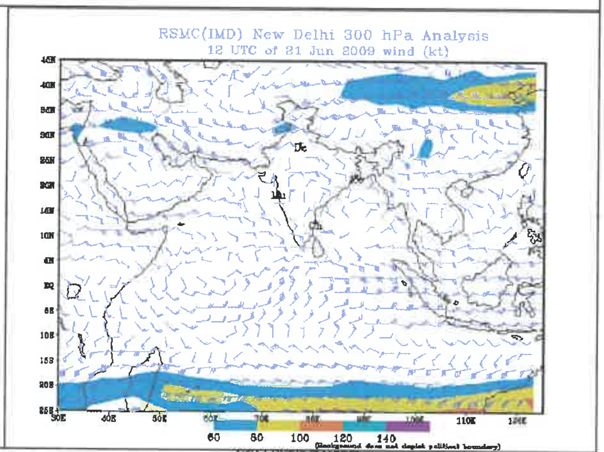


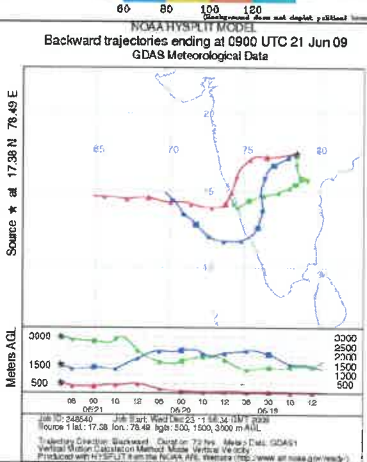
21 June 2009

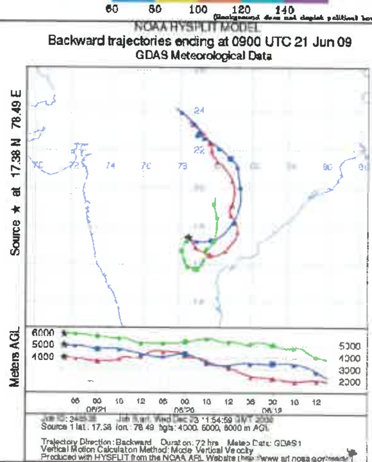

Sunday, 21 June 2009 (31 Jyaistha 1931 Saka)

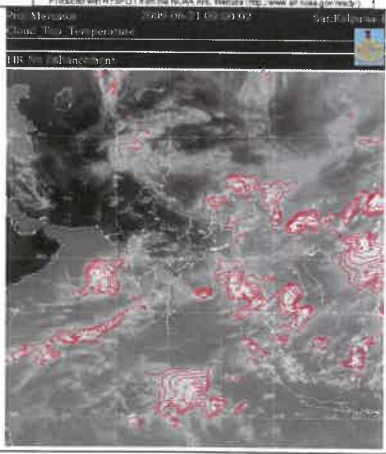

RSMC(IMD) New Delhi 850 hPa Analysis
12 UTC of 21 Jun 2009 wind (kt)

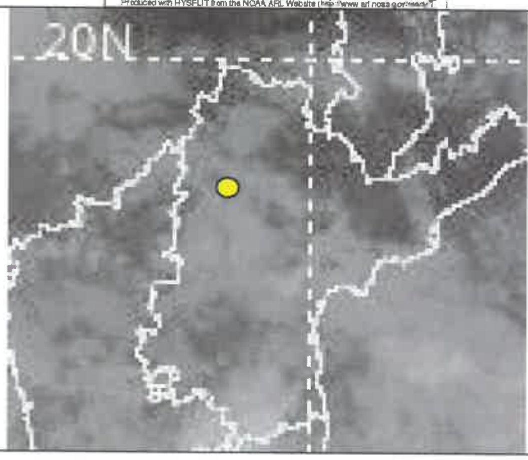

RSMC(IMD) New Delhi 500 hPa Analysis
12 UTC of 21 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
12 UTC of 21 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL



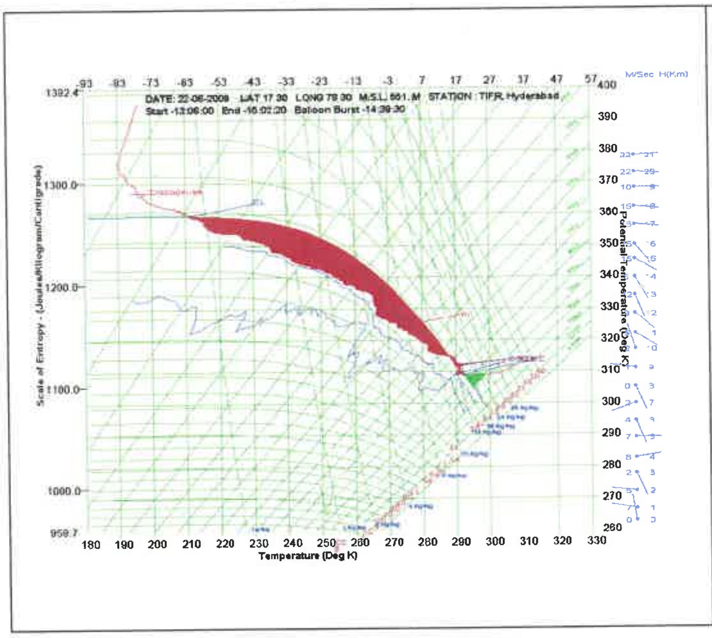

20N

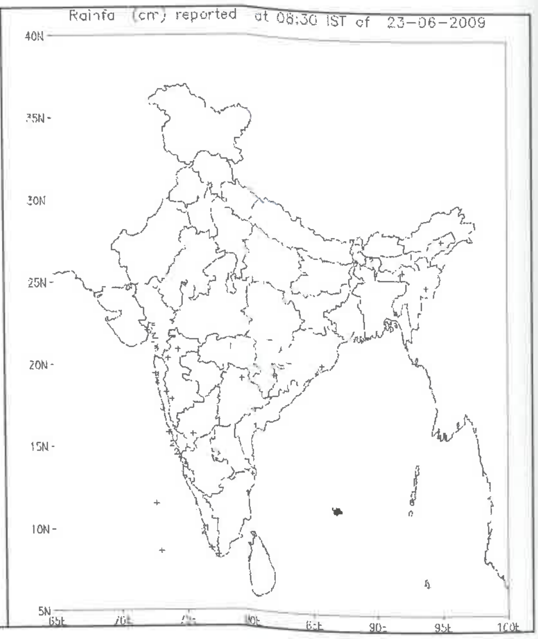
22 June 2009 (Base Hyderabad)

- The low pressure area over east central Arabian Sea and adjoining areas persists.
- Off shore trough extending from Konkan coast to Kerala Coast
- Heat wave to severe heat wave conditions are prevailing over Chhattisgarh, Jharkhand, Orissa ,Bihar, east Uttar Pradesh, east Madhya Pradesh, Vidarbha and coastal Andhra Pradesh .
- Heat wave conditions are also prevailing over West Uttar Pradesh, Delhi and some parts of Uttrakhand, Haryana, Punjab and north Rajasthan.
- The highest maximum temperature of 46.4 °C was recorded at Sambalpur (Orissa).
- Convective clouds are seen over eastcentral Bay of Bengal, parts of Andaman Sea, eastcentral & southeast Arabian Sea. Low/medium clouds are seen over Peninsular India, parts of northeastern States, western Himalayan region, Gujarat and East Rajasthan.

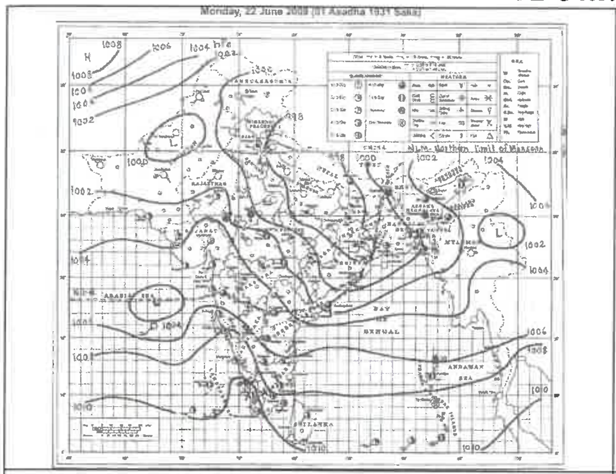
Flight :

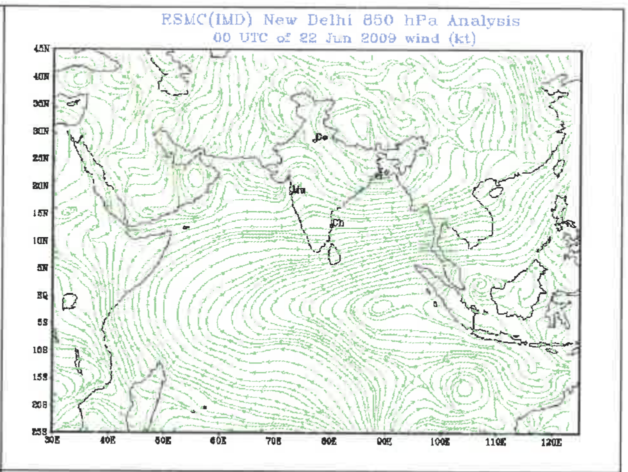
- Station : Hyderabad
- Engine on : 13:15
- Engine off : 16:15

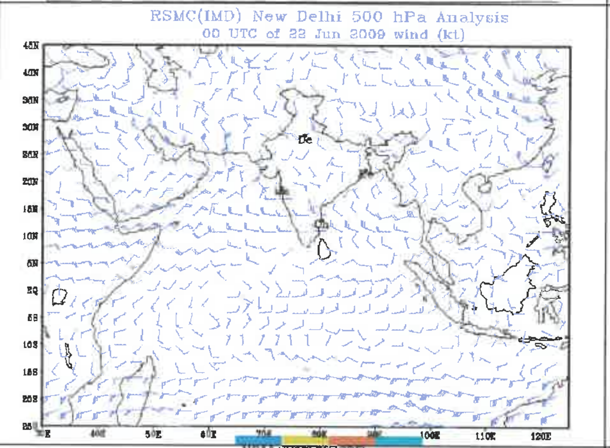


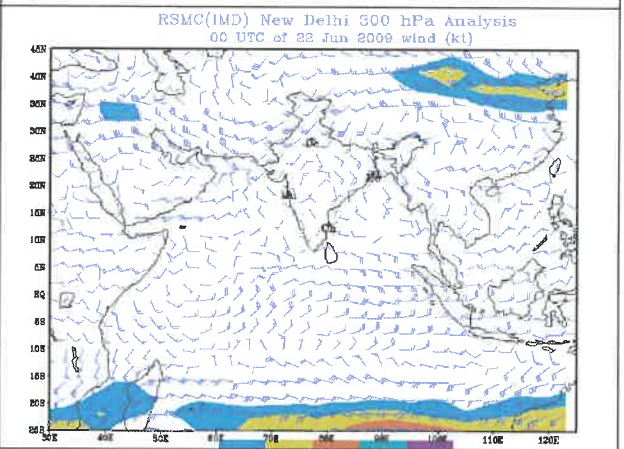


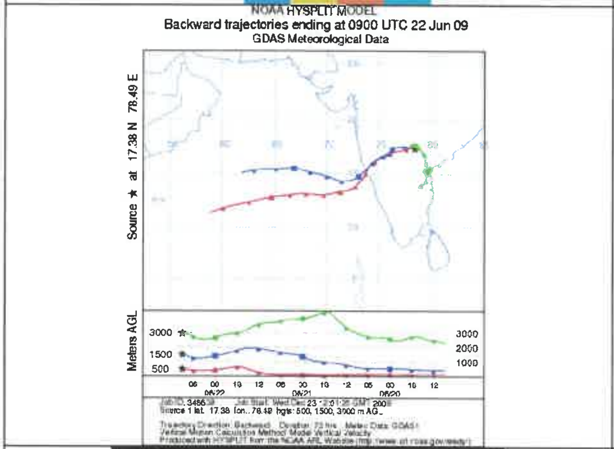
22 June 2009

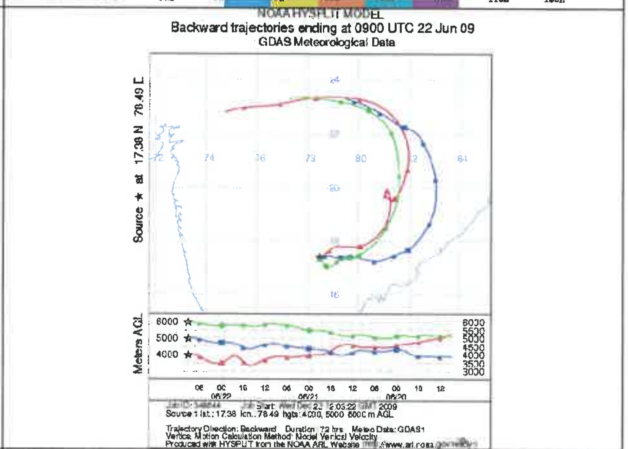

Monday, 22 June 2009 (01 Asadha 1931 Saka)

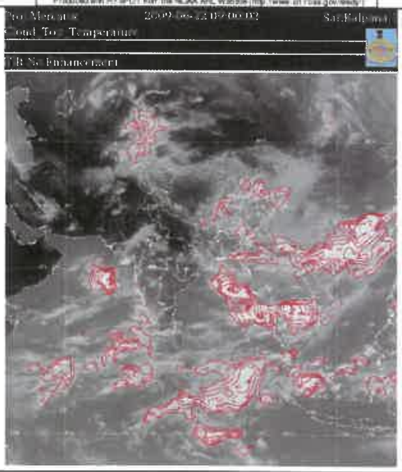

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 22 Jun 2009 wind (kt)

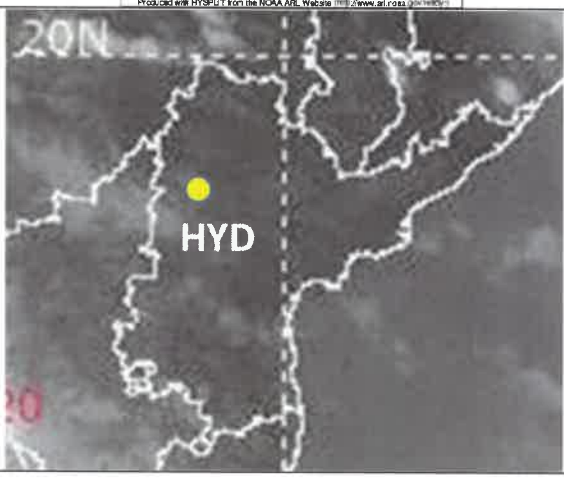

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 22 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 22 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 Jun 09
GDAS Meteorological Data
Source ★ at 17.38 N 78.49 E
Meters AGL

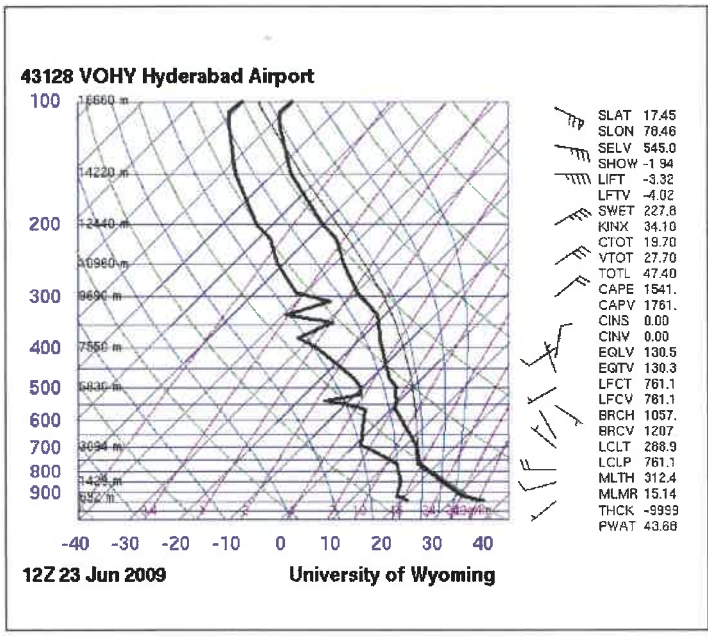


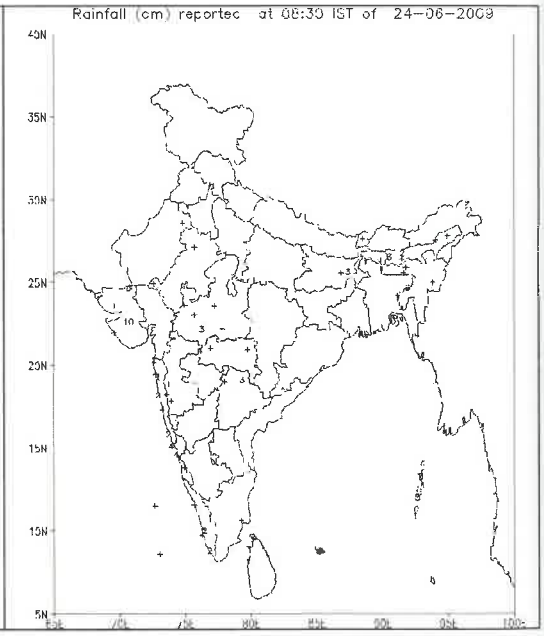

20N
HYD

23 June 2009 (Hyderabad-Bengaluru)

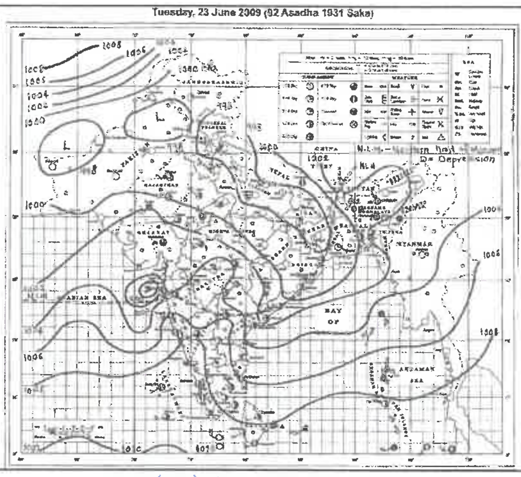
- The depression over east central Arabian Sea moved northwards and lay centred at 1730 hours IST of today, the 23rd June 2009 over northeast Arabian sea near lat. 20.5^0 N and long. 71.0^0 E, close to south Gujarat and Diu coast near Diu.
- Severe heat wave conditions are prevailing over Chhattisgarh, Jharkhand, Orissa, east Uttar Pradesh, Madhya Pradesh and coastal Andhra Pradesh.
- Heat wave conditions are also prevailing over West Uttar Pradesh, Delhi and some parts of Uttrakhand, Himachal Pradesh, Punjab, north Rajasthan and Vidarbha.
- The highest maximum temperature of 46.2 °C was recorded at Sambhalpur (Orissa).
- Convective clouds are seen over northeast Arabian Sea, central and south east Bay of Bengal, parts of Andaman Sea. Low/medium clouds are seen over parts of Peninsular India, Rajasthan, Gujarat, northeastern States, western Himalayan region.

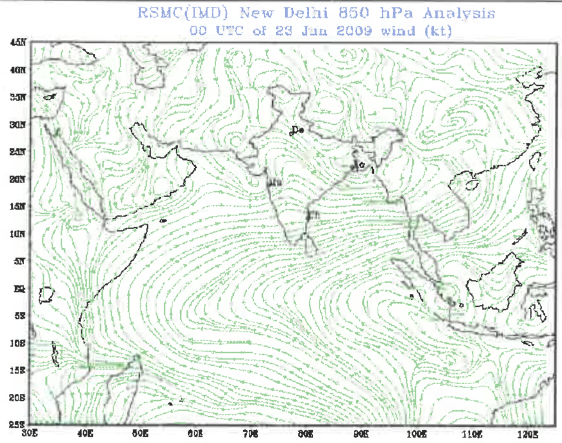
- Station : Hyderabad - Bengaluru
- Engine on : 10:05
- Engine off : 11:50

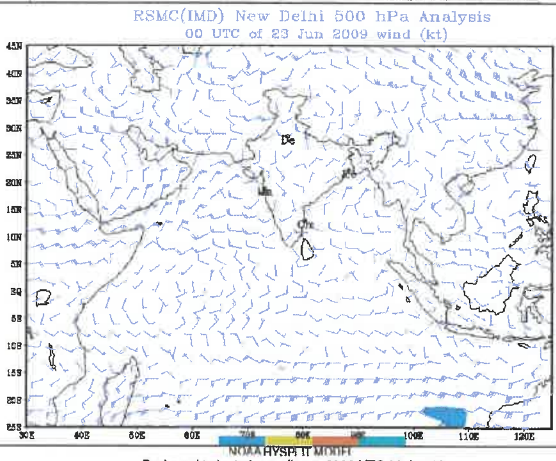


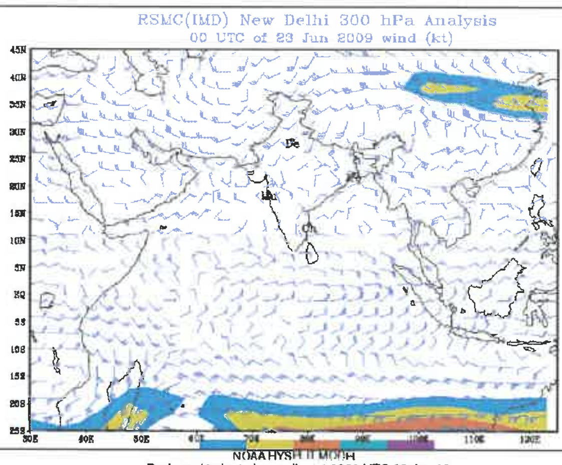


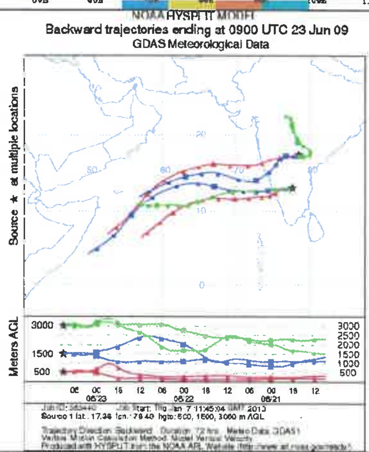
23 June 2009

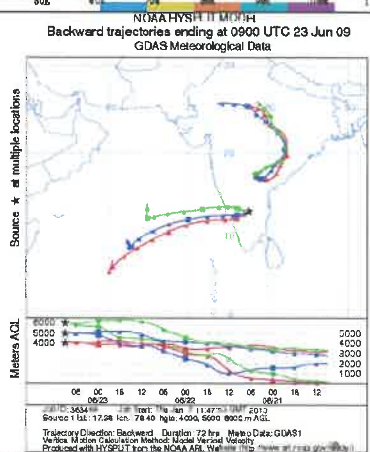

Tuesday, 23 June 2009 (02 Asadha 1931 Saka)

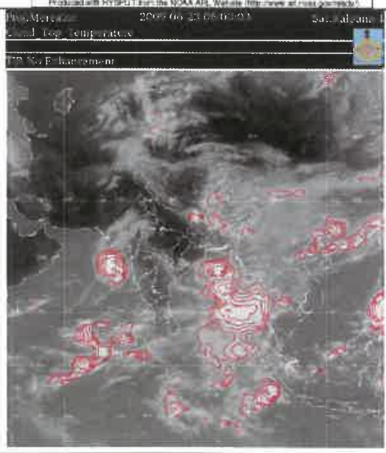

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 23 Jun 2009 wind (kt)

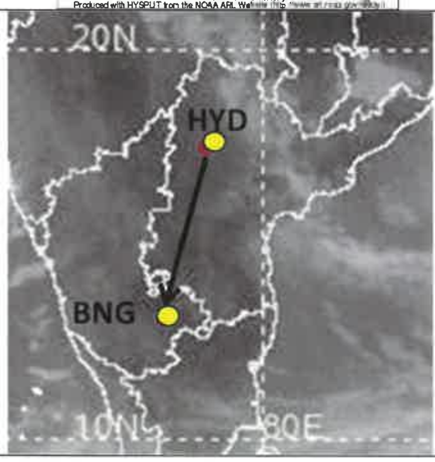

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 23 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 23 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 23 Jun 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 23 Jun 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL

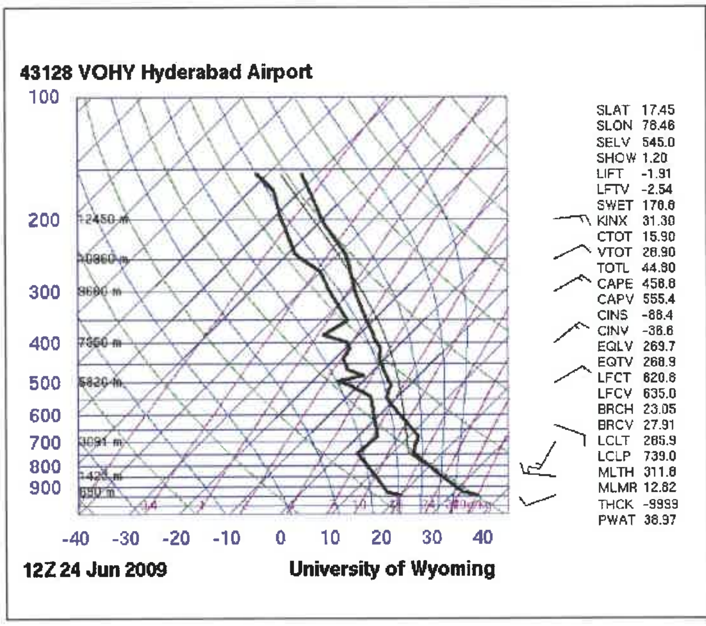


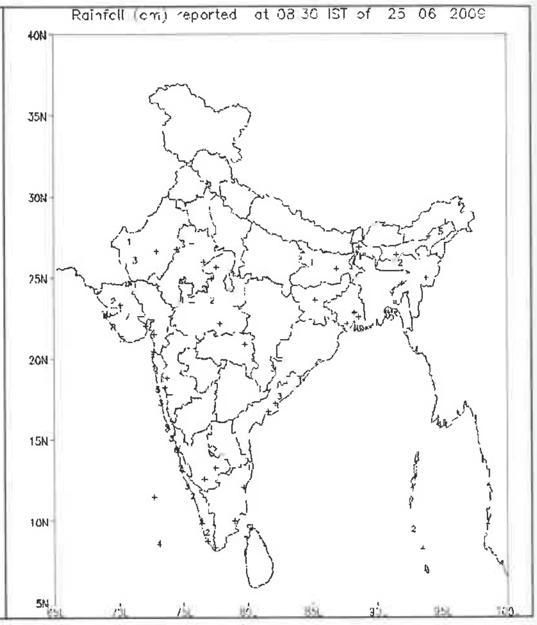

20N
HYD
BNG
10N
80E

24 June 2009 (Base Bengaluru)

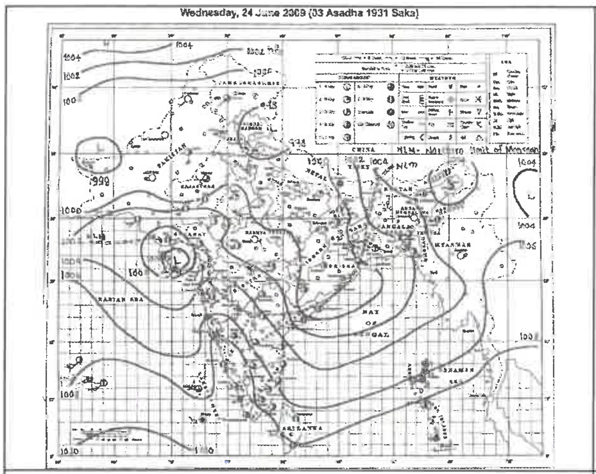
- The southwest monsoon has further advanced into entire central Arabian sea, some parts of north Arabian sea, south Gujarat state, remaining parts of north Konkan and some more parts of Madhya Maharahtra.
- The northern limit of monsoon passes through Lat. 23.0°N / Long. 60.0°E and Lat. 23.0°N / Long. 65.0°E, Bhuj, Baroda, Nasik, Sholapur, Hyderabad, Kalingapatnam, Paradip, Balasore, Bankura and Gangtok.
- The well marked low pressure area over Saurashtra & Kutch and neighbourhood persists.
- Convective clouds are seen over northeast and parts of east central Arabian Sea, central Bay of Bengal, parts of Andaman Sea. Low/medium clouds are seen over parts of east Arabian sea, Peninsular India, Rajasthan, Gujarat, Bihar, Sub-Himalayan west Bengal & Sikkim, northeastern States and western Himalayan region.

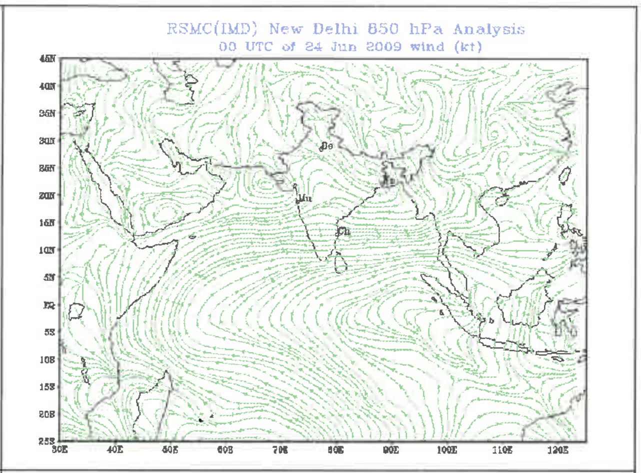
Flight **:** Nil

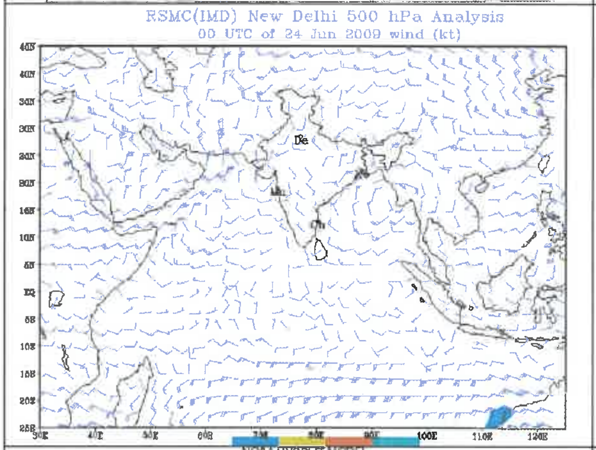


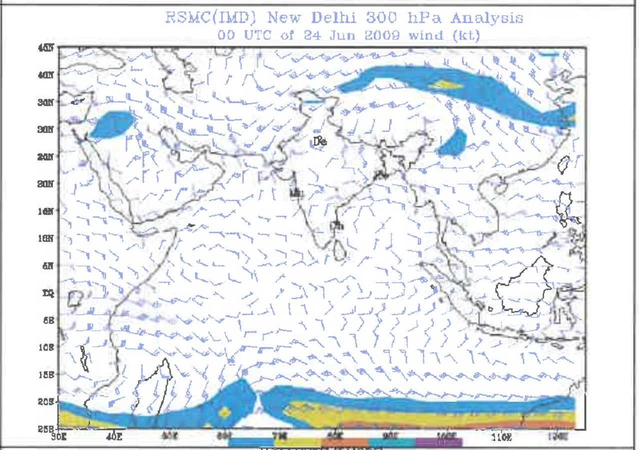


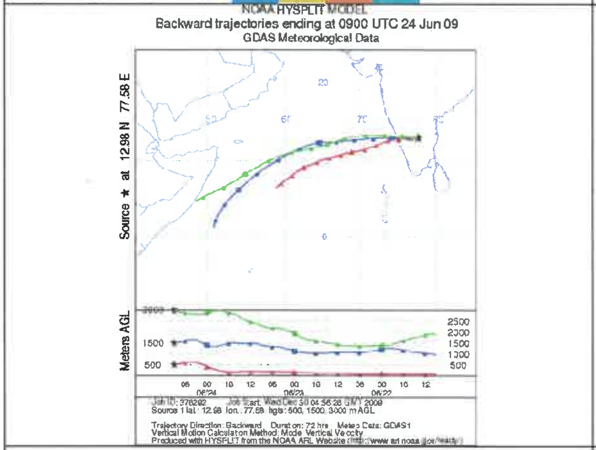
24 June 2009

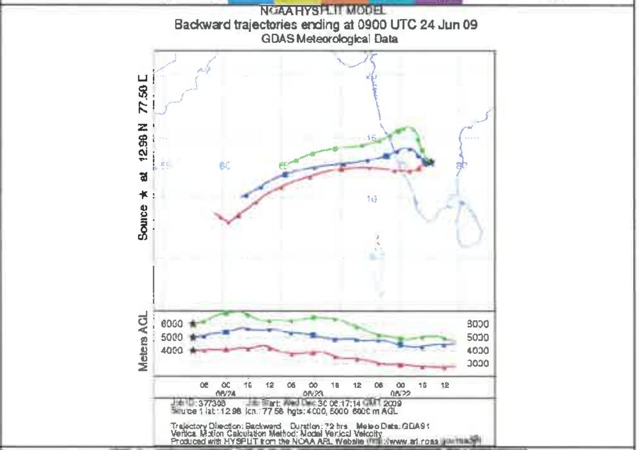

Wednesday, 24 June 2009 (03 Asadha 1931 Saka)

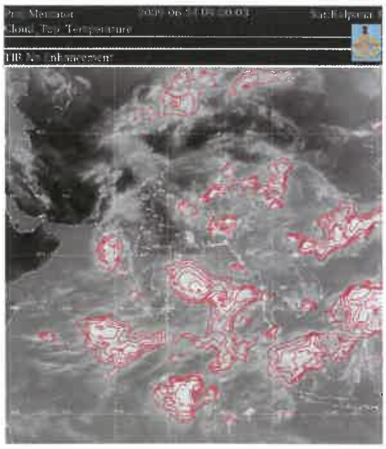

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 24 Jun 2009 wind (kt)

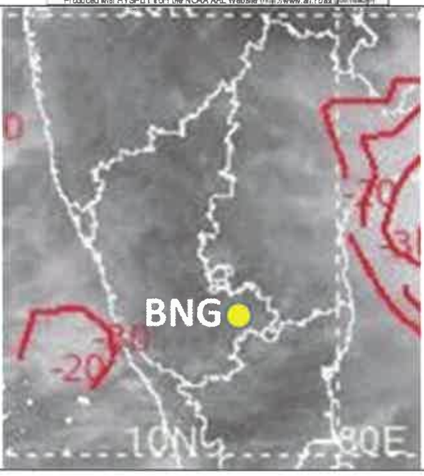

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 24 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 24 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL

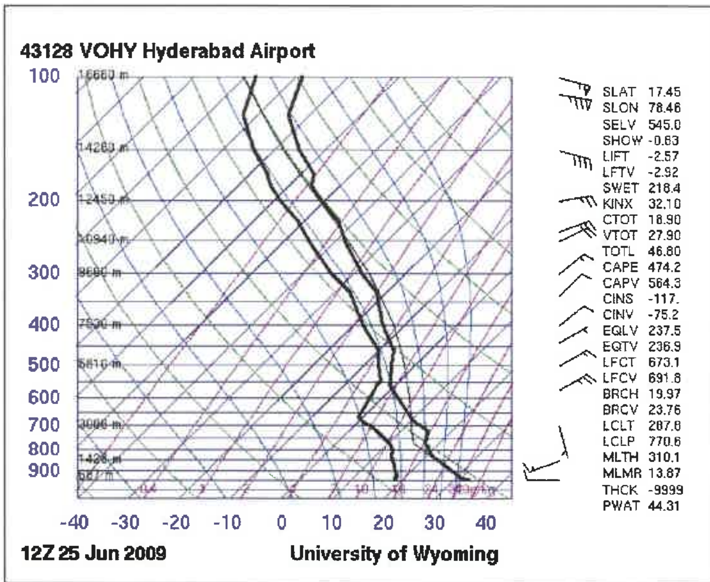


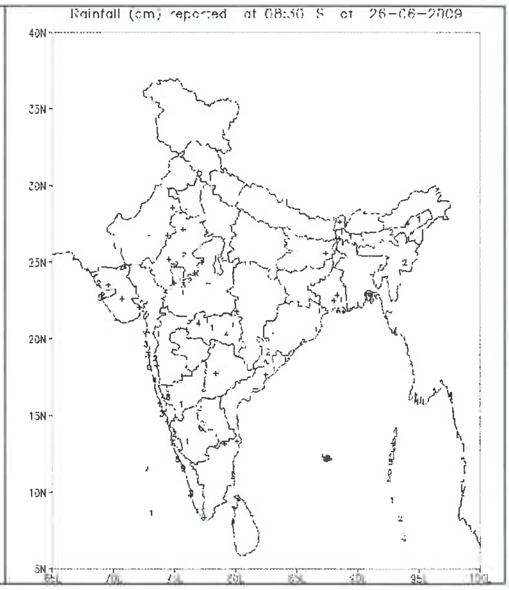

BNG
10N
80E

25 June 2009   (Base Bengaluru)

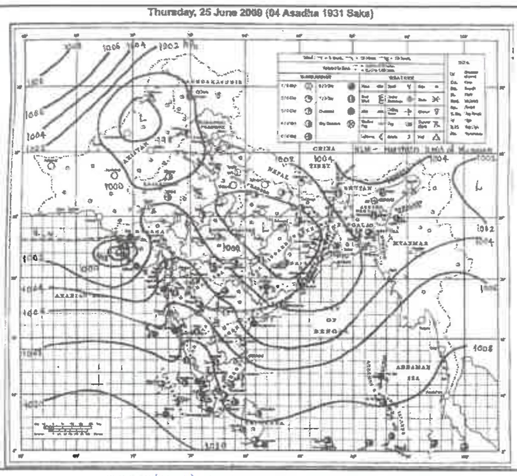
- The northern limit of monsoon passes through Lat. 23.0°N / Long. 60.0°E and Lat. 23.0°N / Long. 65.0°E, Bhuj, Baroda, Nasik, Sholapur, Hyderabad, Kalingapatnam, Paradip, Balasore, Bankura and Gangtok till date.
- The depression over northeast Arabian sea remained practically stationary and lay centred at 1730 hrs IST of today, the 25 June 2009 near at lat. 22.5°N and long. 68.5°E,. about 50 km west-northwest of Dwarka and 300 km south-southeast of Karachi.
- Heat wave to severe heat wave conditions are prevailing over central India and interior Orissa.
- The highest maximum temperature of 45.5 °C was recorded at Khajuraho (Madhya Pradesh).
- KALPANA – 1cloud imagery at 1730 hours IST shows convective clouds over northeast, parts of south & eastcentral Arabian Sea, central & south Bay of Bengal, Andaman Sea. Low/medium clouds are seen over Jammu & Kashmir, Gujarat, Chhattisgarh, Orissa, Peninsular India, Madhya Pradesh, Sub-Himalayan west Bengal & Sikkim and northeastern States.

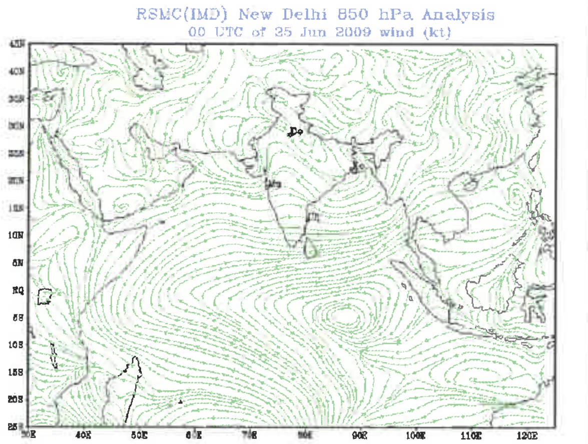
Flight **:** Nil

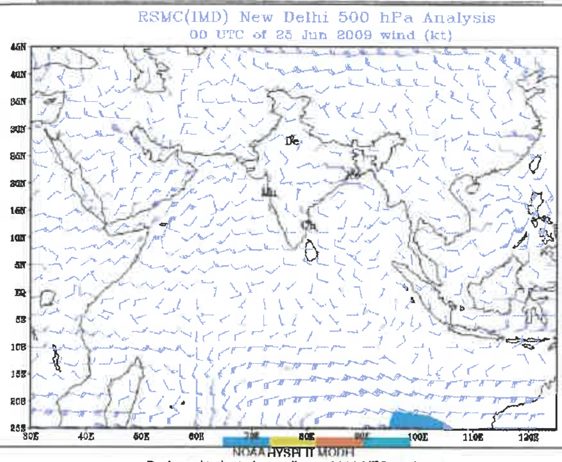


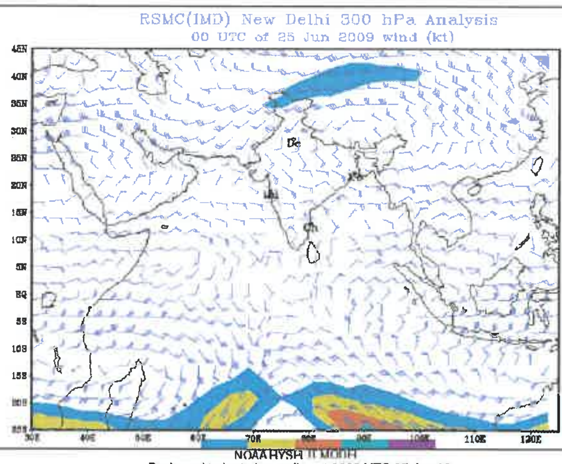


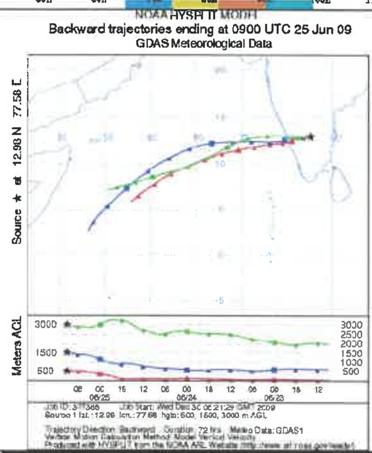
25 June 2009

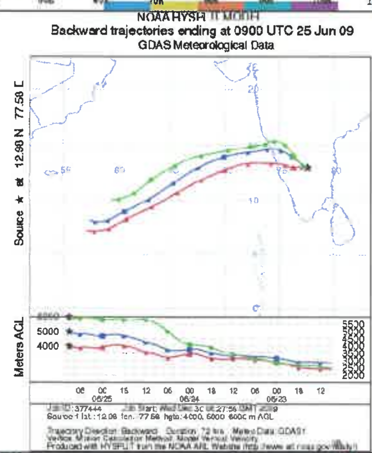

Thursday, 25 June 2009 (04 Asadha 1931 Saka)

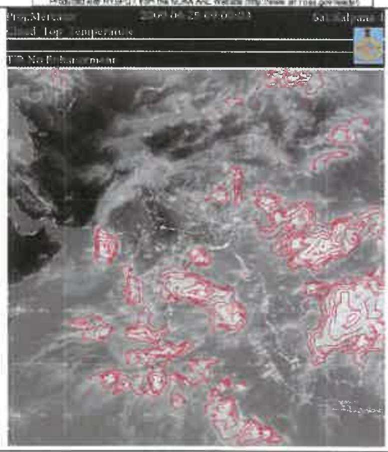

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 25 Jun 2009 wind (kt)

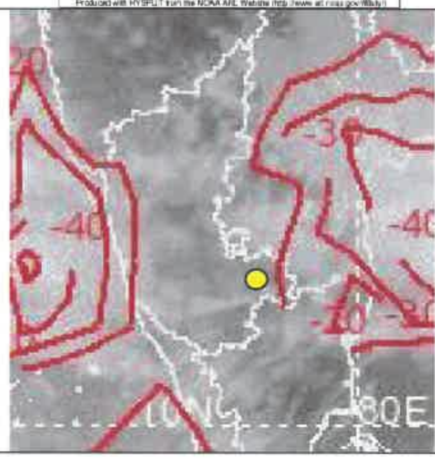

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 25 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 25 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 25 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 25 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature
TIR No Enhancement



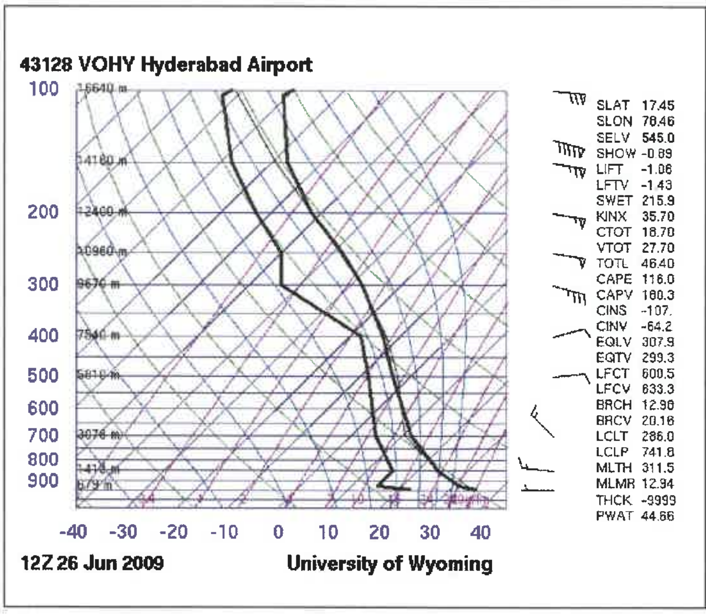
26 June 2009 (Base Bengaluru)

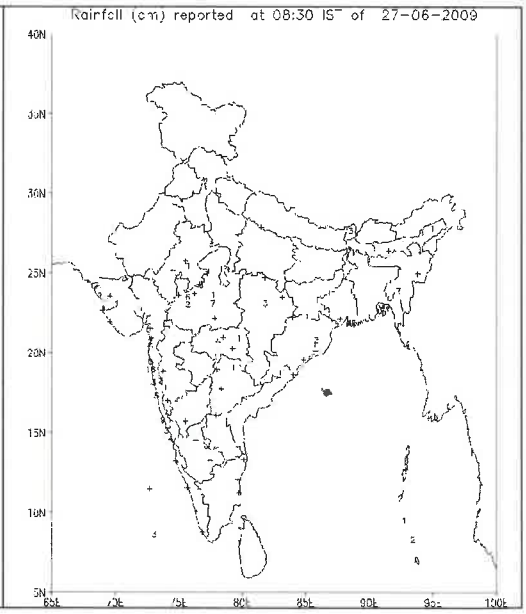
Weather summary :

- The southwest monsoon has further advanced into entire Madhya Maharashtra, Marathawada, most parts of Vidarbha, remaining parts of Talengana, Some parts of South Chhattisgarh and south Orissa.
- The northern limit of monsoon passes through Lat. 23.0°N / Long. 60.0°E and Lat. 23.0°N / Long. 65.0°E, Bhuj, Baroda, Khandawa, Nagpur, Jagdalpur, Paradip, Balasore, Bankura and Gangtok.
- Well marked low pressure area over Kutch and neighbourhood has become less marked.
- An off-shore trough at mean sea level extend from north Konkan to Kerala coast
- Heat wave to severe heat wave conditions are prevailing over parts of north Madhya Pradesh, north Chhattisgarh and isolated pockets of Jharkhand.
- Heat wave conditions are also prevailing over isolated pockets of north Rajasthan, Haryana and Uttar Pradesh.

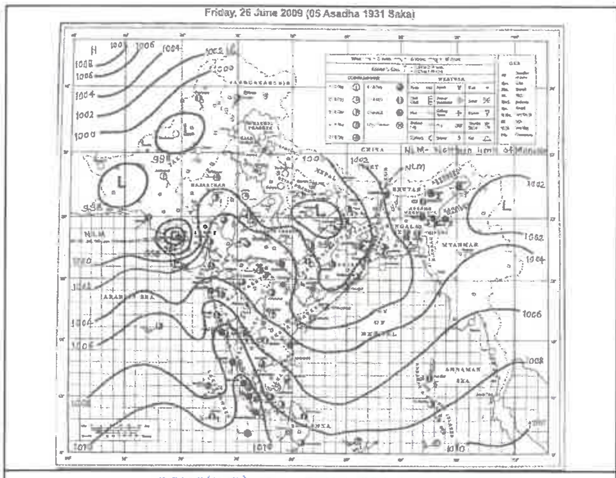
Flight :

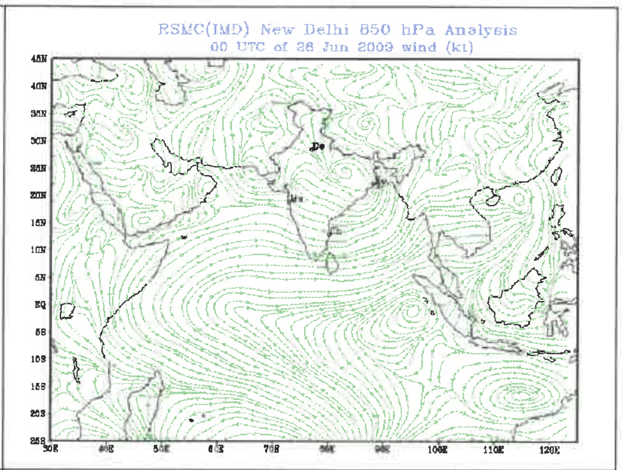
- Station : Bengaluru
- Engine on : 10:30
- Engine off : 11:35

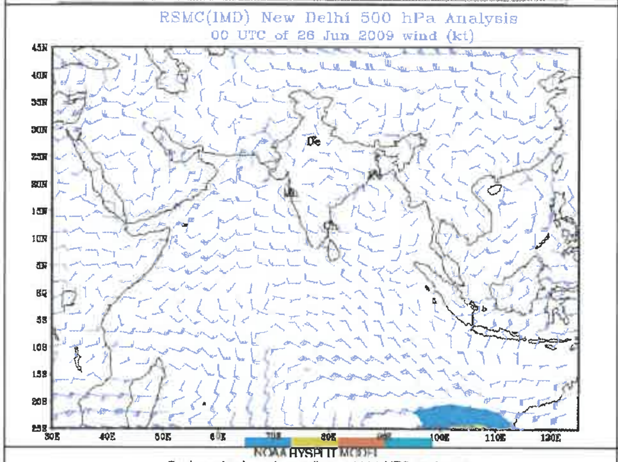


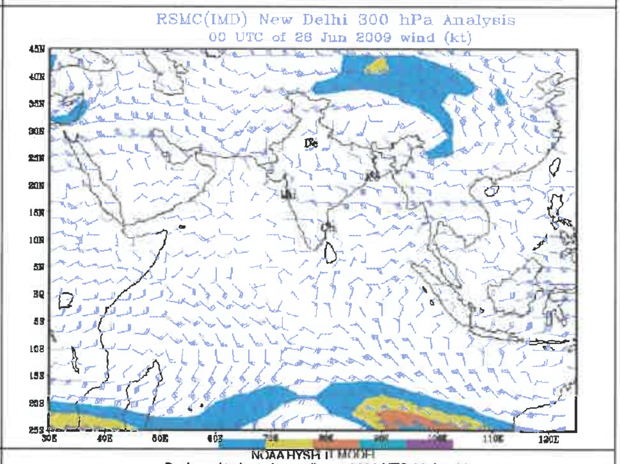


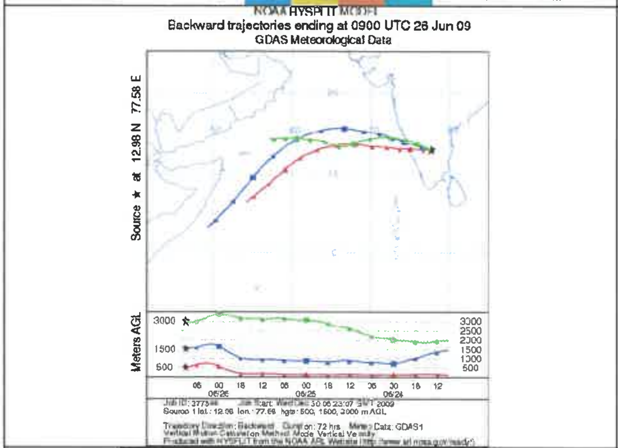
26 June 2009

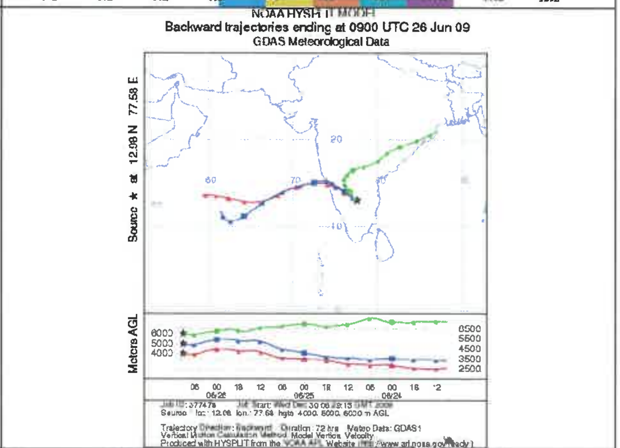

Friday, 26 June 2009 (05 Asadha 1931 Saka)

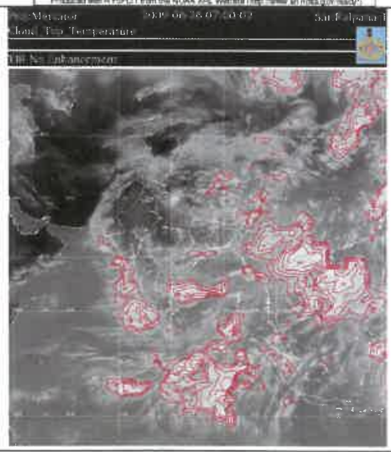

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 26 Jun 2009 wind (kt)

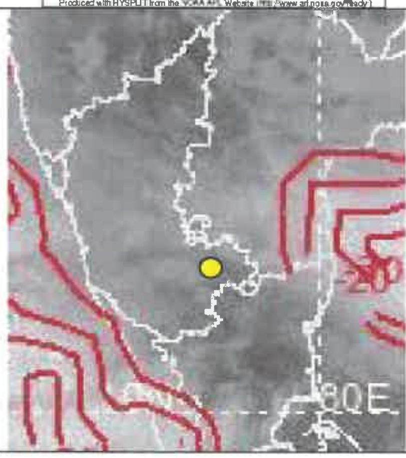

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 26 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 26 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 26 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 26 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature

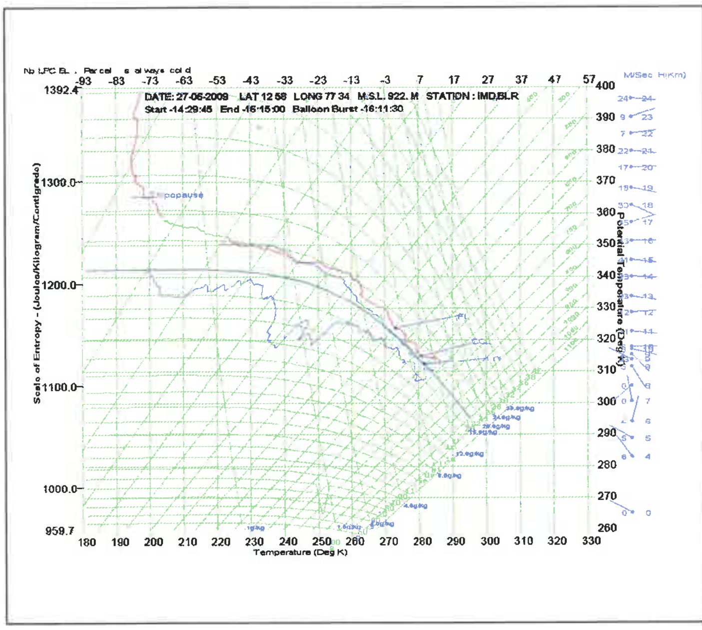

80E

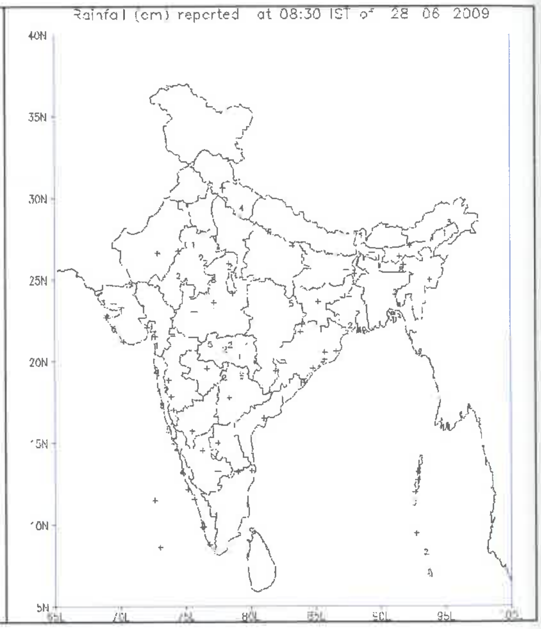
27 June 2009 (Base Bengaluru)

- The southwest monsoon has further advanced into entire Vidarbha, remaining parts of Talengana, some more parts of Madhya Pradesh, Chhattisgarh and Orissa.
- The northern limit of monsoon passes through Lat. 23.0°N / Long. 60.0°E and Lat. 23.0°N / Long. 65.0°E, Bhuj, Baroda, Indore, Hoshangabad, Rajnandgaon, Cuttack, Balasore, Bankura and Gangtok.
- An off-shore trough at mean sea level extends from north Konkan coast to Kerala coast.
- Heat wave conditions are prevailing over some parts of north Madhya Pradesh, north Rajasthan, Haryana, Delhi, Chandigarh and at isolated pockets of west Uttar Pradesh.

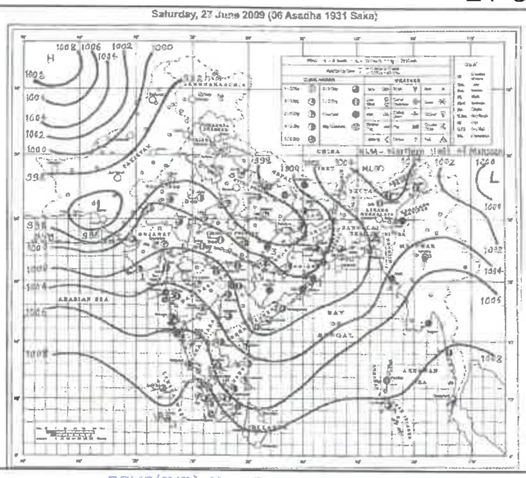
Flight :

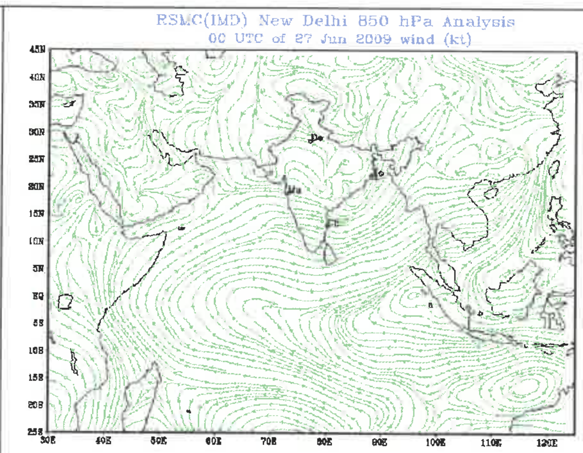
- Station : Bengaluru
- Engine on : 11:25
- Engine off : 15:00

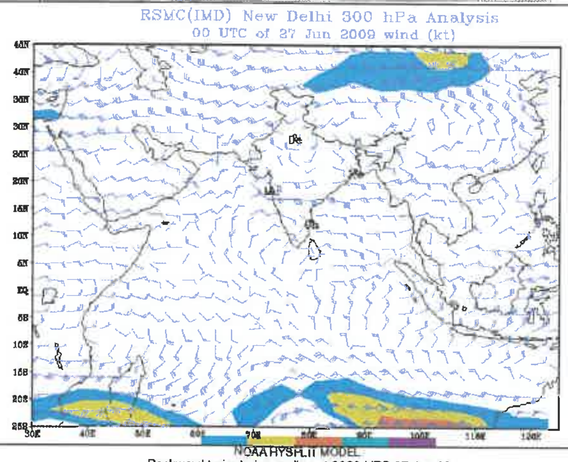


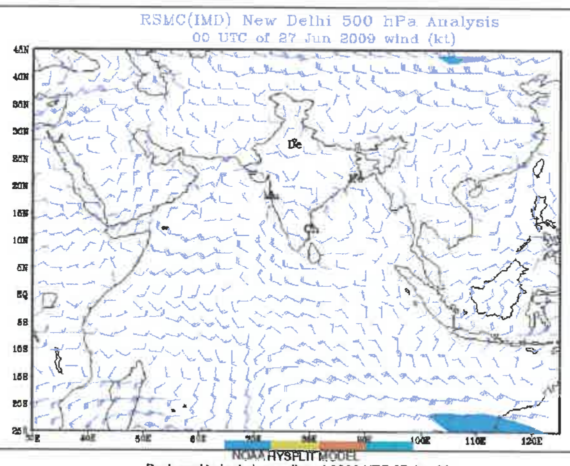


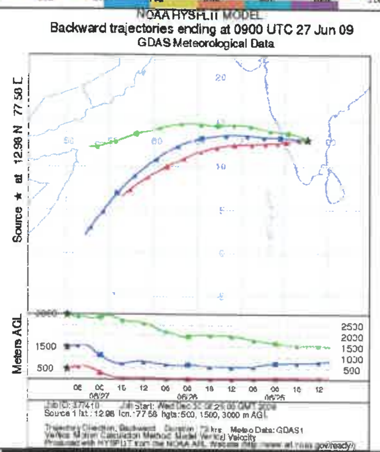
27 June 2009

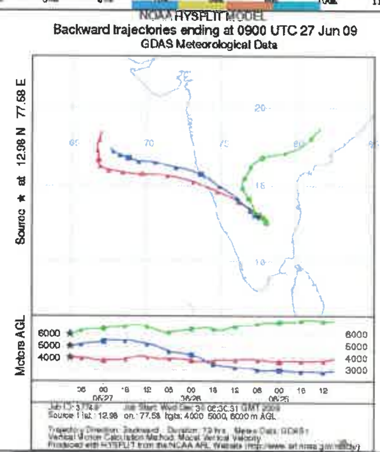

Saturday, 27 June 2009 (06 Asadha 1931 Saka)

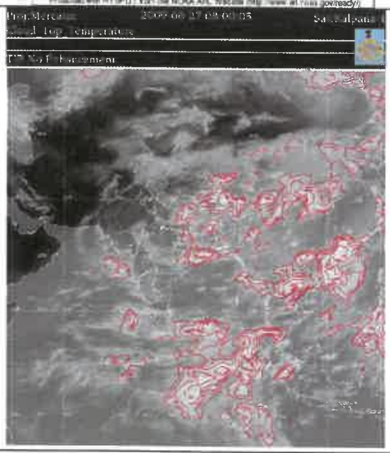

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 27 Jun 2009 wind (kt)

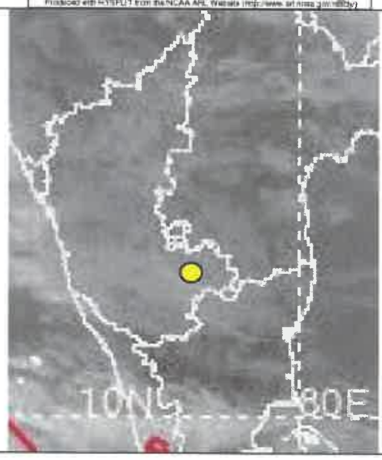

RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 27 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 27 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 27 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 27 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature


10N
80E

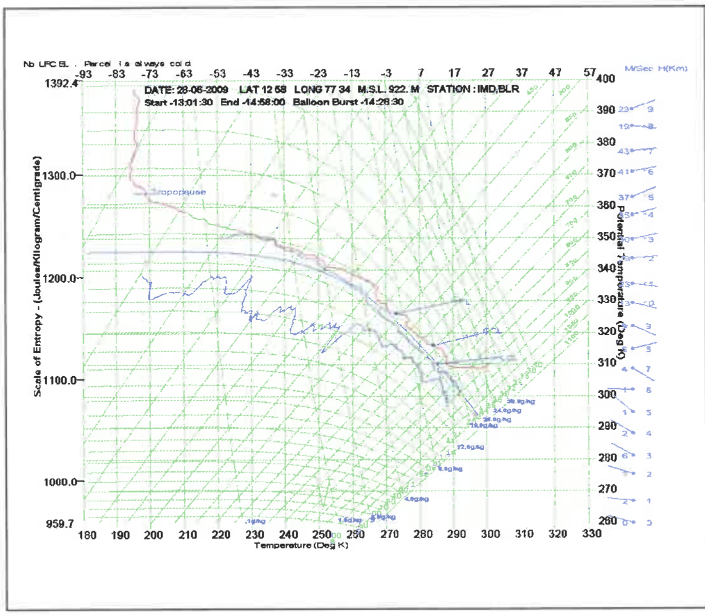
28 June 2009 (Base Bengaluru)

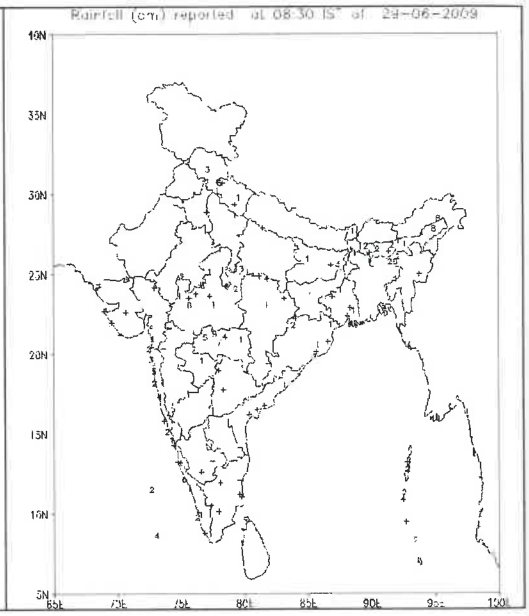
Weather summary :

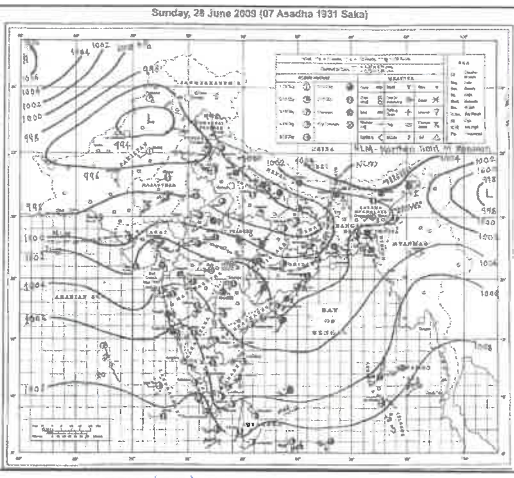
- The northern limit of southwest monsoon passes through Lat. 23.0°N / Long. 60.0°E and Lat. 23.0°N / Long. 65.0°E, Bhuj, Baroda, Indore, Hoshangabad, Rajnandgaon, Cuttack, Balasore, Bankura and Gangtok till date.
- An off-shore trough at mean sea level extends from north Konkan coast to Kerala coast.

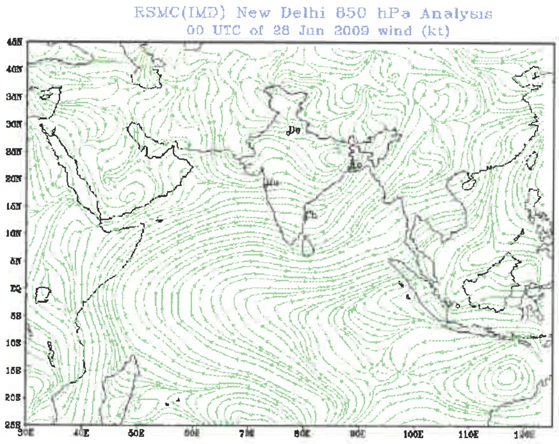
Flight

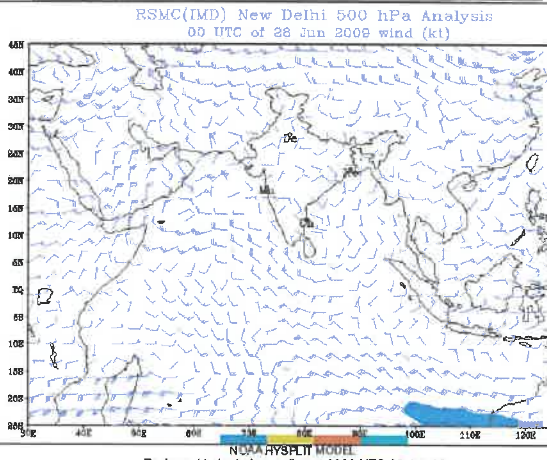
- Station : Bengaluru
- Engine on : 12:25
- Engine off : 15:40

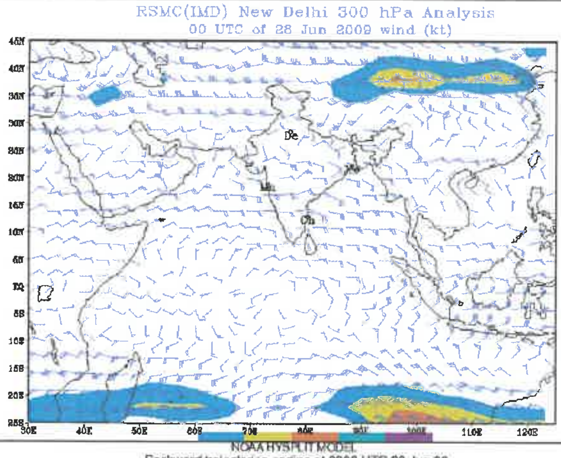


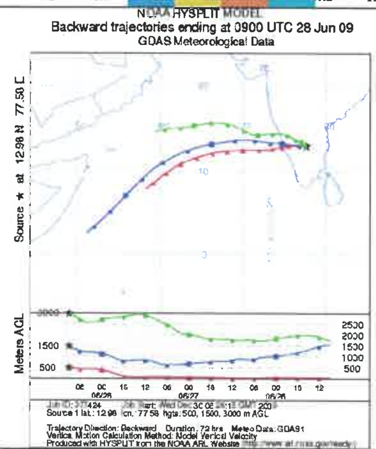


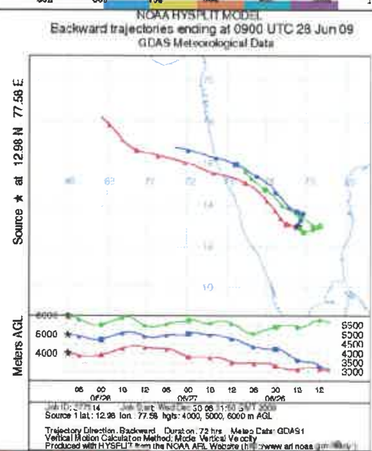

Sunday, 28 June 2009 (07 Asadha 1931 Saka)
ARABIAN SEA
BAY OF BENGAL

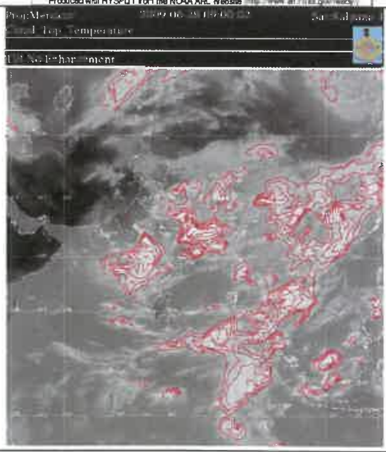

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 28 Jun 2009 wind (kt)

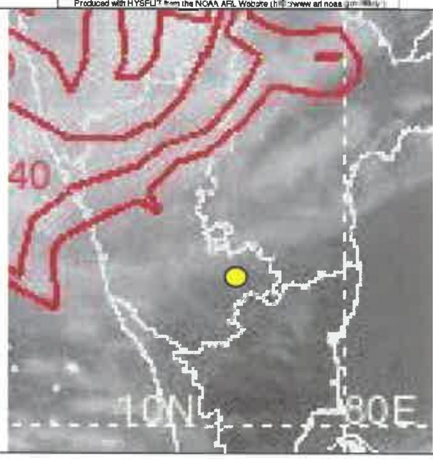

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 28 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 28 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 28 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
Source 1 lat.: 12.98 lon.: 77.58 hgts: 500, 1500, 3000 m AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1
Vertical Motion Calculation Method: Model Vertical Velocity
Produced with HYSPLIT from the NOAA ARL Website


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 28 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
Source 1 lat.: 12.98 lon.: 77.58 hgts: 4000, 5000, 6000 m AGL
Trajectory Direction: Backward Duration: 72 hrs Meteo Data: GDAS1
Vertical Motion Calculation Method: Model Vertical Velocity
Produced with HYSPLIT from the NOAA ARL Website


Cloud Top Temperature


40
10N
80E

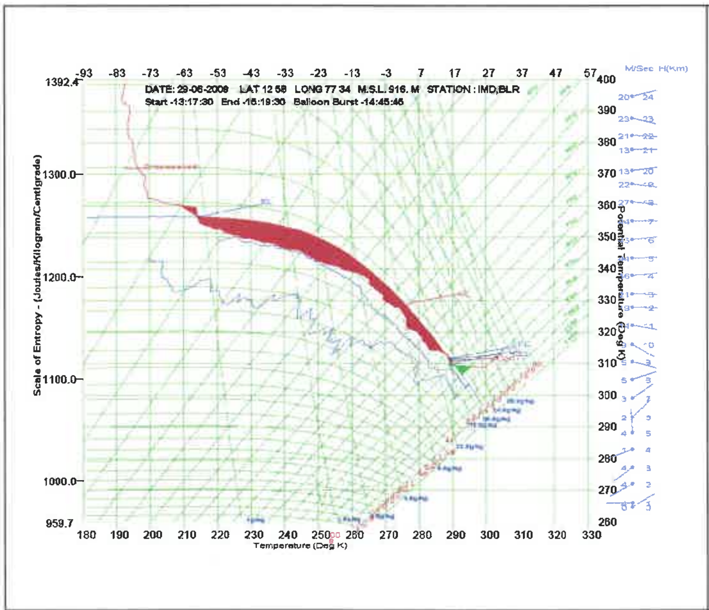
29 June 2009 (Base Bengaluru)

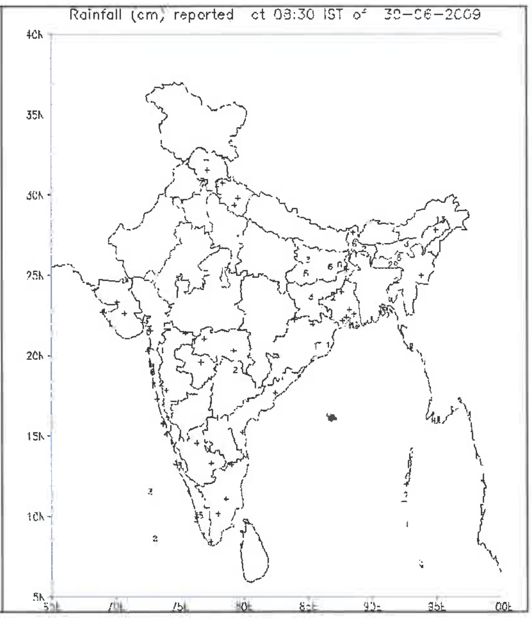
Weather summary :

- The southwest monsoon has further advanced today, the 29th June, 2009 into remaining parts of Gujarat, Madhya Pradesh, Chhattisgarh, Orissa and west Bengal & Sikkim, entire Bihar, Jharkhand, many parts of east Uttar Pradesh and Uttrakhand and some parts of east Rajasthan and west Uttar Pradesh.
- The northern limit of southwest monsoon passes through Lat. 25.0°N / Long. 60.0°E and Lat. 25.0°N / Long. 65.0°E, Udaipur, Jaipur, Dholpur, Etawah, Lucknow, Kheri, Dehradun and Uttarkashi.
- Off-shore trough at mean sea level extends from Konkan coast to Kerala coast,
- KALPANA – 1 Cloud Imagery at 1430 hours IST shows convective clouds over east Arabian sea, parts of west Arabian Sea and south Bay of Bengal, West Bengal & Sikkim, Orissa, Chhattisgarh and Bihar. Low/medium clouds are seen over Jammu & Kashmir, Uttar Pradesh, Gujarat, East Rajasthan, northeastern States and peninsular India.

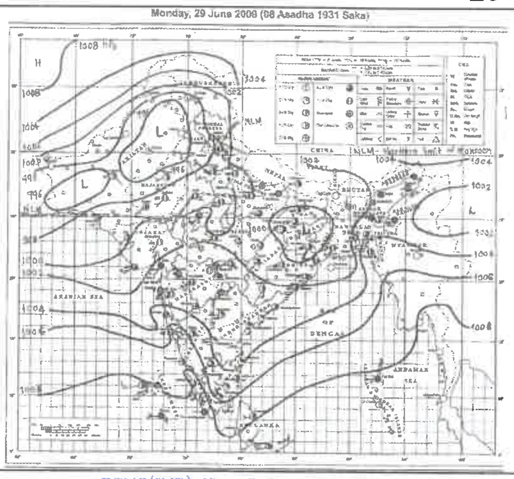
Flight :

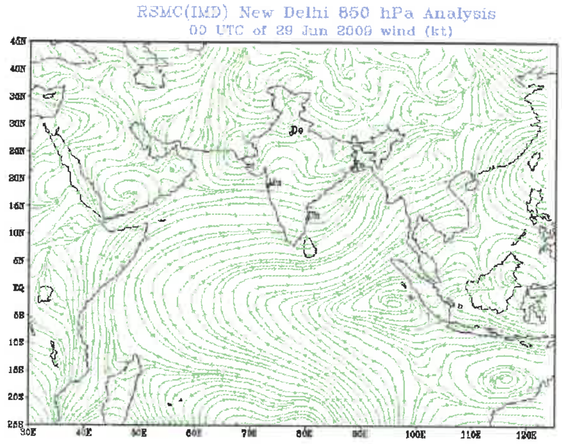
- Station : Bengaluru
- Engine on : 11:35
- Engine off : 12:10
-

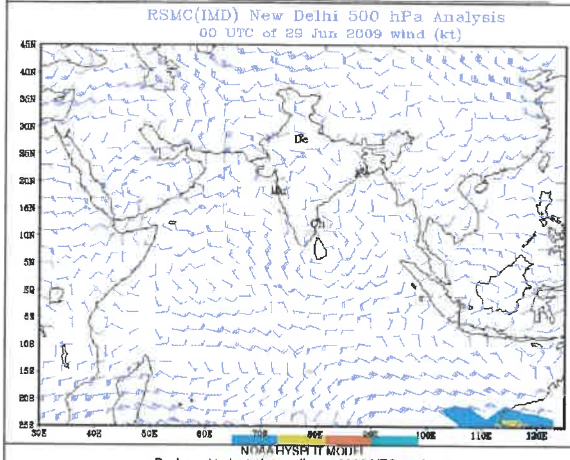


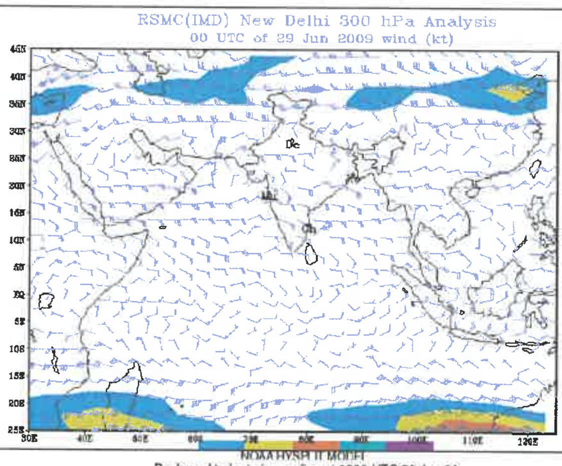


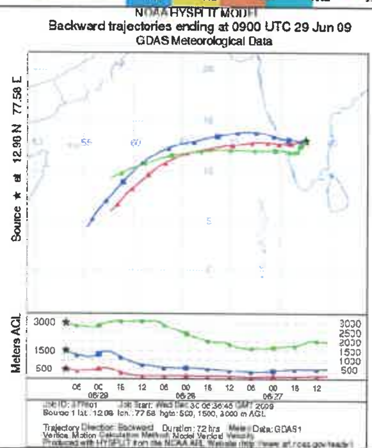
29 June 2009

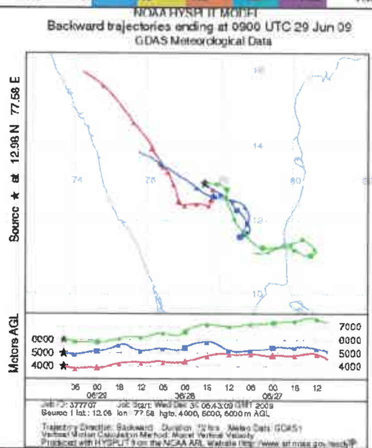

Monday, 29 June 2009 (08 Asadha 1931 Saka)

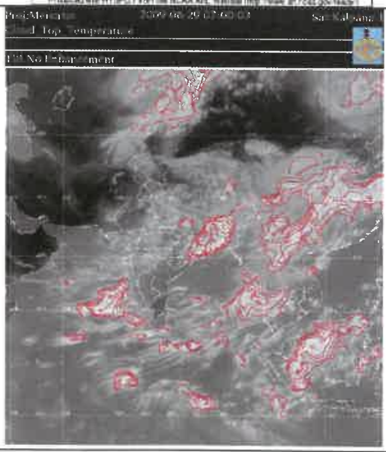

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 29 Jun 2009 wind (kt)

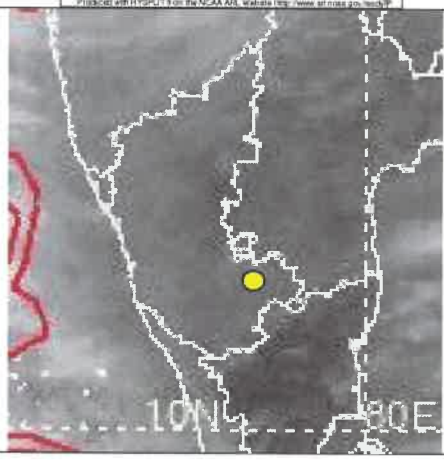

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 29 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 29 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 29 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 29 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL

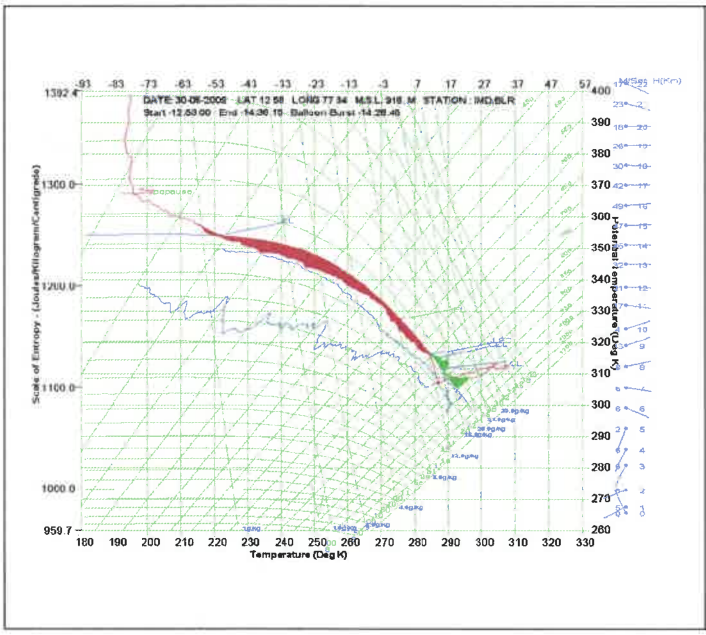


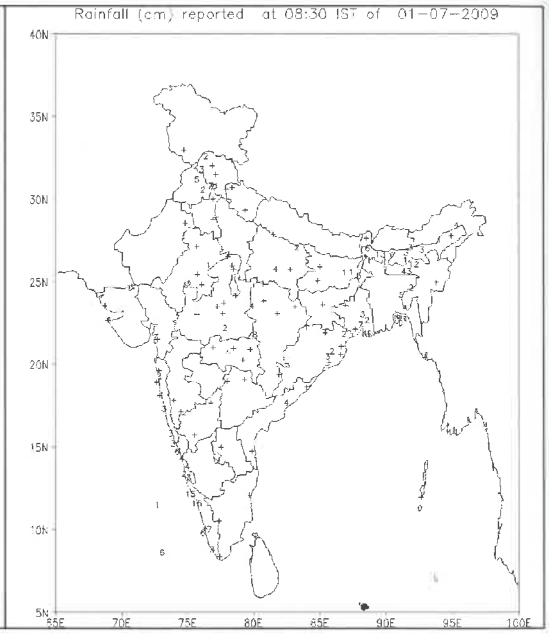

10N
80E

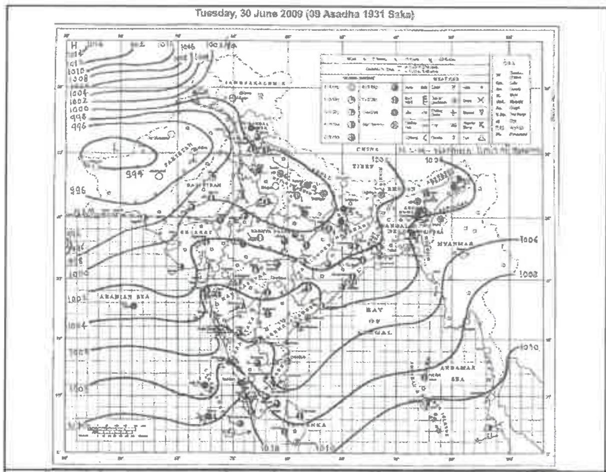
30 Jun 2009 (Base Bengaluru)

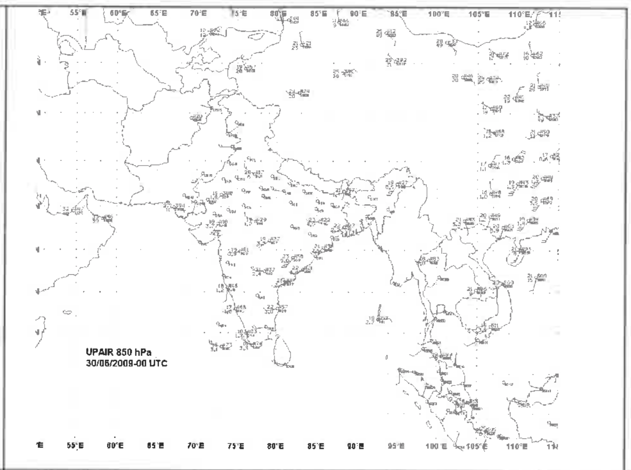
- Southwest monsoon has further advanced into remaining parts of Uttar Pradesh and Uttarakhand, entire Jammu & Kashmir, Himachal Pradesh, Delhi, some more parts of east Rajasthan and many parts of Punjab and Haryana.
- The northern limit of southwest monsoon passes through Lat. 25.0°N / Long. 60.0°E and Lat. 25.0°N / Long. 65.0°E, Udaipur, Jaipur, Pilani, Hissar, Ludhiana and Jammu.
- Off-shore trough at mean sea level extends from Konkan coast to Kerala coast,
- KALPANA – 1 Cloud Imagery at 1430 hours IST shows convective clouds over parts of south and central Arabian Sea, southeast Bay of Bengal, Andaman Sea and West Bengal & Sikkim Bihar and east Uttar Pradesh. Low/medium clouds are seen over central, east, northeast India, parts of Peninsular and northwest India.

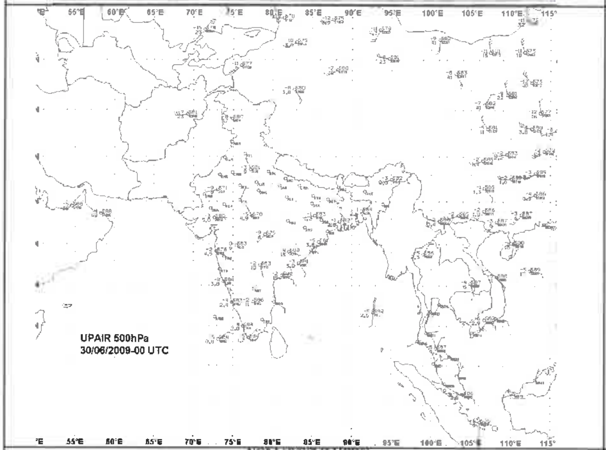
- ***Flight :*** Nil
- ***Station : Bengaluru***

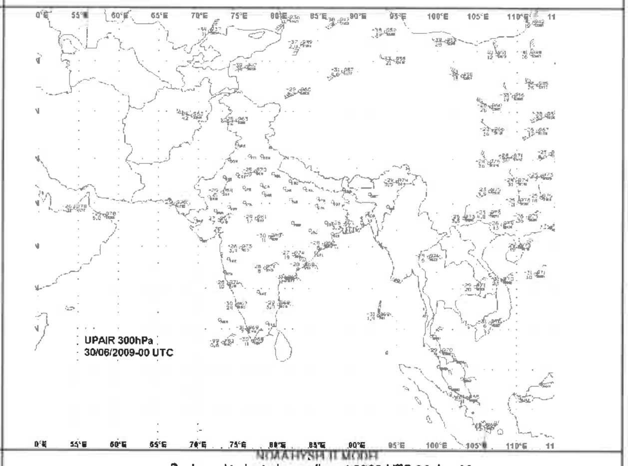


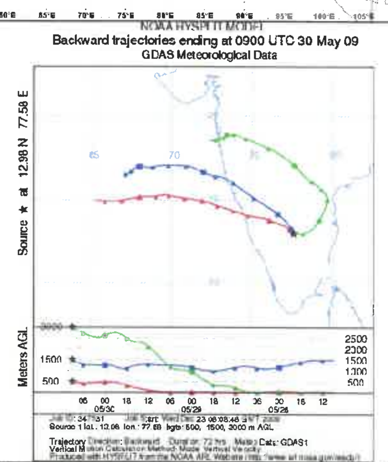


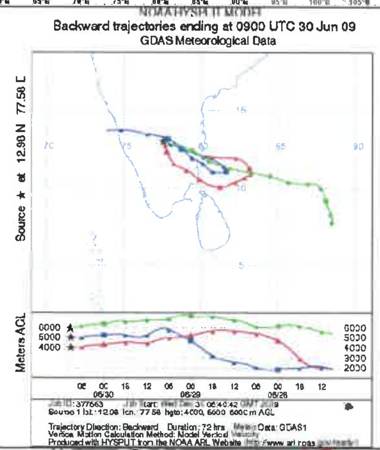

Tuesday, 30 June 2009 (09 Asadha 1931 Saka)

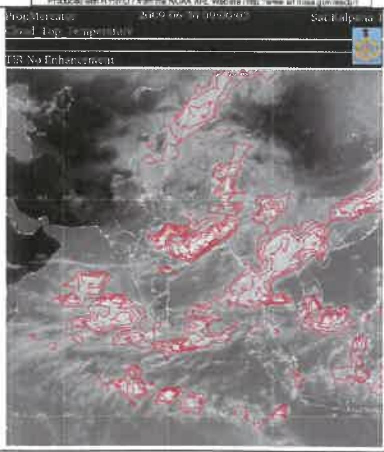

UPAIR 850 hPa
30/06/2009-00 UTC

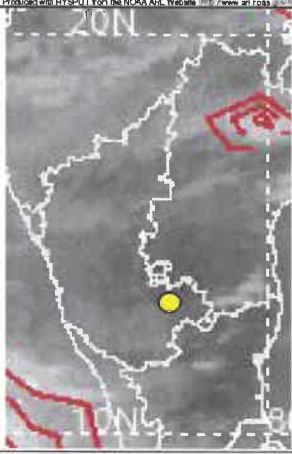

UPAIR 500hPa
30/06/2009-00 UTC


UPAIR 300hPa
30/06/2009-00 UTC


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 May 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 Jun 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters ACL


Proj:Mercator
Cloud Top Temperature
TIR No Enhancement

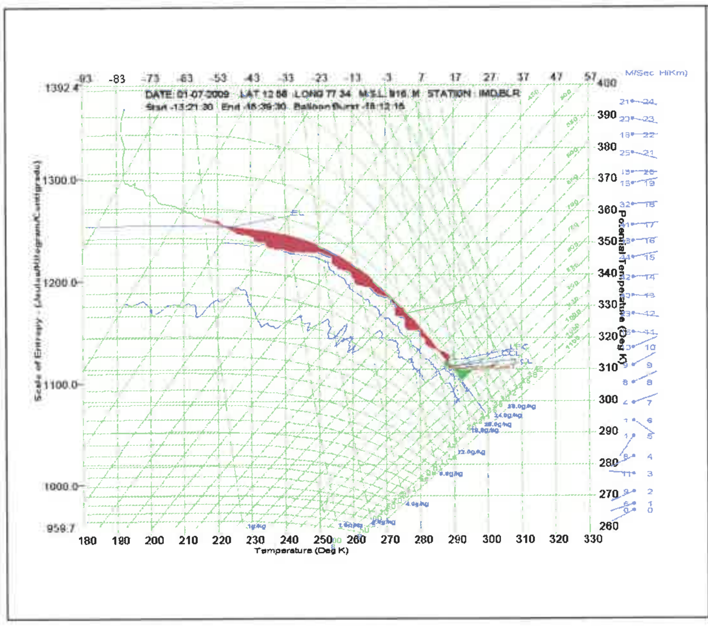

20N

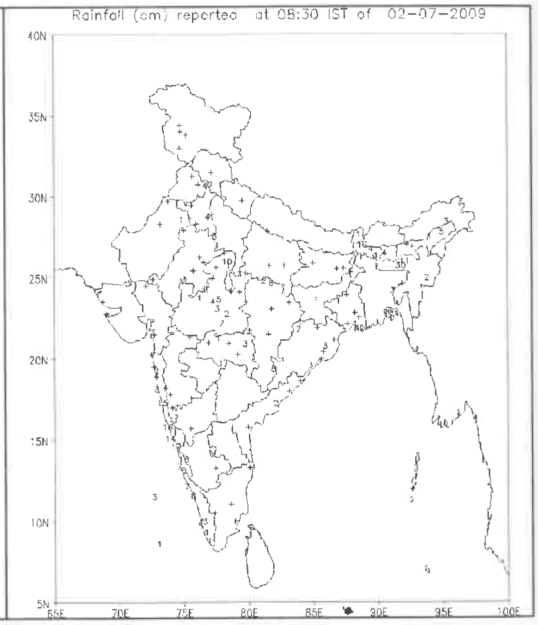
1 July 2009

Weather summary :

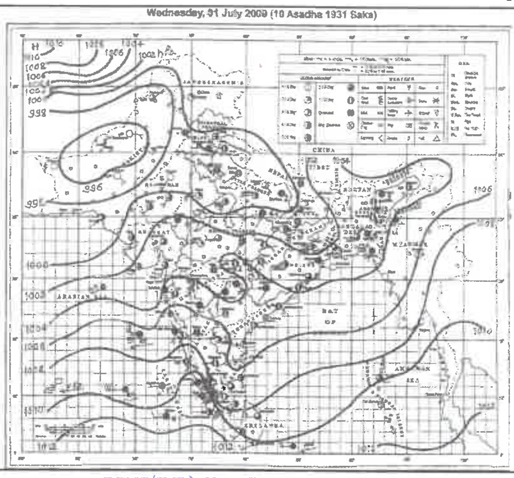
- Southwest monsoon has further advanced into remaining parts of Punjab & Haryana and isolated parts of north Rajasthan.
- The northern limit of southwest monsoon passes through Lat. 25.0°N / Long. 60.0°E and Lat. 25.0°N / Long. 65.0°E, Udaipur, Jaipur, Pilani, Hissar and Ganganagar.
- Under the influence of an off-shore trough extending from north Konkan coast to Kerala coast

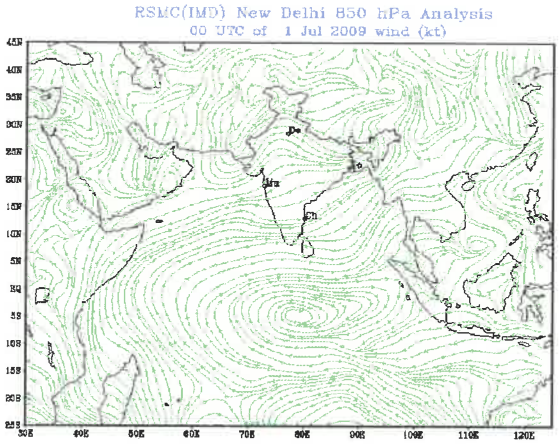
- Station : Bengaluru
- Engine on 13:500
- Engine off : 15:35

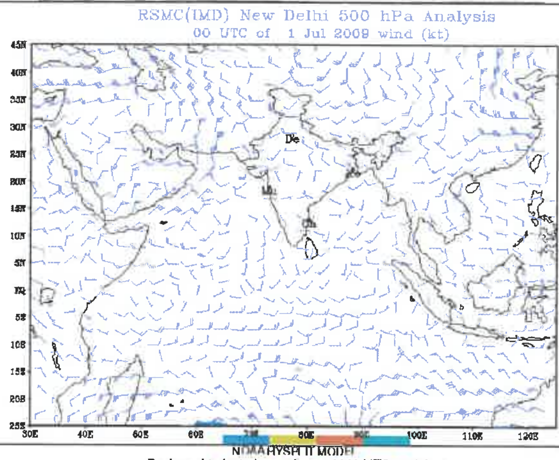


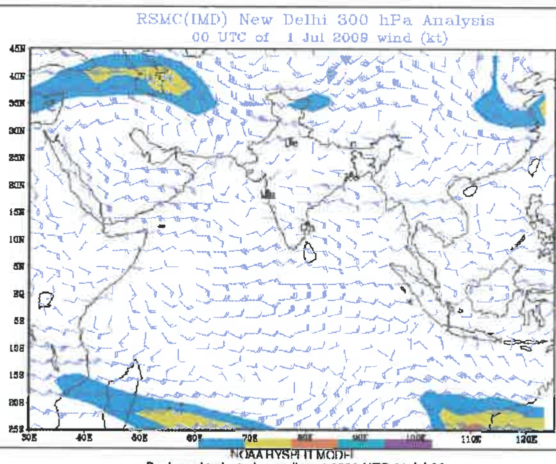


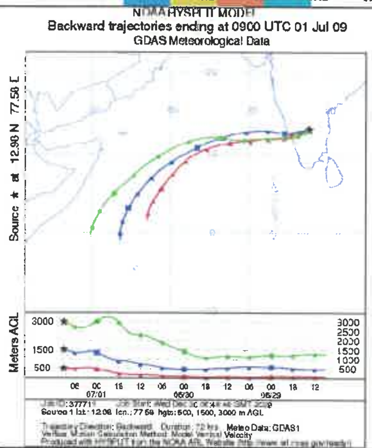
1 July 2009

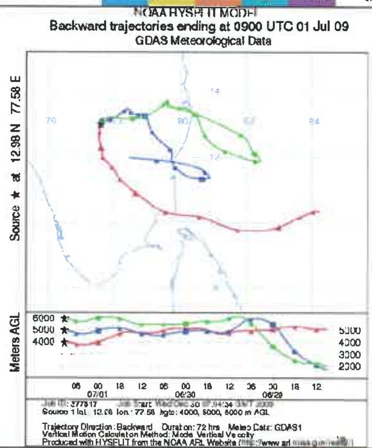

Wednesday, 01 July 2009 (10 Asadha 1931 Saka)

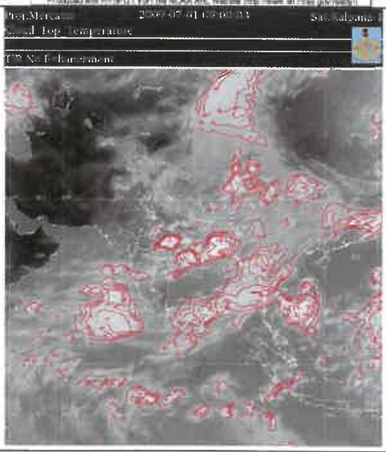

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 1 Jul 2009 wind (kt)

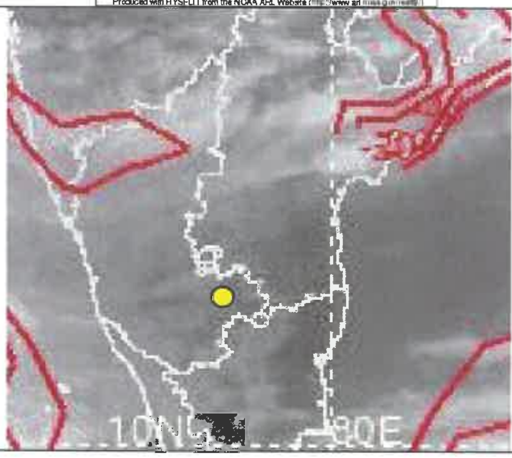

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 1 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 1 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL





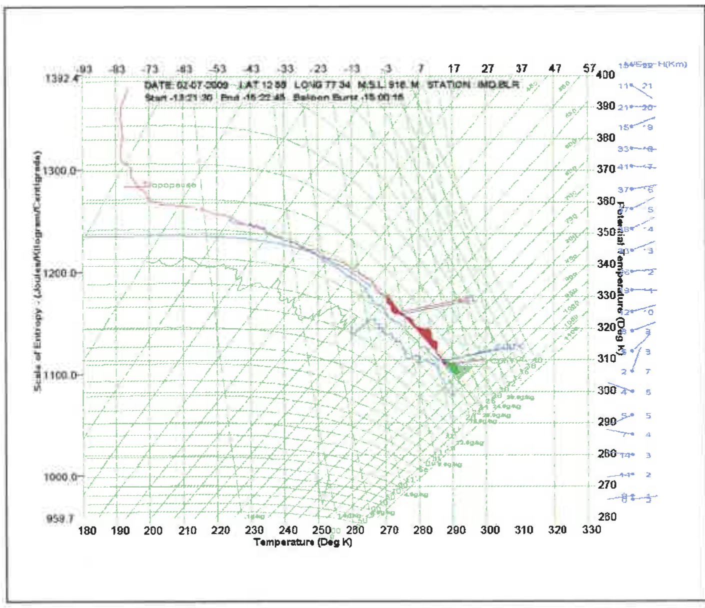
2 July 2009 (Base Bengaluru)

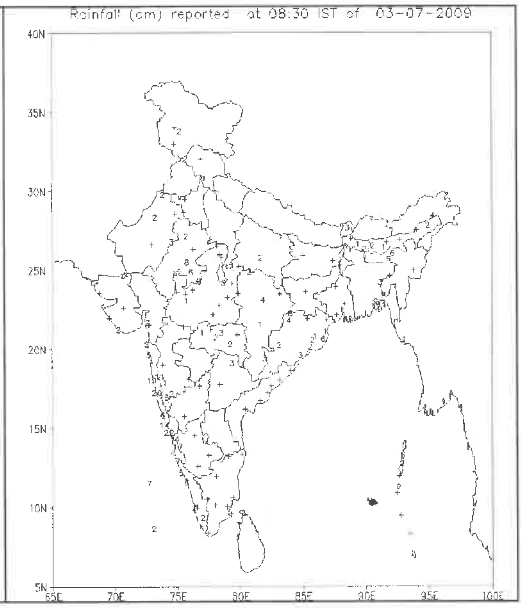
Weather summary :

- The northern limit of southwest monsoon passes through Lat. 25.0°N / Long. 60.0°E and Lat. 25.0°N / Long. 65.0°E, Udaipur, Jaipur, Pilani, Hissar and Ganganagar till date.
- Off-shore trough extends from Konkan coast to Kerala coast

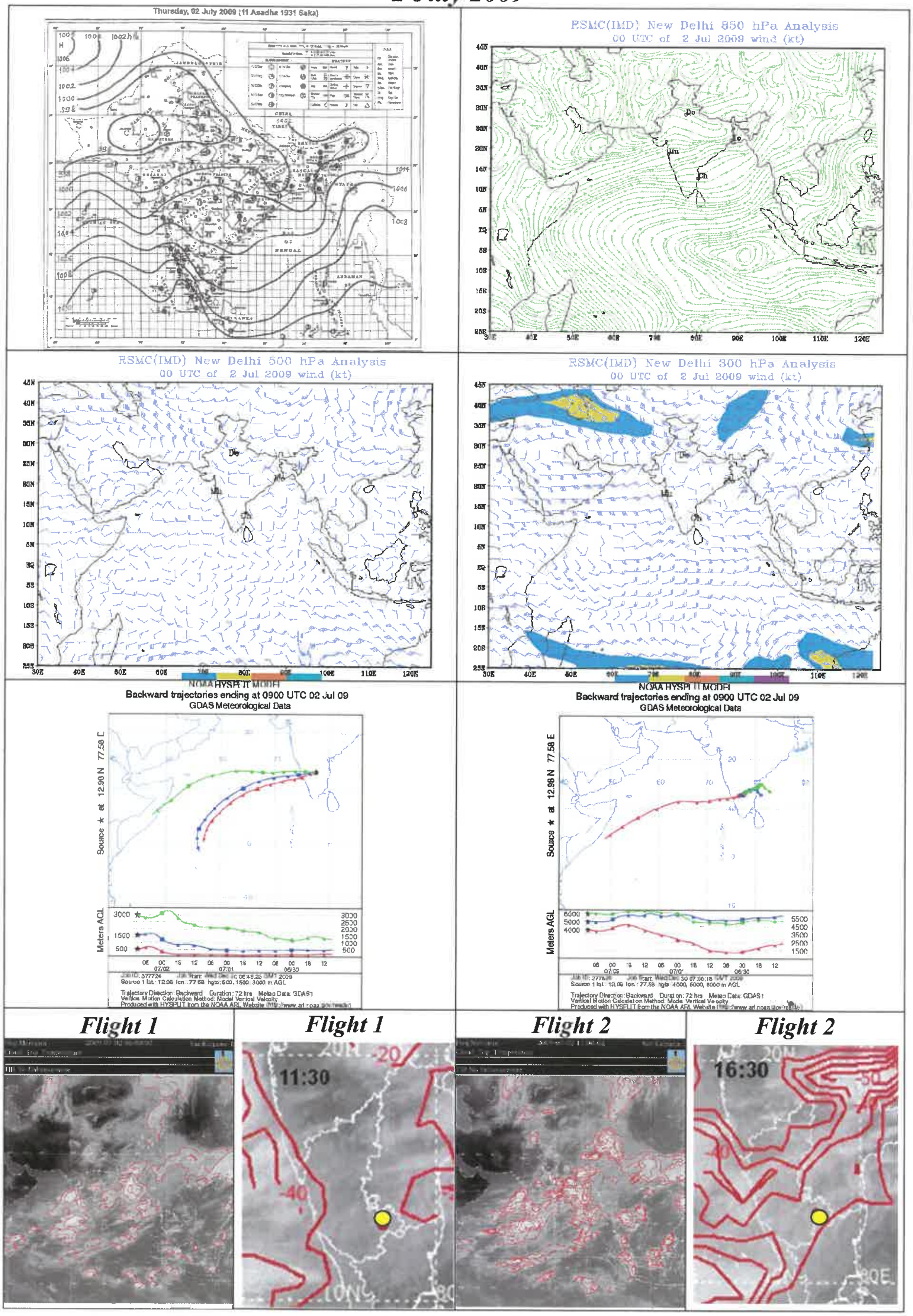
Flights :

• Station : Bengaluru • Engine on 11:30 • Engine off : 12:30	• Station : Bengaluru • Engine on 15:20 • Engine off : 16:50





2 July 2009

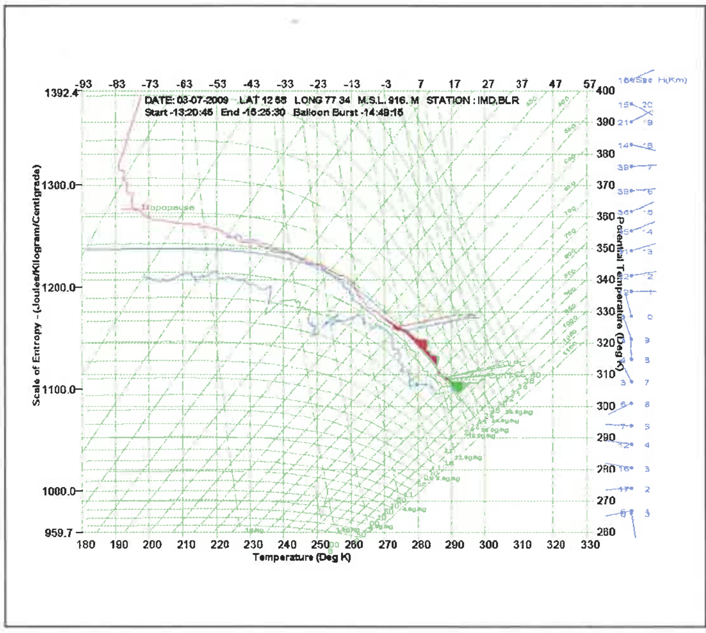

Thursday, 02 July 2009 (11 Asadha 1931 Saka)
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 2 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 2 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 2 Jul 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 02 Jul 09
GDAS Meteorological Data
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 02 Jul 09
GDAS Meteorological Data
Meters AGL
Flight 1
Flight 1
11:30
Flight 2
Flight 2
16:30

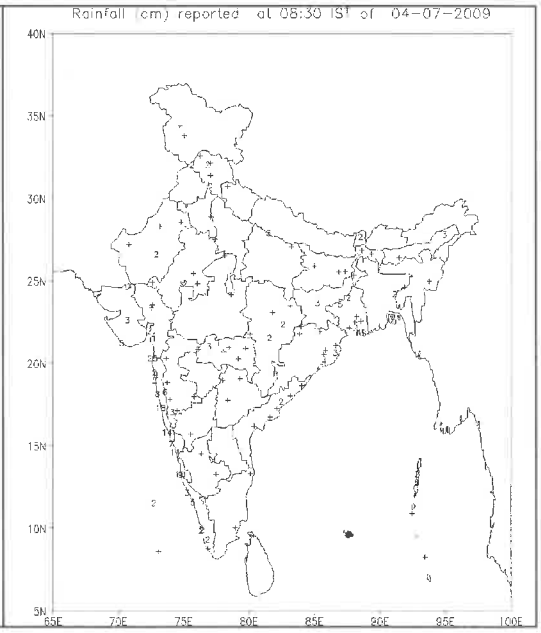
3 July 2009 (Base Bengaluru)

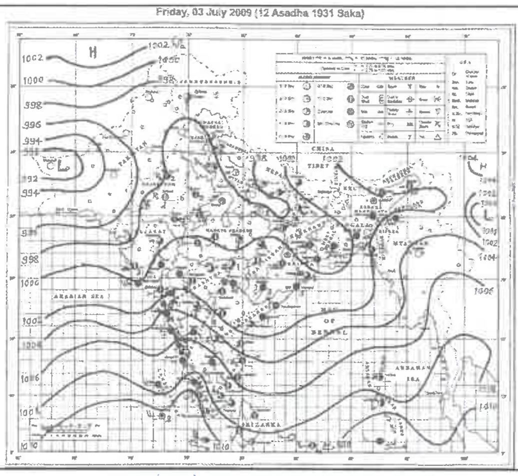
Weather summary :

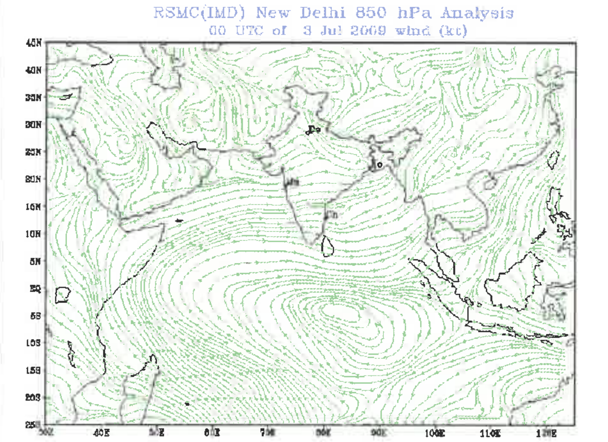
- Southwest Monsoon has further advanced today into the remaining parts of Rajasthan and thus covered the entire country.
- Off-shore trough extends from Konkan coast to Kerala coast,

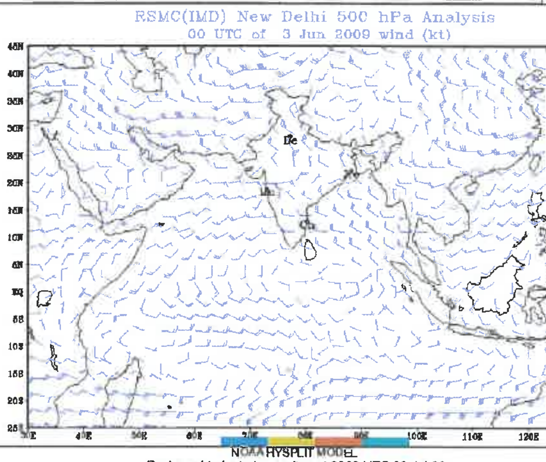
- Station : Bengaluru
- Engine on 11:55
- Engine off : 14:35

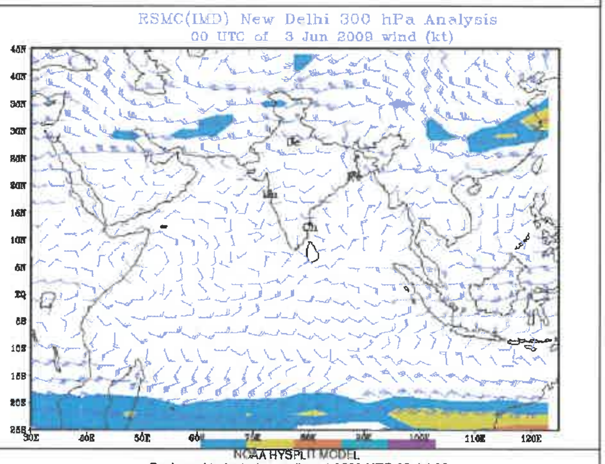


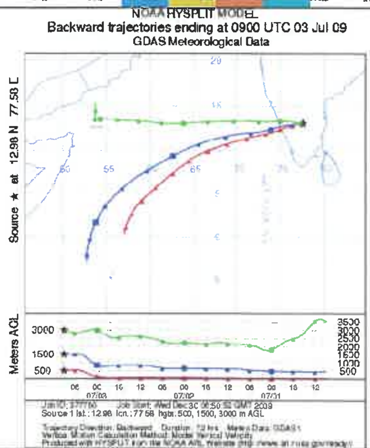


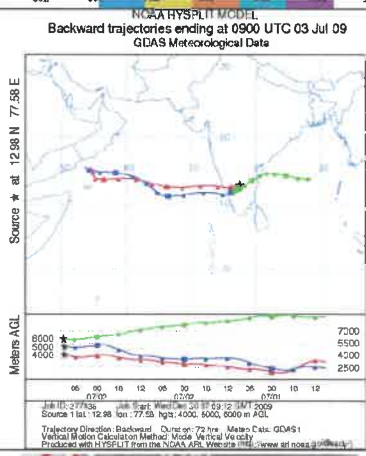

Friday, 03 July 2009 (12 Asadha 1931 Saka)

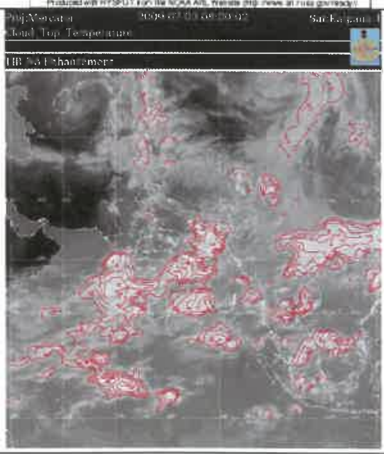

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 3 Jul 2009 wind (kt)

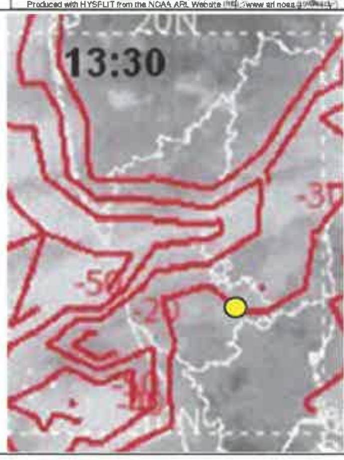

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 3 Jun 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 3 Jun 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 03 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 03 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL

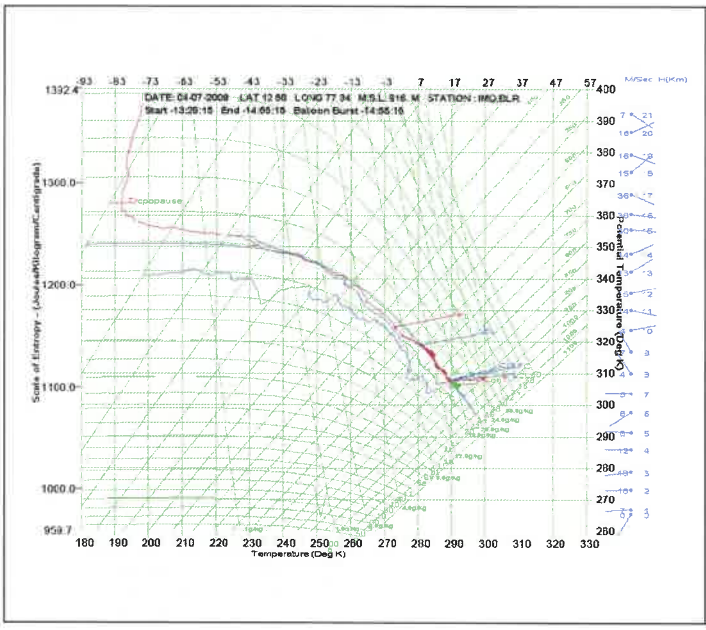


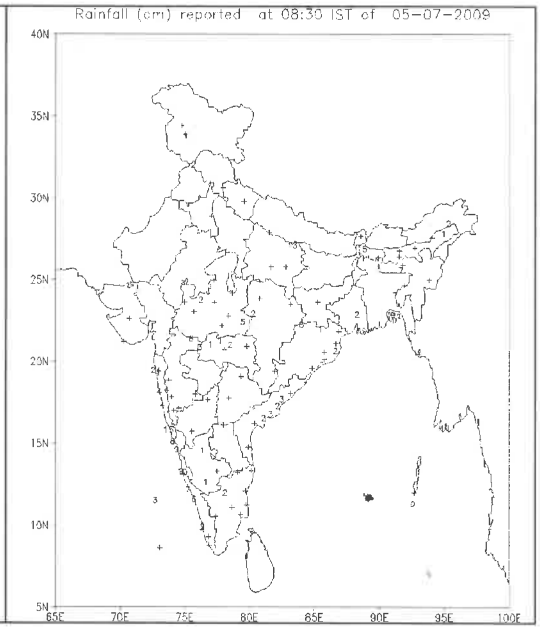

13:30

4 July 2009 (Base Bengaluru)

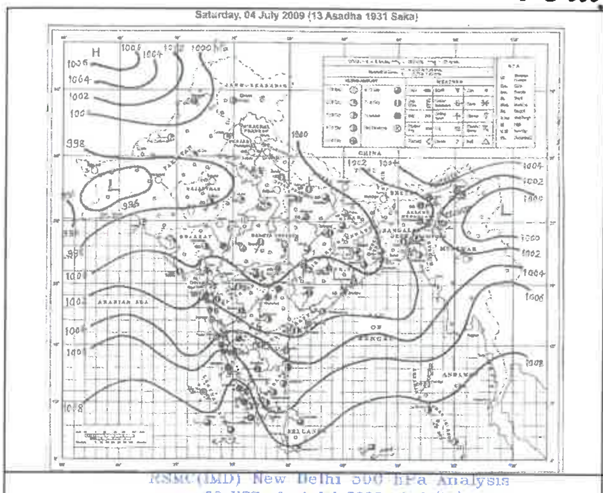
Weather summary :

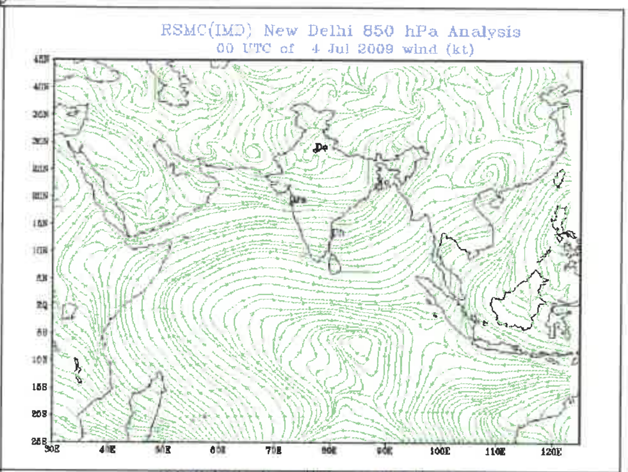
- Monsoon is vigorous along the west coast and over Assam & Meghalaya.
- Rainfall has occurred at most places over Konkan & Goa, Coastal Karnataka and at many places over interior Karnataka, Kerala, West Bengal & Sikkim, Orissa, Chhattisgarh, Jharkhand and Vidarbha upto 0830 hours IST of today, the 4th July 2009.
- Chief amounts of rainfall ($\geq$5 cm) are: Dahanu-25, Cherrapunji-19, Ratnagiri-18, Panjim, Marmagoa, Shirali-14, Agumbe-13, Honavar, Bulsar-11, Panambur-10, Mangalore-9, Karwar, Harnai-7, Lucknow, Madikeri-6, Veraval, Kozhikode, Long Island, Daltonganj, Bankura-5 each.
- The axis of monsoon trough passes through Bikaner, Gwalior, Sidhi, Ambikapur, Chandbali and thence southeastwards to eastcentral Bay of Bengal.
- Off-shore trough extends from Konkan coast to Kerala coast

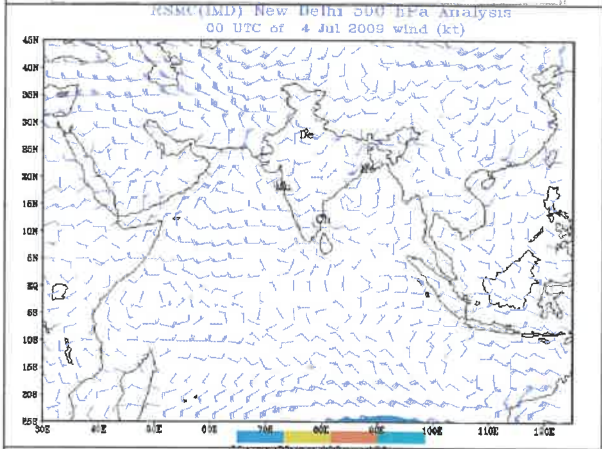


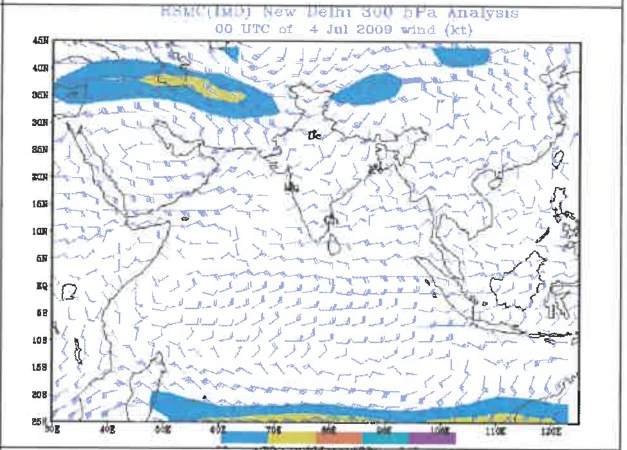


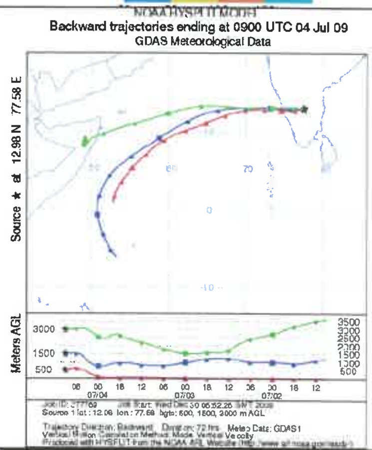
4 July 2009

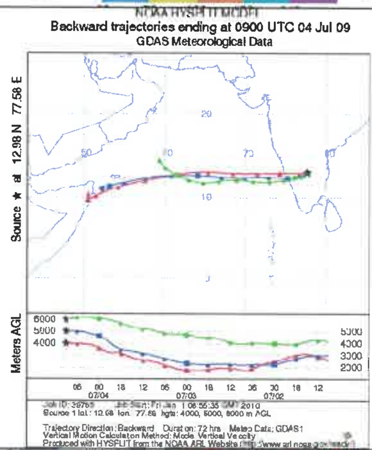

Saturday, 04 July 2009 (13 Asadha 1931 Saka)

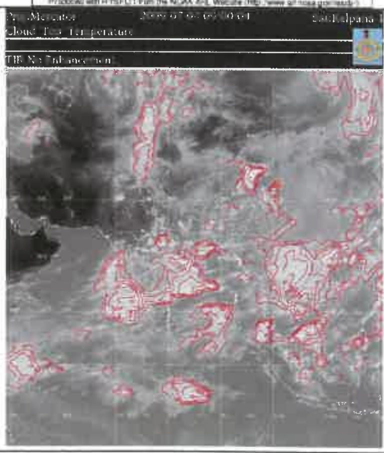

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 4 Jul 2009 wind (kt)

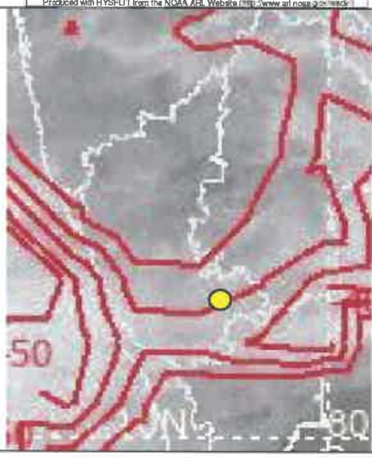

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 4 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 4 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 04 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 04 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL



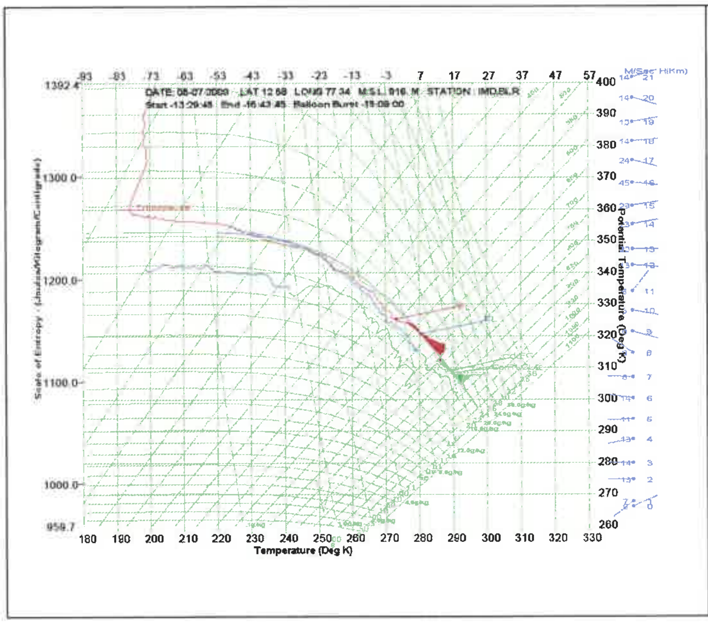

-50

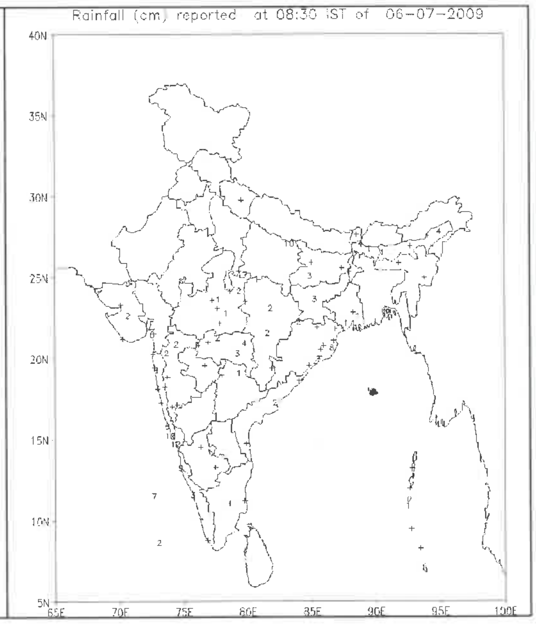
5 July 2009 (Base Bengaluru)

Weather summary :

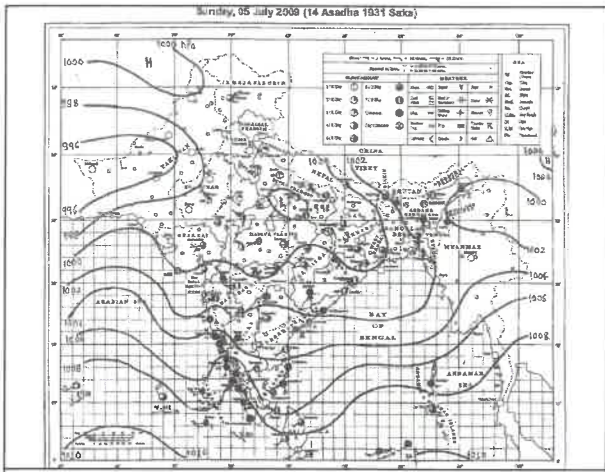
- Monsoon is vigorous over Konkan & Goa and Sub-Himalayan west Bengal & Sikkim and active over coastal Andhra Pradesh and coastal & south interior Karnataka.
- Rainfall has occurred at most places over west coast and at many places over central and northeast India, interior south Peninsula and Orissa during past 24 hours.
- Chief Amounts of rainfall (≥7 cm) are : Mumbai (Scz)-24, Panaji and Jalpaiguri-15, Mumbai (Clb) and Gorakhpur-13, Manglore-10, Marmagoa, Honabar and Pananbur -9, Karwar-8, Cannur,Jharsuguda, Cherrapunji and Bhawanipatnam-7.
- The axis of monsoon trough passes through Anoopgarh, Alwar, Fatehpur, Daltonganj, Digha and thence southeastwards to eastcentral Bay of Bengal.
- An off-shore trough extends from Konkan coast to Kerala coast,

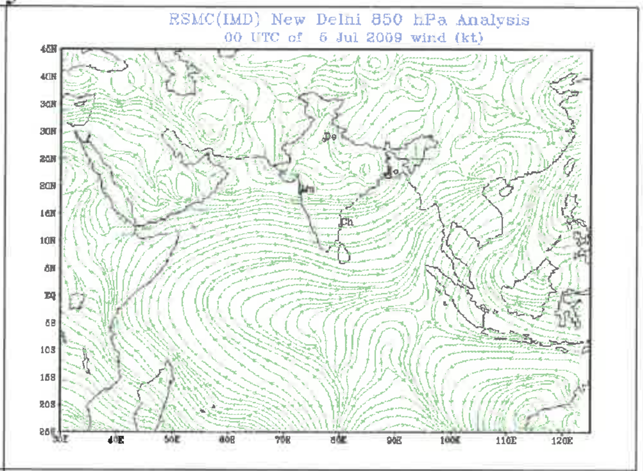
- Station : Bengaluru
- Engine on 11:55
- Engine off : 15:10

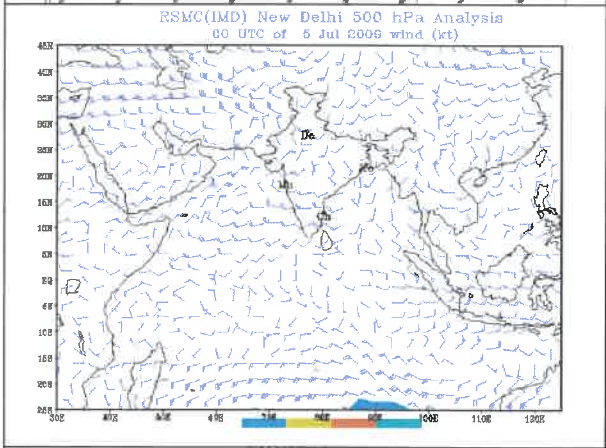


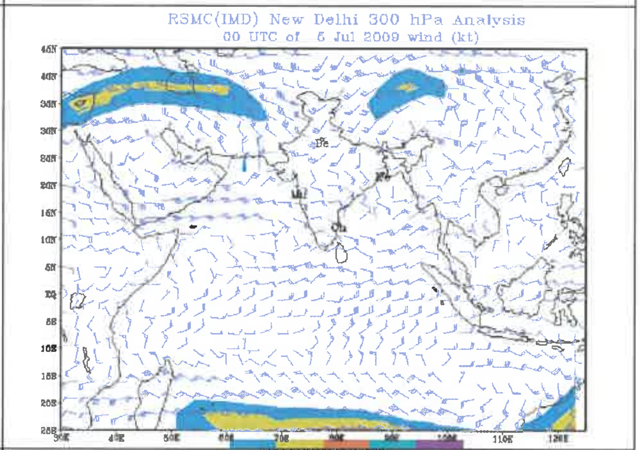


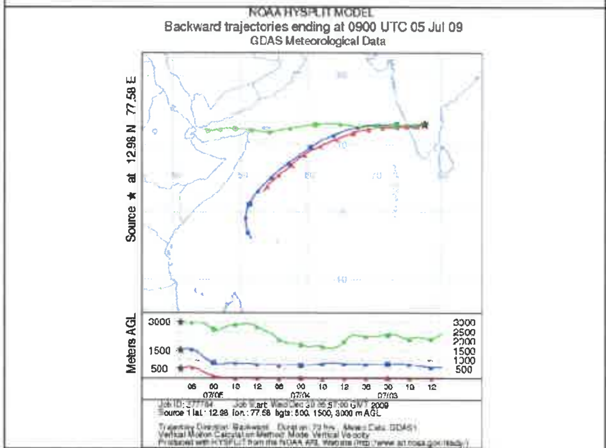
5 July 2009

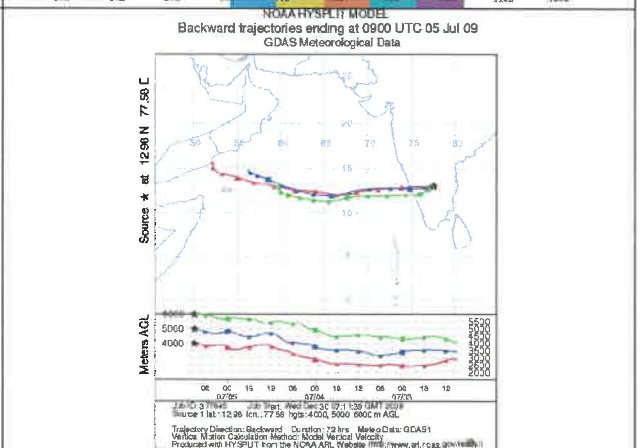

Sunday, 05 July 2009 (14 Asadha 1931 Saka)

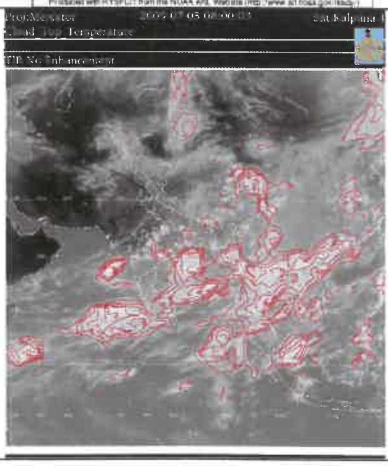

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 5 Jul 2009 wind (kt)

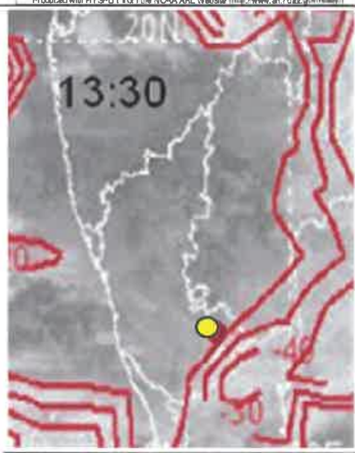

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 5 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 5 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 05 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 05 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL




20N
13:30

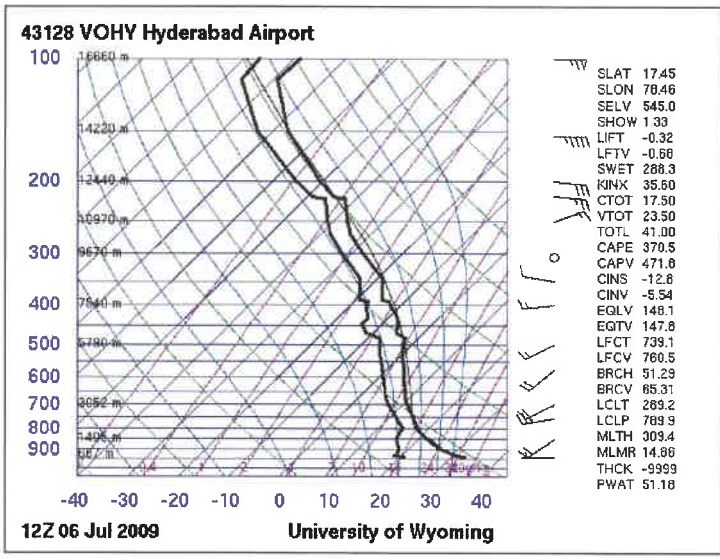
6 July 2009 (Base Bengaluru)

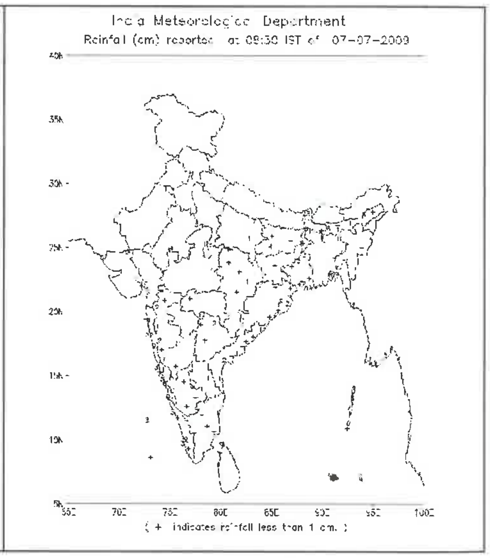
Weather summary :

- The axis of monsoon trough at mean sea level passes through Bikaner, Gwalior, Rewa, center of the low pressure area, Digha and thence southeastwards to eastcentral Bay of Bengal.
- Off-shore trough extends from south Gujarat coast to Kerala coast
- The low pressure area over Jharkhand and Neighbourhood persists

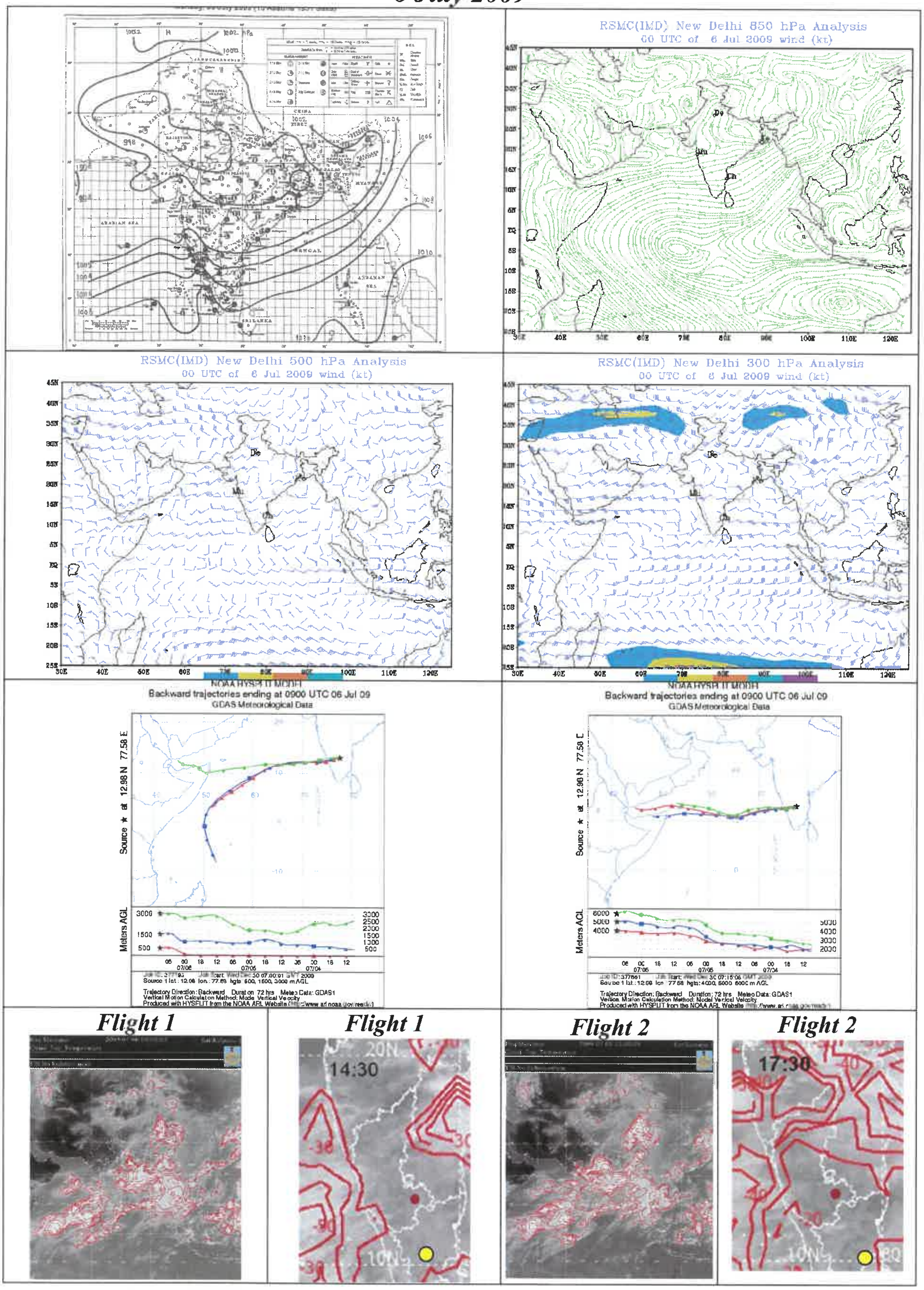
Flight

• Station : Bengaluru • Engine on 13:10 • Engine off : 16:20	• Station : Bengaluru • Engine on 17:15 • Engine off : 18:25





6 July 2009



RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 6 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 6 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 6 Jul 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 06 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 06 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
Flight 1
Flight 1
14:30
Flight 2
Flight 2
17:30

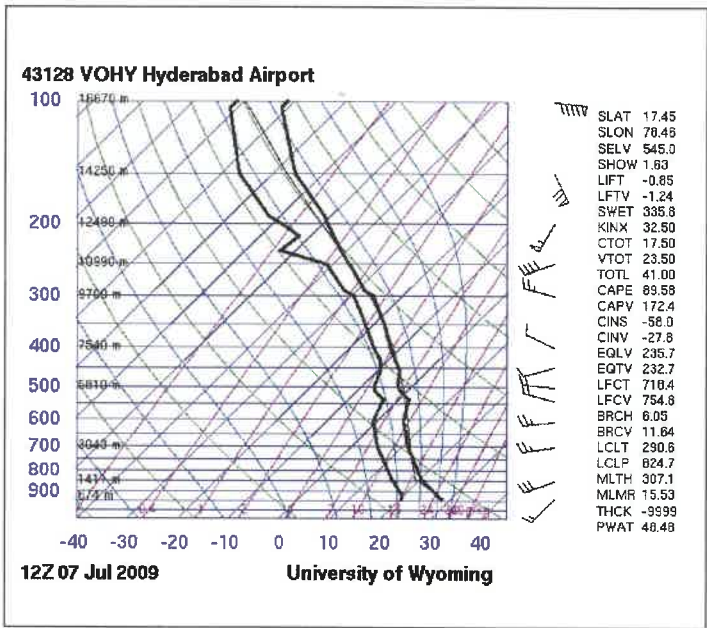
7 July 2009 (Base Bengaluru)

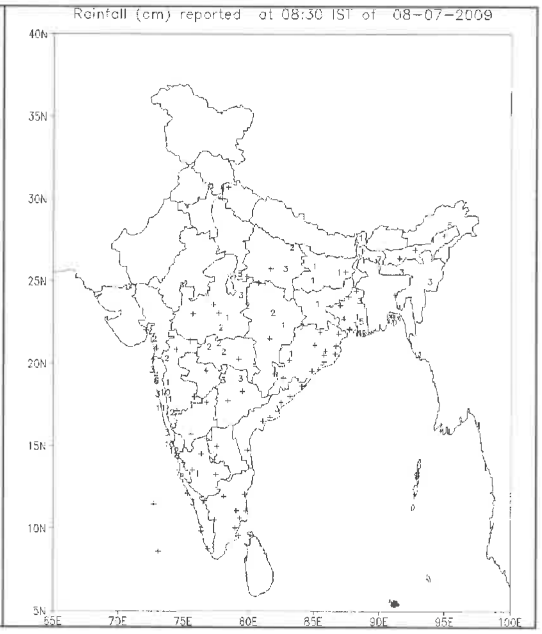
Weather summary :

- The axis of monsoon trough at mean sea level passes through Phalodi, Gwalior, Varanasi, center of the low pressure area, Digha and thence southeastwards to eastcentral Bay of Bengal.
- Off-shore trough extends from south Gujarat coast to north Kerala coast
- The low pressure area over Jharkhand and Neighbourhood persists.

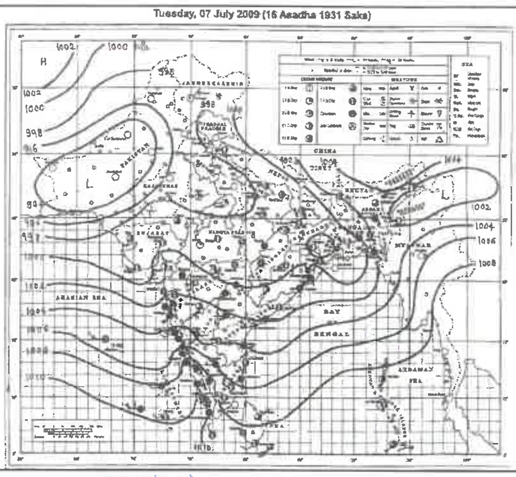
Flight :

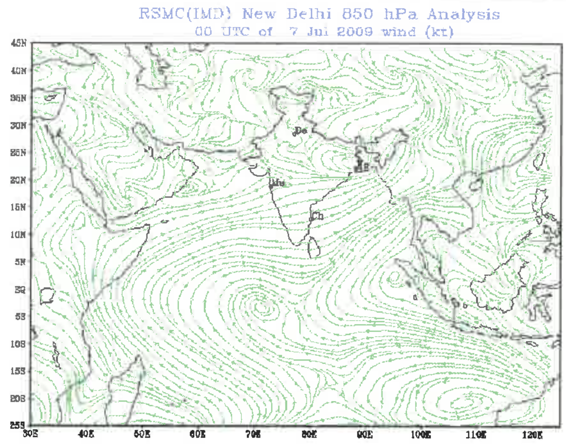
- Station : Bengaluru
- Engine on : 11:40
- Engine off : 15:20

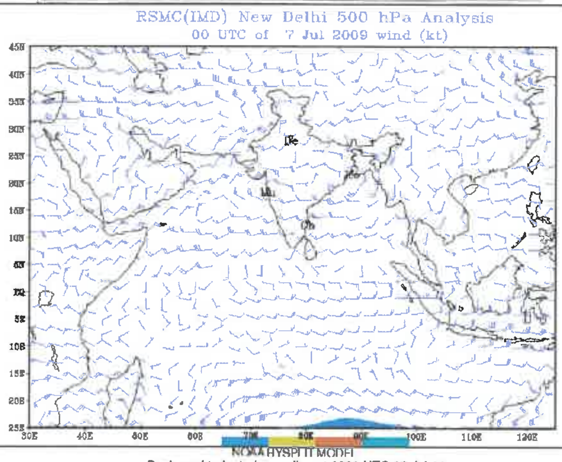


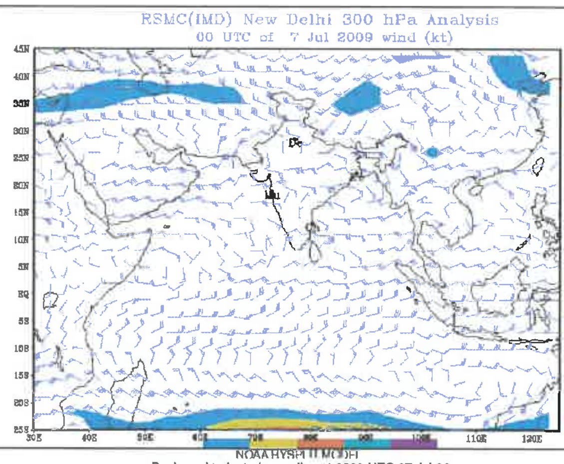


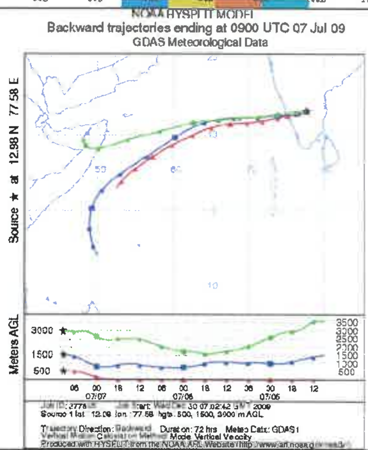
7 July 2009

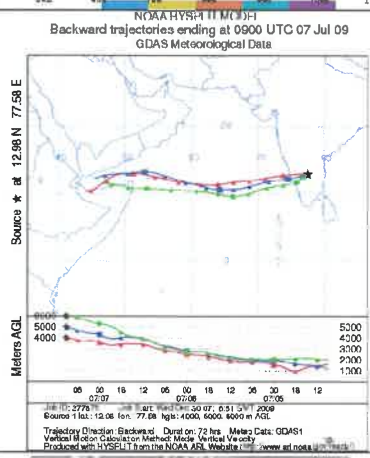

Tuesday, 07 July 2009 (16 Asadha 1931 Saka)

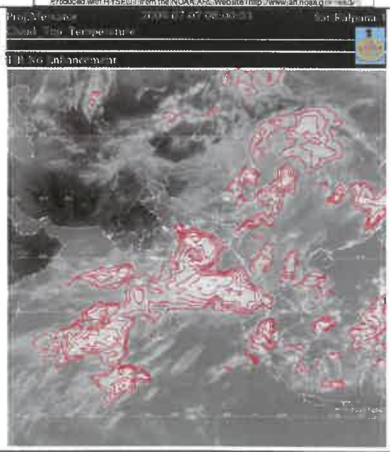

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 7 Jul 2009 wind (kt)

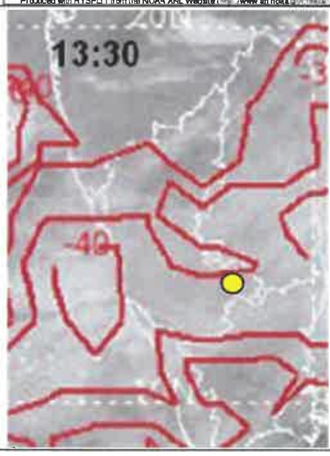

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 7 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 7 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 07 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 07 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL



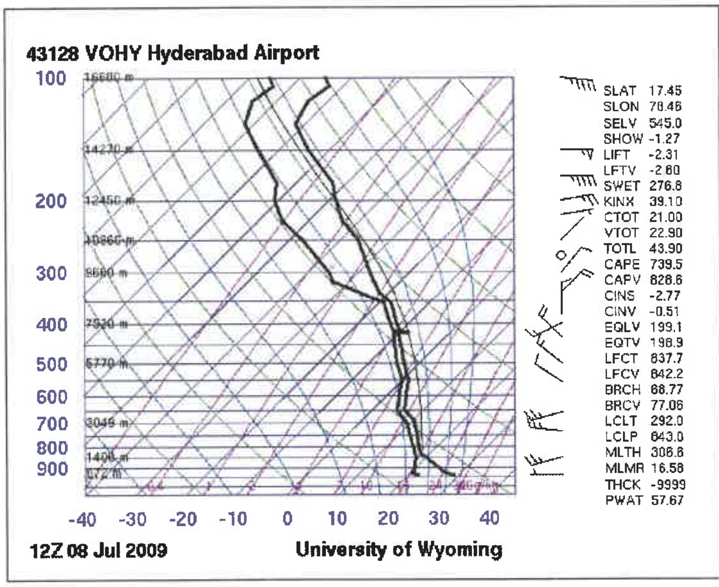

13:30

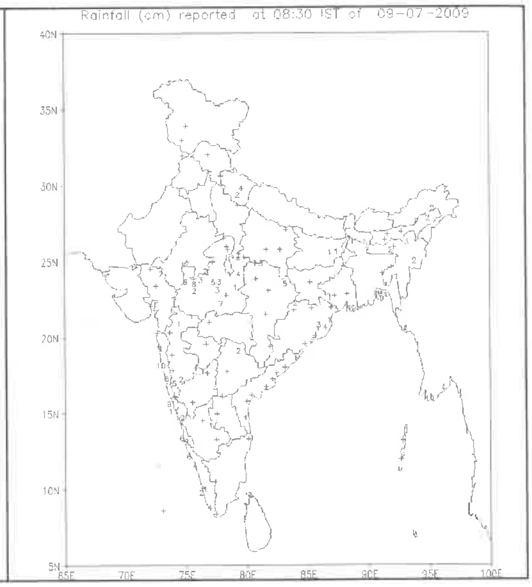
8 July 2009 (Base Bengaluru)

Weather summary :

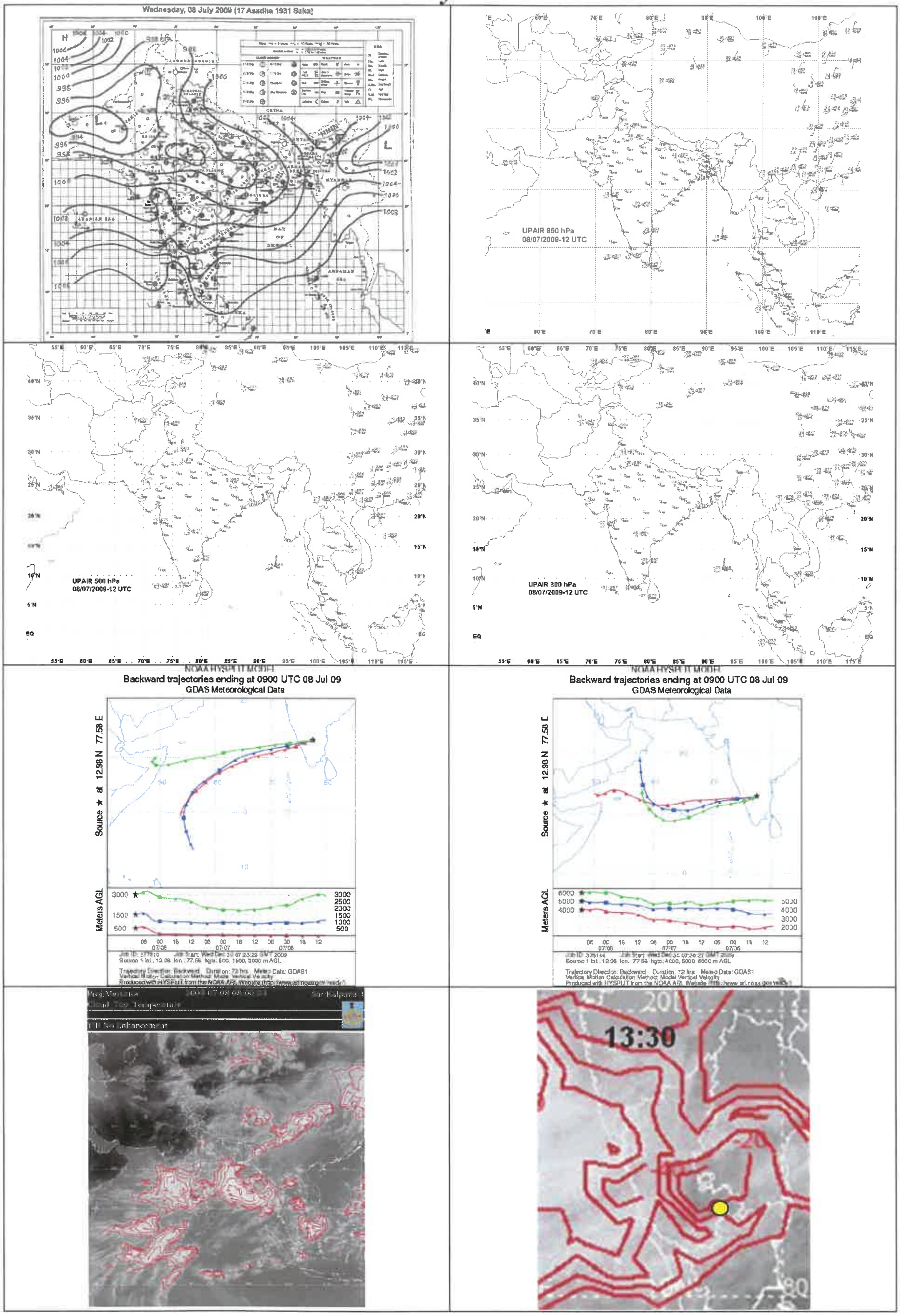
- The axis of monsoon trough at mean sea level passes through Bikaner, Jhansi, Satna, Dhanbad, Sagar Island and thence southeastwards to eastcentral Bay of Bengal.
- Fairly widespread rainfall activity over many parts of east and central India
- The maximum temperatures are more than 40.0°C over Rajasthan and parts of Punjab, Haryana & Delhi, which are 5 - 7°C above normal.

- Station : Bengaluru
- Engine on : 11:40
- Engine off : 14:50
-





8 July 2009


Wednesday, 08 July 2009 (17 Asadha 1931 Saka)
UPAIR 850 hPa
08/07/2009-12 UTC
UPAIR 500 hPa
08/07/2009-12 UTC
UPAIR 300 hPa
08/07/2009-12 UTC
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 08 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 08 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL
13:30

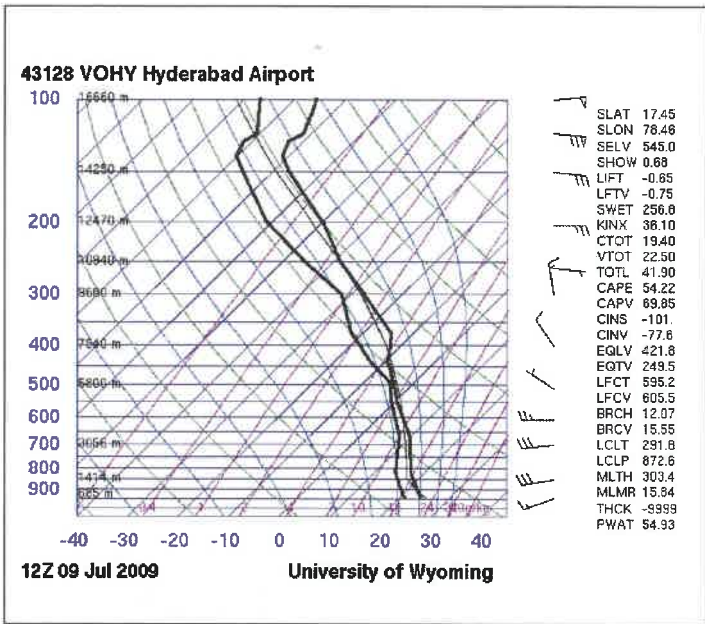
9 July 2009 (Base Bengaluru)

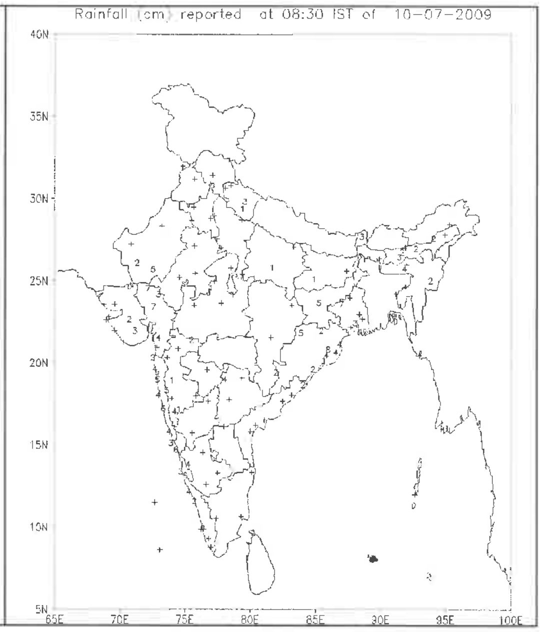
Weather summary :

- The axis of monsoon trough at mean sea level passes through Phulodi, Ajmer, Shivpuri, Satna, Ambikapur, Balasore and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥7 cm) recorded at 0830 hours IST of today are : Honavar-11, Karwar-12, Harnai-10, Goa (Doblim)-9, Manglore, Ratnagiri-8, Mahabaleshwer, Idar, Tikamgarh, Ujjain, Panjim, N. Lakhimpur-7 each.

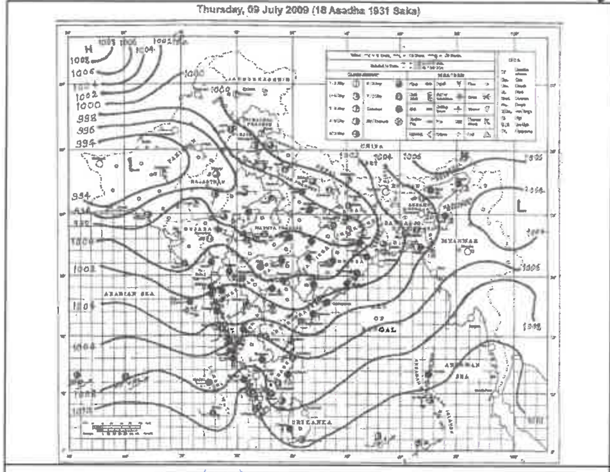
Flight : ***Nil***

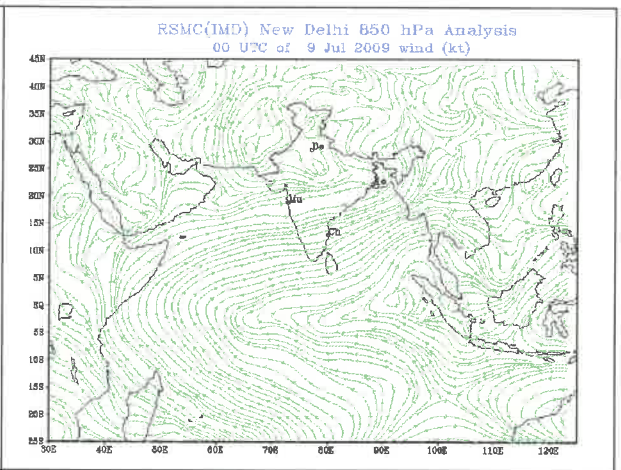
Station Bengaluru

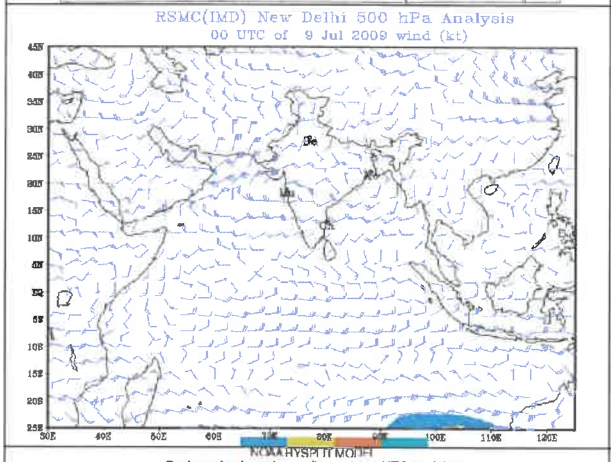


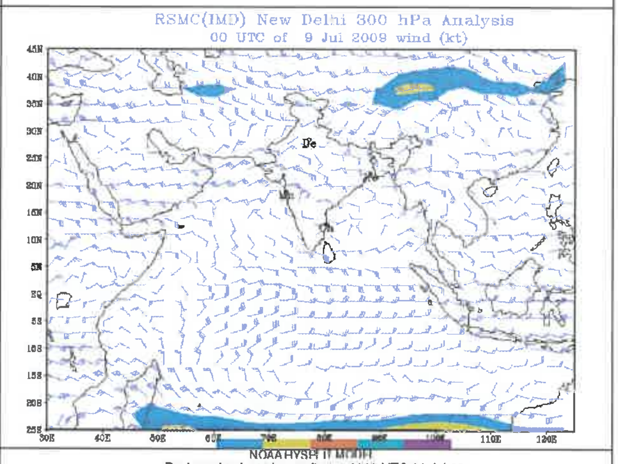


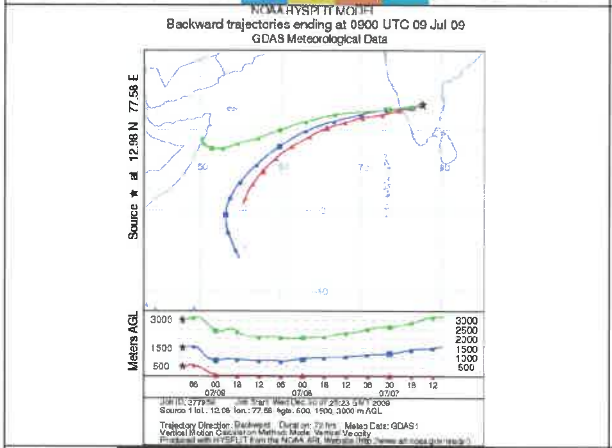
9 July 2009

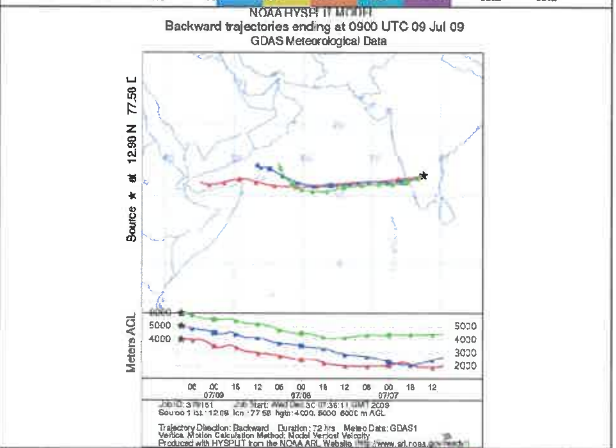

Thursday, 09 July 2009 (18 Asadha 1931 Saka)

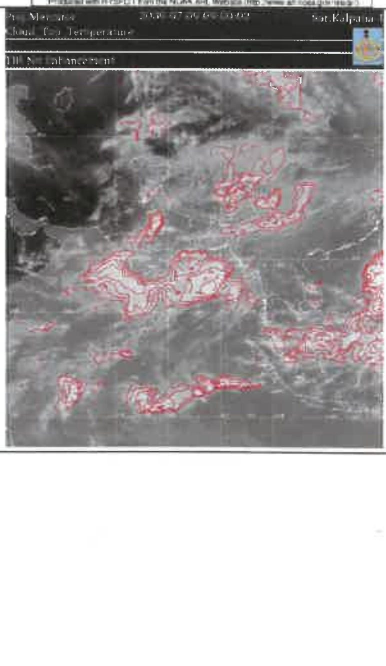

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 9 Jul 2009 wind (kt)

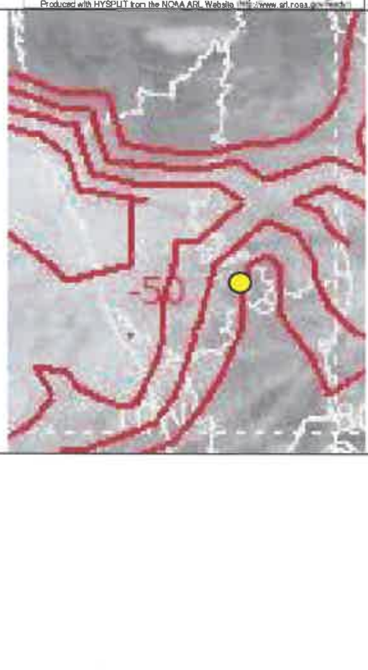

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 9 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 9 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 09 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 09 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature


-50

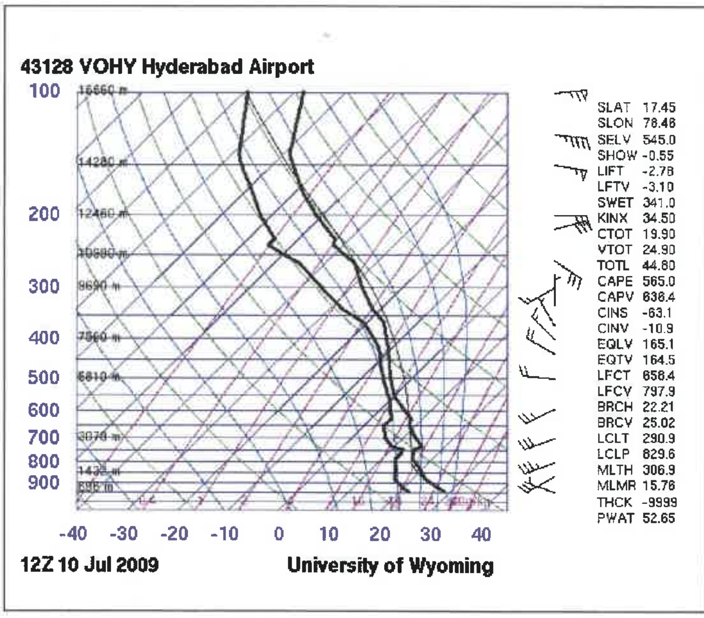
10 July 2009 (Base Bengaluru)

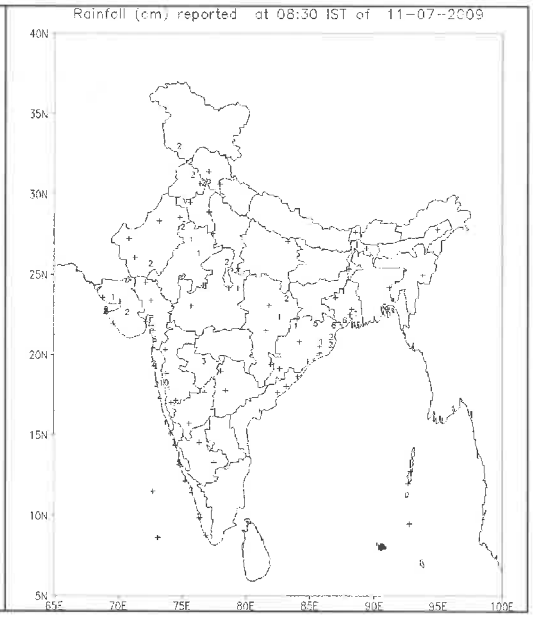
Weather summary :

- The axis of monsoon trough at mean sea level passes through Jaisalmer, Ajmer, Rewa, Daltonganj, Sagar Island and thence southeastwards to eastcentral Bay of Bengal and extending upto 4.5 Km above mean sea level tilting southward with height.
- An upper air cyclonic circulation over west Madhya Pradesh extends upto mid-tropospheric level,
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north and adjoining central Arabian Sea, northwest Bay of Bengal, Saurashtra & Kutch and Rajasthan. Low/medium clouds are seen over parts of western Himalayan region, west, central, east, northeast and Peninsular India.

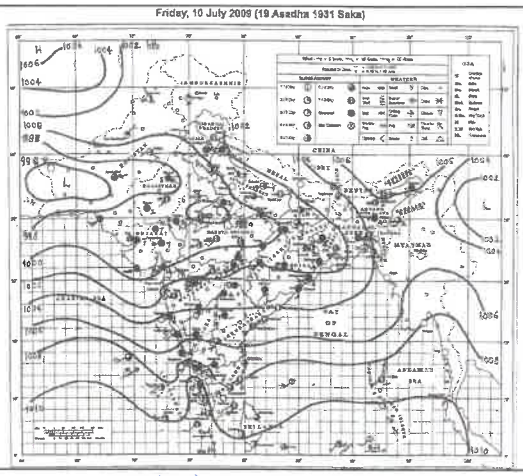
Flight : *Nil*

Station Bengaluru

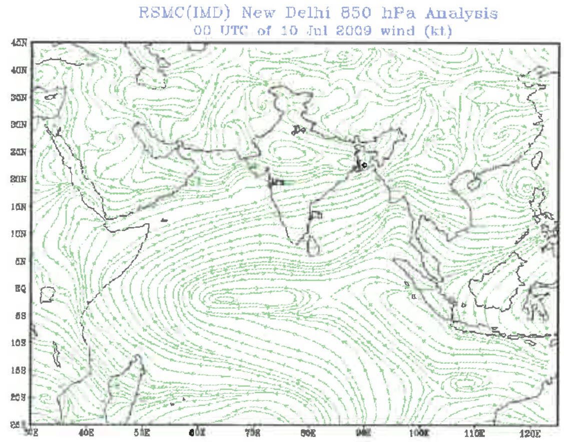




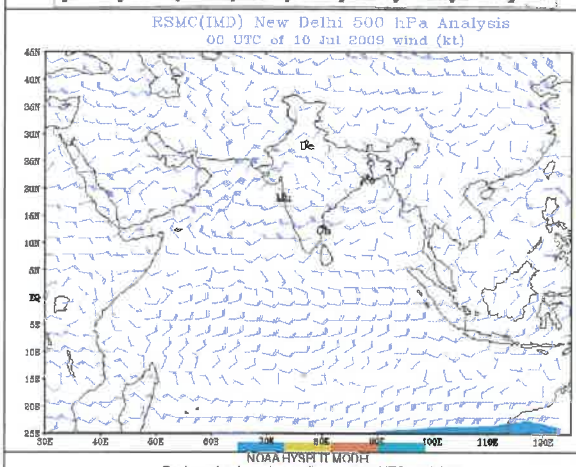
10 July 2009



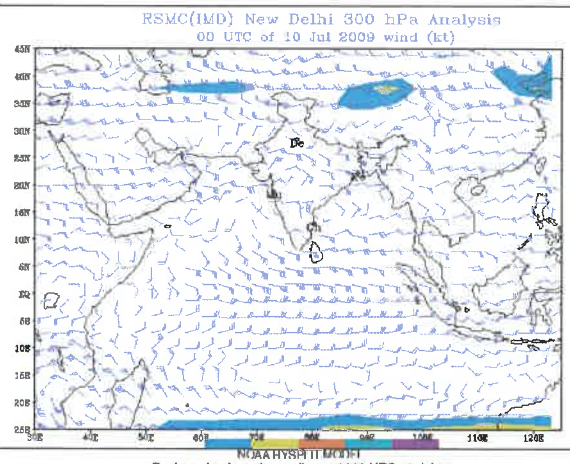
Friday, 10 July 2009 (19 Asadha 1931 Saka)



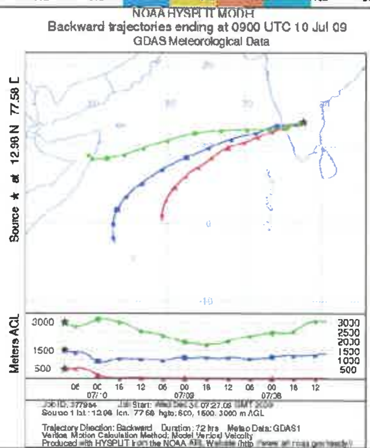
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 10 Jul 2009 wind (kt)



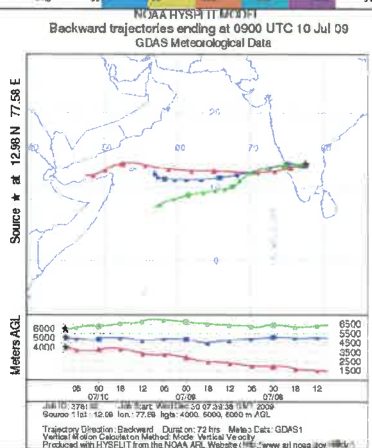
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 10 Jul 2009 wind (kt)



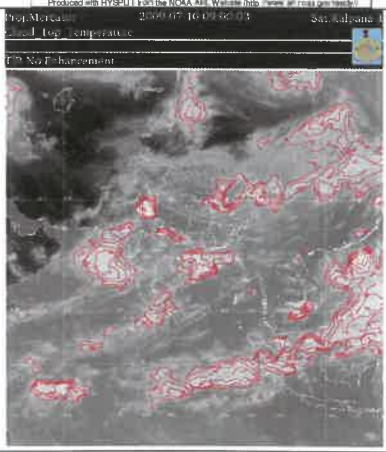
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 10 Jul 2009 wind (kt)

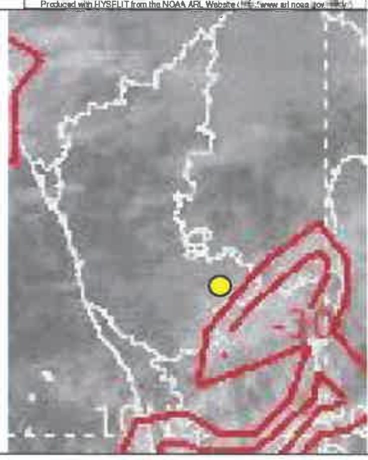


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 10 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL



NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 10 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL





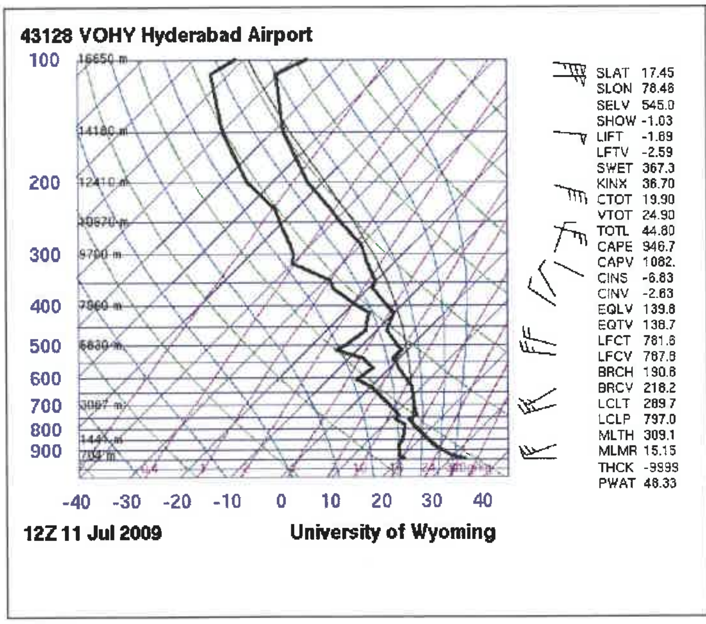
11 July 2009 (Base Bengaluru)

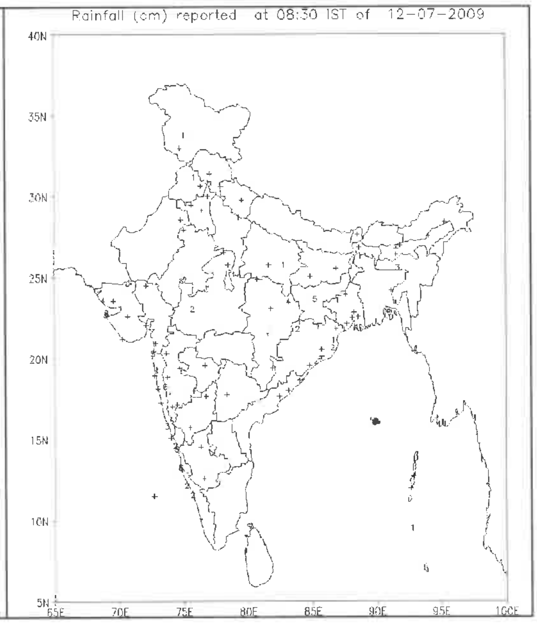
Weather summary :

- The axis of monsoon trough is south of its normal position at mean sea level and passes through Bikaner, Alwar, Kanpur, Hazaribagh, Midnapur, Digha and thence southeastwards to eastcentral Bay of Bengal.
- An upper air cyclonic circulation over Rajasthan and neighbourhood extends upto mid-tropospheric level,
- An upper air cyclonic circulation over Jharkhand and neighbourhood extends upto mid-tropospheric level,
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north and adjoining central Arabian Sea, northwest Bay of Bengal and south Andaman Sea. Low/medium clouds are seen over parts of Rajasthan, Haryana, western Himalayan region, west, central, east, northeast and Peninsular India.

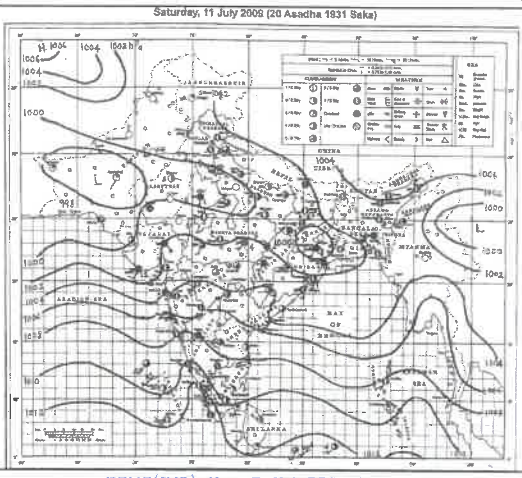
Flight ;

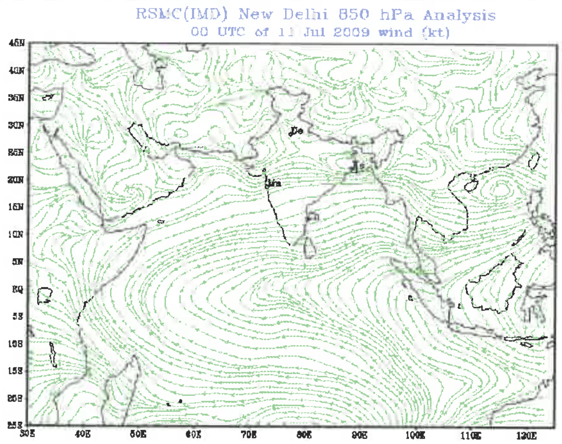
- Station : Bengaluru
- Engine on : 12:50
- Engine off : 13:10

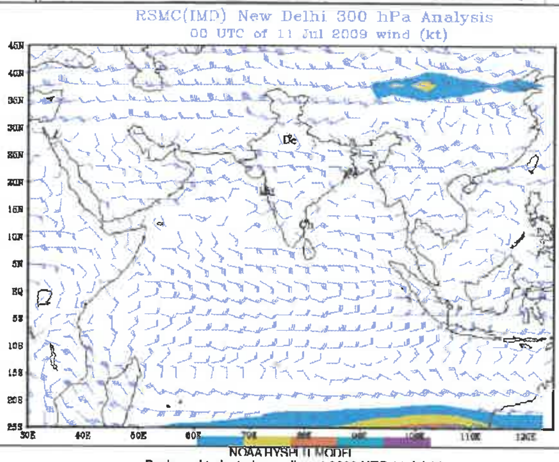


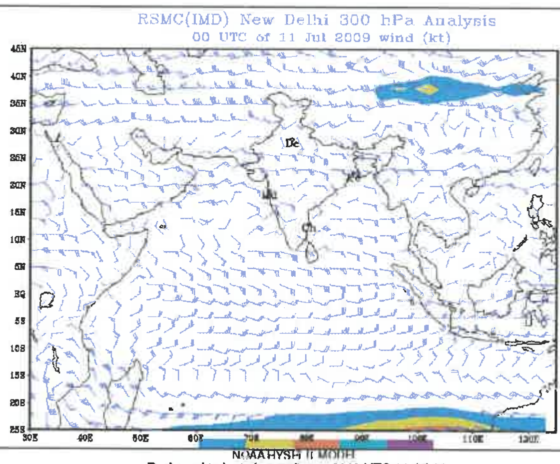


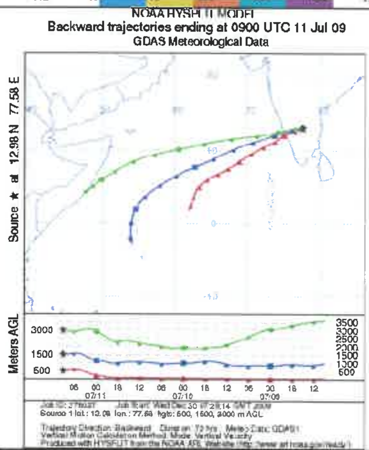
11 July 2009

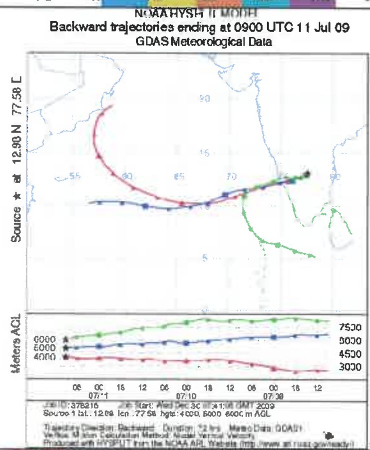

Saturday, 11 July 2009 (20 Asadha 1931 Saka)

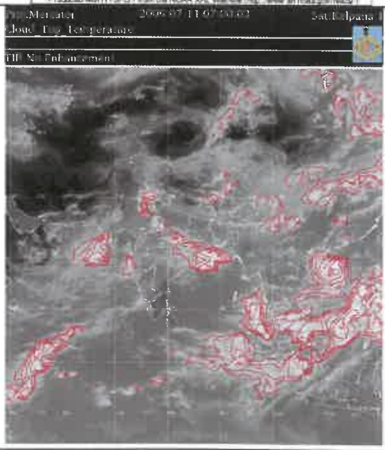

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 11 Jul 2009 wind (kt)

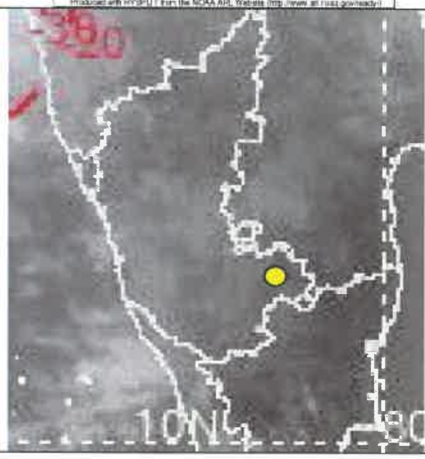

RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 11 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 11 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 11 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 11 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


Cloud Top Temperature


10N

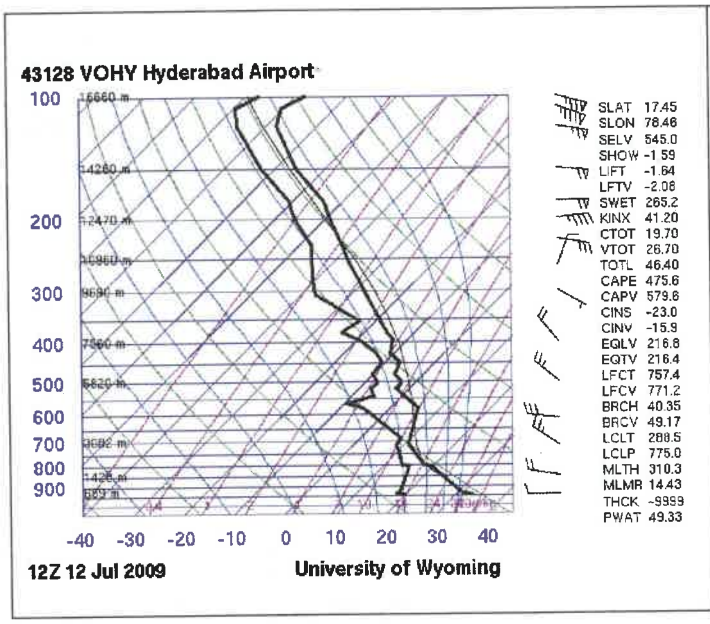
12 July 2009 (Base Bengaluru)

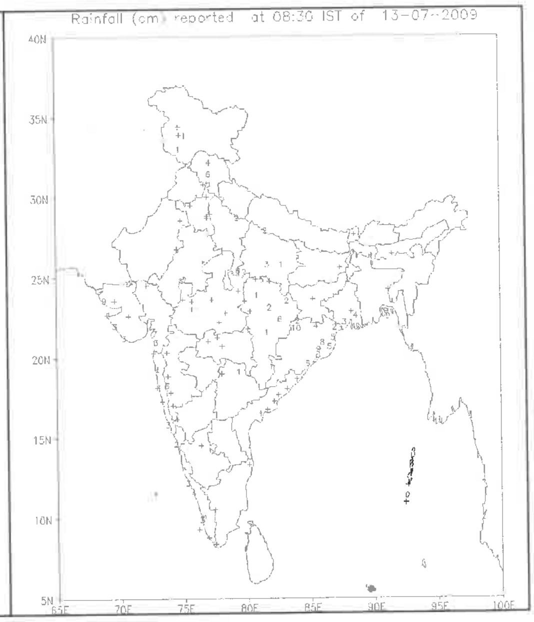
Weather summary :

- The axis of monsoon trough at mean sea level passes through Anupgarh, Hissar, Lucknow, Dhanbad, Digha and thence southeastwards to eastcentral Bay of Bengal
- The upper air cyclonic circulation over coastal areas of West Bengal and north Orissa & adjoining north Bay of Bengal extending upto mid-tropospheric level persists.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north and west central Arabian Sea, north & adjoining central Bay of Bengal, Andaman Sea, Orissa, Chhattisgarh and Uttar Pradesh. Low/medium clouds are seen over parts of western Himalayan region, west, central, east, northeast and Peninsular India.

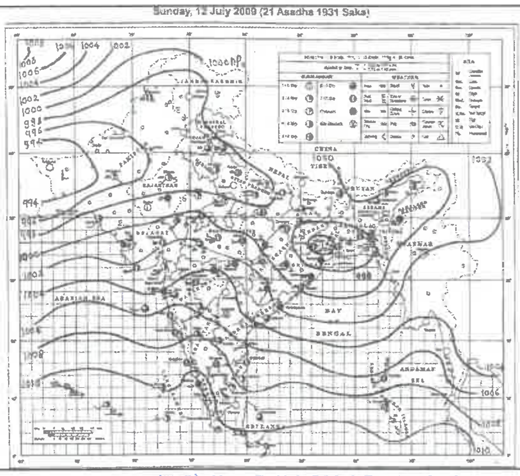
Flight ***: Nil***

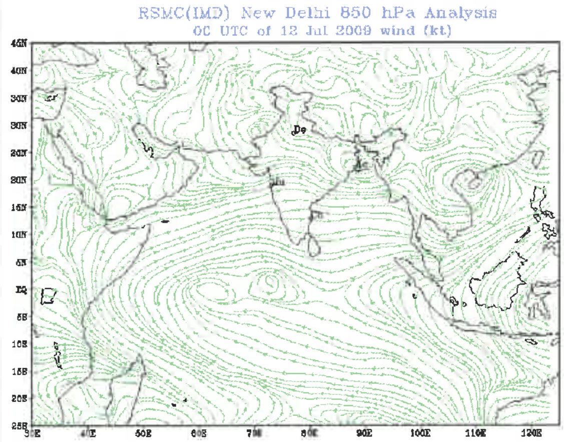
Station **:** Bengaluru

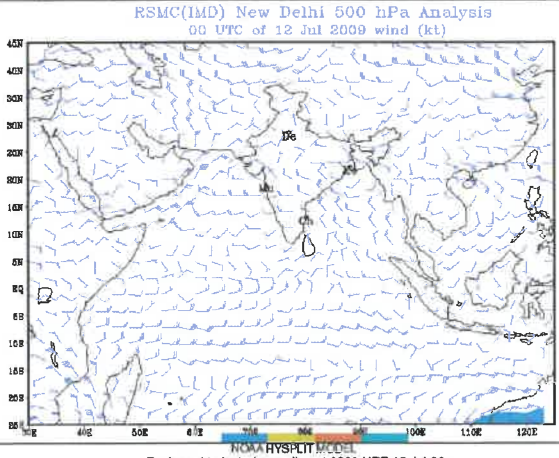


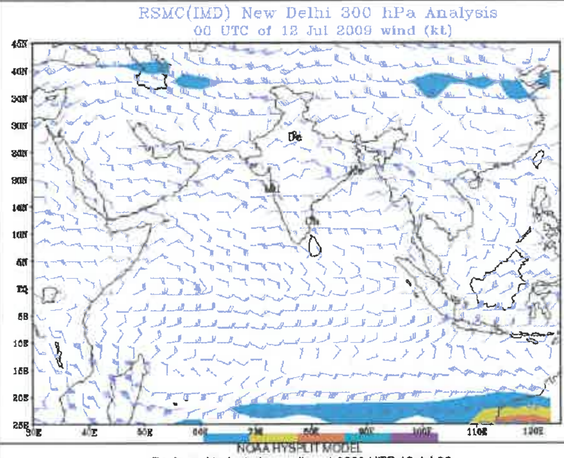


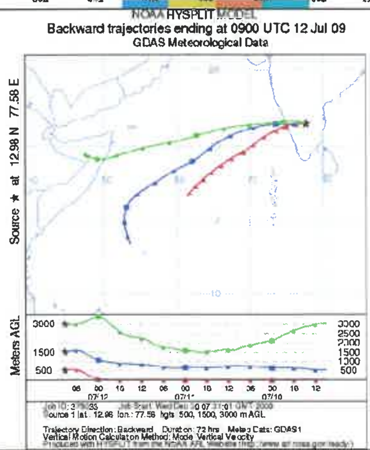
12 July 2009

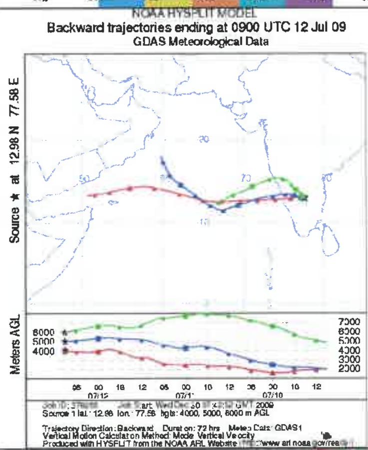

Sunday, 12 July 2009 (21 Asadha 1931 Saka)

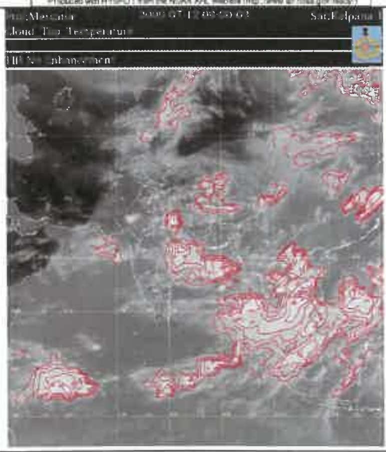

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 12 Jul 2009 wind (kt)

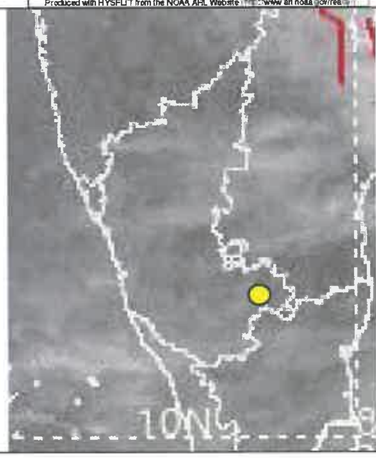

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 12 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 12 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 12 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 12 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL





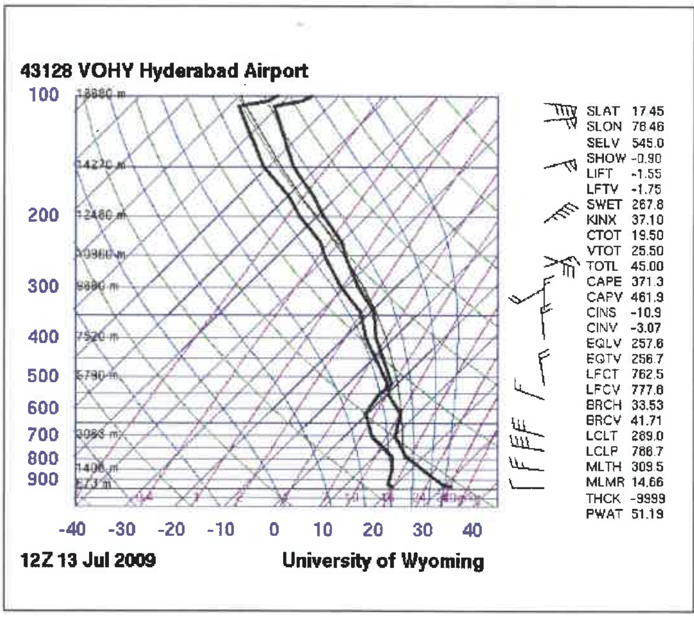
13 July 2009 (Base Bengaluru)

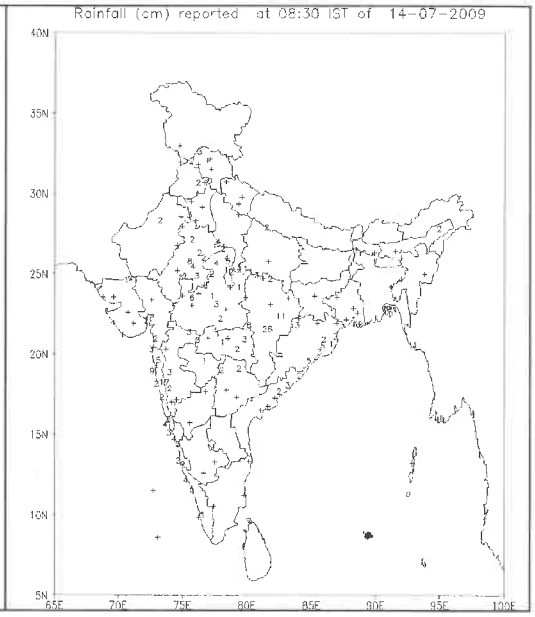
Weather summary :

- The well marked low pressure area over northwest Bay of Bengal and neighbourhood now lies over coastal areas of Orissa and adjoining northwest Bay of Bengal.
- The axis of monsoon trough at mean sea level passes through Anupgarh, Mathura, Kanpur, Daltengunj, centre of the well marked low pressure area and thence southeastwards to eastcentral Bay of Bengal.
- Fairly widespread rainfall activity over northwest India.

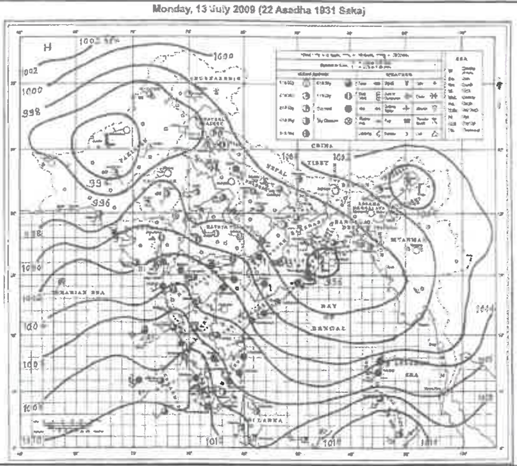
Flight :

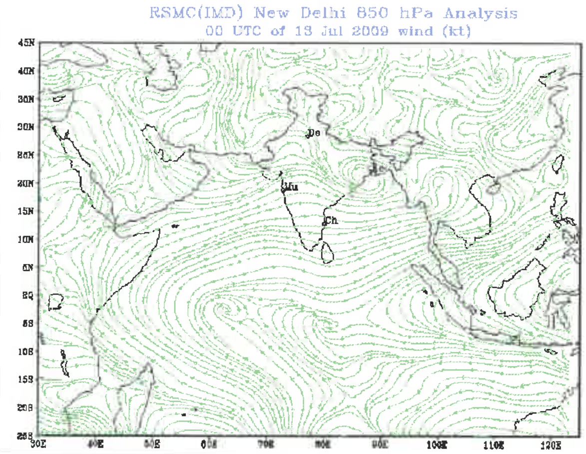
- Station : Bengaluru
- Engine on : 12:15
- Engine off : 16:00

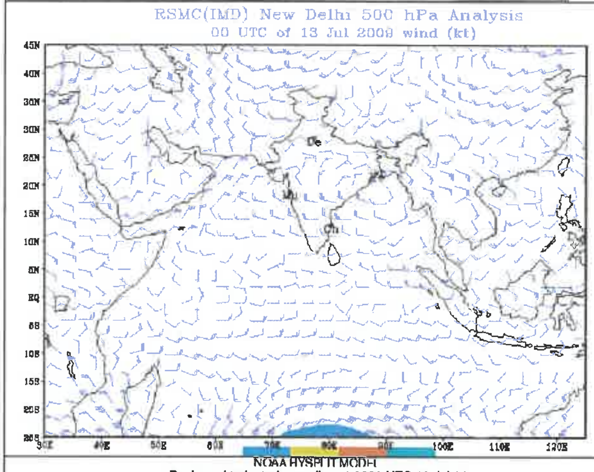


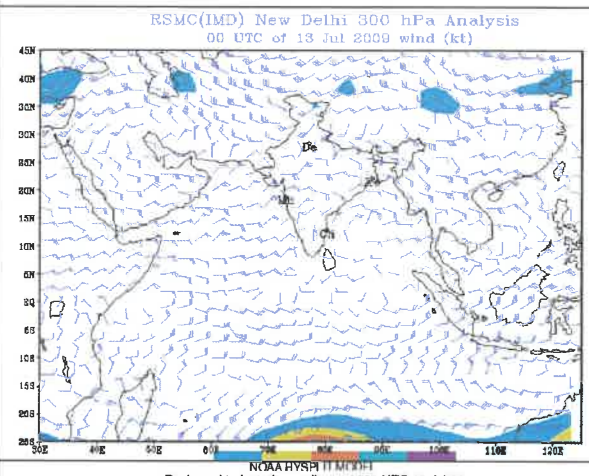


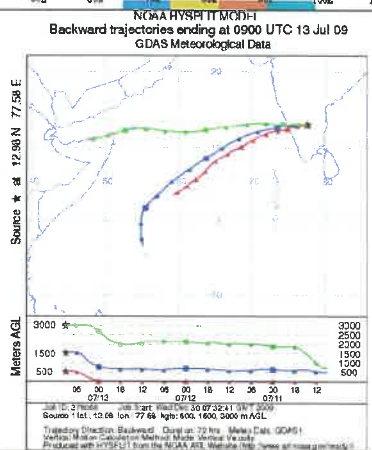
13 July 2009

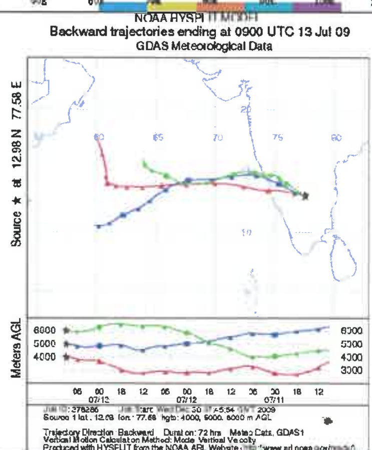

Monday, 13 July 2009 (22 Asadha 1931 Saka)

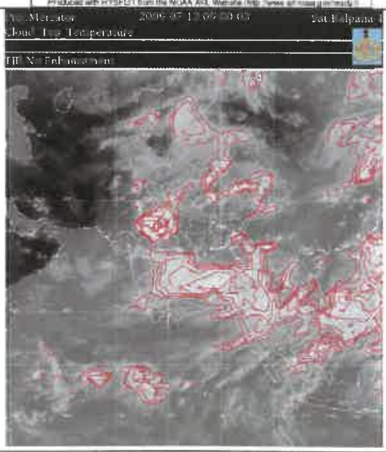

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 13 Jul 2009 wind (kt)

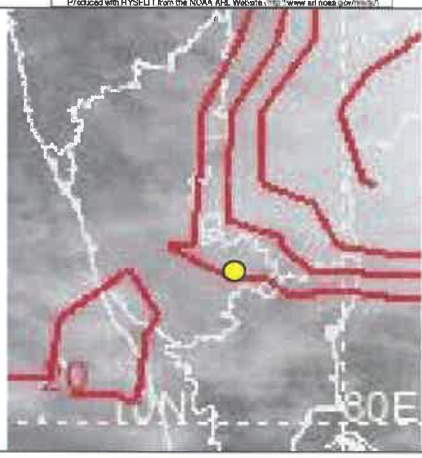

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 13 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 13 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 13 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 13 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL



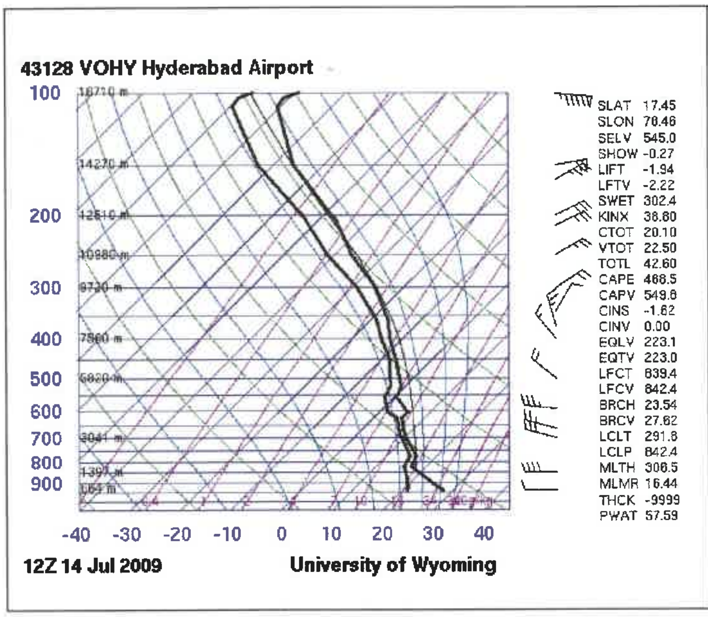

10N
80E

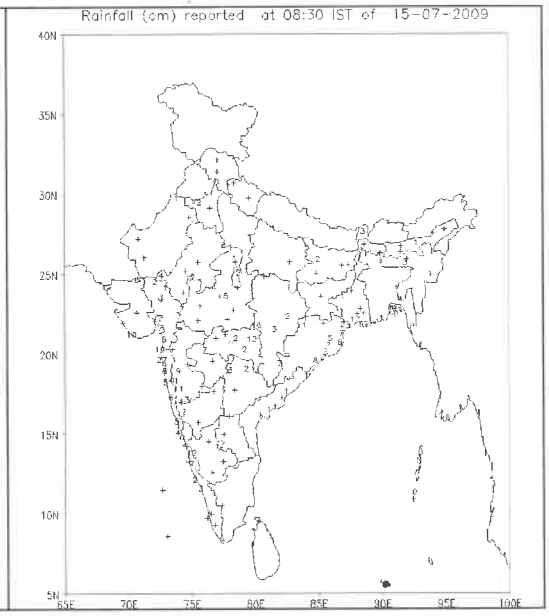
14 July2009   (Base Bengaluru)

- The well marked low pressure area over coastal areas of Orissa and adjoining northwest Bay of Bengal persists.
- The axis of monsoon trough at mean sea level passes through Bikaner, Alwar, Gwalior, Satna, Pendra, Jharsuguda, centre of the well marked low pressure area and thence southeastwards to eastcentral Bay of Bengal.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over northeast Arabian Sea, northwest and adjoining central Bay of Bengal, parts of Peninsular India. Low/medium clouds are seen over parts of western Himalayan region, west, central, east and northeast

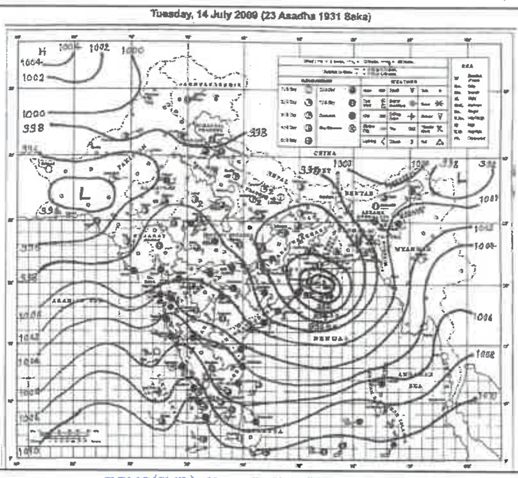
Flight ***: Nil***

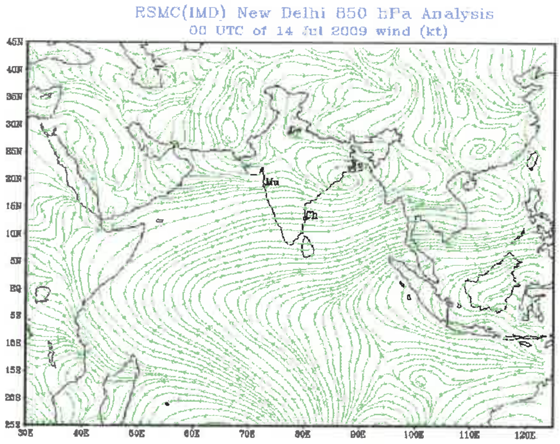
Station : Bengaluru

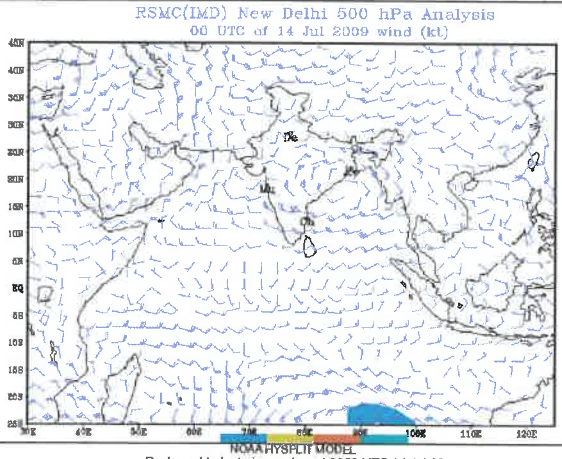


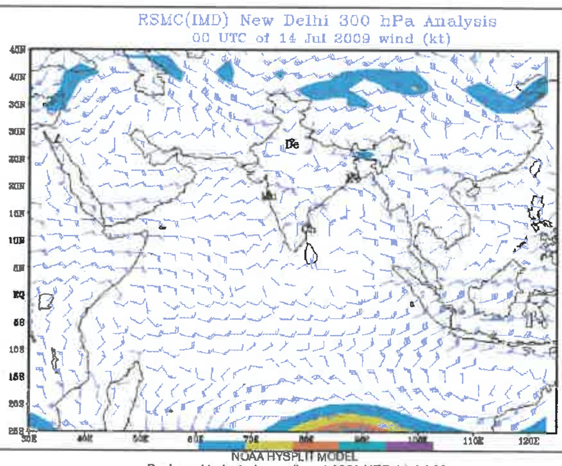


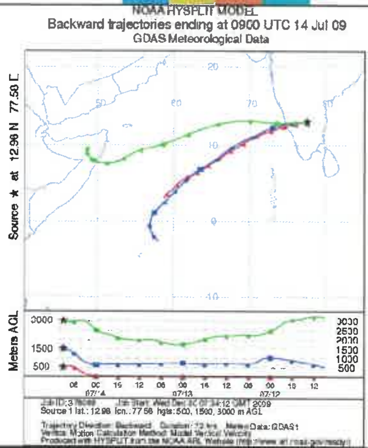
14 July 2009

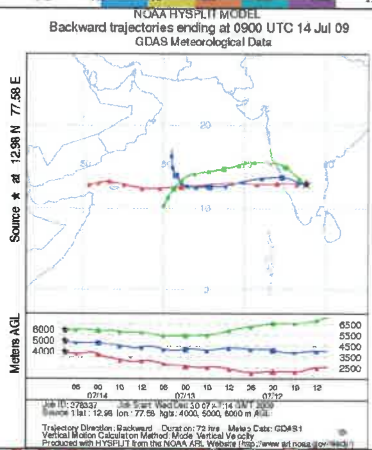

Tuesday, 14 July 2009 (23 Asadha 1931 Saka)

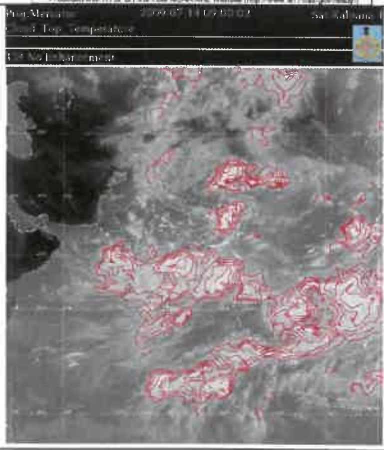

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 14 Jul 2009 wind (kt)

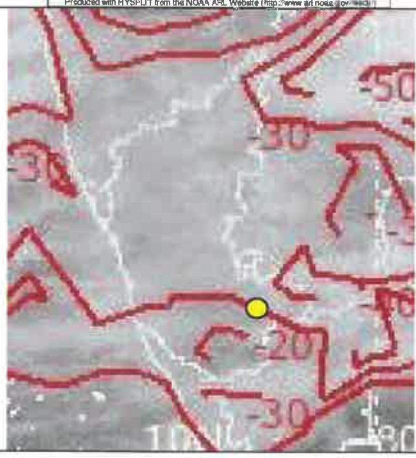

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 14 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 14 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 14 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 14 Jul 09
GDAS Meteorological Data
Source ★ at 12.98 N 77.58 E
Meters AGL





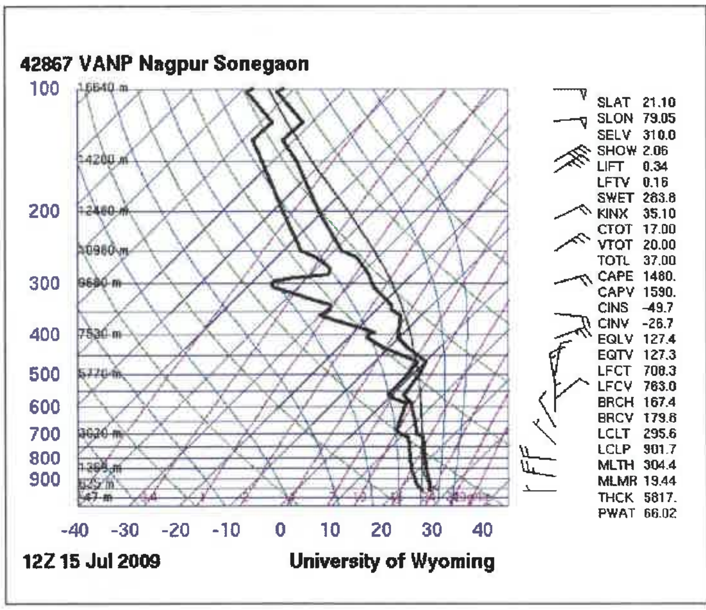
15 July 2009 (Bengaluru-Nagpur-Bareilly)

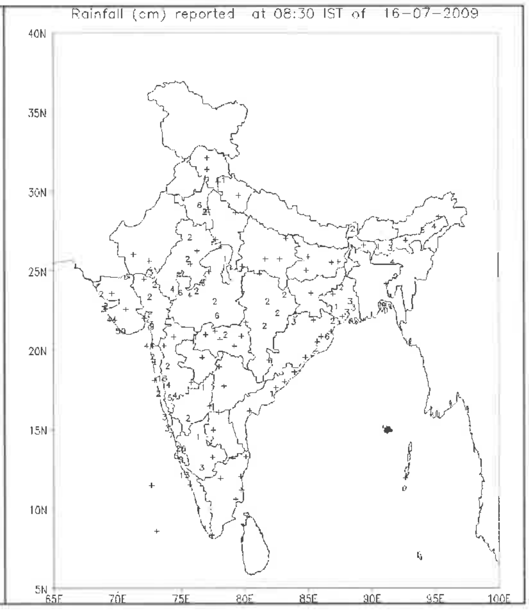
Weather summary :

- The well marked low pressure area now lies over Chhattisgarh and neighbourhood.
- The axis of monsoon trough at mean sea level passes through Jaisalmer, Guna, Jabalpur, centre of the well marked low pressure area, Balasore and thence southeastwards to eastcentral Bay of Bengal.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over northeast Arabian Sea, parts of east Arabian Sea, central Bay of Bengal, Peninsular India, Madhya Pradesh, Chhattisgarh and Gujarat. Low/medium clouds are seen over parts of western Himalayan region, west, central, east and northeast India.

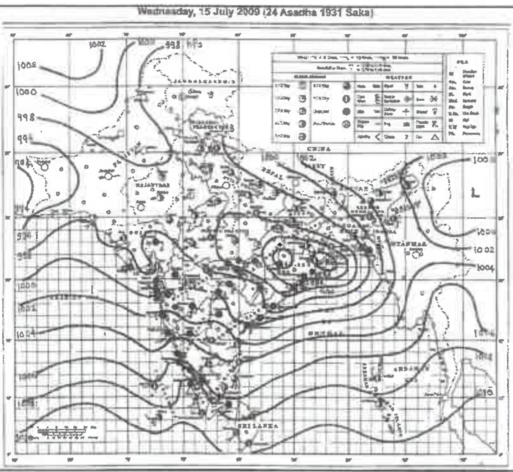
Flight :

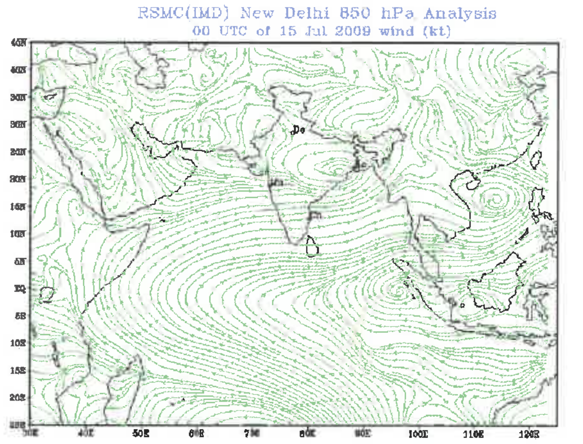
• Station : Bengaluru - Nagpur • Engine on : 08:45 • Engine off : 11:45	• Station : Nagpur - Bareilly • Engine on : 13:30 • Engine off : 16:1

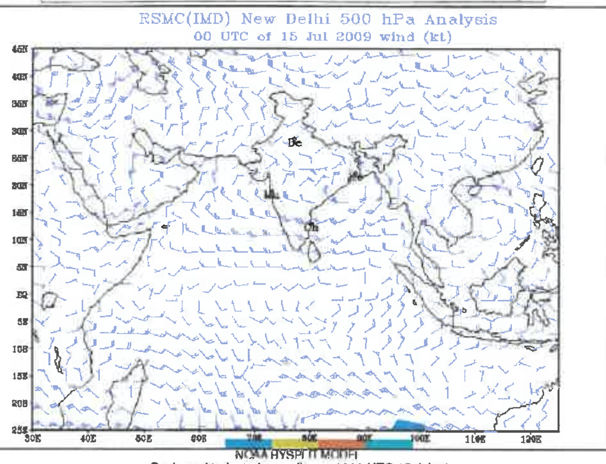


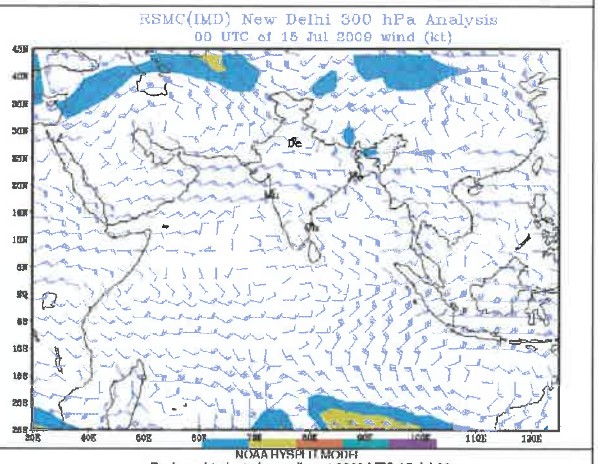


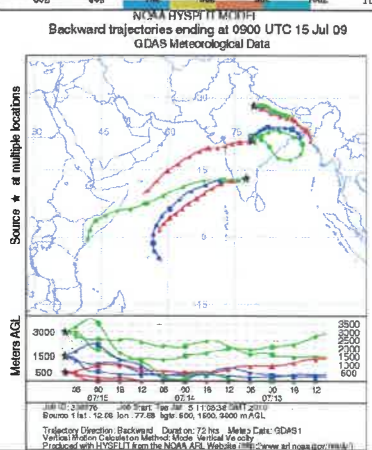
15 July 2009

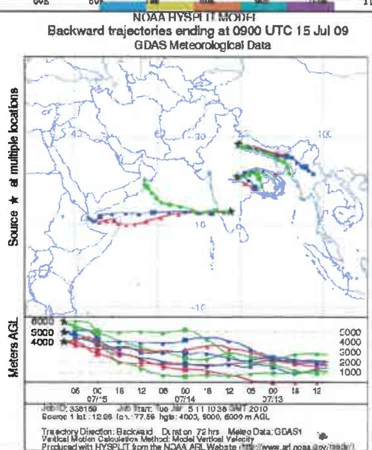

Wednesday, 15 July 2009 (24 Asadha 1931 Saka)

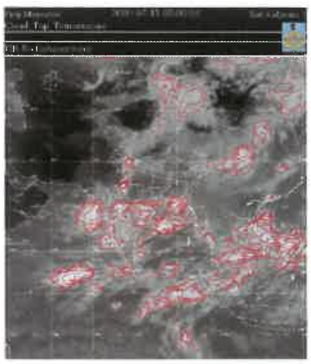

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 15 Jul 2009 wind (kt)

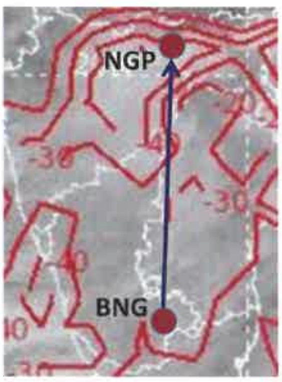

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 15 Jul 2009 wind (kt)

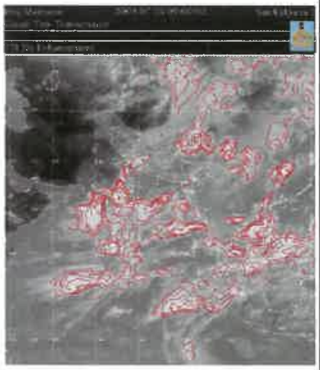

RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 15 Jul 2009 wind (kt)

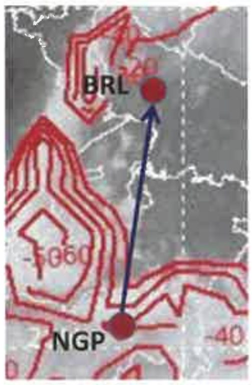

NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 15 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL




NGP
BNG




BRL
NGP

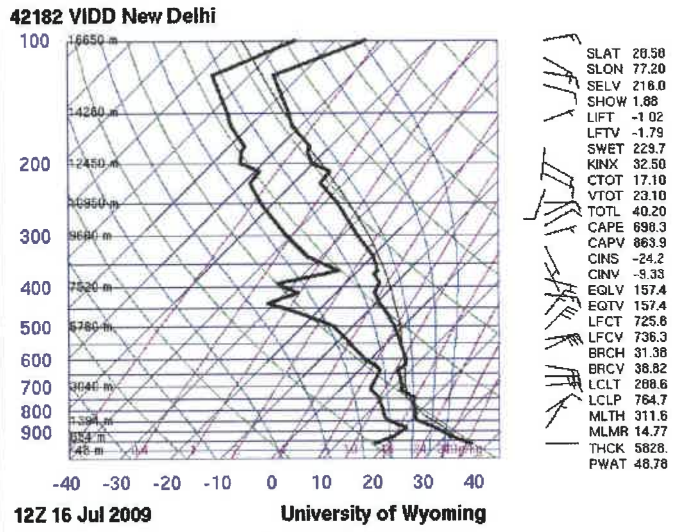
16 July 2009 (Base Bareilly)

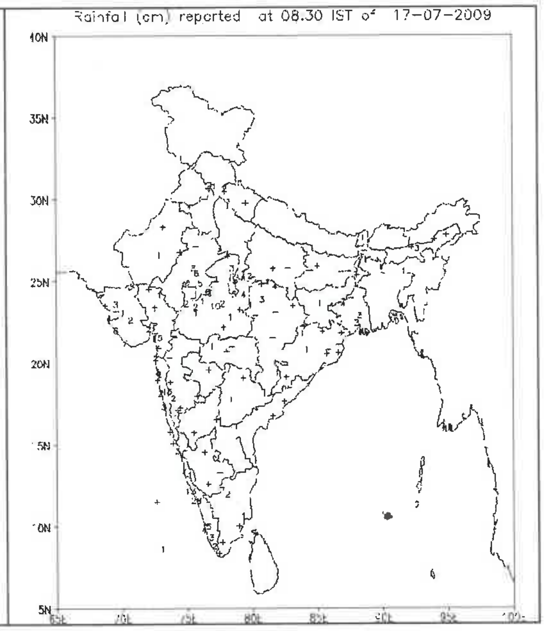
Weather summary :

- The low pressure area over east Madhya Pradesh and neighbourhood has become less marked. However, associated upper air cyclonic circulation extending upto 5.8 km above mean sea level.
- The axis of monsoon trough at mean sea level passes through Phalodi, Tonk, Nowgong, Rewa, Daltengunj and Digha and thence southeastwards to eastcentral Bay of Bengal.
- The off shore trough continue to extend along the west coast.
- The chief amounts of rainfall (≥ 5 cm) occurred during the day (between 0830 to 1730 hours IST of today) are Surat-14, Agumbe, Valparai and Veraval-7 each, Porbandar, Mahabaleshwar and Bhopal-6 each, Manglore and Madikeri-5 each.

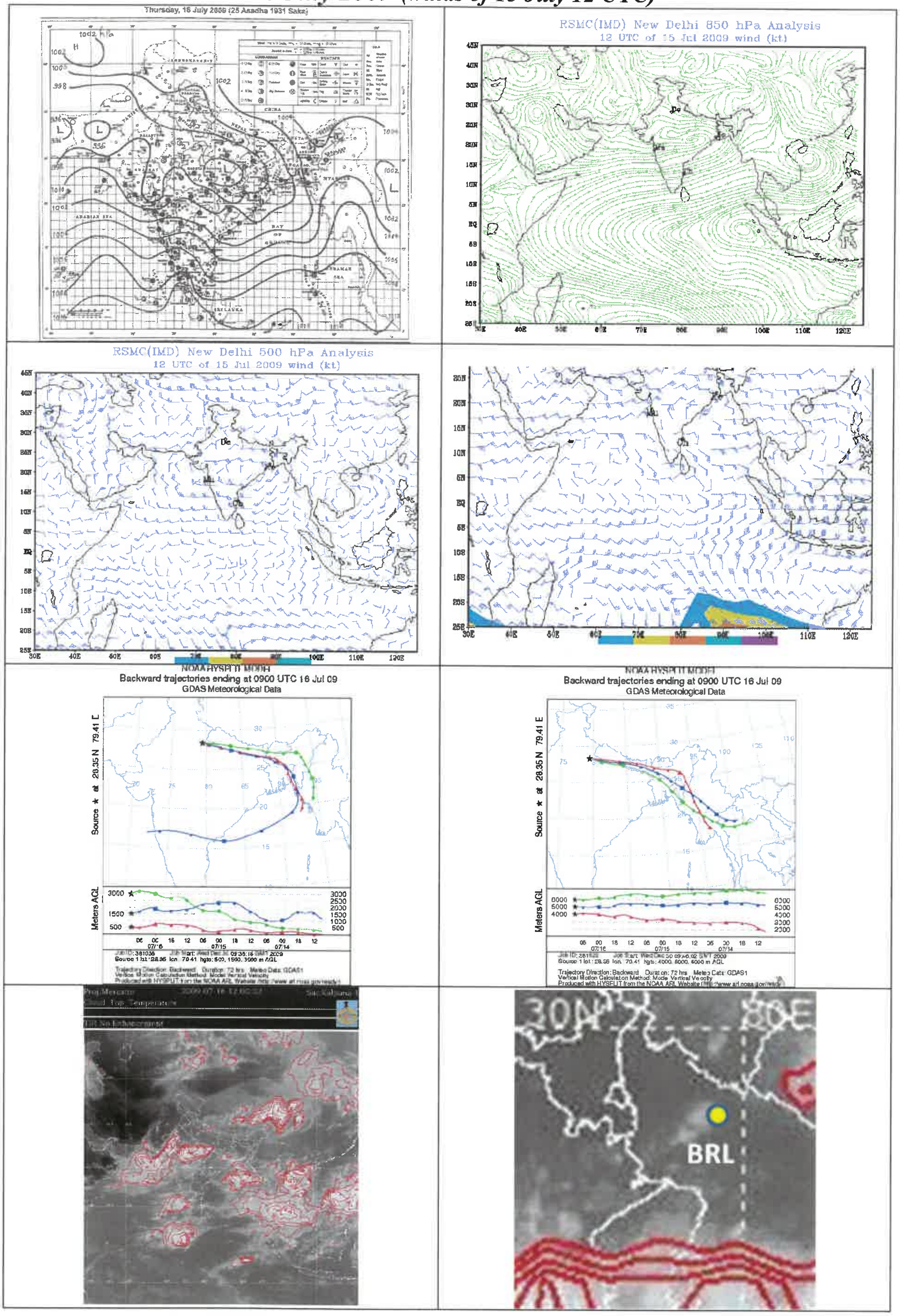
Flight :

- Station : Bareilly
- Engine on : 14:25
- Engine off : 16:05





16 July 2009 (winds of 15 July 12 UTC)



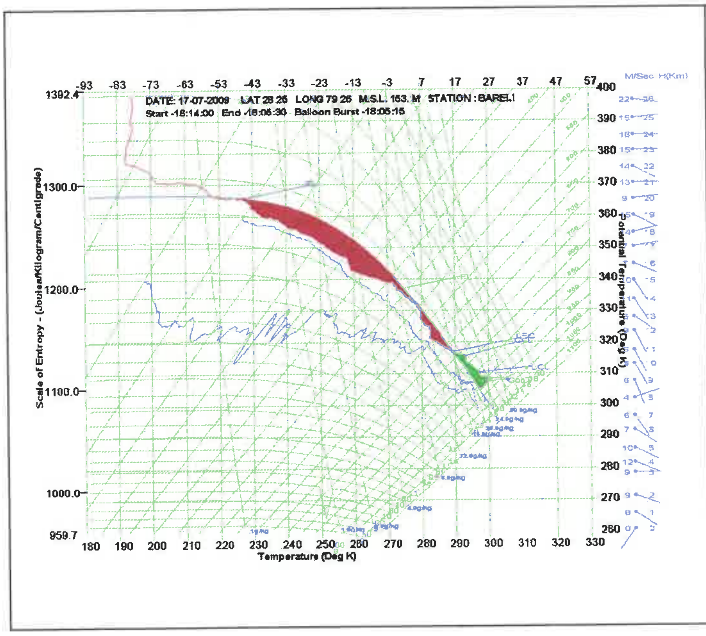
17 July 2009 (Base Bareilly)

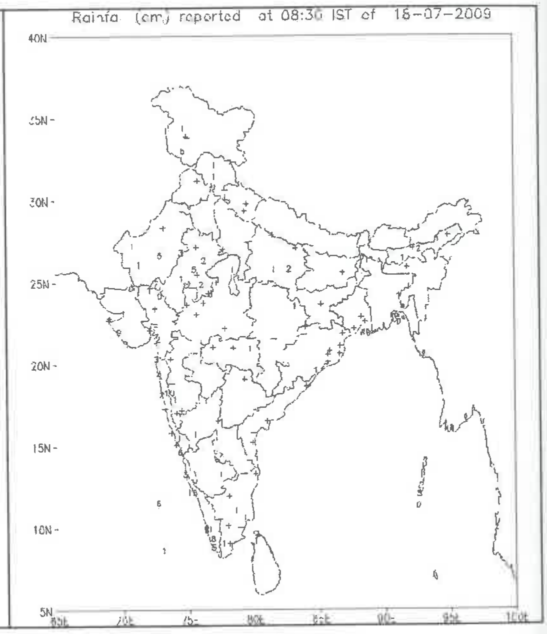
Weather summary :

- The axis of monsoon trough at mean sea level passes through Phalodi, Ajmer, Gwalior, Allahabad, Daltanganj, Dhanbad, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- The off shore trough continue to extend along the west coast.

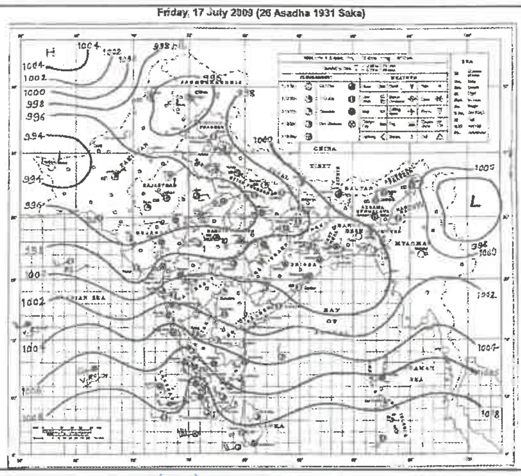
Flight :

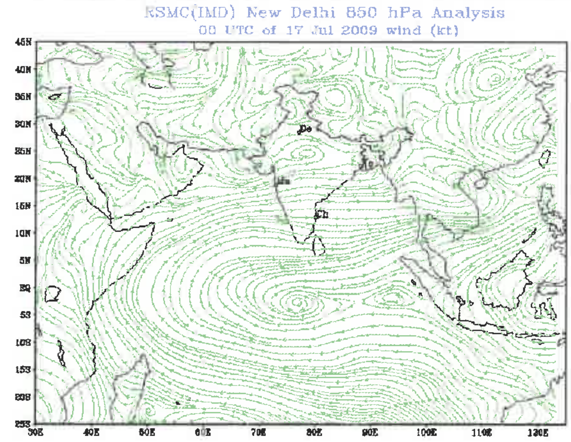
- Station : Bareilly
- Engine on : 13:35
- Engine off : 16:40

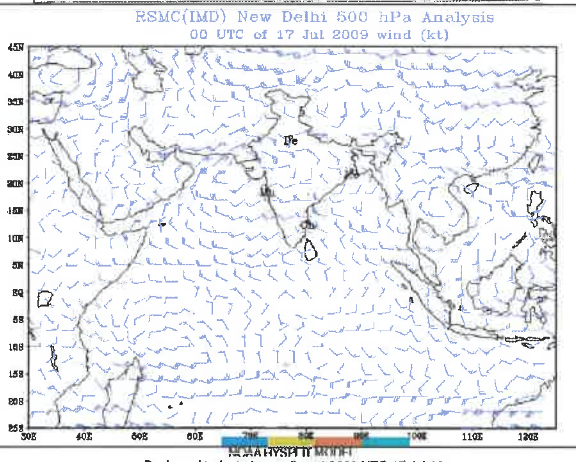


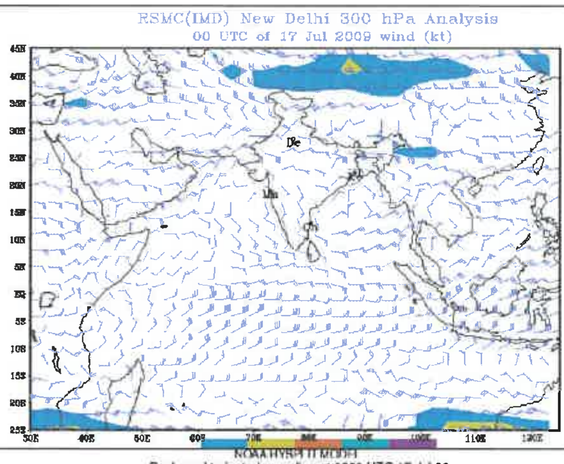


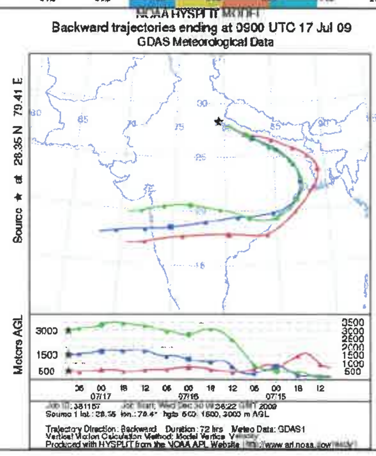
17 July 2009

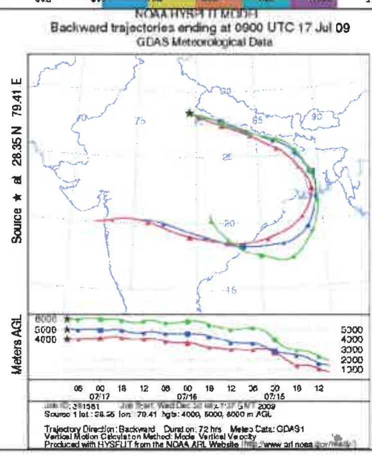

Friday, 17 July 2009 (26 Asadha 1931 Saka)

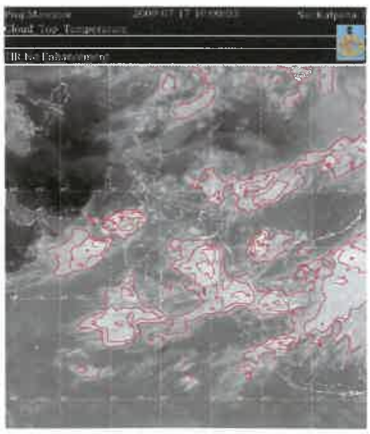

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 17 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 17 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 17 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 17 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL




30N
80E

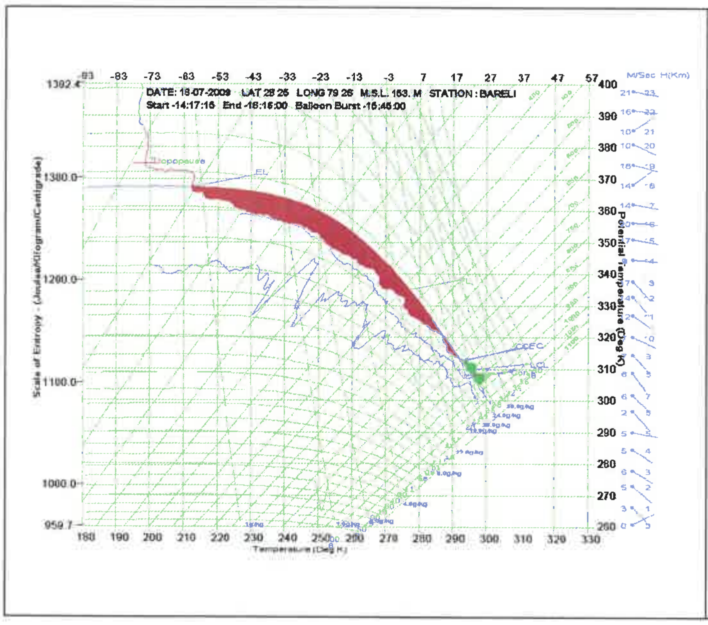
18 July 2009 (Base Bareilly)

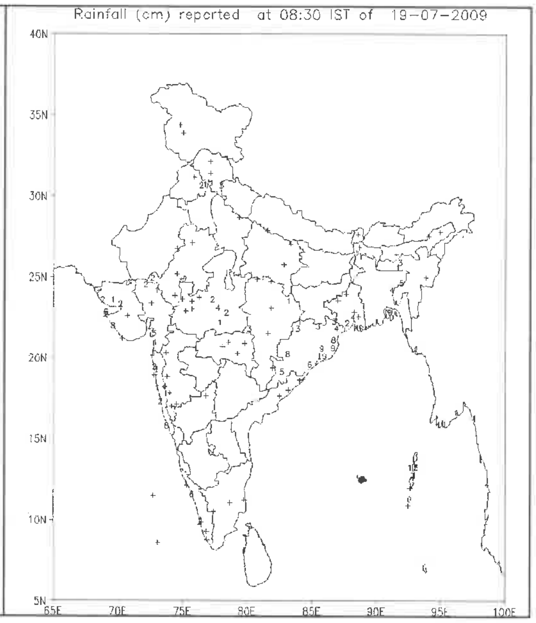
Weather summary :

- The low pressure area over northwest Bay of Bengal and adjoining coastal areas of north Orissa and West Bengal persists. The system is likely to become more marked within next 48 hours.
- The axis of monsoon trough at mean sea level is to the south of its normal position and passes through Phalodi, Alwar, Etawah, Rewa, Daltengunj, Jamshedpur, center of low pressure area and thence southeastwards to eastcentral Bay of Bengal.
- The mid tropospheric cyclone over northeast Arabian Sea and neighbourhood persists.
- Chief amounts of rainfall (≥5 cm) occurred during the day (between 0830 to 1730 hrs. IST) are; Mayabandar-11, Paradip-8, Chandbali-6, Okha and Honavar-5 each.

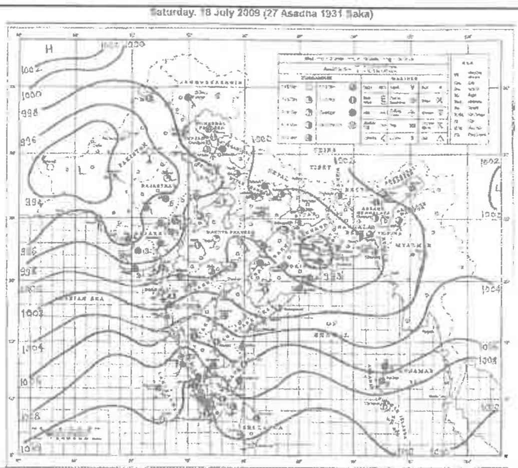
Flight :

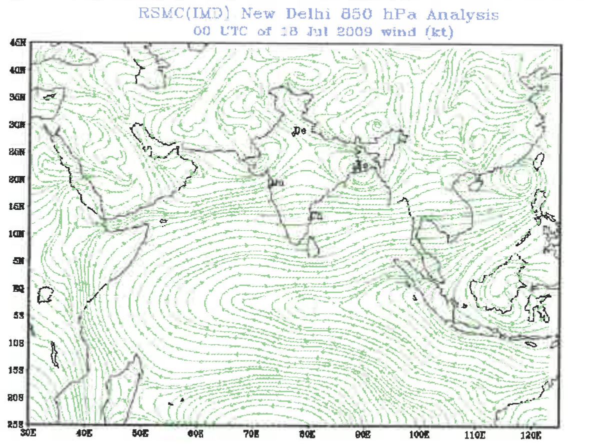
- Station : Bareilly
- Engine on : 13:30
- Engine off : 15:50

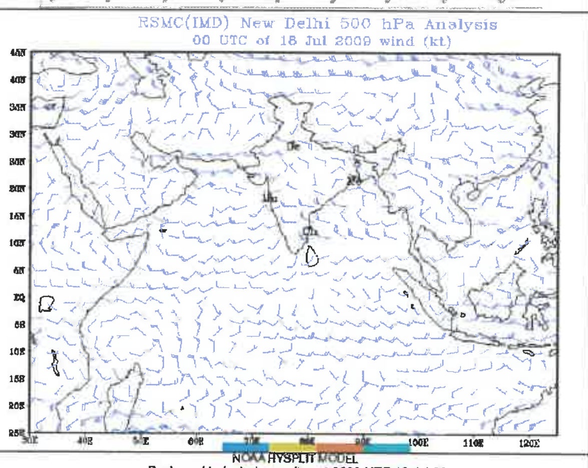


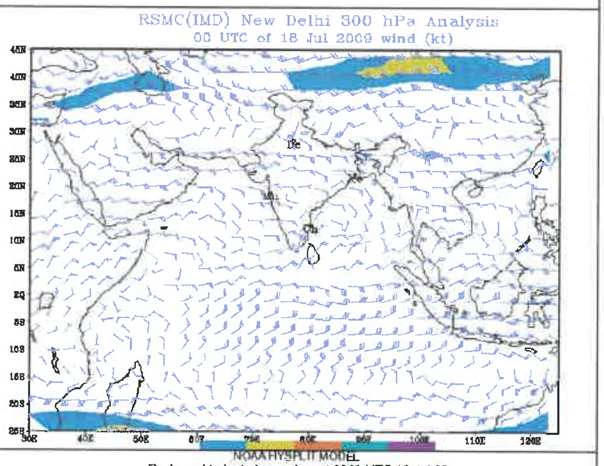


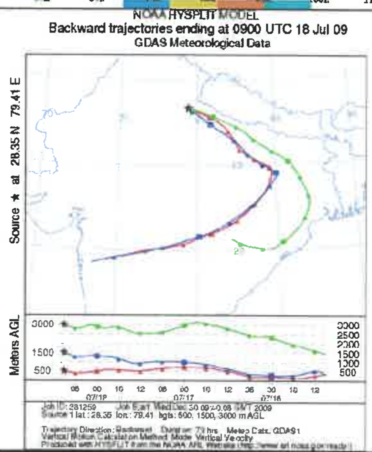
18 July 2009

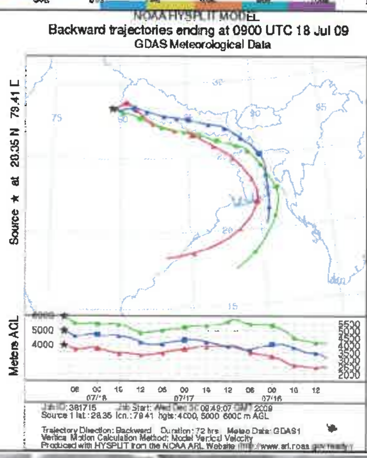

Saturday, 18 July 2009 (27 Asadha 1931 Saka)

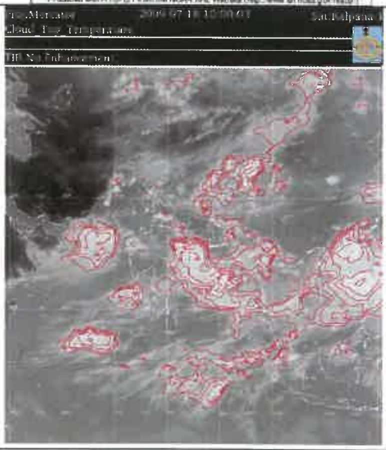

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 18 Jul 2009 wind (kt)

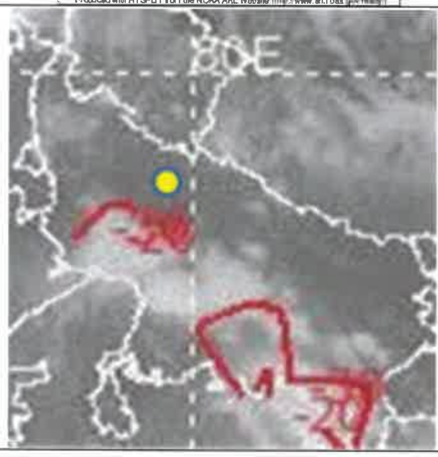

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 18 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 18 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 18 Jul 09
GDAS Meteorological Data
Meters AGL





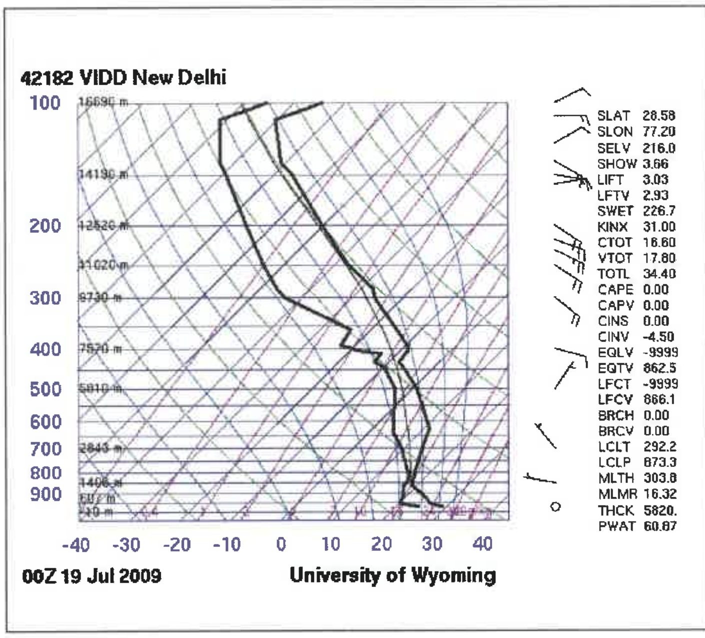
19 July 2009 (Base Bareilly)

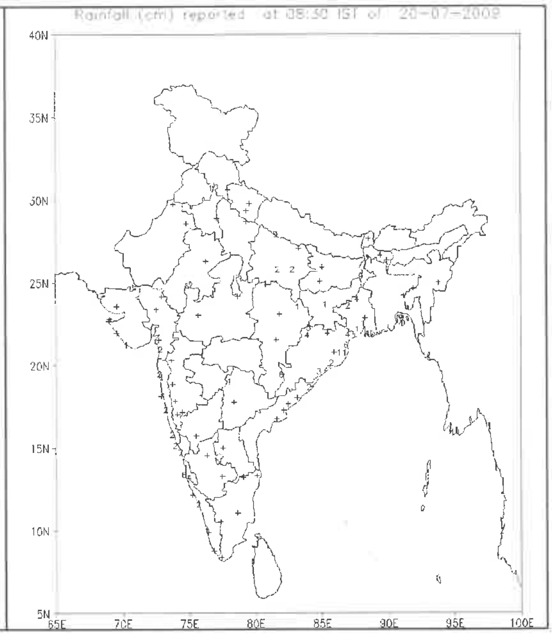
Weather summary :

- The well marked low pressure area over northwest Bay of Bengal and neighbourhood persists.
- The axis of monsoon trough at mean sea level passes through Ganganagar, Meerut, Bareilly, Gorakhpur, Bhagalpur and center of well marked low pressure area and thence southeastwards to eastcentral Bay of Bengal.

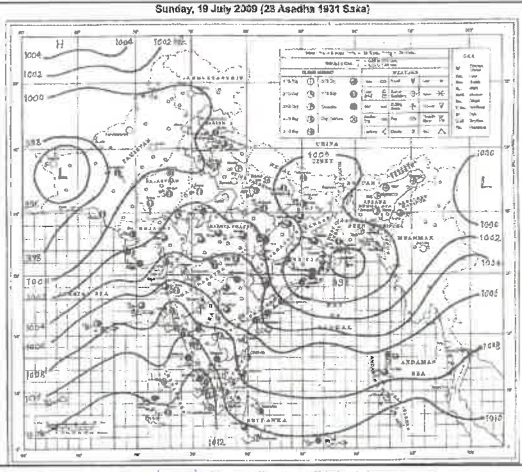
Flight : Nil

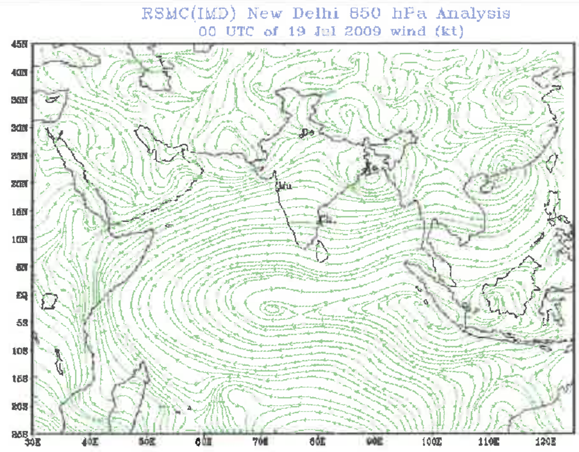
Station : Bareilly

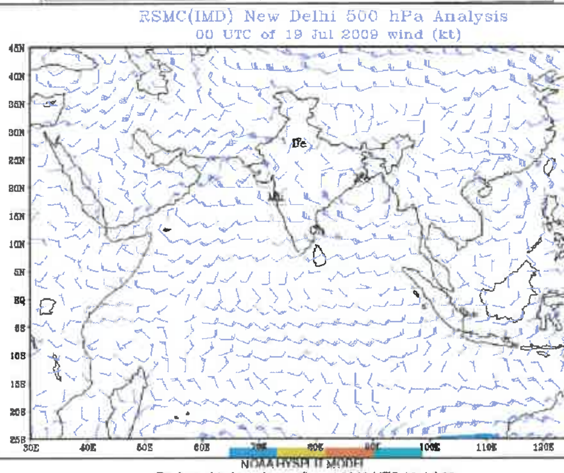


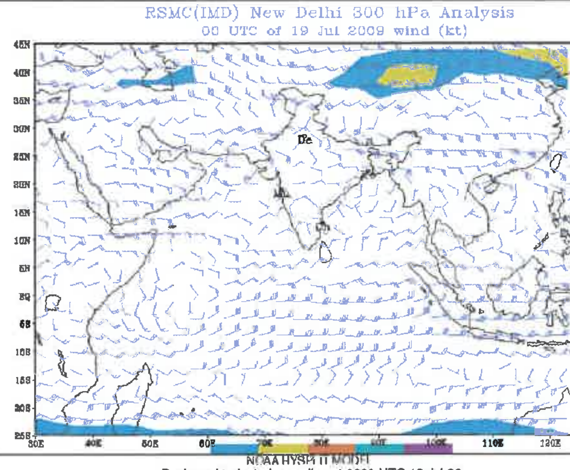


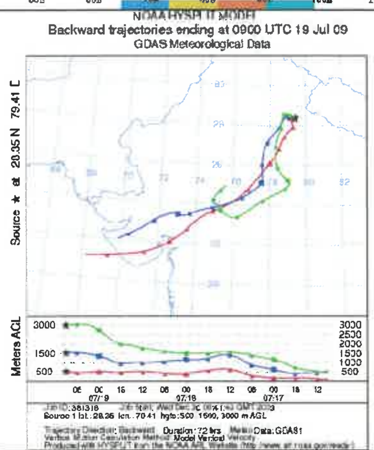
19 July 2009

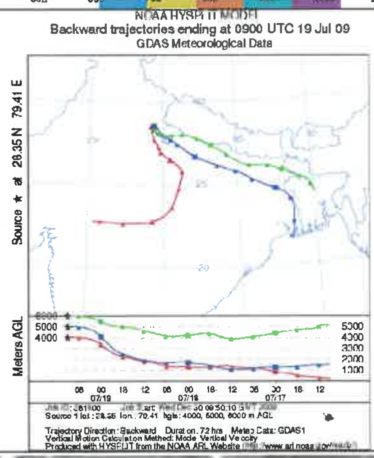

Sunday, 19 July 2009 (28 Asadha 1931 Saka)

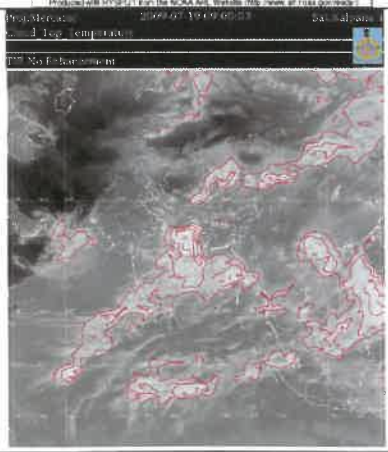

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 19 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 19 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 19 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 19 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL



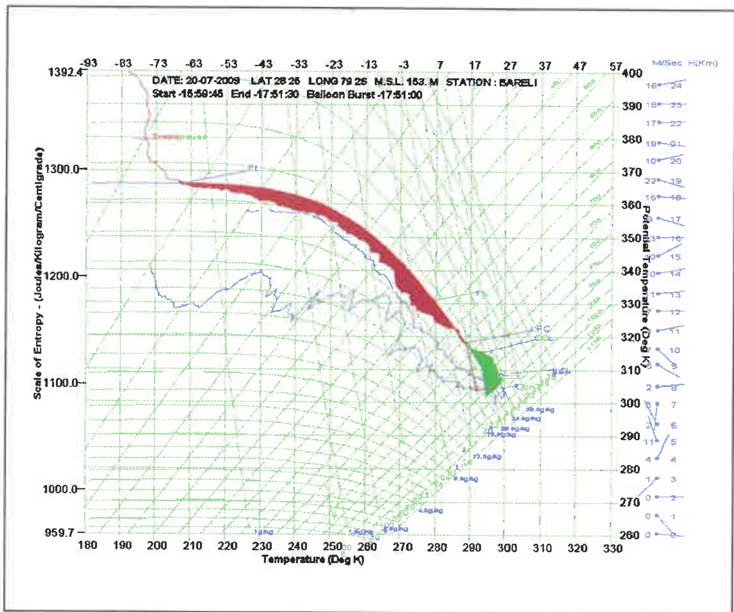
20 July 2009 (Bareilly-Delhi)

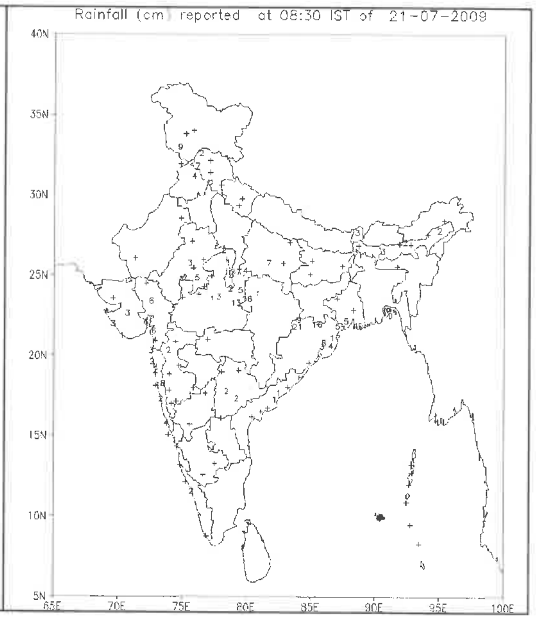
Weather summary :

- The well marked low pressure area over north Chhattisgarh and neighbourhood at 1730 hours IST of today persists.
- The axis of monsoon trough at mean sea level passes through Anupgarh, Alwar, Gwalior, Centre of well marked low pressure area, Bhubaneswar and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 5 Cm.) occurred during the day (between 0830 to 1730 hours IST of today) are: Dhahanu and Bhopal- 11, Kota- 9, Mahabaleshwar-6, Raipur and Betul- 5.

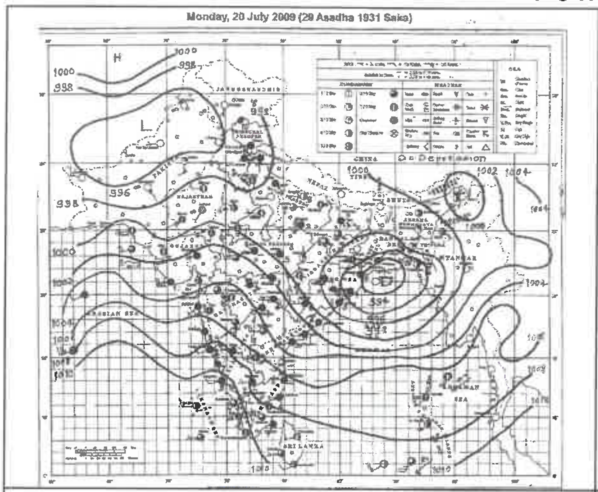
Flight :

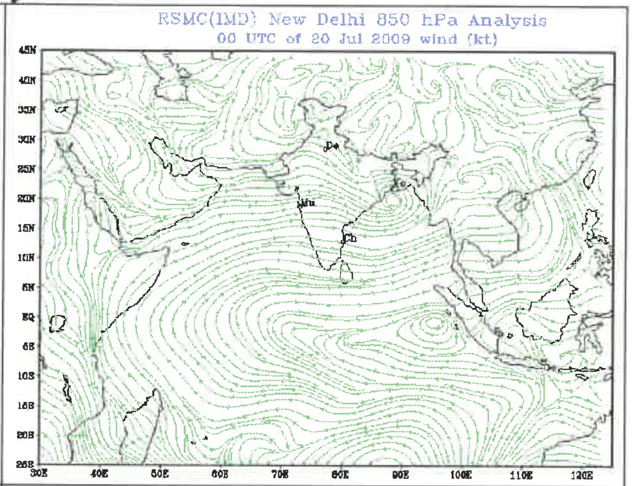
- Station : Bareilly - Delhi
- Engine on : 15:40
- Engine off : 17:40

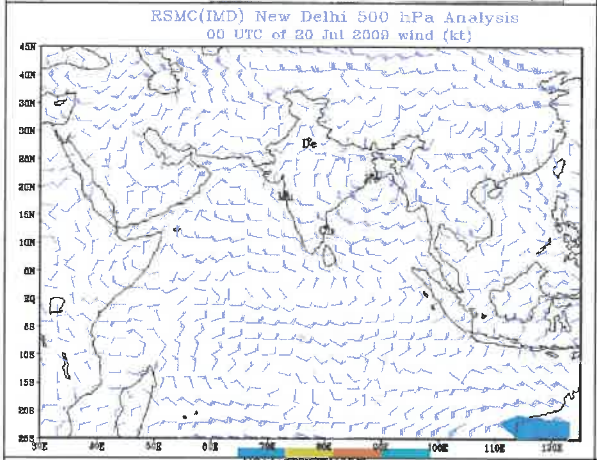


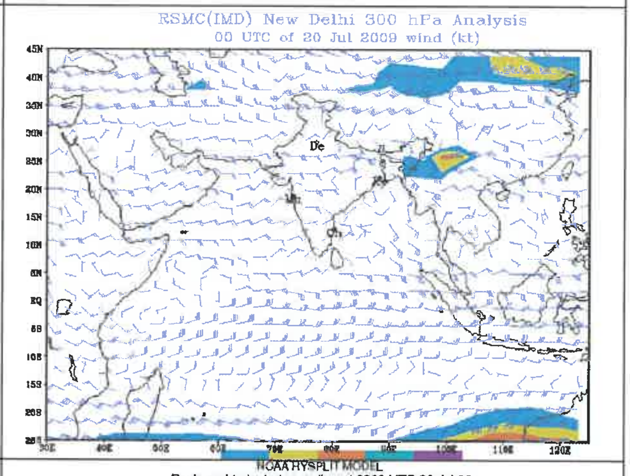


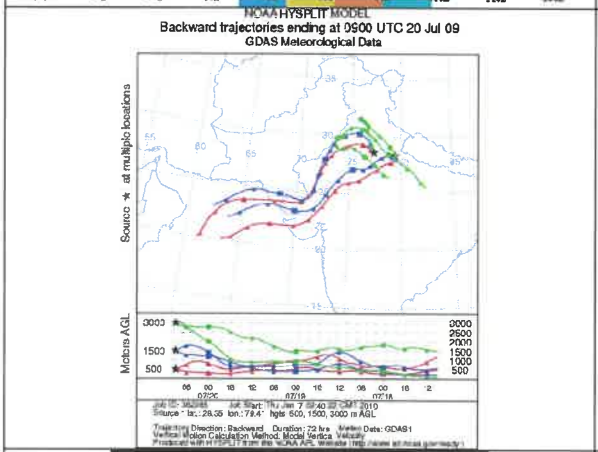
20 July 2009

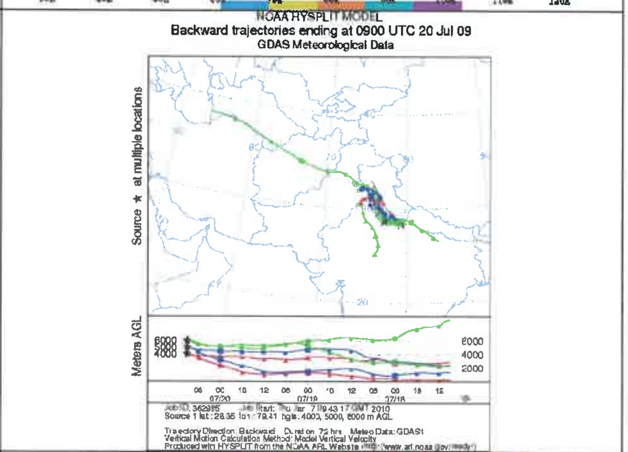

Monday, 20 July 2009 (29 Asadha 1931 Saka)

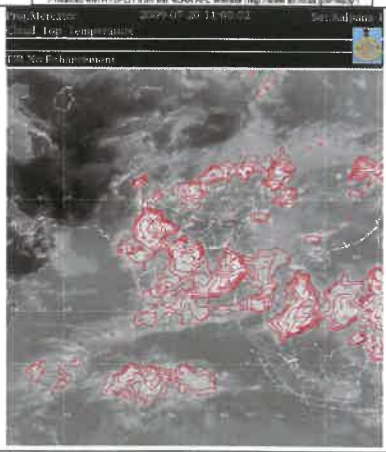

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 20 Jul 2009 wind (kt)

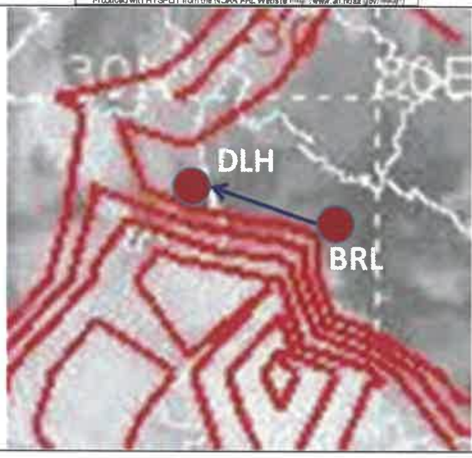

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 20 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 20 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 20 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 20 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL



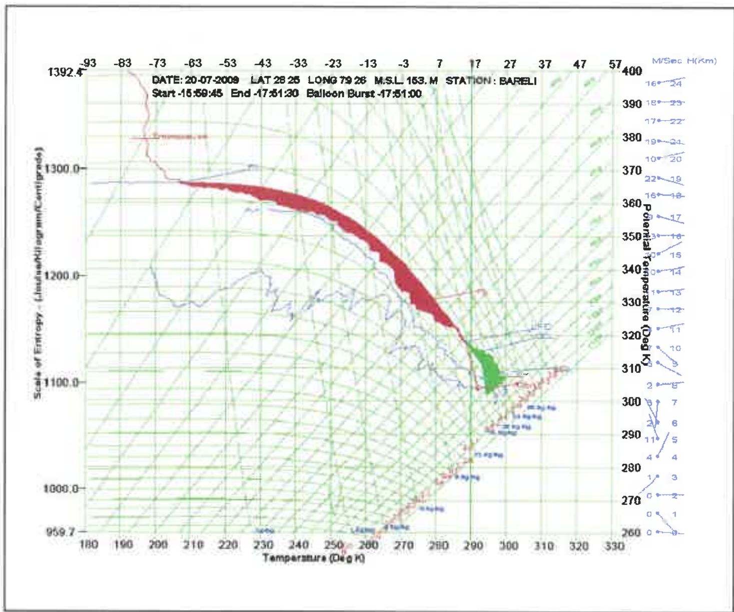

DLH
BRL

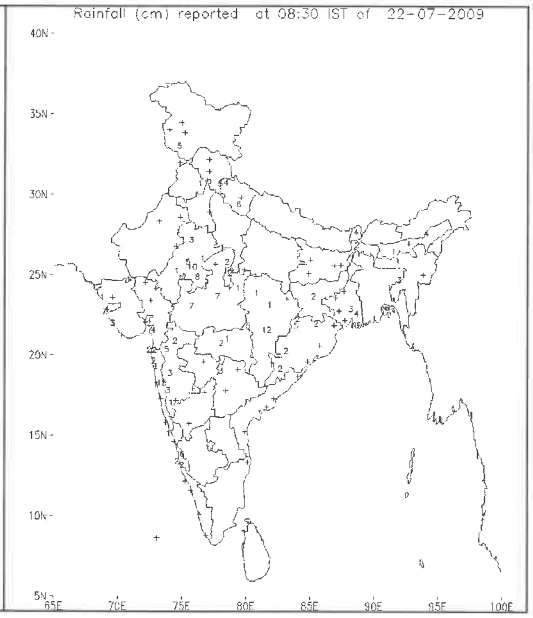
21 July 2009 (Delhi)

Weather summary :

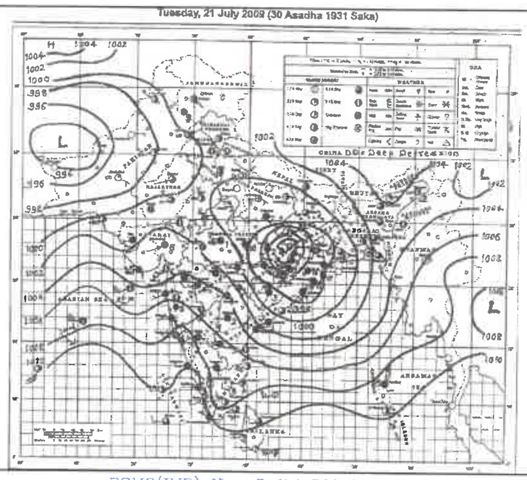
- The well marked low pressure area over north Chhattisgarh and neighbourhood at 1730 hours IST of today persists.
- The axis of monsoon trough at mean sea level passes through Anupgarh, Alwar, Gwalior, Centre of well marked low pressure area, Bhubaneswar and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 5 Cm.) occurred during the day (between 0830 to 1730 hours IST of today) are: Dhahanu and Bhopal-11, Kota-9, Mahabaleshwar-6, Raipur and Betul- 5.

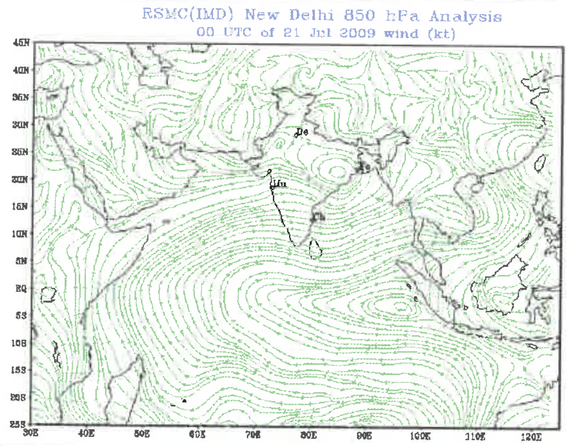
Flight : Nil

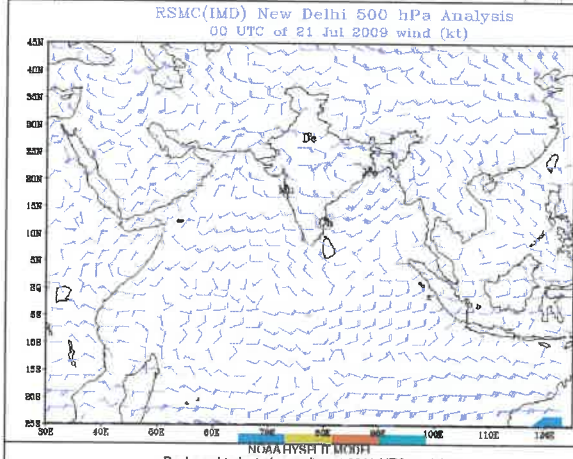


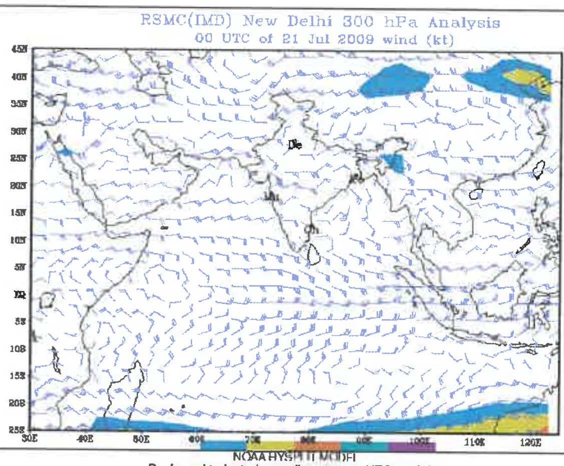


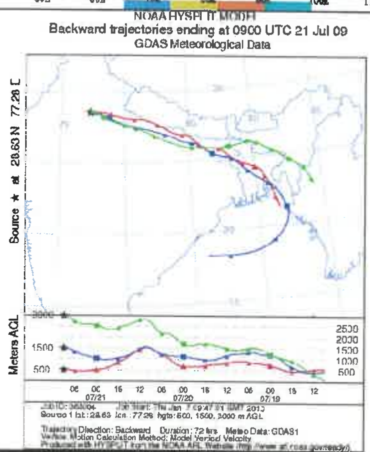
21 July 2009

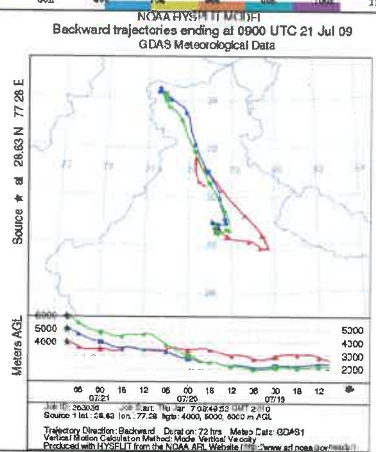

Tuesday, 21 July 2009 (30 Asadha 1931 Saka)

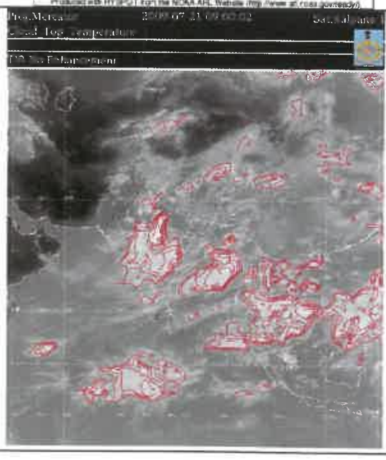

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 21 Jul 2009 wind (kt)

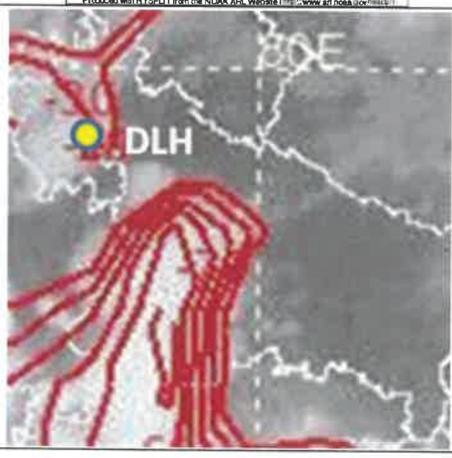

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 21 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 21 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 Jul 09
GDAS Meteorological Data
Source ★ at 28.63 N 77.26 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 21 Jul 09
GDAS Meteorological Data
Source ★ at 28.63 N 77.26 E
Meters AGL




80E
DLH

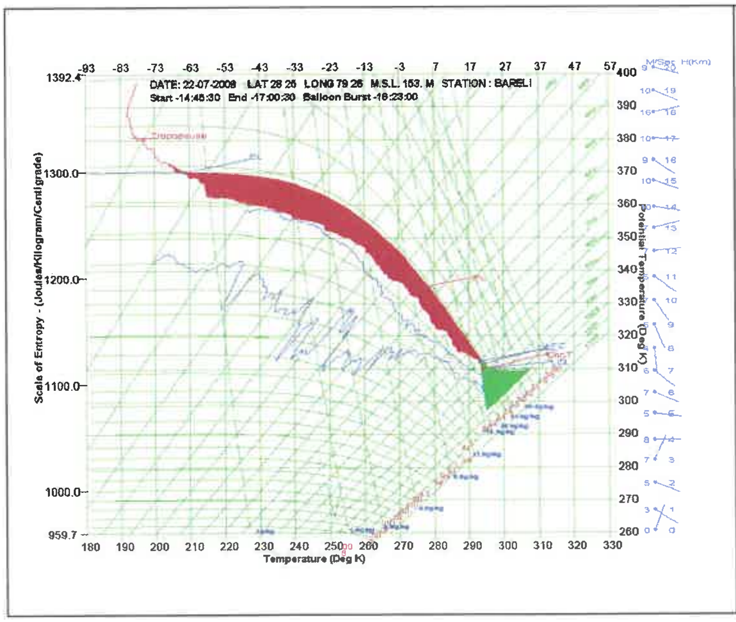
22 July 2009 (Base Bareilly)

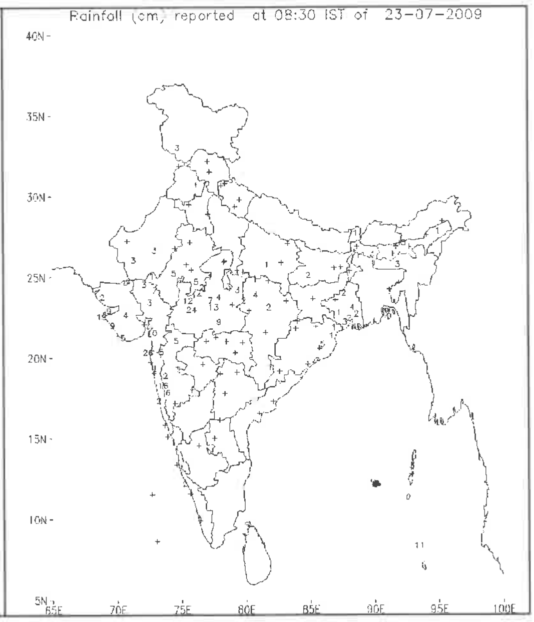
Weather summary :

- The low pressure area now lies over west Madhya Pradesh and is well marked. Associated upper air cyclonic circulation extends upto mid-tropospheric level.
- The axis of monsoon trough at mean sea level passes through Phalodi, Ajmer, centre of well marked low pressure area, Ambikapur, Jamshedpur, Digha and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 6 Cm.) occurred during the day (between 0830 to 1730 hours IST of today) are: Dwarka- 16, Dhanu and Pachmara-15, Surat-9, Porbander and Hoshangabad- 8, Betul- 7, Mahabaleshwar- 6.

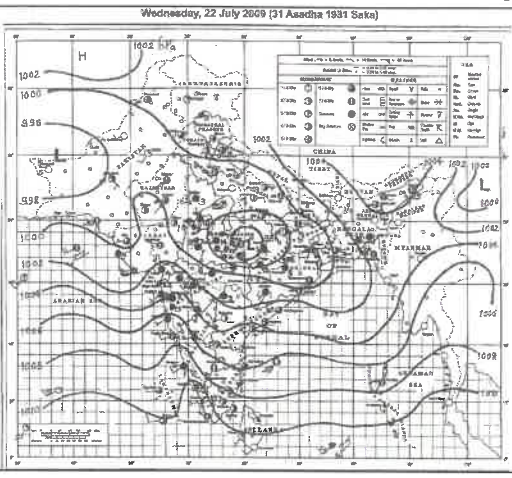
Flight :

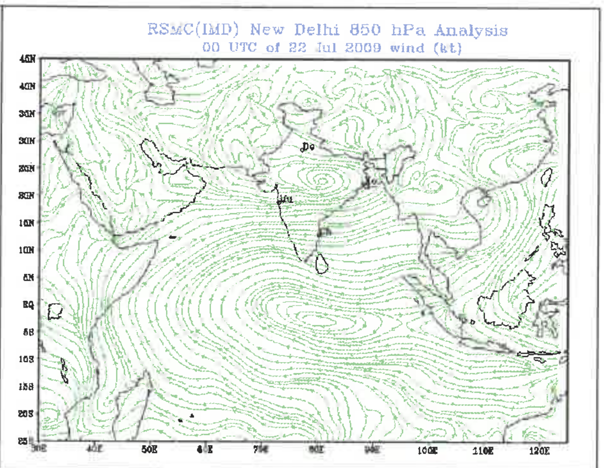
Station	: Delhi - Bareilly	Station	: Bareilly
Engine on	: 11:50	Engine on	: 15:00
Engine off	: 12:50	Engine off	: 17:30

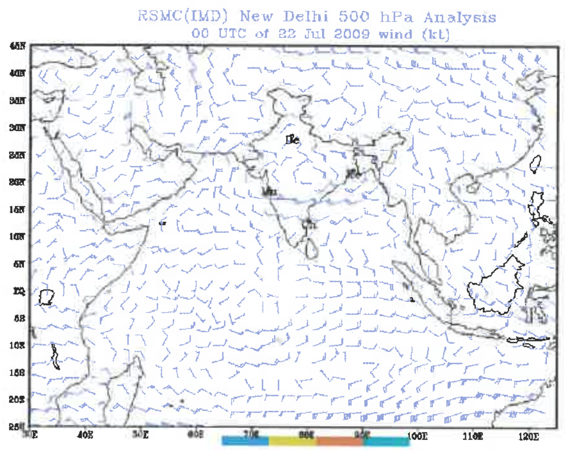


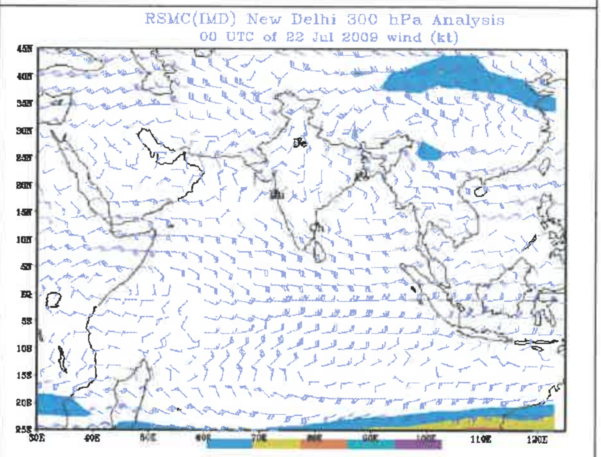


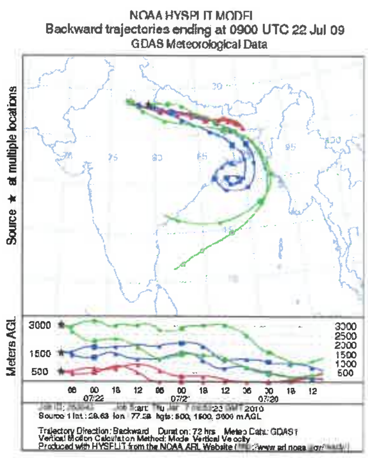
22 July 2009

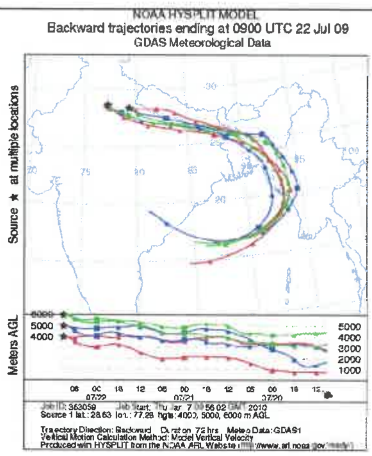

Wednesday, 22 July 2009 (31 Asadha 1931 Saka)

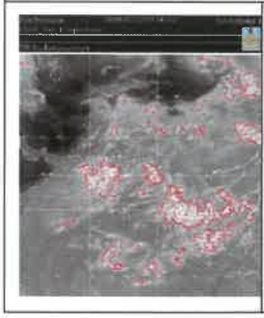

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 22 Jul 2009 wind (kt)

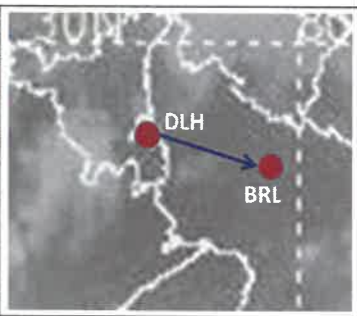

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 22 Jul 2009 wind (kt)

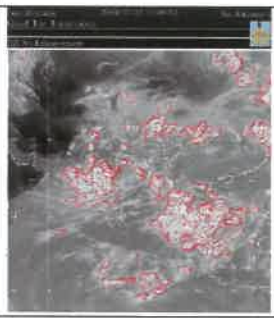

RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 22 Jul 2009 wind (kt)

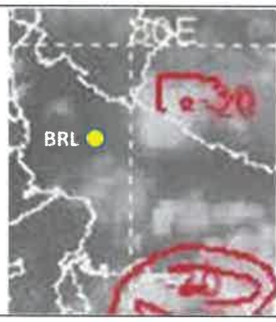

NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 22 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL




DLH
BRL



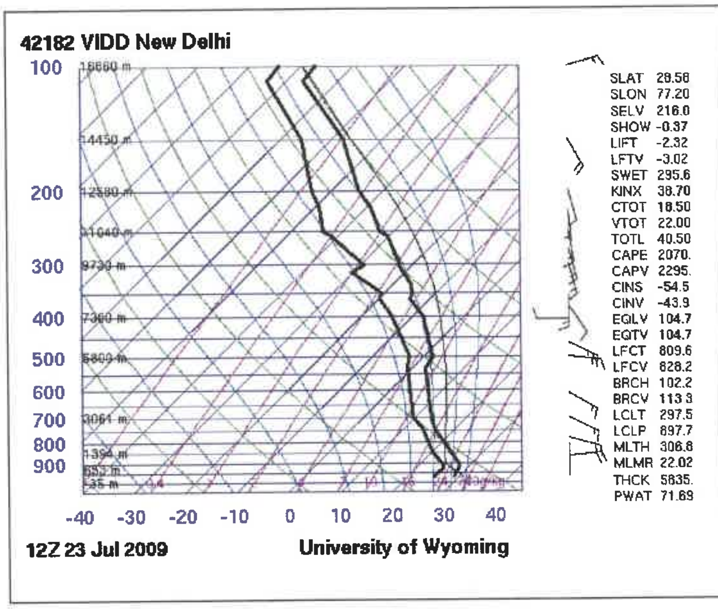

BRL

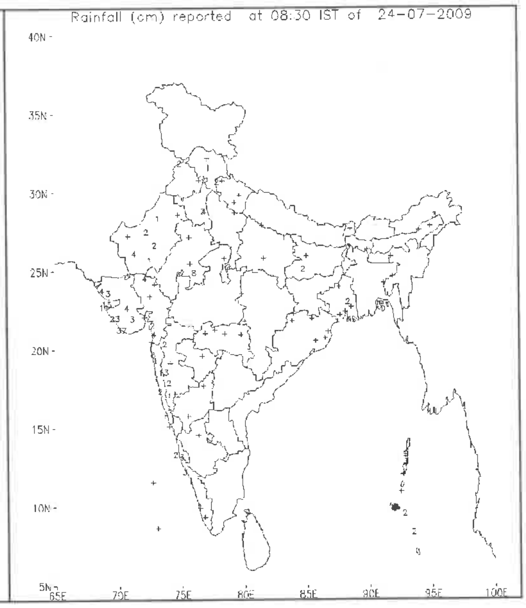
23 July 2009

Weather summary :

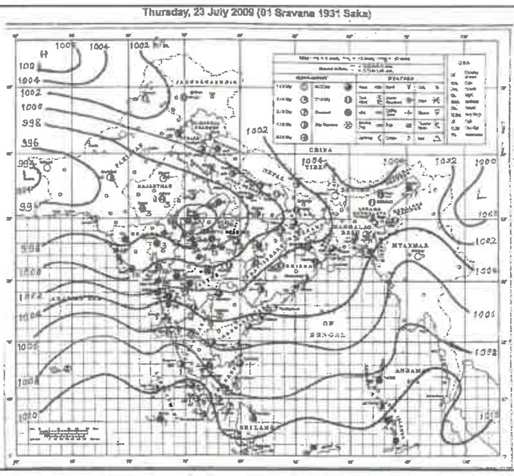
- The low pressure area over west Madhya Pradesh and adjoining southeast Rajasthan persists. Associated upper air cyclonic circulation extends upto mid-tropospheric level.
- The axis of monsoon trough at mean sea level passes through Jodhpur, centre of low pressure area, Rewa, Hazaribagh, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of eastcentral & southeast Bay of Bengal, Andaman Sea, north & adjoining central Arabian Sea, Gujarat and south Rajasthan. Low/medium clouds are seen over parts of western Himalayan region, remaining parts of west India, central, east, Peninsular and northeast India.

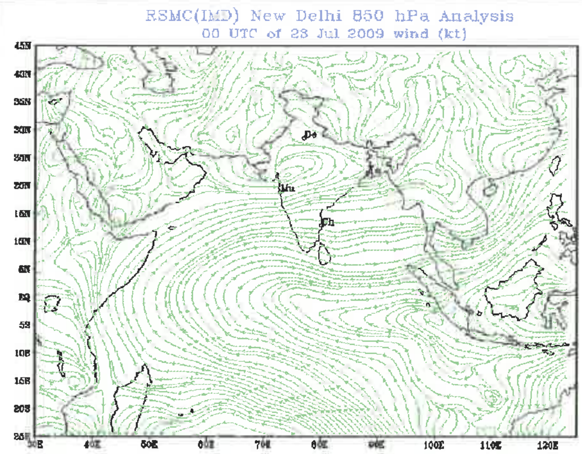
Flight : ***Nil***
Station : Bareilly

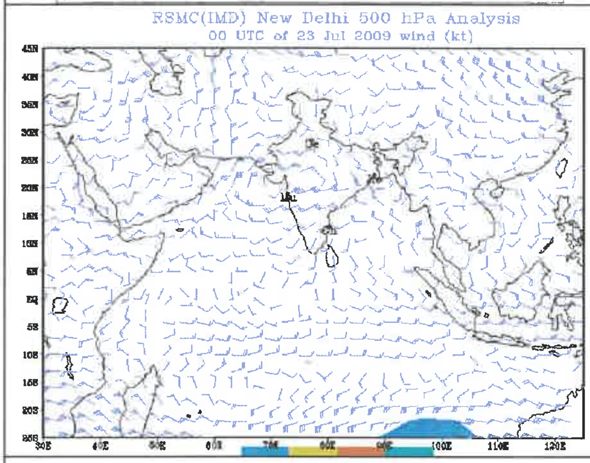


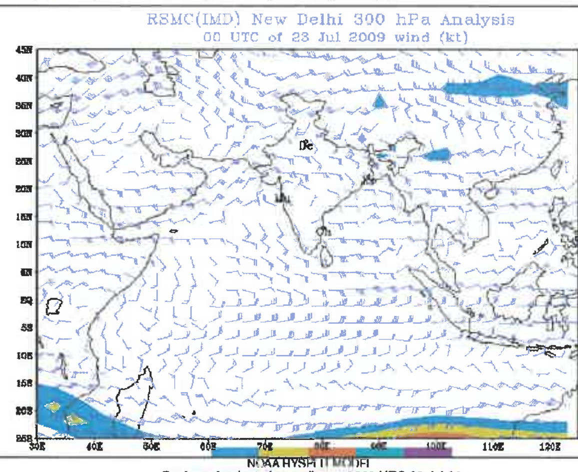


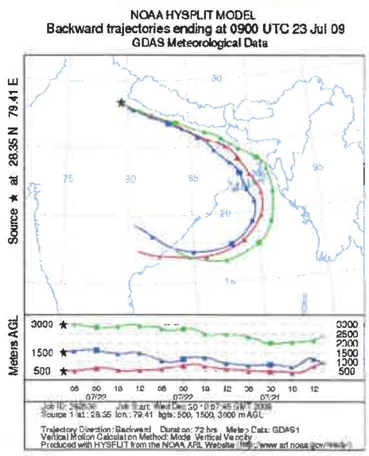
23 July 2009

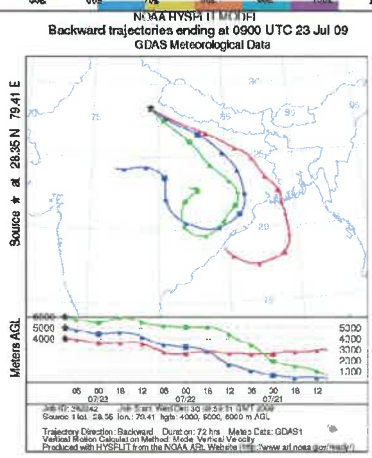

Thursday, 23 July 2009 (01 Sravana 1931 Saka)

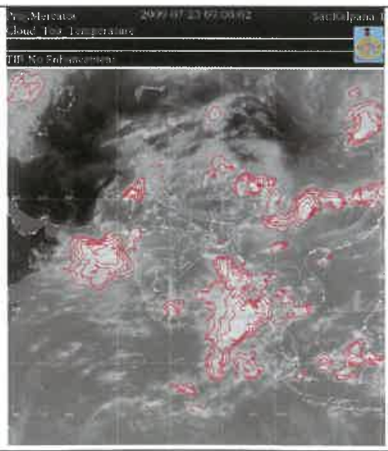

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 23 Jul 2009 wind (kt)

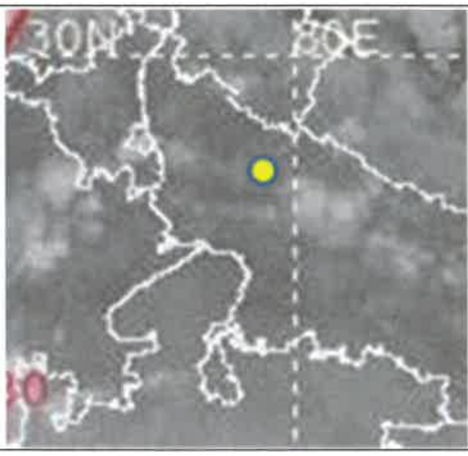

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 23 Jul 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 23 Jul 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 23 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 23 Jul 09
GDAS Meteorological Data
Source ★ at 28.35 N 79.41 E
Meters AGL




30N
80E

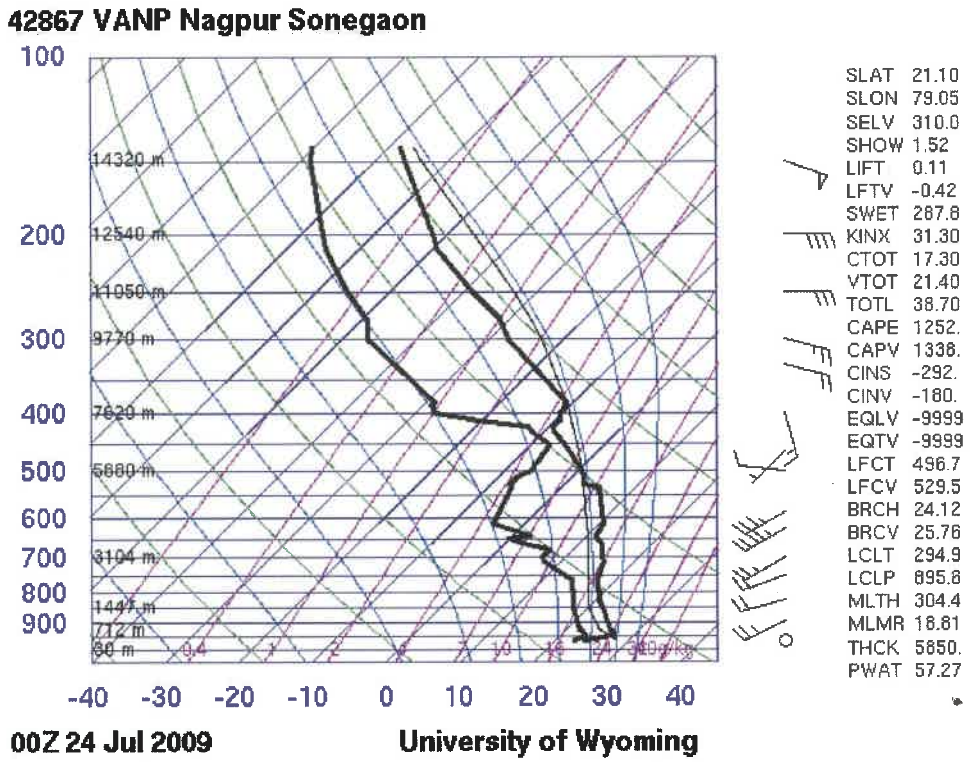
24 July 2009 (Bareilly-Nagpur-Hyderabad)

Weather summary :

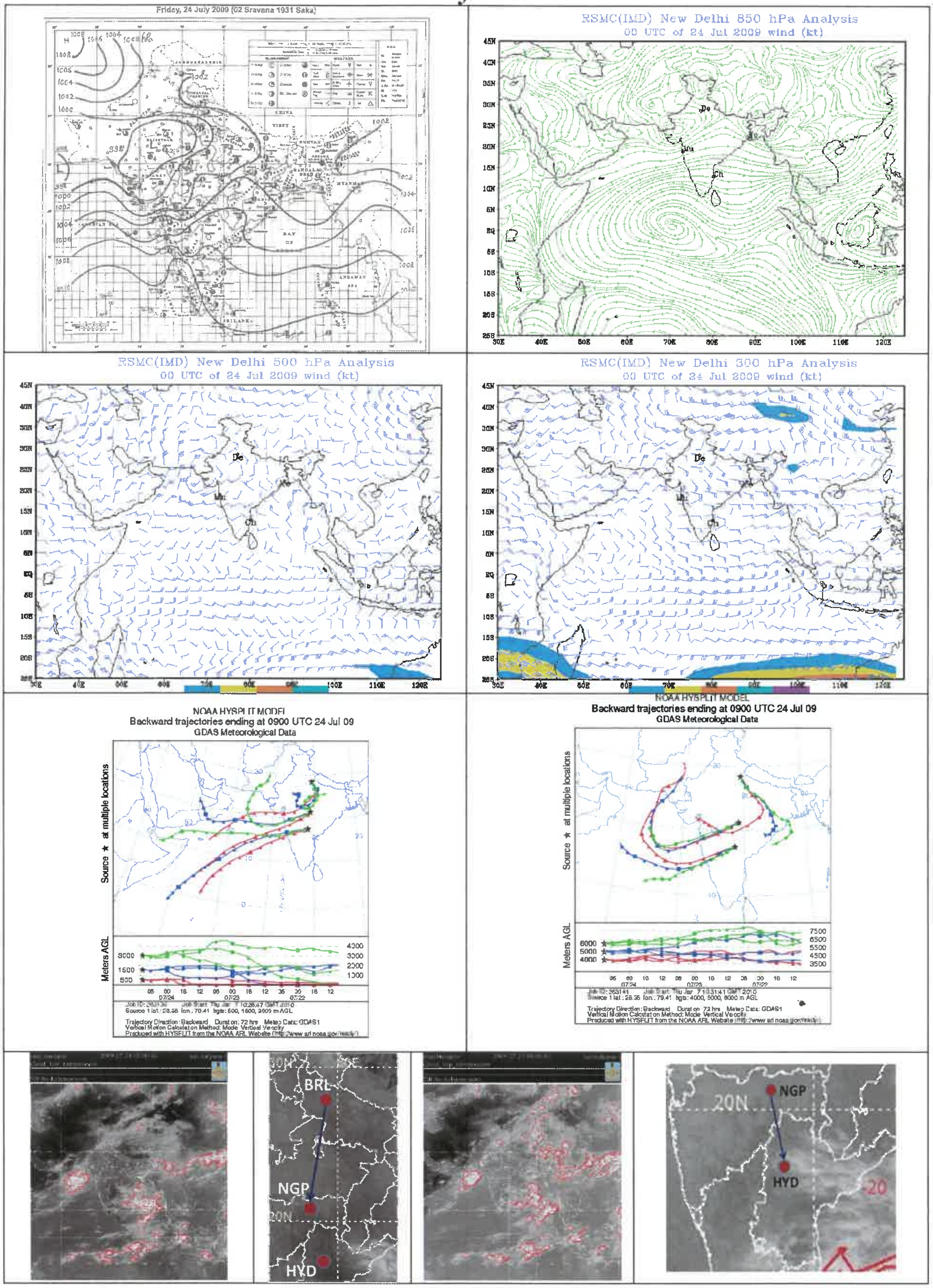
- The axis of monsoon trough at mean sea level passes through Jodhpur, Ajmer, Agra, Kanpur, Patna, Bhagalpur, Kolkata and thence southeastwards to eastcentral Bay of Bengal. The axis of monsoon trough is likely to shift northwards.

Flight :

• Station : Bareilly - Nagpur • Engine on : 08:50 • Engine off : 11:40	• Station : Nagpur - Hyderabad • Engine on : 13:40 • Engine off : 15:30



24 July 2009

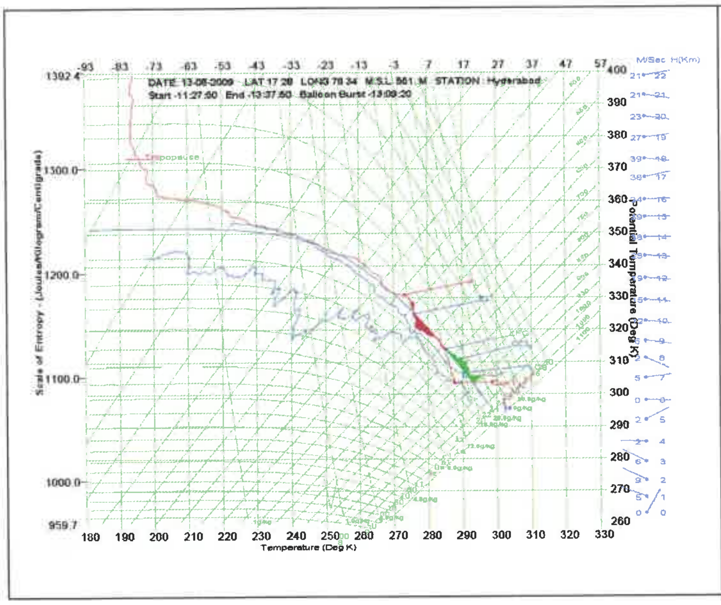

Friday, 24 July 2009 (02 Sravana 1931 Saka)
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 24 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 24 Jul 2009 wind (kt)
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 24 Jul 2009 wind (kt)
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 24 Jul 09
GDAS Meteorological Data
Source ★ at multiple locations
Meters AGL
BRL
NGP
20N
HYD
NGP
20N
HYD

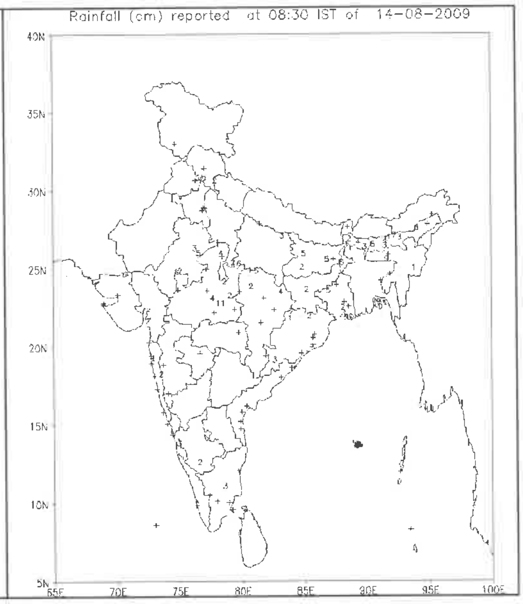
13 August 2009 (Base Hyderabad)

Weather summary :

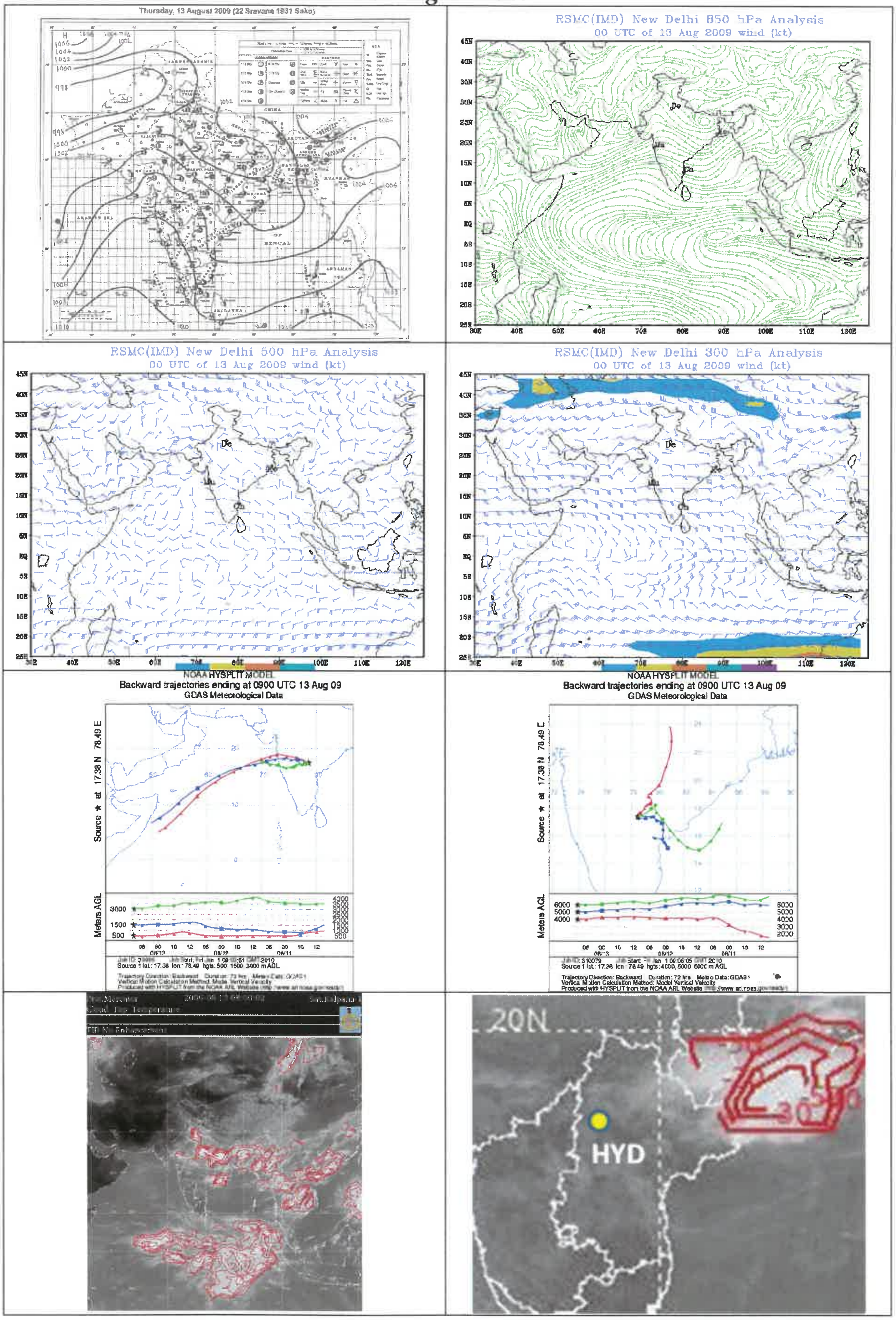
- The axis of monsoon trough at mean sea level passes through Amritsar, Ambala, Nanital, Bahraich, Gorakhpur, Sambalpur, Shantiniketan, Digha and thence southeastwards to eastcentral Bay of Bengal. Western end of the axis is likely to shift southward during next 2-3 day.
- Chief amounts of rainfall (≥ 4 cm) recorded at 0830 hours IST of today are: Coochbehar, 21, Cherrapunji-18, Dibrugarh-10, Tadong-9, Gangtok and North Lakhimpur-8 each, Hoshangabad and Jorhat -7each, Paradeep and Passighat-6 each, Nagappattinum, and Sheopur-5 each, Panjim, Purnea and Rangia-4 each.
- The upper air cyclonic circulation over east Uttar Pradesh and neighbourhood extending upto lower tropospheric levels persists.
- A feeble off shore trough extends from Gujarat to Konkan coast.

Flight ***: NIL***
Station : Hyderabad





13 August 2009



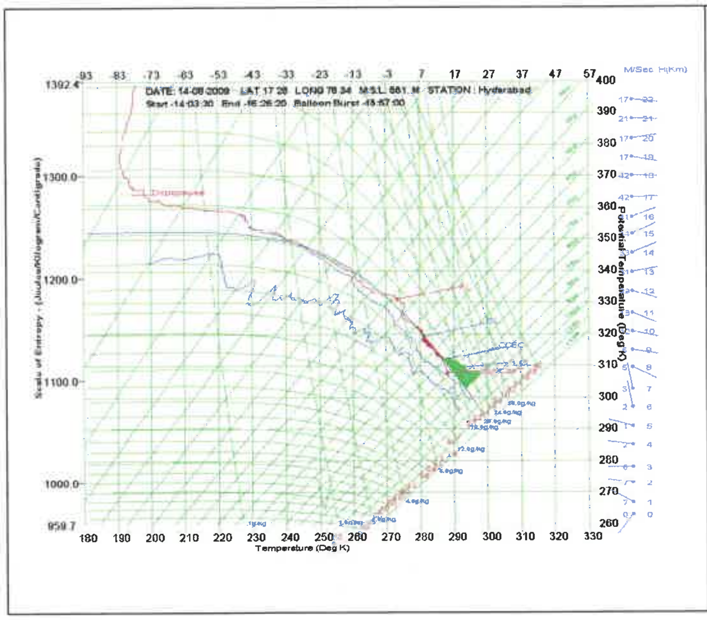
14 August 2009 (Base Hyderabad)

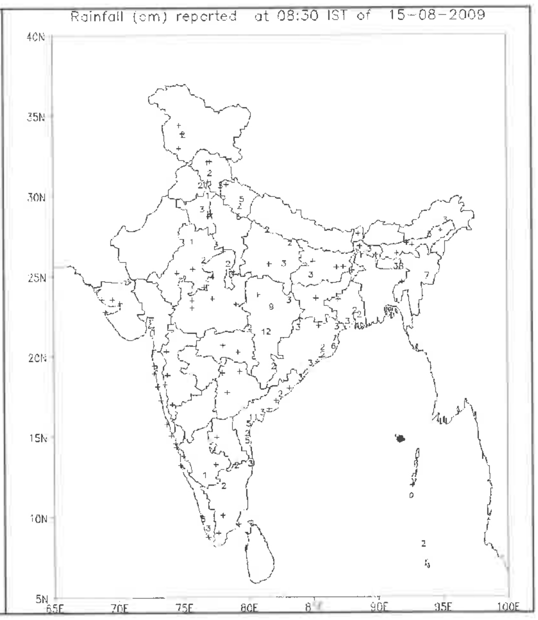
Weather summary :

- The axis of monsoon trough at mean sea level passes through Ferozepur, Karnal, Hamirpur, Ambikapur, Balasore and thence southeastwards to eastcentral Bay of Bengal. Western end of the axis is likely to shift slightly southward during next 48 hours.
- Chief amounts of rainfall (≥ 3 cm) recorded between 0830 – 1730 hours IST of today are: Katra & Chandbali-7 each, Paradeep & Hirakud-5 each, Guna-4, Gaya, Balasore, Digha, Kolkata (Dum Dum) and Sambalpur-3 each.
- The upper air cyclonic circulation over east Uttar Pradesh and neighbourhood persists and now extends upto 0.9 km above mean sea level.
- The upper air cyclonic circulation over north Orissa & neighbourhood persists and extends upto 3.6 km above mean sea level.

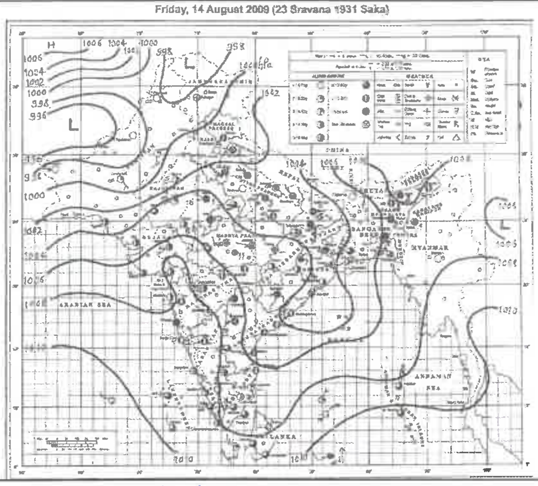
Flight :

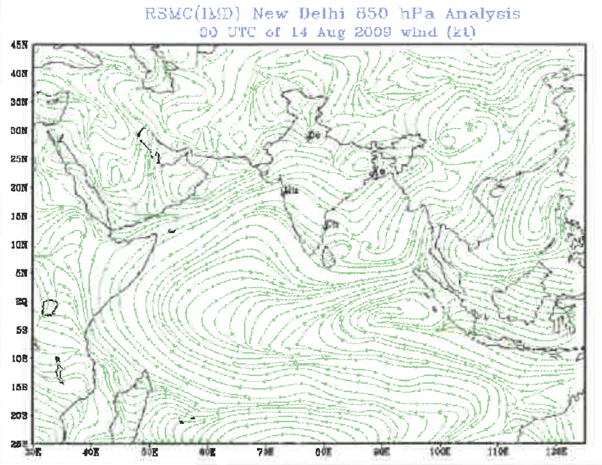
- Station : Hyderabad
- Engine on : 14:35
- Engine off : 17:20

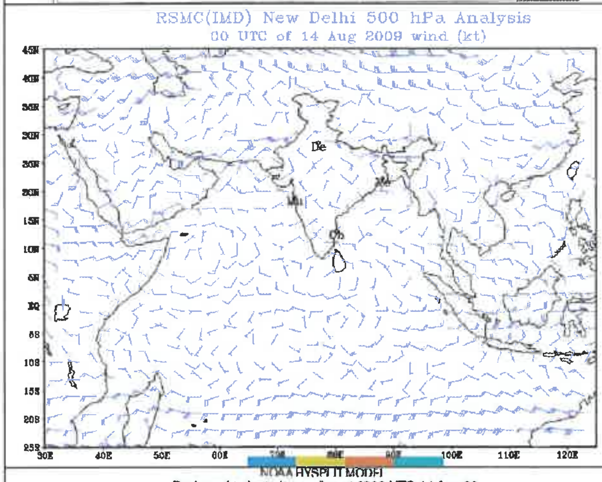


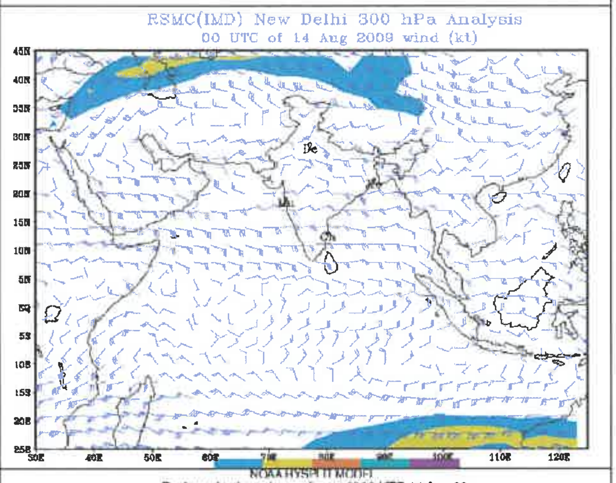


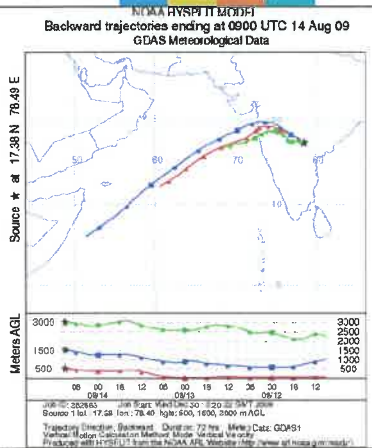
14 August 2009

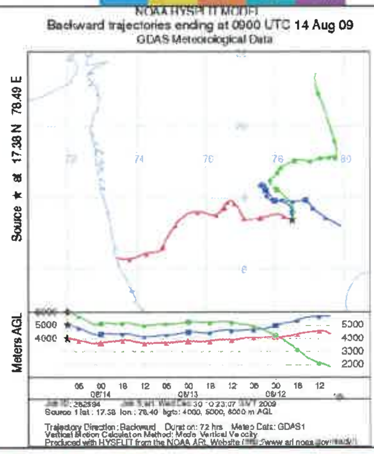


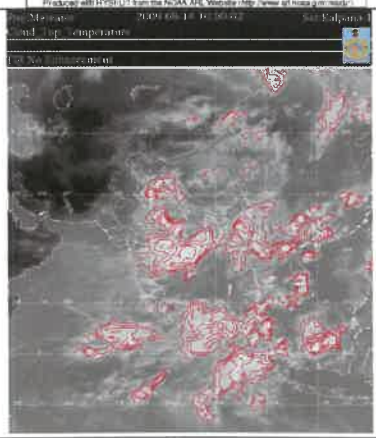


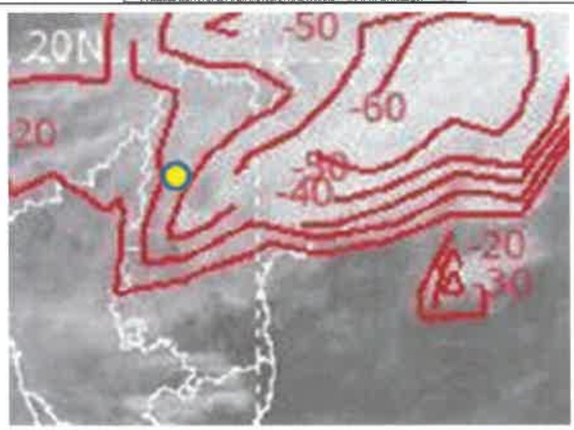












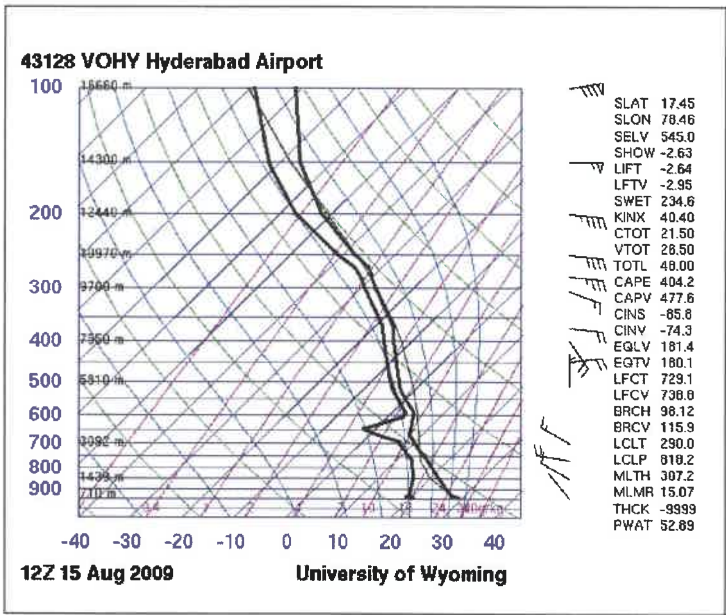
15 August 2009 (Base Hyderabad)

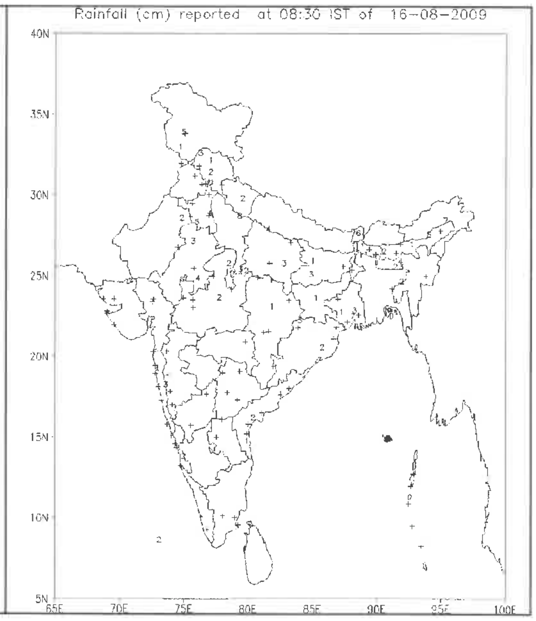
Weather summary :

- The axis of monsoon trough at mean sea level passes through Ganganagar, Rohtak, Aligarh, Daltonganj, Jamshedpur, Digha and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 4 cm) occurred during the day (between 0830 to 1730 hours IST of today) are: Itanagar and Cherrapunji-7each, Bareilly-6, North Lakhimpur and Hamirpur-5 each, Jalpaiguri and Silchar-4 each.
- The upper air cyclonic circulation over West Uttar Pradesh and neighbourhood extending upto 1.5 km above mean sea level persists.
- The upper air cyclonic circulation over north Chhattisgarh and neighbourhood extending upto mid-tropospheric level also persists.

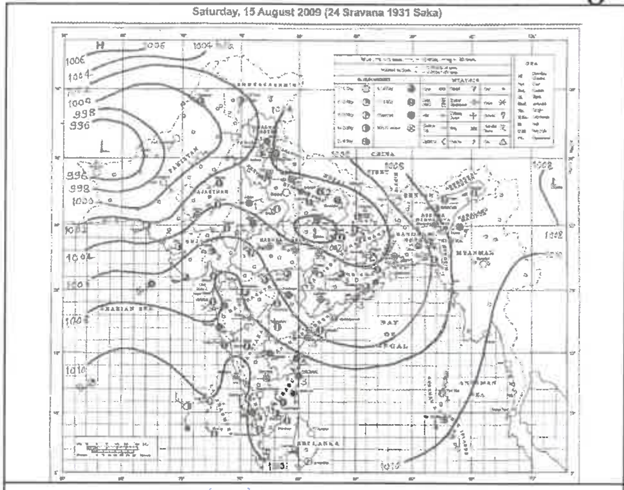
Flight :

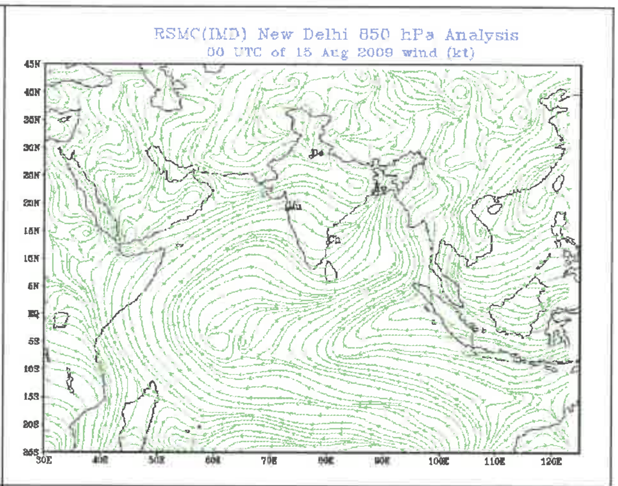
- Station : Hyderabad
- Engine on : 14:40
- Engine off : 16:40

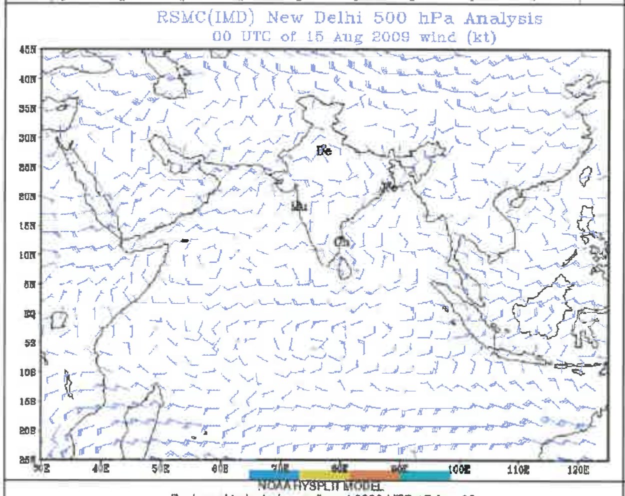


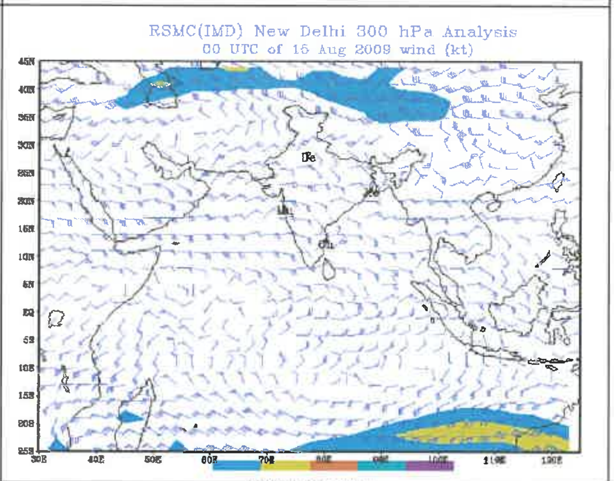


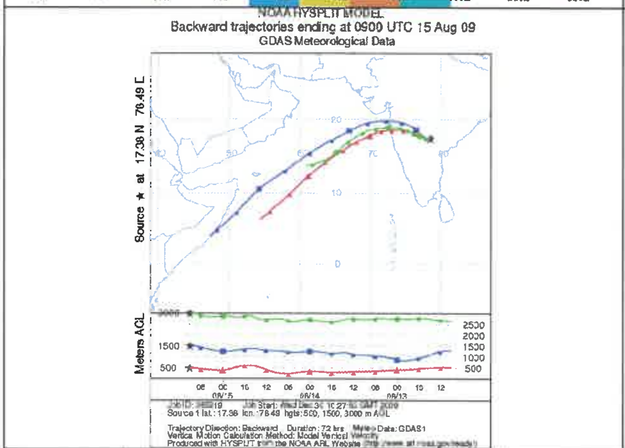
15 August 2009

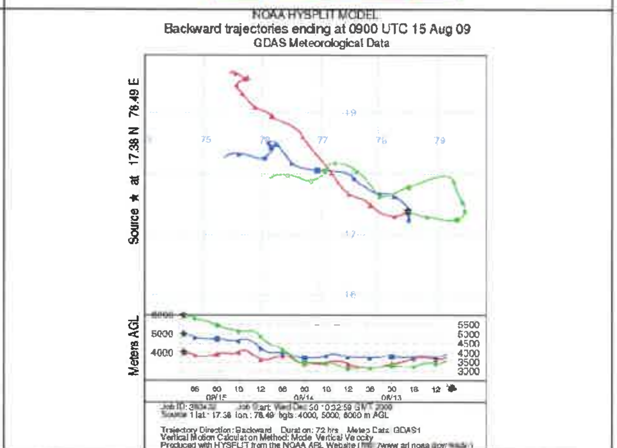


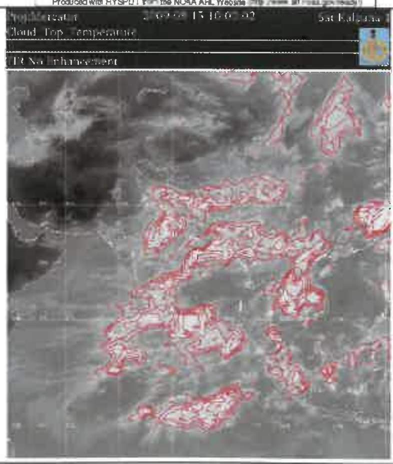


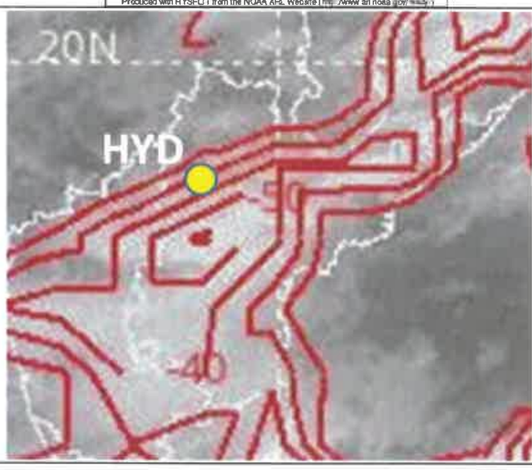












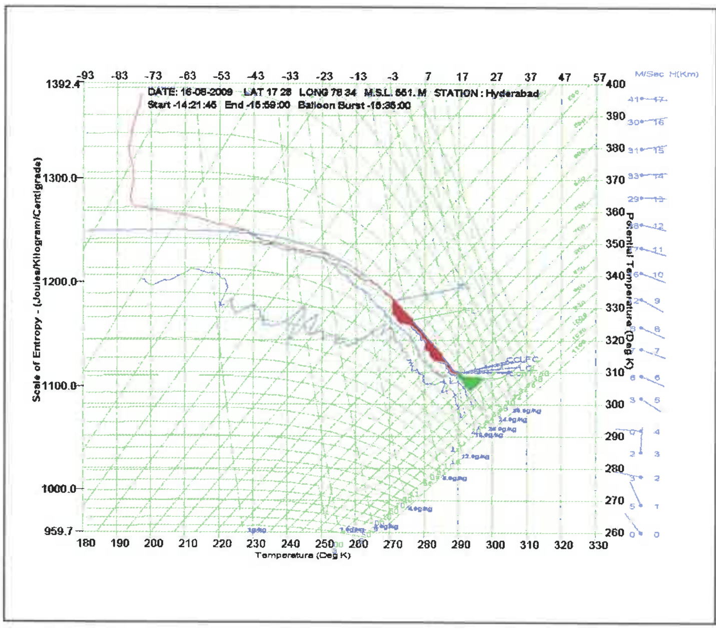
16 August 2009 (Base Hyderabad)

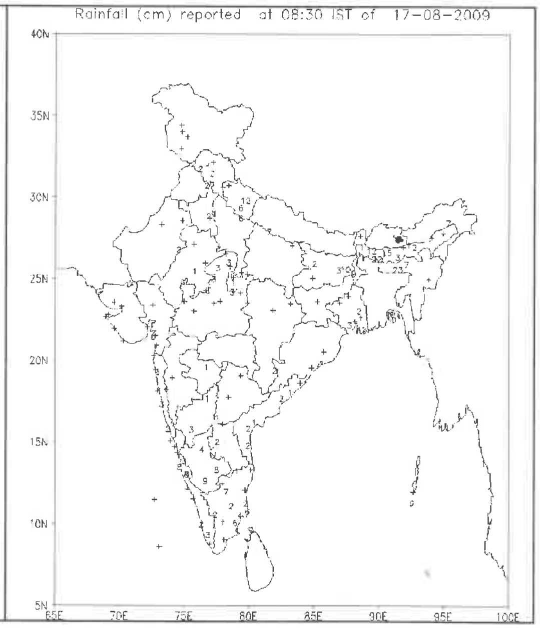
Weather summary :

- The axis of monsoon trough at mean sea level passes through Anupgarh, Mathura, Varanasi, Dhanbad, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 2 cm) occurred during the day (between 0830 to 1730 hours IST of today) are: Cherrapunji–10, Krishnanagar, Shillong and Cooch Behar-4 each, Mahabaleshwar, Tirupathi, Digha, Passighat, Dhubri and Guna–3 each, Bhadarwah, Agra, Agumbe, Ajmer, Bhagalpur, Pantnagar, Kolkata(Alipore), Panjim and Nellore-2 each.
- The upper air cyclonic circulation over west Uttar Pradesh and neighbourhood extending upto mid tropospheric levels persist.
- The upper air cyclonic circulation over north Chhattisgarh and neighbourhood has merged with the above system.
- An upper air cyclonic circulation over southwest Bay of Bengal and adjoining Srilanka extends upto 5.8 Km above mean sea level.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southwest Bay of Bengal, southeast Arabian Sea, Bihar, West Bengal & Sikkim, Chhattisgarh, Uttar Pradesh, northwest Madhya Pradesh, Assam & Meghalaya, Coastal Andhra Pradesh and south peninsula. Low/medium clouds are seen over west, central and adjoining east India, northeast and Peninsular India.

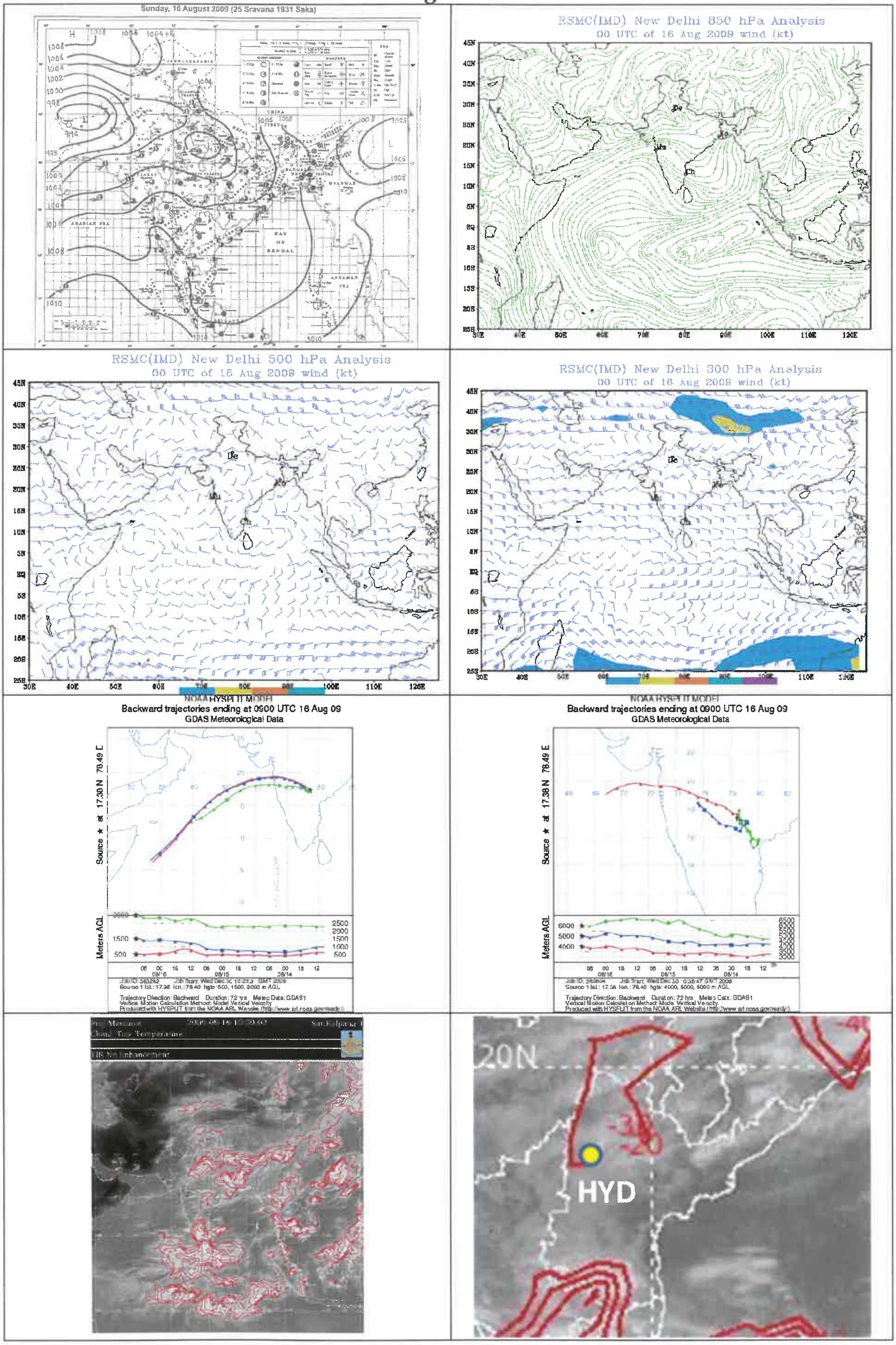
Flight

- Station : Hyderabad
- Engine on : 14:35
- Engine off : 16:40





16 August 2007



17th August, 2009 *(Base Hyderabad)*

- Southwest monsoon was active/vigorous over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Bihar, West Uttar Pradesh, Uttarakhand, North & South Interior Karnataka and Kerala.

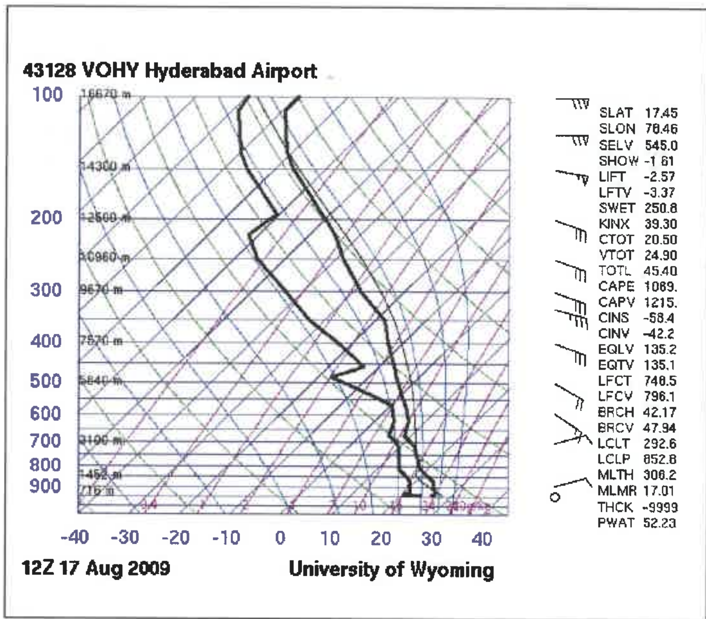
- The axis of monsoon trough at mean sea level passes through Ganganagar, Meerut, Hardoi, Gaya, Burdwan and thence southeastwards to eastcentral Bay of Bengal.

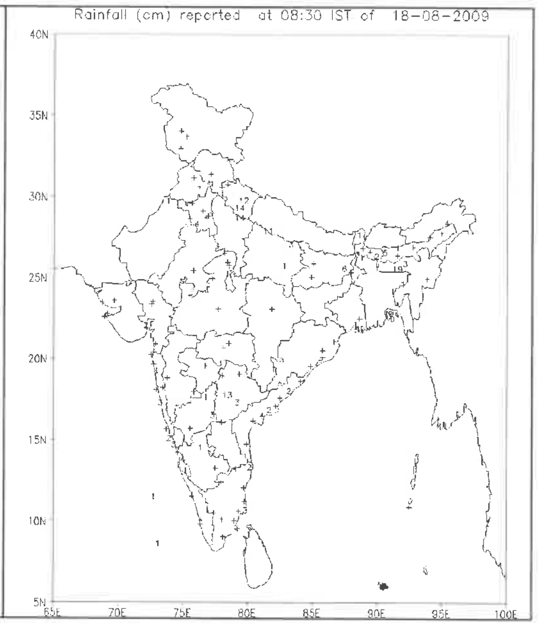
- The upper air cyclonic circulation over west Uttar Pradesh and neighbourhood extending upto lower tropospheric levels persists.

- An upper air cyclonic circulation over southwest Bay of Bengal off south Andhra Pradesh and north Tamilnadu coasts extends upto 5.8 Km above mean sea level

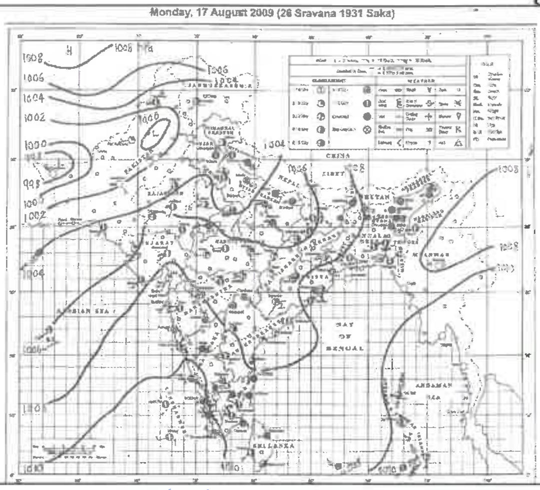
Flight : Nil

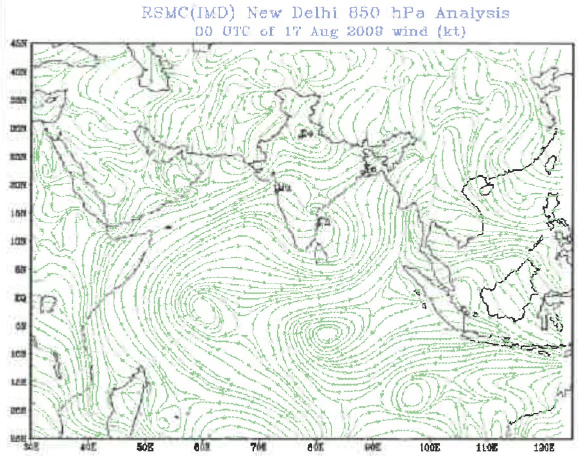
Station : Hyderabad

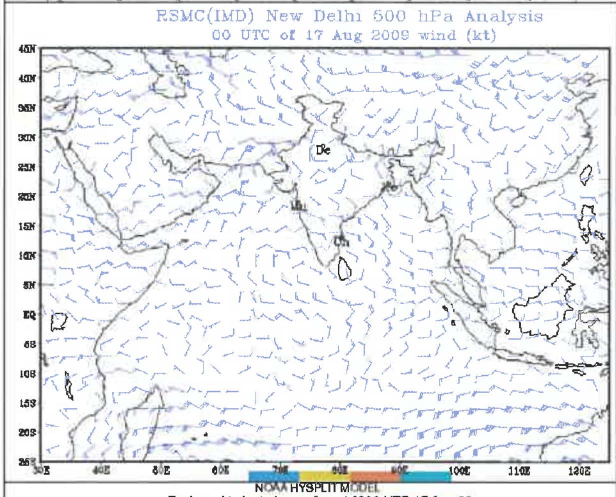


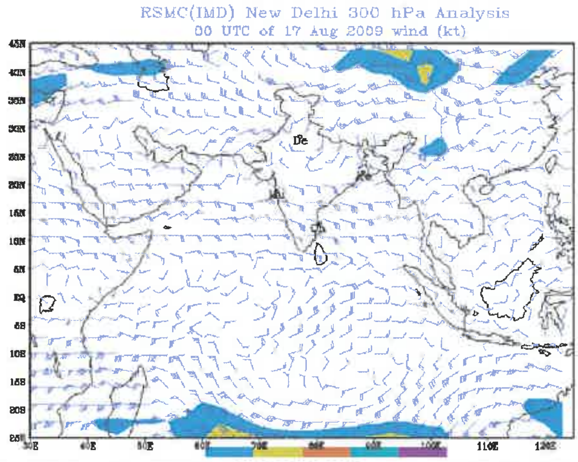


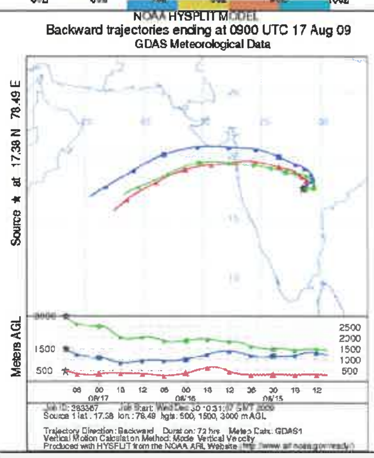
17 August 2009

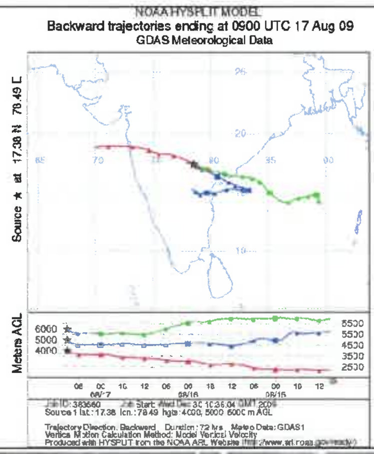


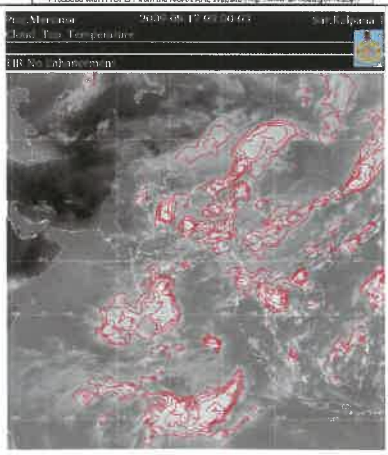


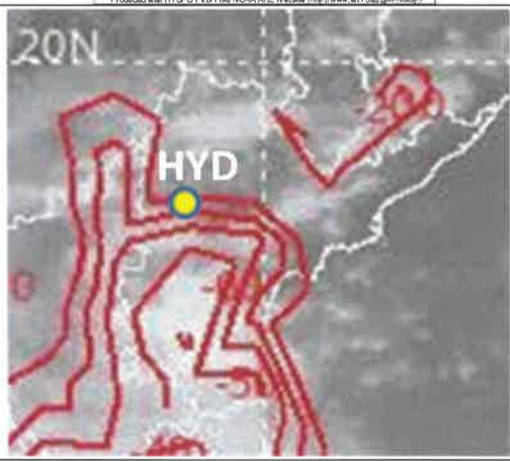












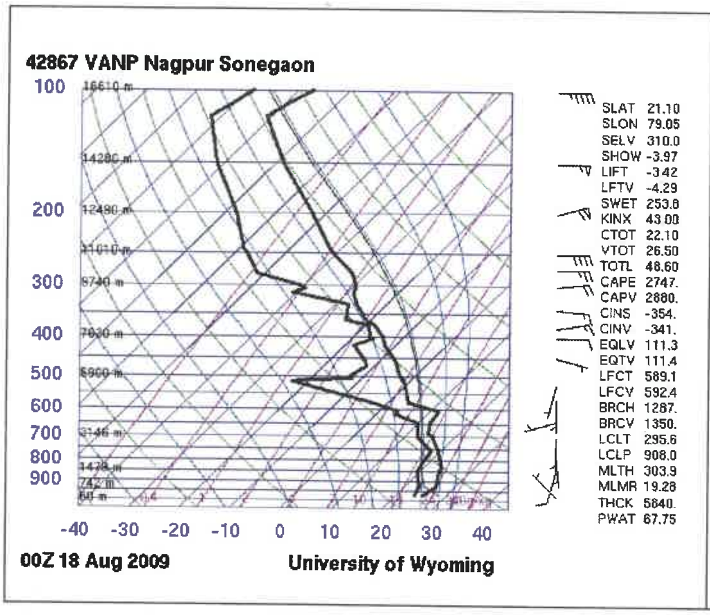
18 August 2009 *(Base Hyderabad-Nagpur-Bareilly)*

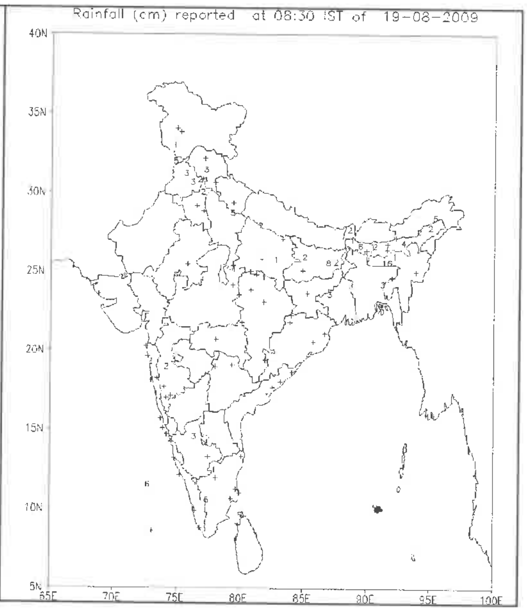
Weather summary :

- The axis of monsoon trough at mean sea level passes through Firozpur, Karnal, Bareilly, Azamgarh, Dhanbad, Digha and thence southeastwards to eastcentral Bay of Bengal. It is likely to shift northward during next 1-2 days.
- The southwest monsoon was active over Bihar, Uttar Pradesh, Uttarakhand, Rayalaseema and South Interior Karnataka.
- The upper air cyclonic circulation over northwest Uttar Pradesh and neighbourhood persists and extends upto 0.9 Km above mean sea level
- The upper air cyclonic circulation over north Tamilnadu and neighbourhood also persists and extends upto mid-tropospheric levels. It is tilting southwestward with height.

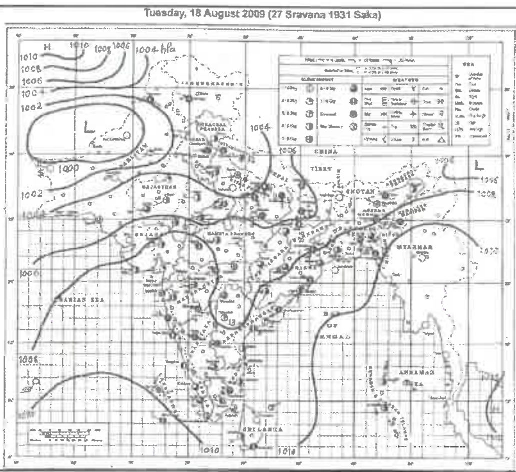
Flight :

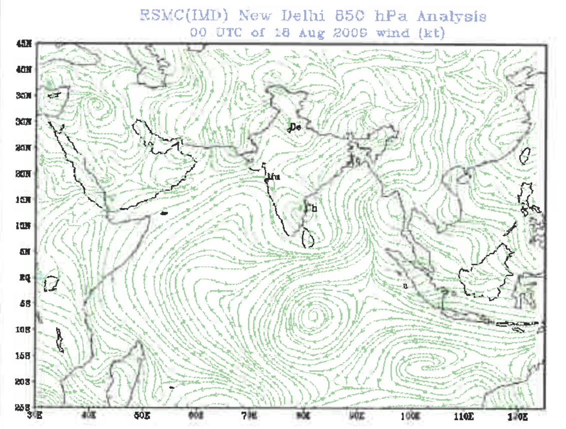
Station : Hyderabad	Station : Hyderabad - Nagpur	Station : Nagpur - Bareilly
Engine on : 09 :00	Engine on : 09:40	Engine on : 13:00
Engine off : 09:15	Engine off : 11-45	Engine off : 16:15

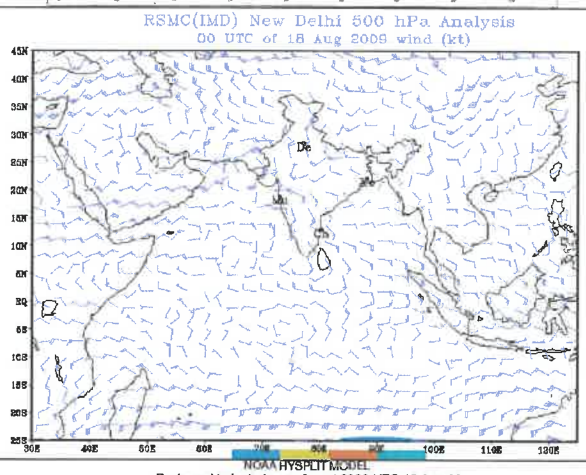


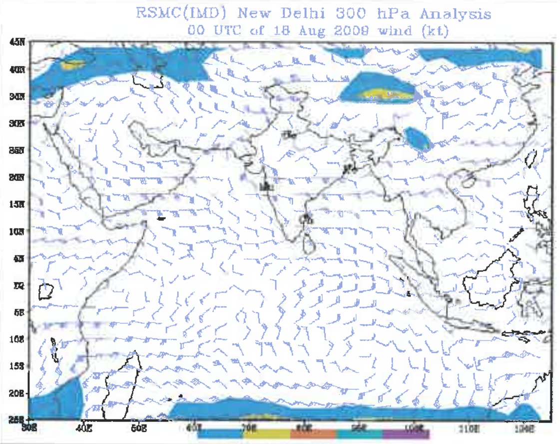


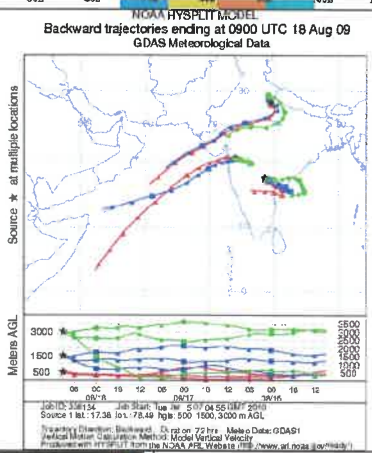
18 August 2009

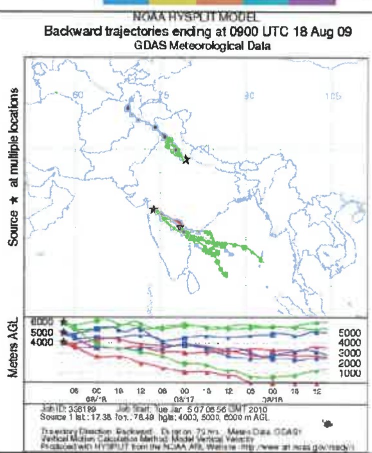


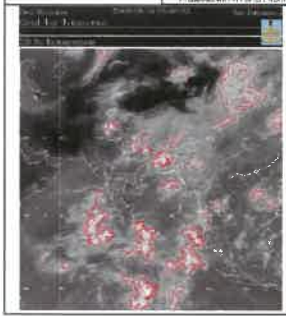


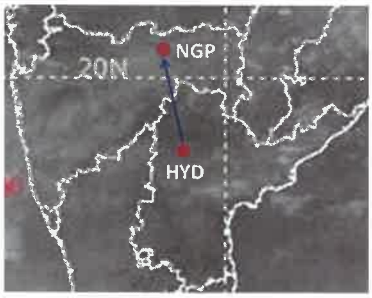


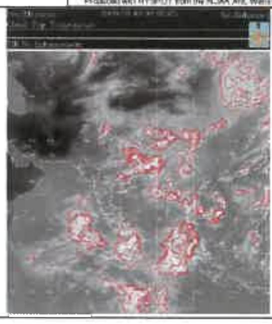










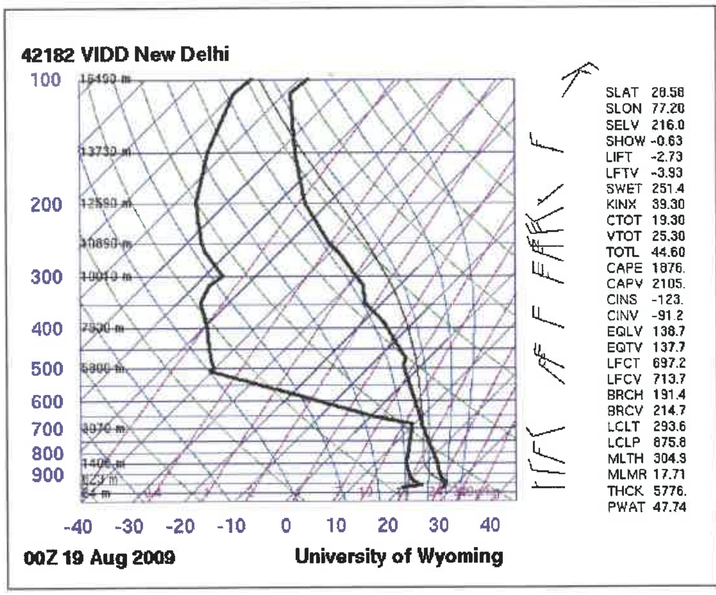


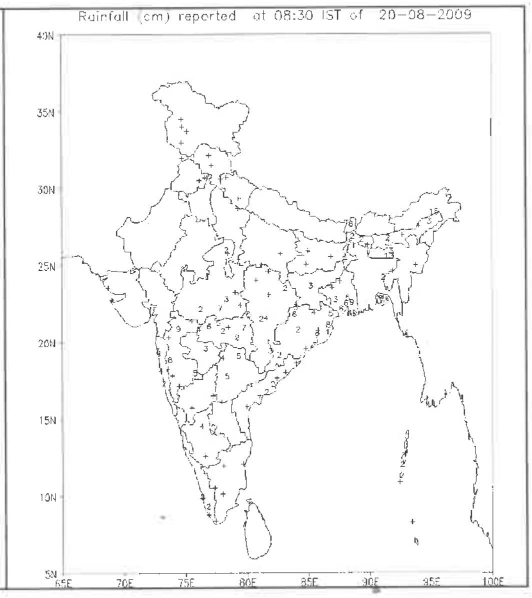
19 August 2009 (Base Bareilly)

Weather summary :

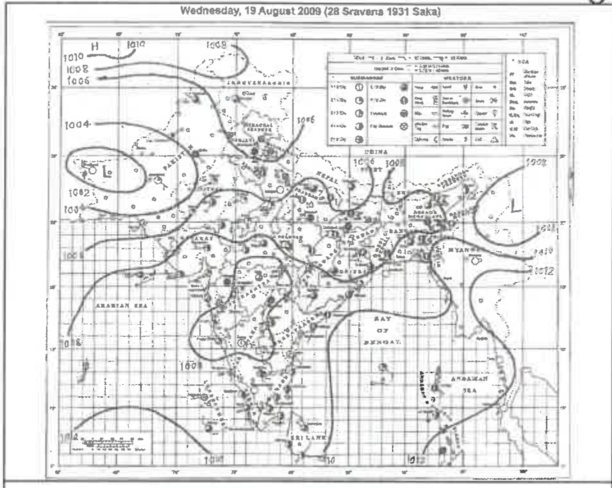
- The axis of monsoon trough at mean sea level passes through Firozepur, Ambala, Bareilly, Gorakhpur, Patna, Dhanbad, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- Southwest monsoon was active over Punjab, east Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim and Assam & Meghalaya during past 24 hours.
- The upper air cyclonic circulation over northwest Uttar Pradesh and adjoining Uttarakhand persists and extends upto 0.9 Km above mean sea level.
- Yesterday's upper air cyclonic circulation over Tamilnadu and neighbourhood now lies over Kerala and neighbourhood and extends upto mid-tropospheric levels.

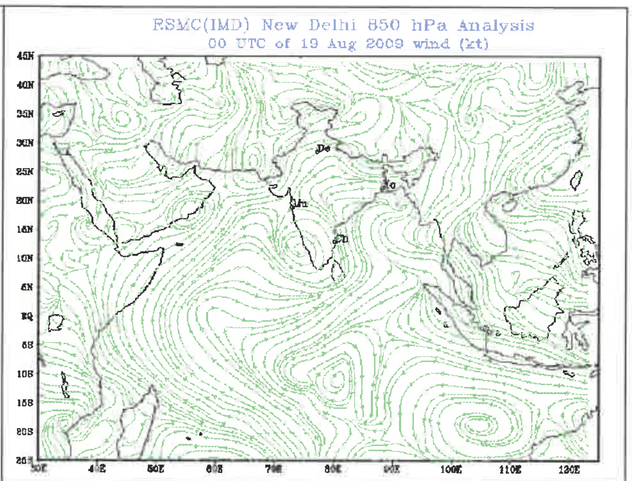
- Station : Bareilly
- Engine on 15:00
- Engine off : 16:15

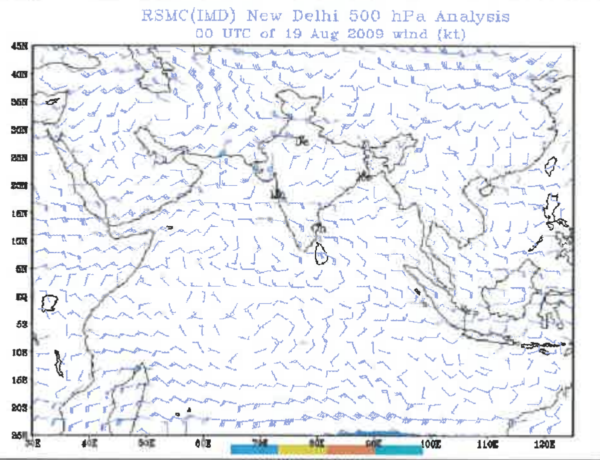


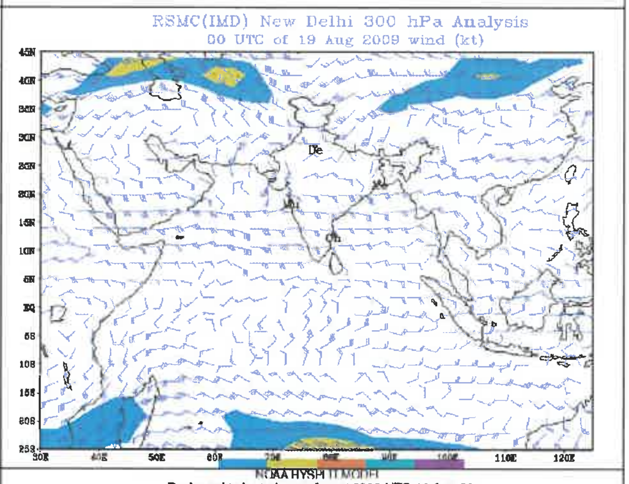


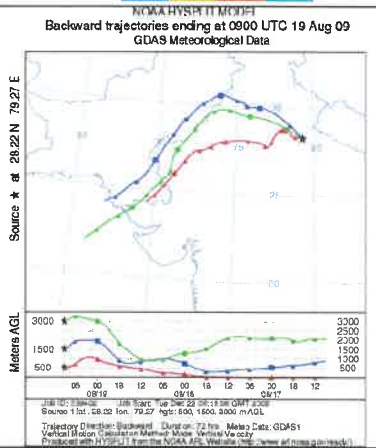
19 August 2009

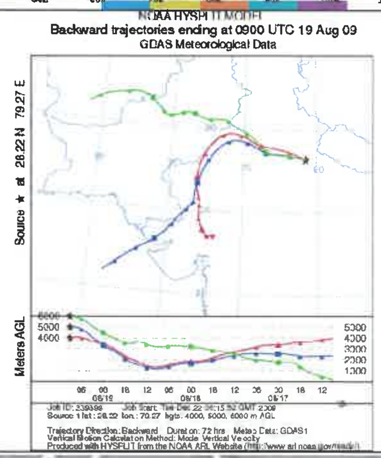


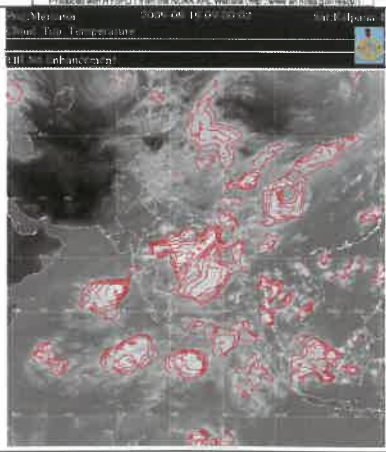


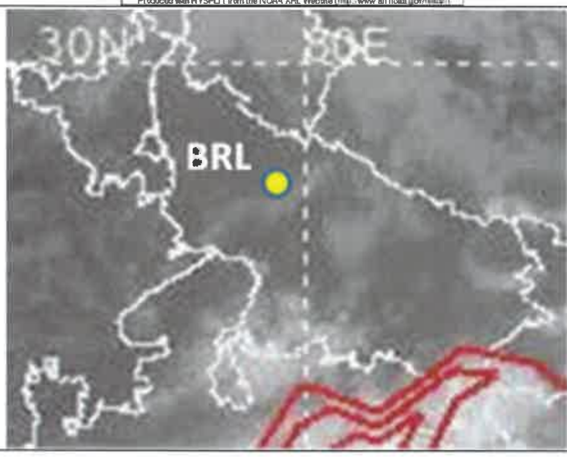












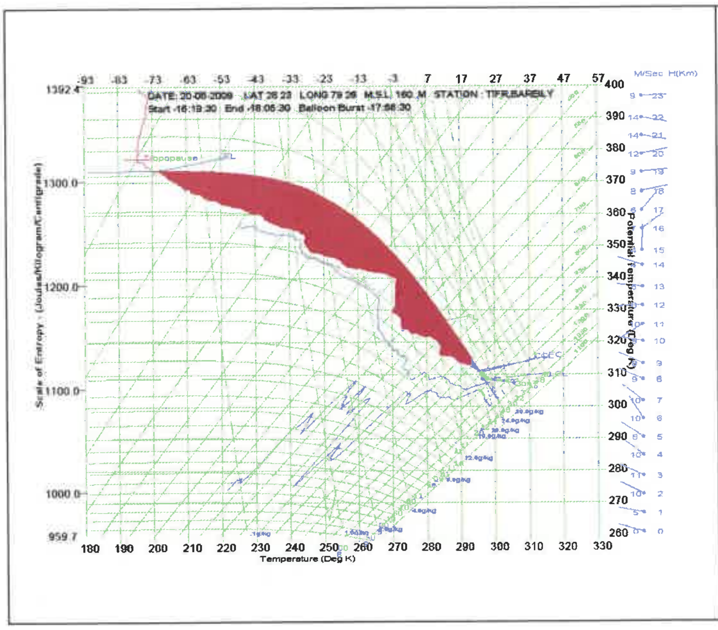
20 August 2009 (Base Bareilly)

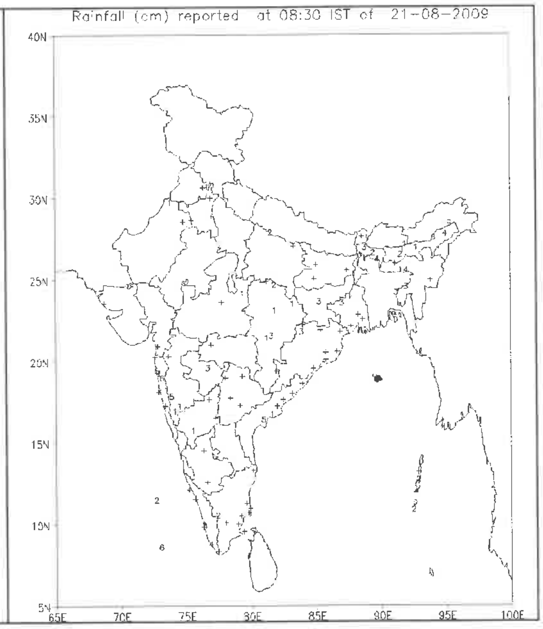
Weather summary :

- The axis of monsoon trough at mean sea level passes through Firozepur, Dehradun, Nainital, Bahraich, Chhapra, Jamui, Midnapore and thence southeastward to eastcentral Bay of Bengal.
- Southwest monsoon was active/vigorous over West Bengal & Sikkim, Orissa, Bihar, Madhya Maharashtra, Marathawada, Vidarbha, Chhattisgarh, Telangana and North Interior Karnataka during past 24 hours.
- The upper air cyclonic circulation over northwest Uttar Pradesh and adjoining Uttarakhand has become less marked.
- An upper air cyclonic circulation lies over Sub-Himalayan West Bengal & Sikkim and adjoining Bihar and extends upto 1.5 Km above mean sea level.
- The upper air cyclonic circulation over Kerala & neighbourhood now lies over Lakshadweep area and neighbourhood and extends upto mid-tropospheric levels.
- An upper air cyclonic circulation over Marathwada and neighbourhood lies between 4.5 and 6.0 Km above mean sea level,

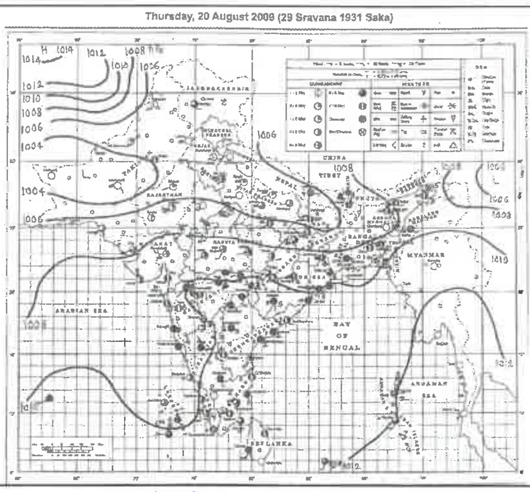
Flight

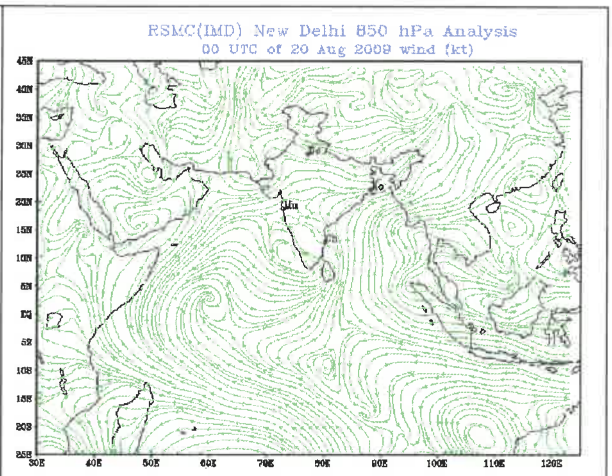
- Station : Bareilly
- Engine on : 15:55
- Engine off : 18:35

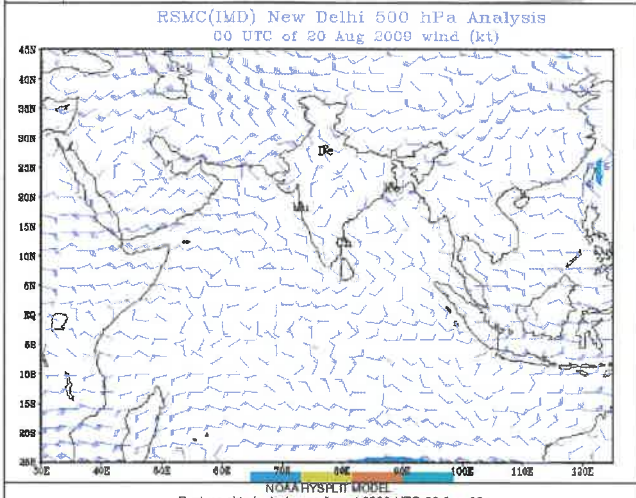


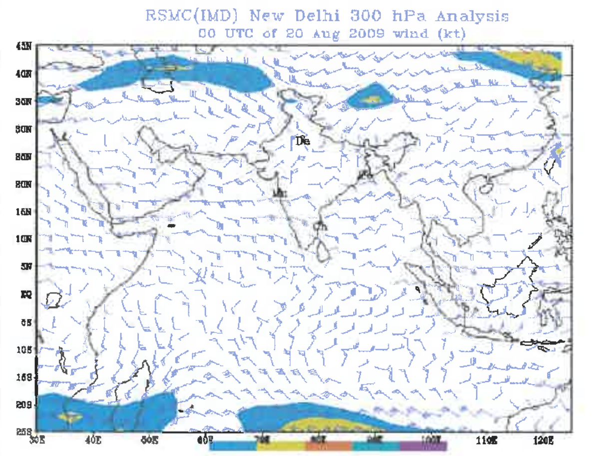


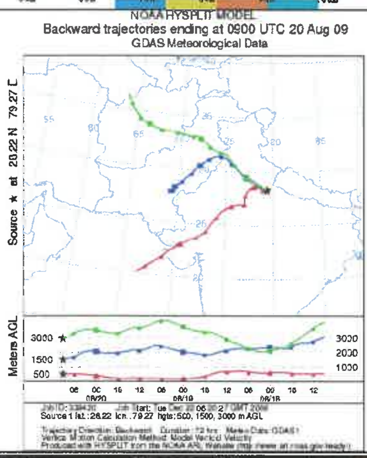
20 August 2009

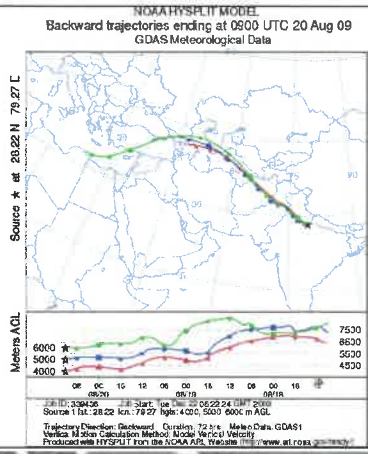


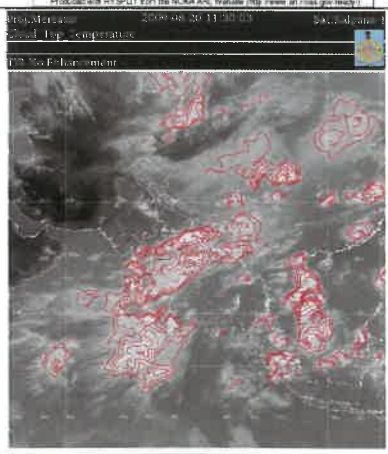


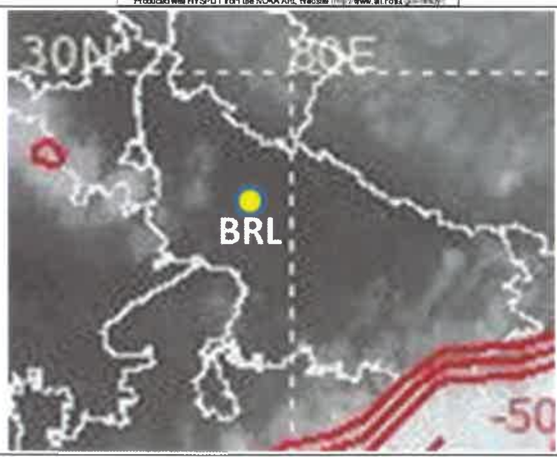










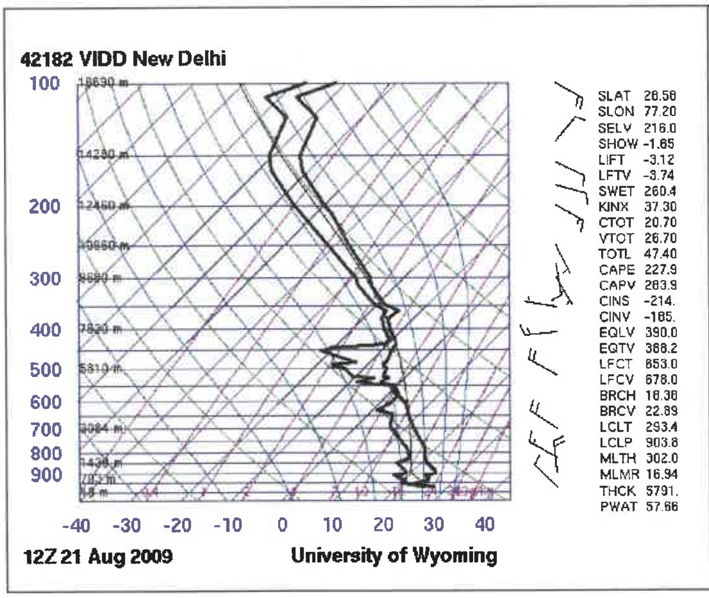


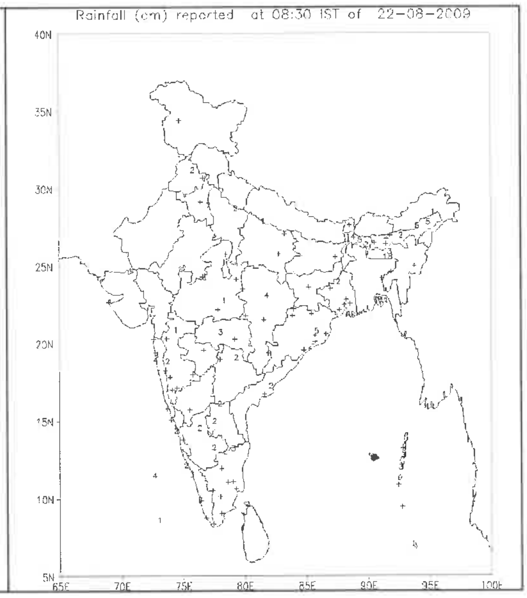
21 August 2009 (Base Bareilly)

Weather summary :

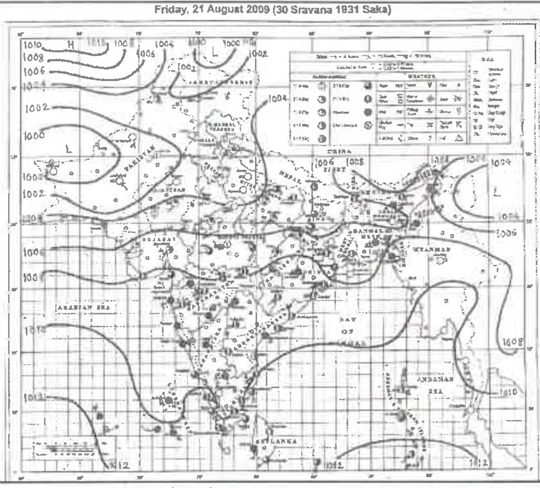
- The axis of monsoon trough at mean sea level passes through Ferozpur, Karnal, Bahraich, Patna, Dhanbad, Digha and thence southeastward to eastcentral Bay of Bengal.
- Fairly widespread rainfall has occurred over northeastern states, parts of east India, Chhattisgarh, east Madhya Pradesh and west coast during past 24 hours.
- Chief amounts of rainfall (≥ 5 cm) recorded at 0830 hours IST of today are:Cherrapunji-14, Pasighat-9, Pune, north Lakhimpur and Umaria-6each, Machilipatnam, Mumbai, Satara and Minicoy-5 each, Dibrugarh, Portblair, Thiruvanthapuram, Kottayam, Daltonganj and Dhubri-4 each, Jalpaiguri, Parbhani, Ranchi, Bankura, Raipur, Sambalpur, Agartala and Kailashahar-3 each.
- A north south trough runs from sub-Himalayan west Bengal & Sikkim to north Bay of Bengal and extends upto 0.9 Km above sea level.
- The upper air cyclonic circulation over Lakshadweep area and neighbourhood extending upto mid-tropospheric levels persists.

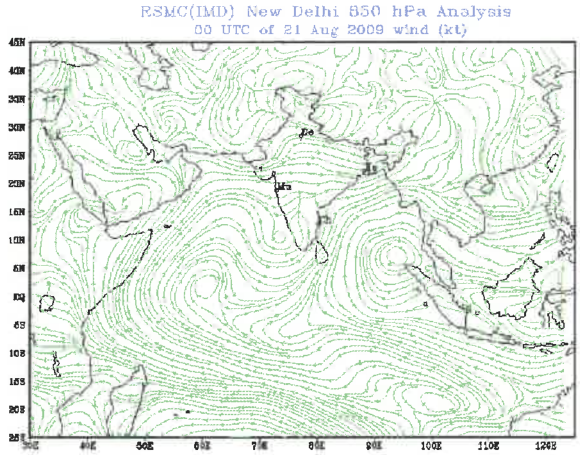
Flight ***: Nil***
Station : Bareilly

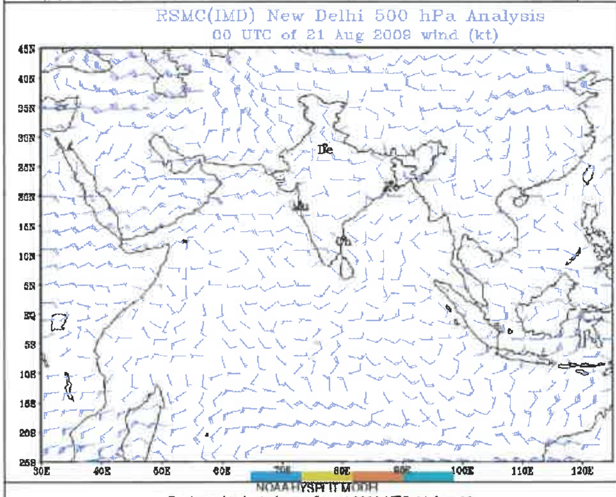


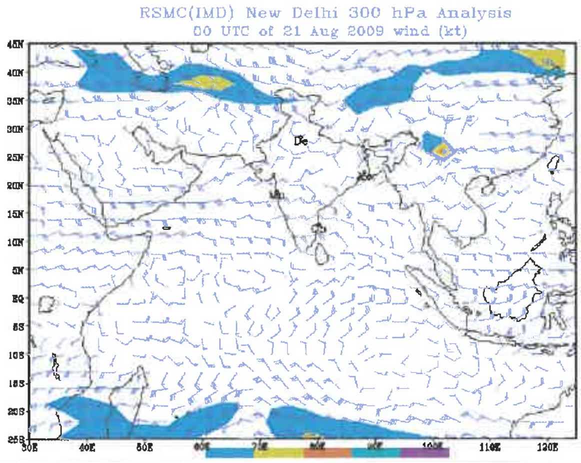


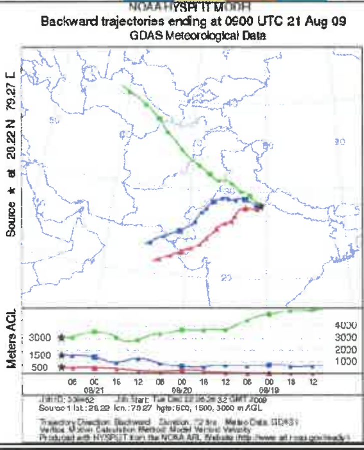
21 August 2009

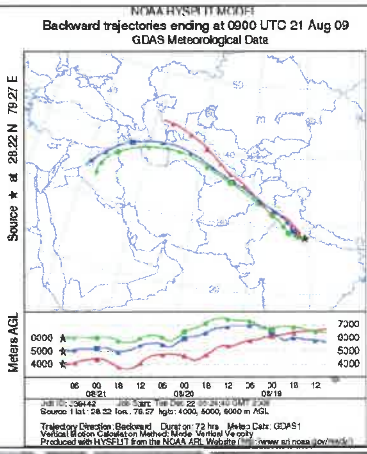


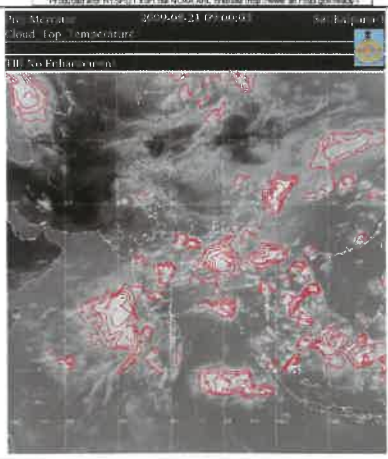


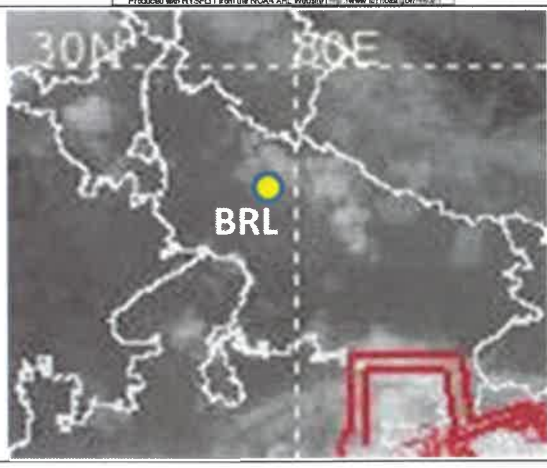








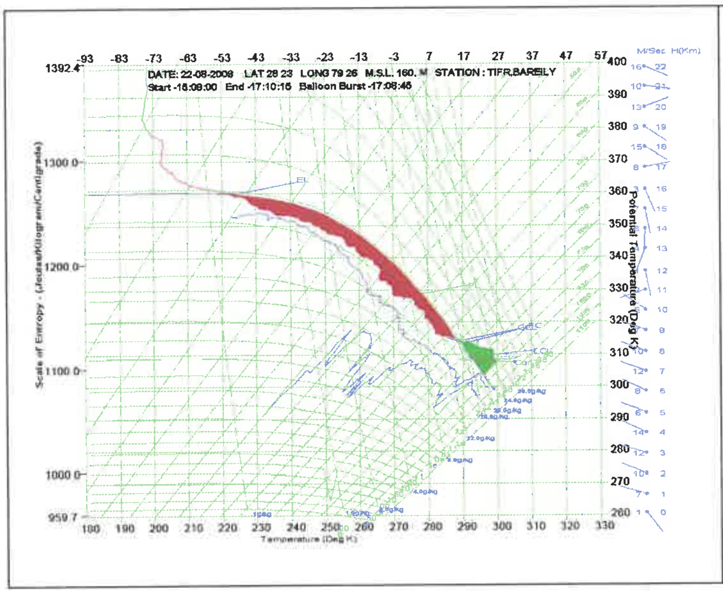


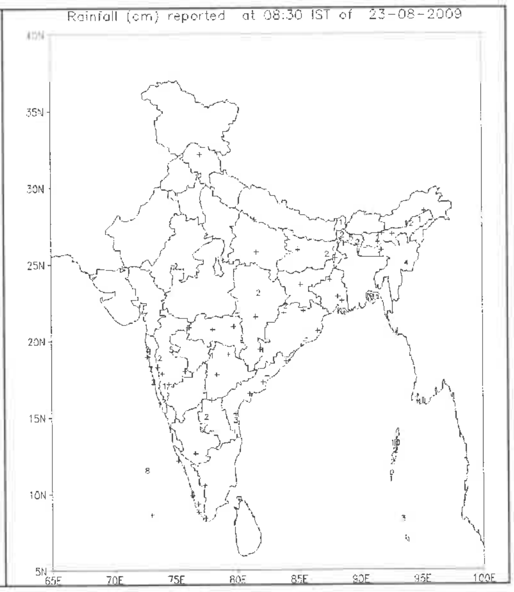


22 August 2009 (Base Bareilly)

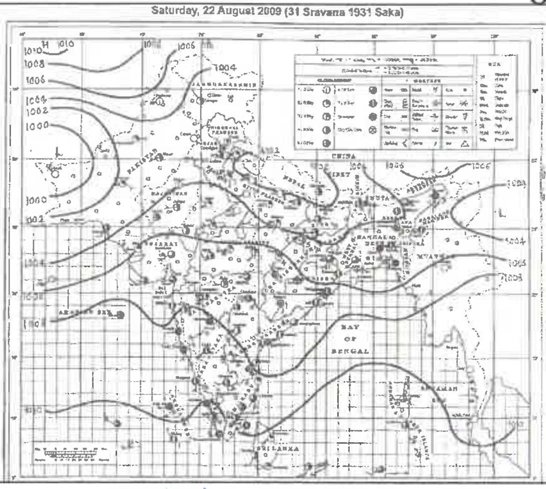
Weather summary :

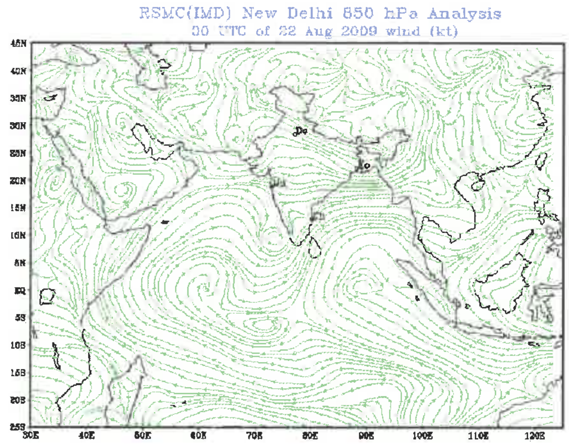
- The axis of monsoon trough at mean sea level passes through Pathankot, Dehradun, Mukteshwar, Nautanwa, Jamui, Digha and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥2 cm) occurred between 0830 to 1730 hours IST of today are: Mayabandar -10, Agathi -6, Aminidivi -5, Aurangabad -3, North Lakhimpur, Pune, Chitradurga and Mumbai(Colaba) -2 each.
- The upper air cyclonic circulation over Sub-Himalayan West Bengal & Sikkim and adjoining Bihar extending upto 0.9 Km above mean sea level persists.
- The north-south trough from this system extending upto south coastal Orissa also persists.
- The off-shore trough extending from Konkan & Goa coast to Kerala coast persists.

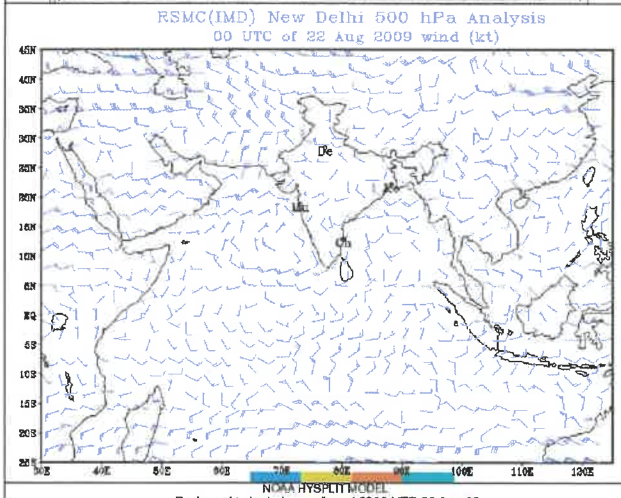


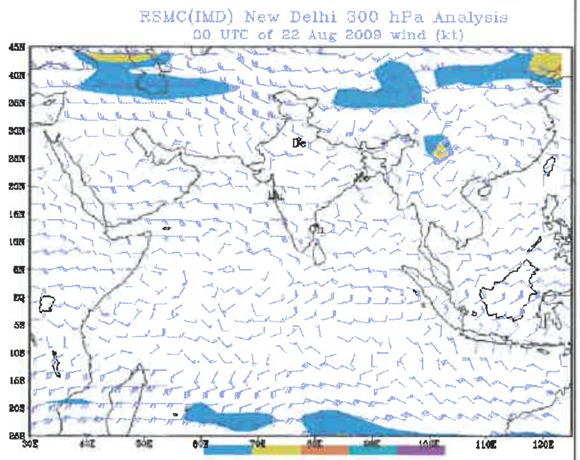


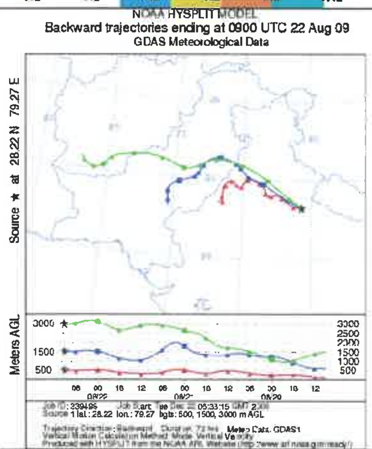
22 August2009

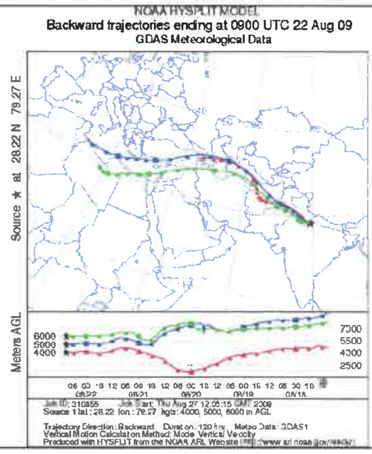


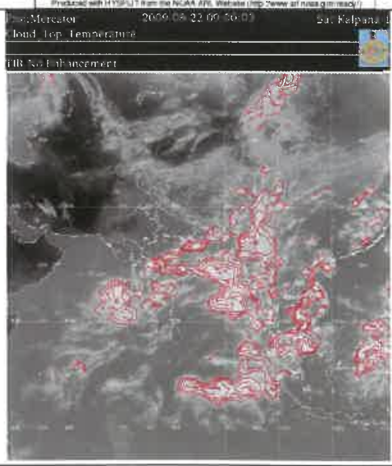


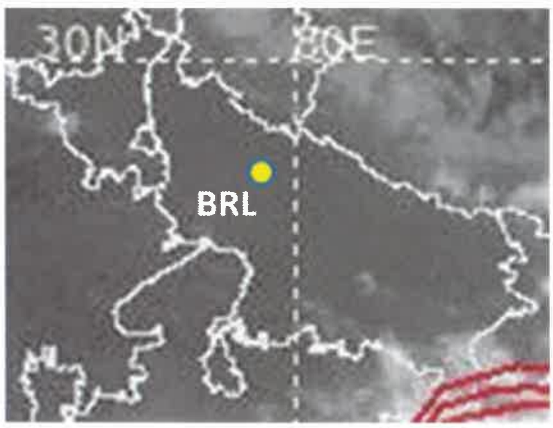












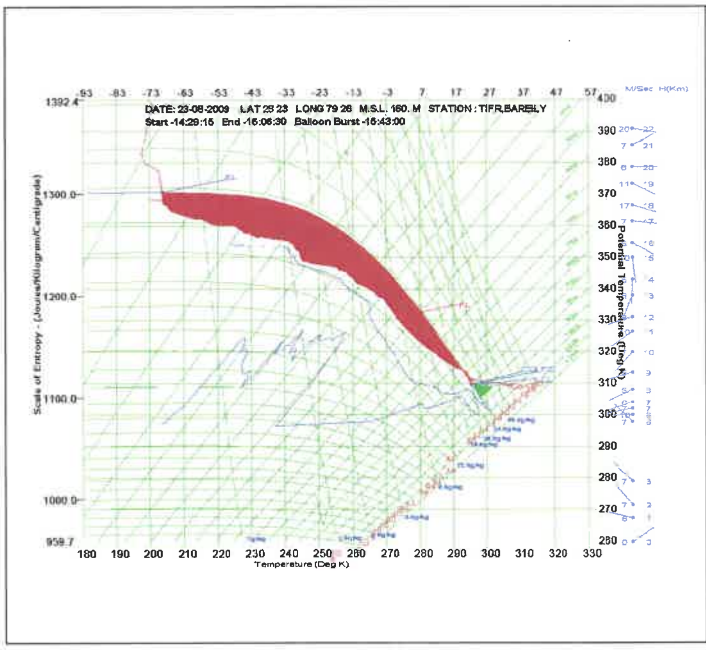
23 August 2009 (Base Bareilly)

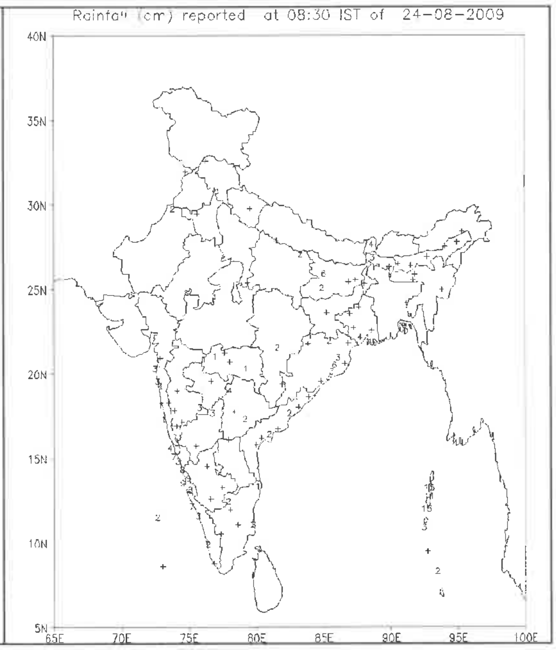
Weather summary :

- The axis of monsoon trough at mean sea level passes through Firozpur, Patiala, Nainital, Bahraich, Bhagalpur, Kolkata and thence southeastward to eastcentral Bay of Bengal.
- Monsoon was vigorous over Rayalaseema and active over Arunachal Pradesh and Andaman & Nicobar Islands during past 24 hours.
- The upper air cyclonic circulation over Sub-Himalayan West Bengal & Sikkim and adjoining Bihar persists. A north-south trough from this system runs upto north Bay of Bengal and extends upto 2.1 Km above mean sea level.
- The off-shore trough extending from Konkan & Goa coast to Kerala coast persists.

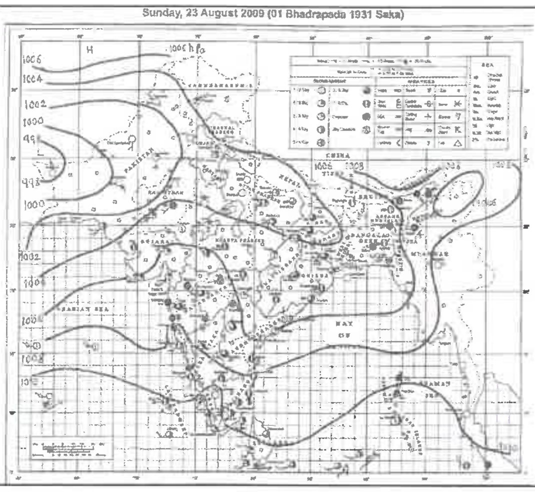
Flight

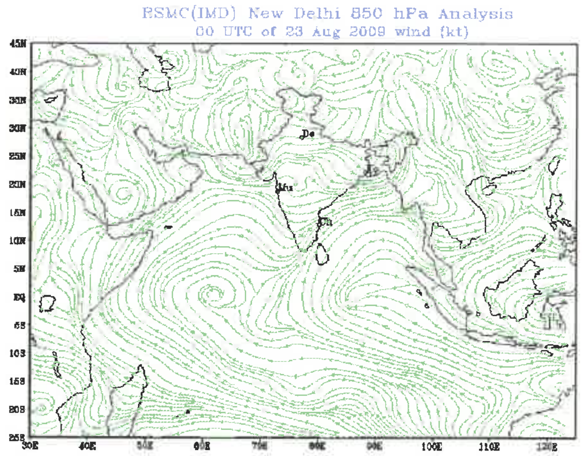
- Station : Bareilly
- Engine on ; 14:15
- Engine off : 17:00

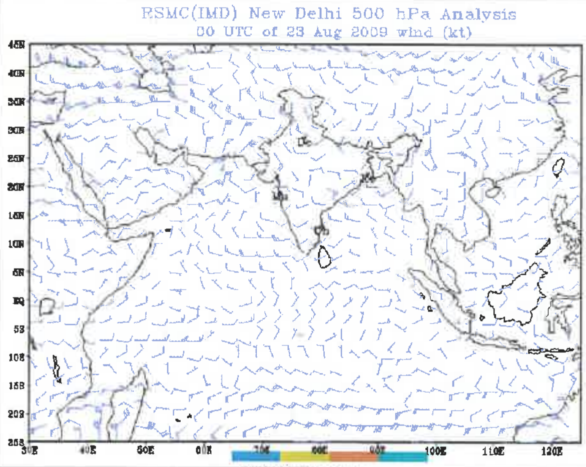


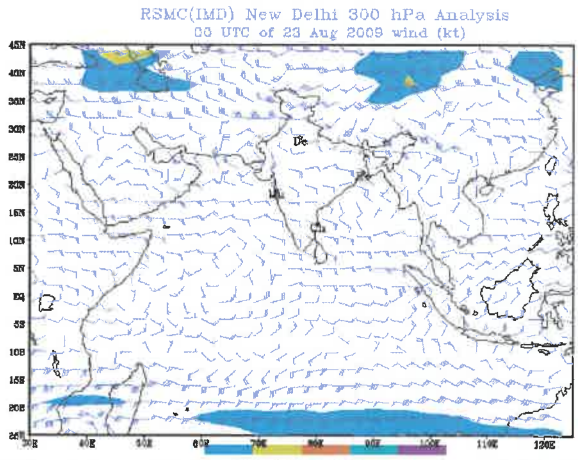


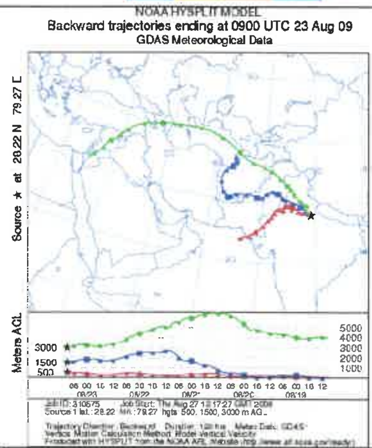
23 August 2009

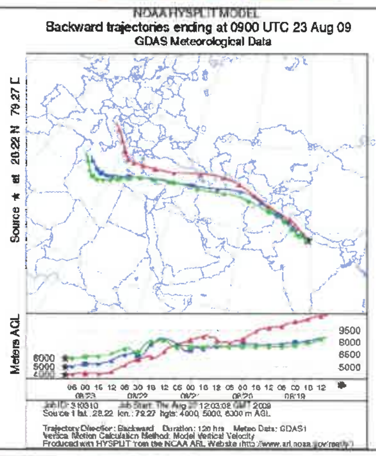


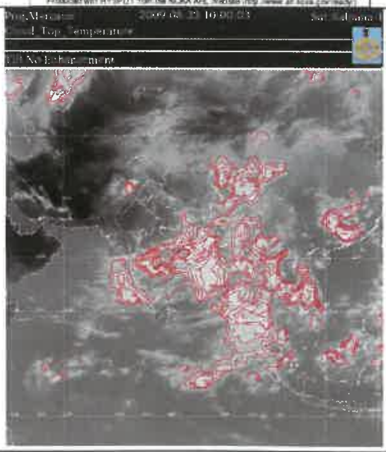


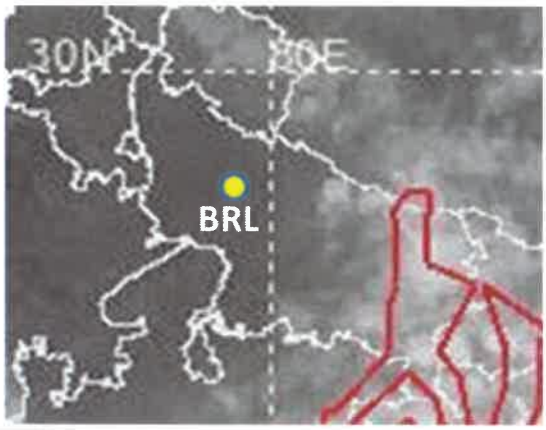












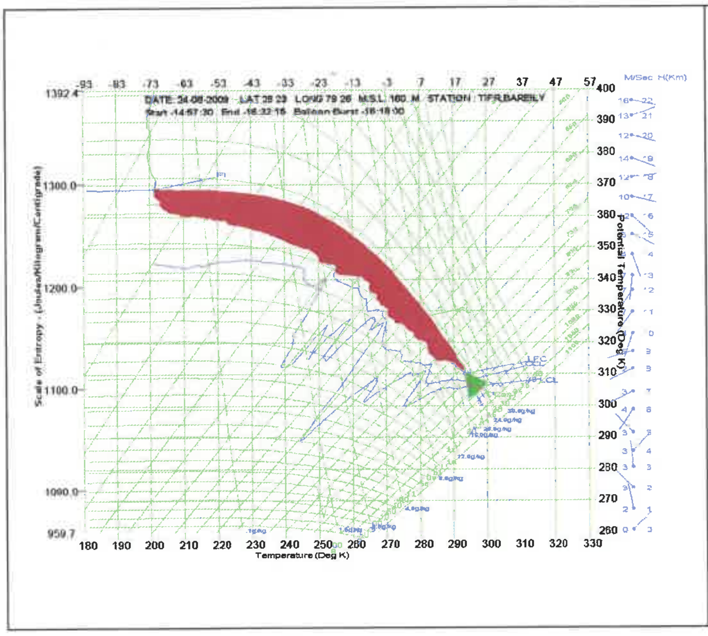
24 August 2009 (Base Bareilly)

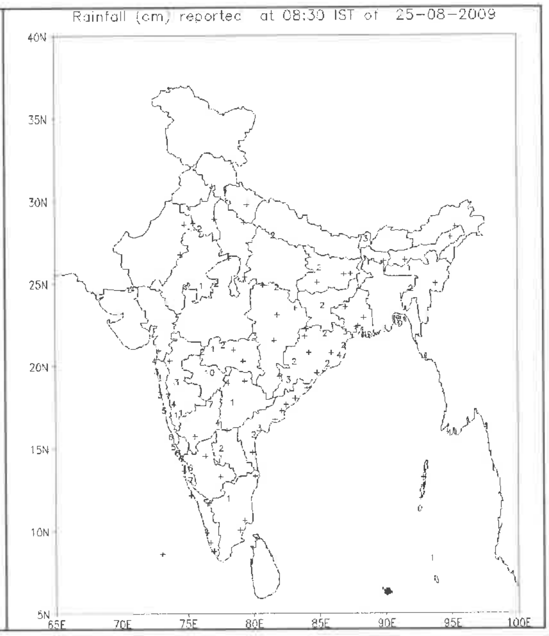
Weather summary :

- The axis of monsoon trough passes through Amritsar, Jalandhar, Meerut, Hardoi, Varanasi, Purnea, Digha and thence southeastward to eastcentral Bay of Bengal.
- Monsoon was active over Andaman & Nicobar Islands, Orissa, Bihar, Madhya Maharashtra, Marathawada, Telangana, Coastal Karnataka, North Interior Karnataka and Kerala during past 24 hours.
- Yesterday's upper air cyclonic circulation over Sub-Himalayan West Bengal & Sikkim and adjoining Bihar now lies over north Bay of Bengal and neighbourhood extending upto mid-tropospheric level
- The off-shore trough extending from Konkan & Goa coast to Kerala coast persists.

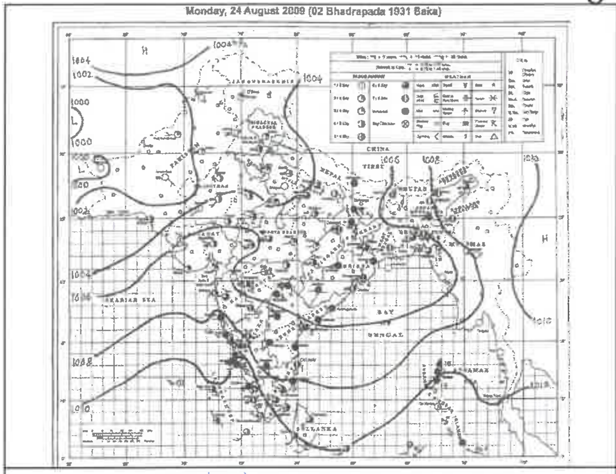
Flight

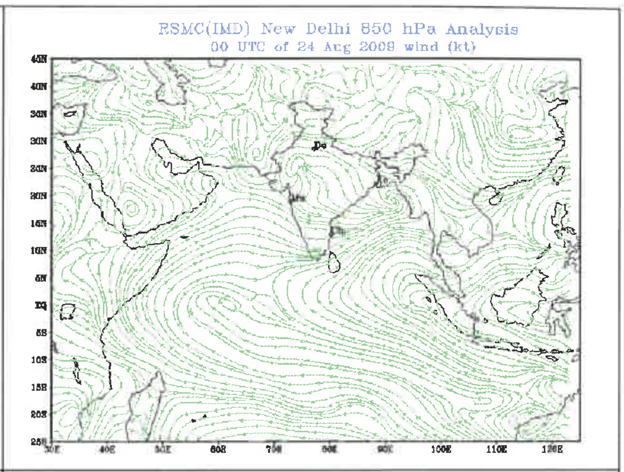
- Station : Bareilly
- Engine on : 14:10
- Engine off : 16:20

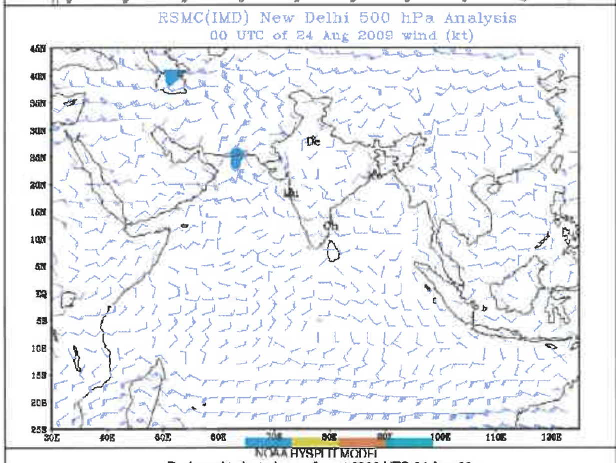


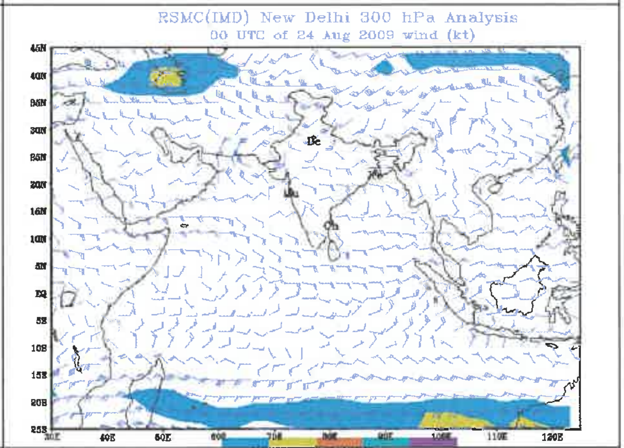


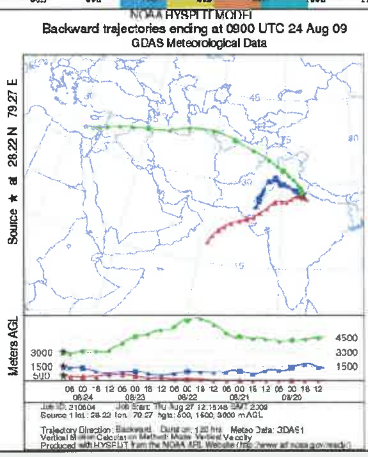
24 August 2009

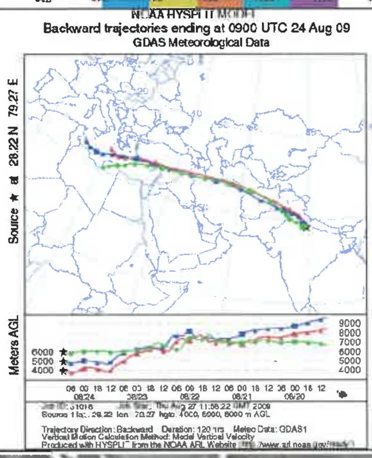


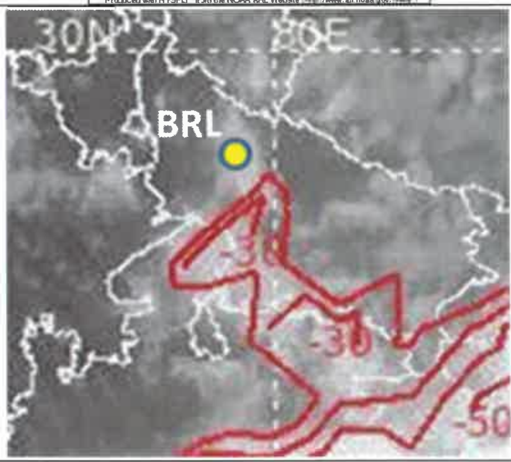












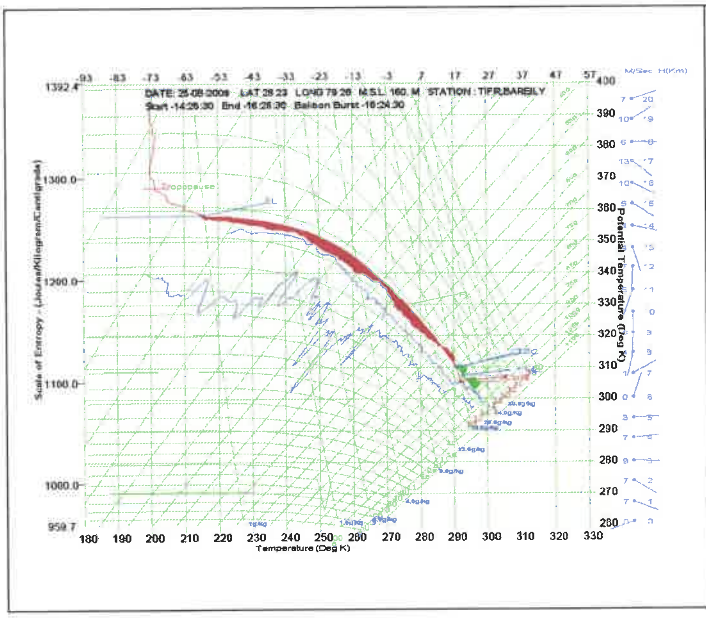
25 August 2009 (Base Bareilly)

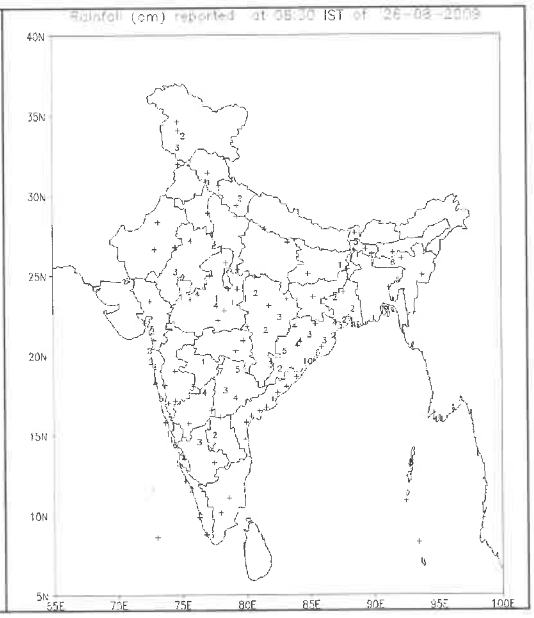
Weather summary :

- Yesterday's cyclonic circulation over north Bay of Bengal and neighbourhood has become a low pressure area at 0830 hours IST of today and now lies over westcentral Bay of Bengal and adjoining coastal Orissa.
- The axis of monsoon trough passes through Bikaner, Deesa, Jabalpur, Raipur, Center of low pressure area and thence southeastward to eastcentral Bay of Bengal.
- Monsoon was active/vigorous over Orissa, Maharashtra, Karnataka, Coastal Andhra Pradesh and Telangana during past 24 hours.

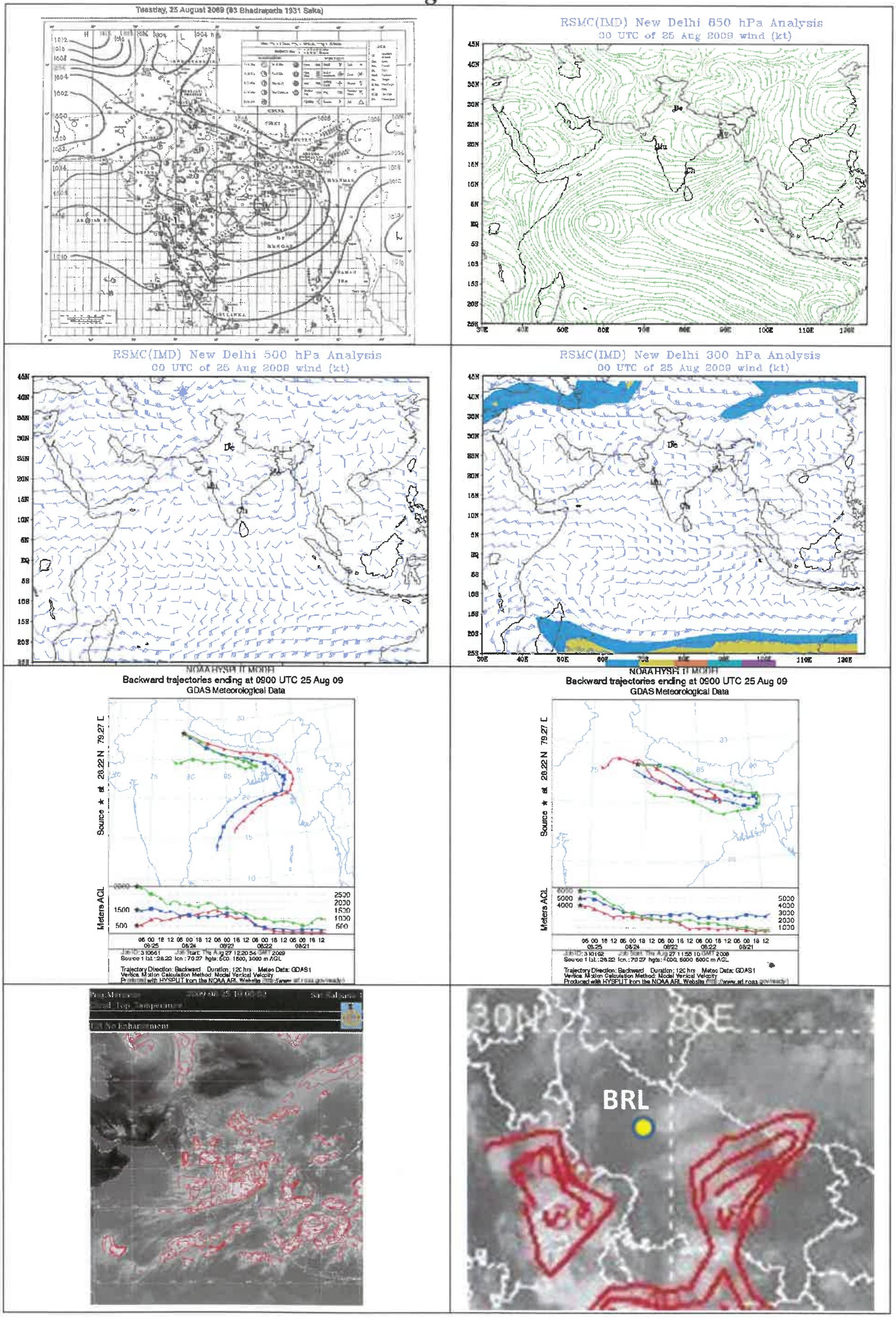
Flight:

- Station : Bareilly
- Engine on : 14:15
- Engine off : 16:15





25 August 2009



26 August 2009 (Bareilly-Kanpur-Patna)

Weather summary :

- Yesterday's low pressure area over westcentral Bay of Bengal and adjoining coastal Orissa now lies over Orissa and neighbourhood.
- The axis of monsoon trough passes through Anupgarh, Alwar, Shivpuri, Jabalpur, Champa, center of low pressure area and thence southeastward to eastcentral Bay of Bengal.
- Monsoon was vigorous over Telangana and active over Orissa, Marathawada and Karnataka during past 24 hours.

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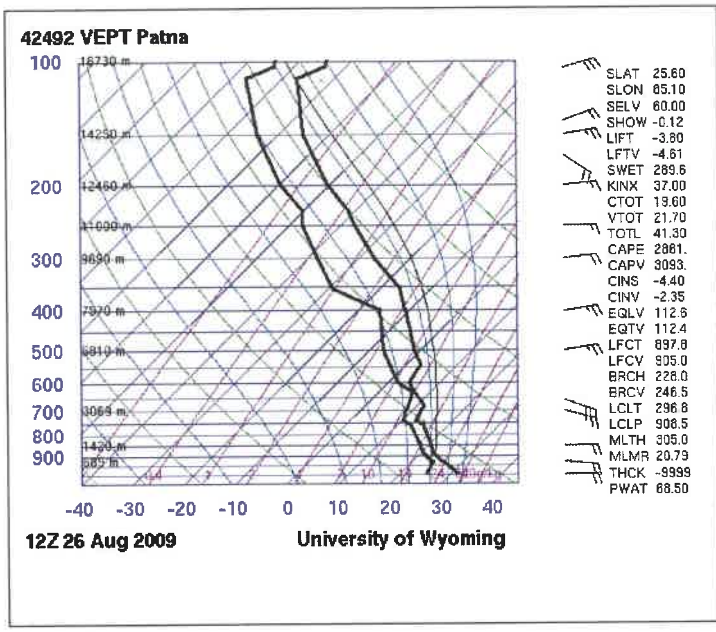
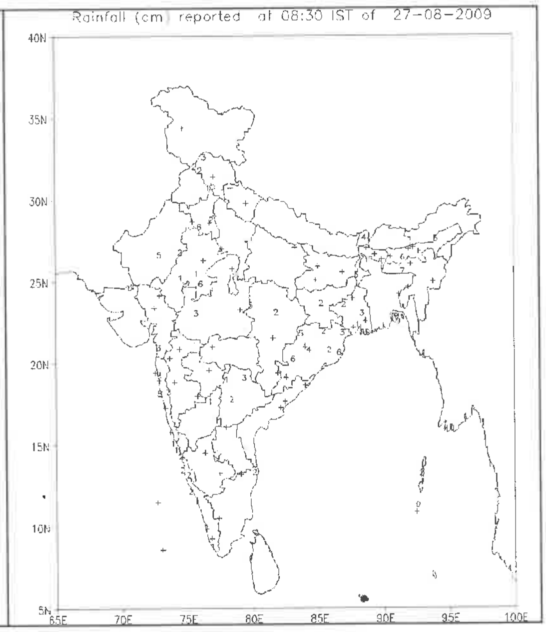
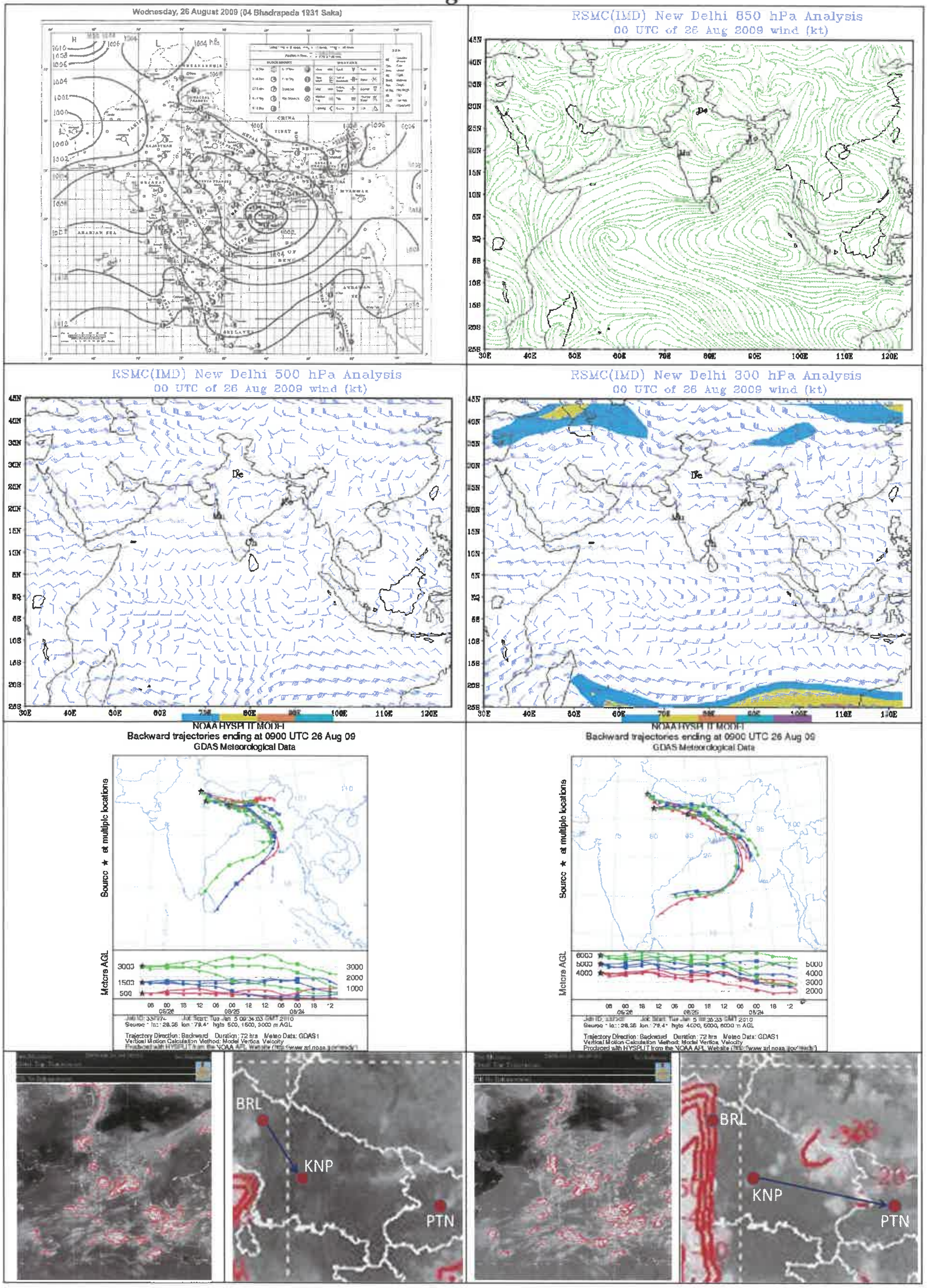
Flight :

• Station : Bareilly – Kanpur • Engine on : 08:55 • Engine off : 10:20	• Station : Kanpur - Patna • Engine on : 12:30 • Engine off : 14:40





26 August 2009



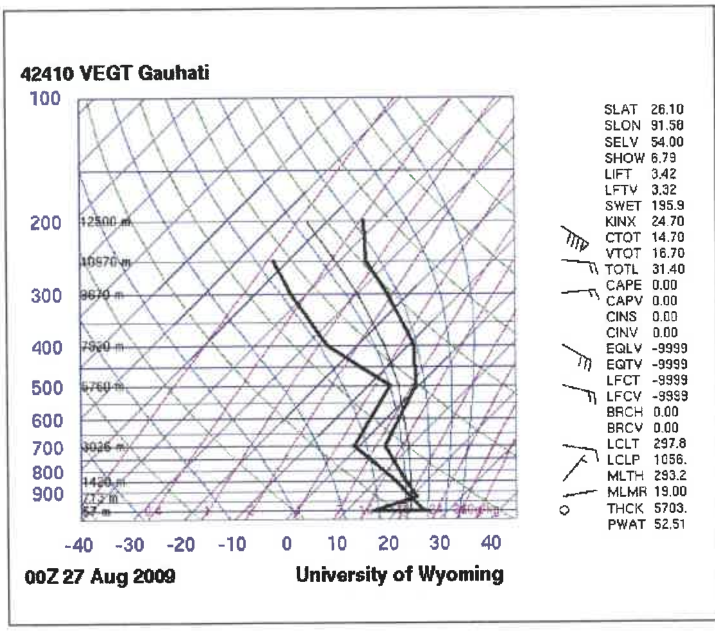
27 August 2009 (Patna-Guwahati)

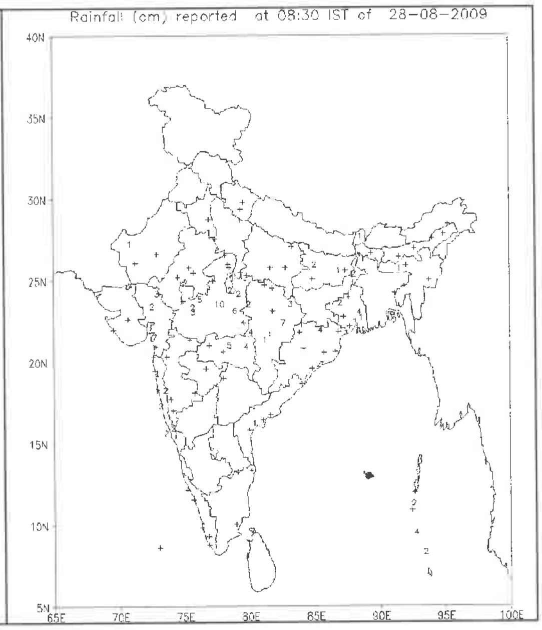
Weather summary :

- The low pressure area over Orissa and neighbourhood persists.
- The axis of monsoon trough passes through Bikaner, Gwalior, Satna, Pendra center of low pressure area and thence southeastward to eastcentral Bay of Bengal.
- The southwest monsoon was active over Orissa, Vidarbha, Marathawada, west Madhya
- Pradesh and east Rajasthan during past 24 hours.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over north & adjoining central Bay of Bengal and parts of southeast Arabian Sea, Coastal west Bengal, Chhattisgarh, Vidarbha and Gujarat region. Low/medium clouds are seen over parts of northwest, west, central, east, northeastern states and Peninsular India.

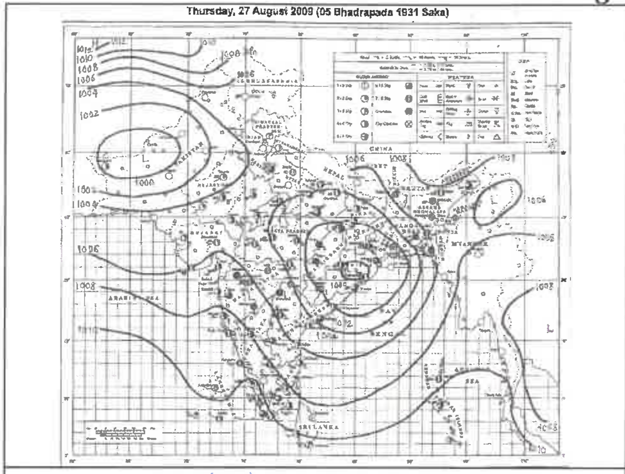
Flight

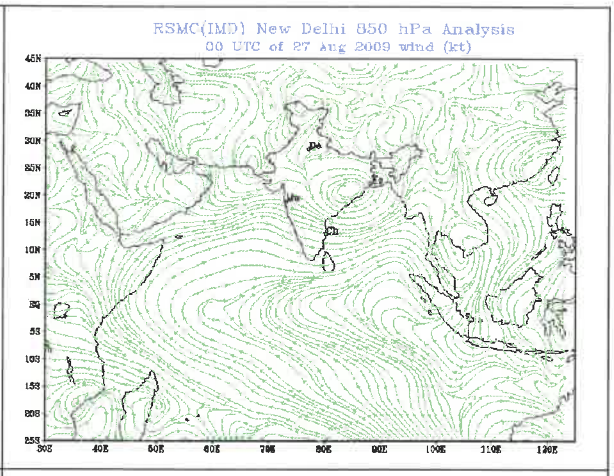
- Station : Patna - Guwahati
- Engine on : 14:15
- Engine off : 16:50

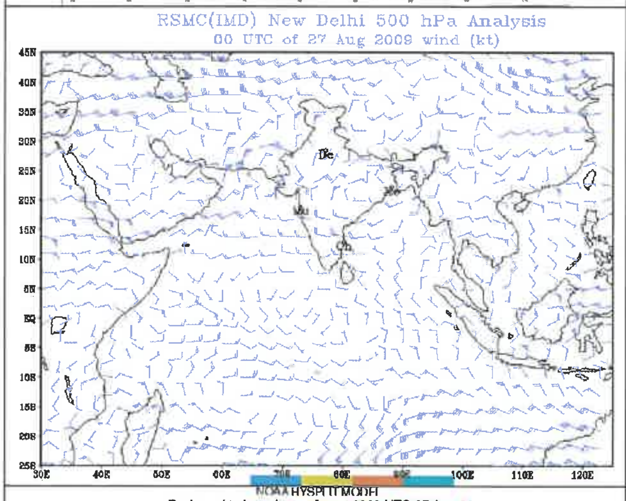


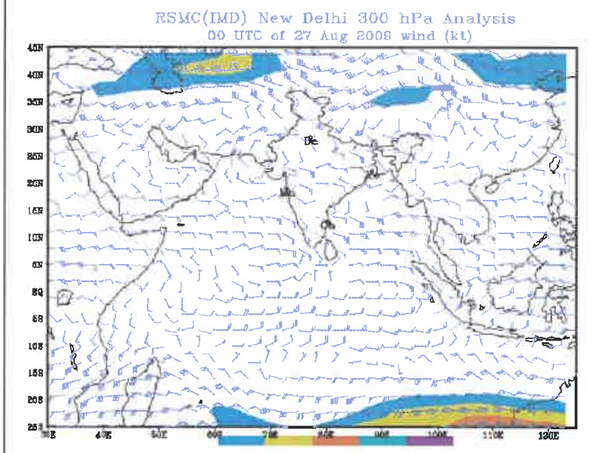


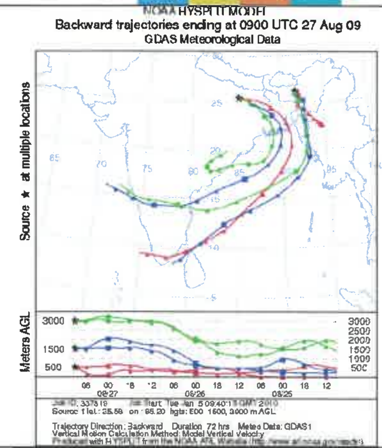
27 August 2009

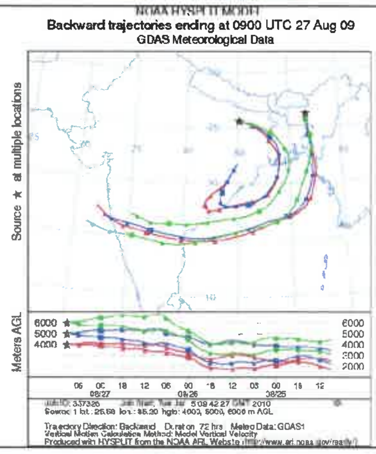


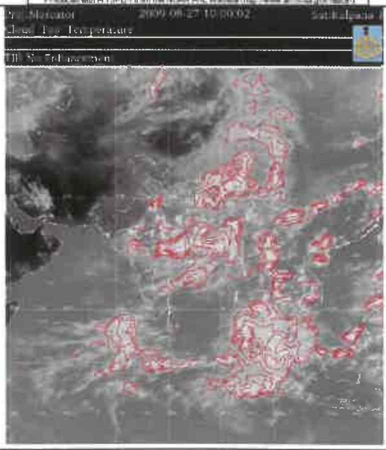


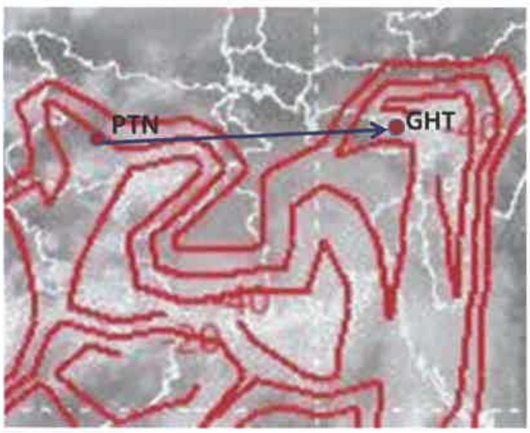








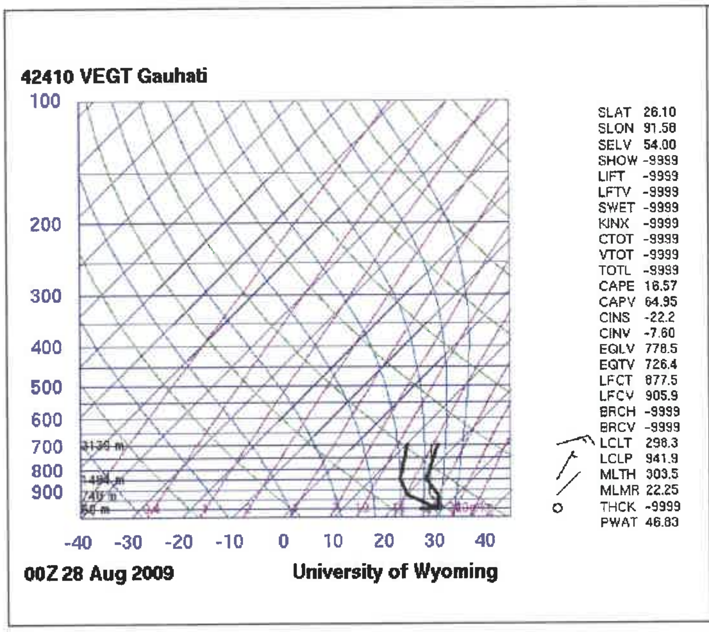


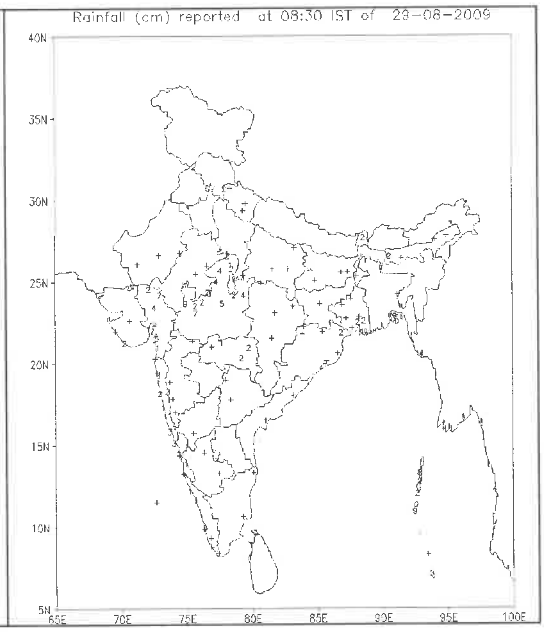


28 August 2009 (Base Guwahati)

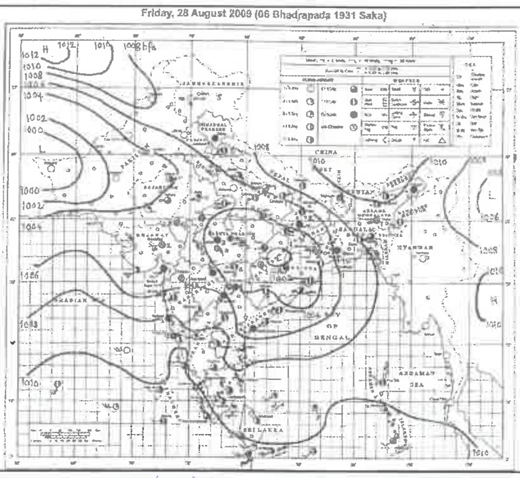
Weather summary :

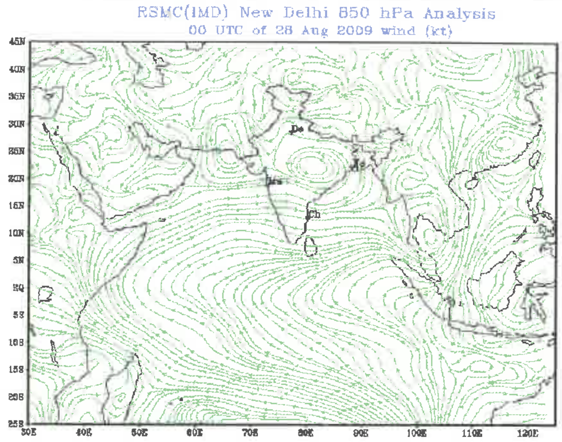
- The axis of monsoon trough at mean sea level passes through Ganganagar, Hissar, Bareilly, Gorakhpur Bhagalpur, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥3cm) occur during the day (Between 0830 to 1730 hrs IST) are: Cherrapunji-23, Agumbe-6, Quazigund-5, Jamshedpur, Karwar, Mukteshwar, Dharamsala, Una and Medikari-3 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north & central Bay of Bengal, northeastern states and east India. Low/medium clouds are seen over parts of northwest, west and Peninsular India.

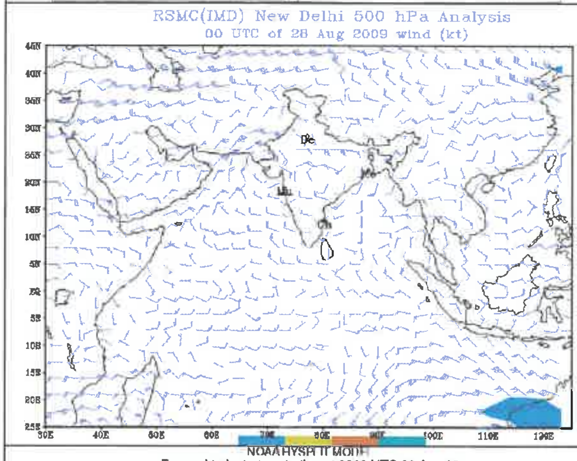


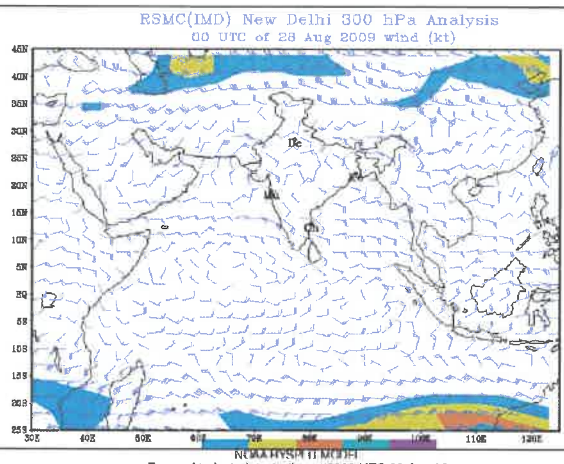


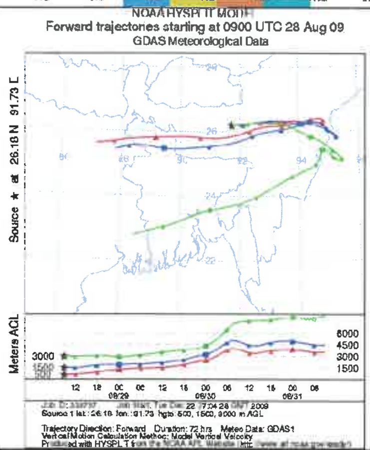
28 August 2009

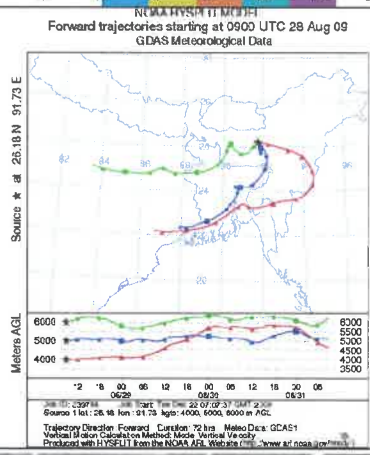


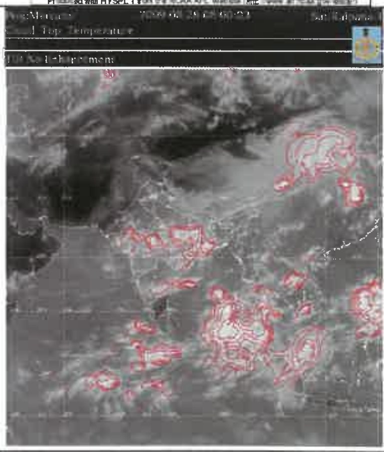


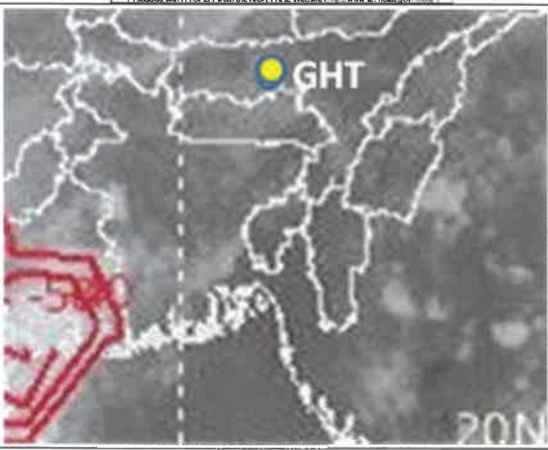












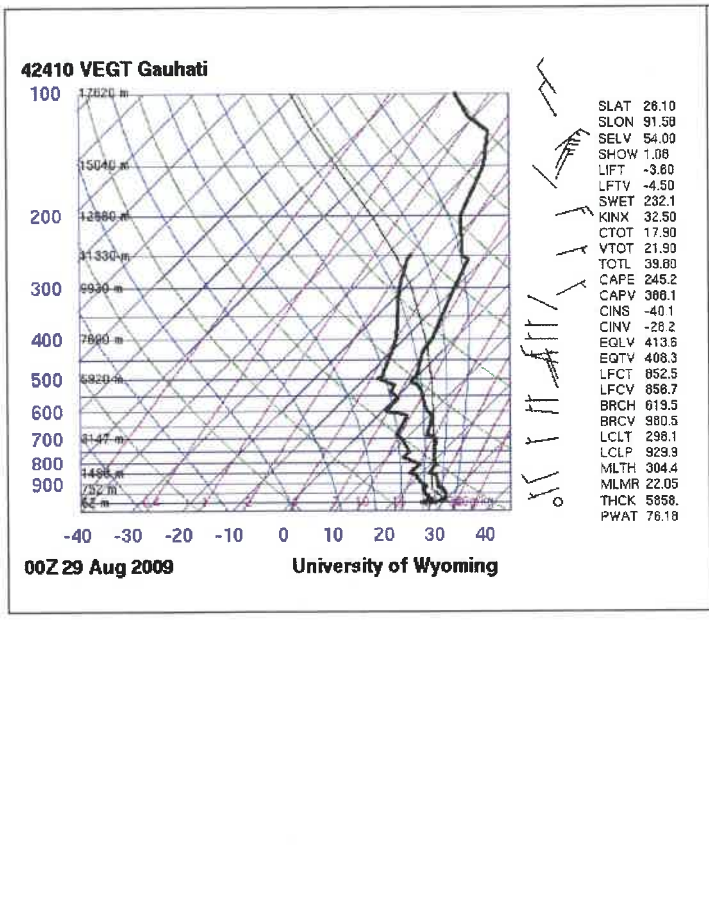
29 August 2009 (Base Guwahati)

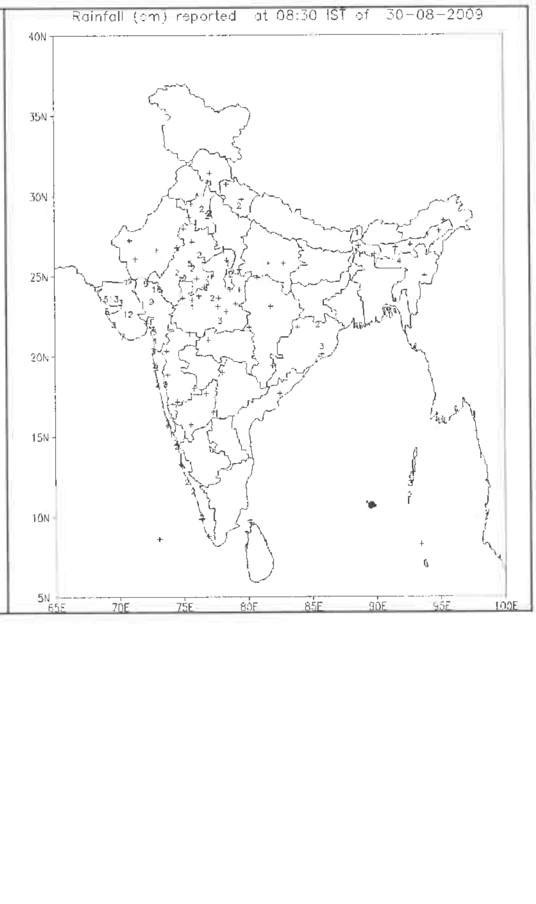
Weather summary :

- The axis of monsoon trough at mean sea level passes through along foothills of Himalaya upto Raxaul and then Jamui, Asansol, Kolkata and thence southeastwards to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥3cm) occur during the day (Between 0830 to 1730 hrs IST) are: Agumbe-6, Kotttayam and Manglore-4, Dehradun, Bhagalpur, Kochi, Shantiniketan, Thiruvananthapuram and Mysore-3 each.
- A feeble off-shore trough extends from Karnataka coast to Kerala coast.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north & southeast Bay of Bengal, southeast Arabian sea, northeastern states, west Bengal & Sikkim, north coastal Orissa, Jharkhand and Bihar. Low/medium clouds are seen over parts of northwest, west, central, Peninsular India and remaining parts of east India.

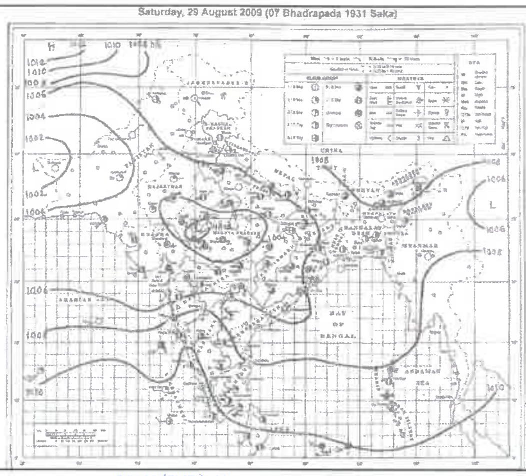
Flight :

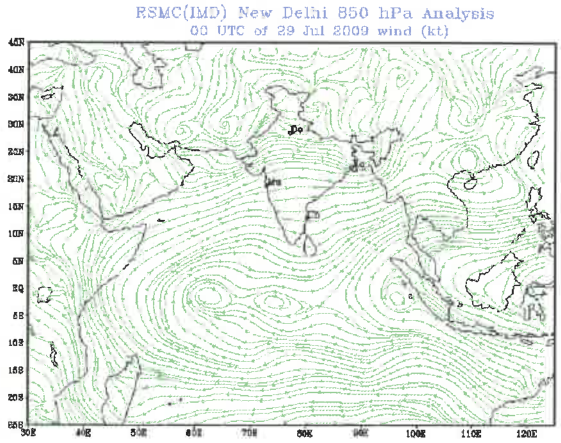
- Station : Guwahati
- Engine on 15:30
- Engine off : 16:55

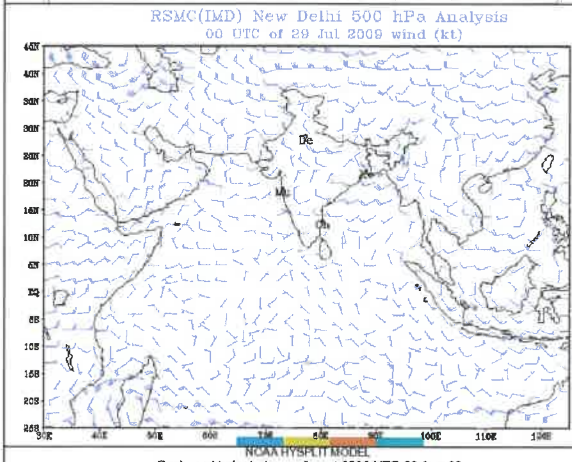


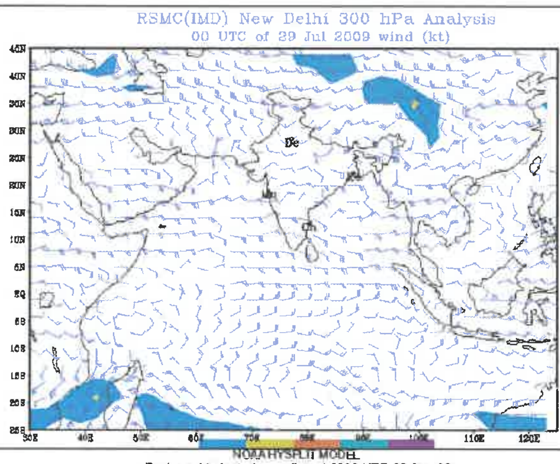


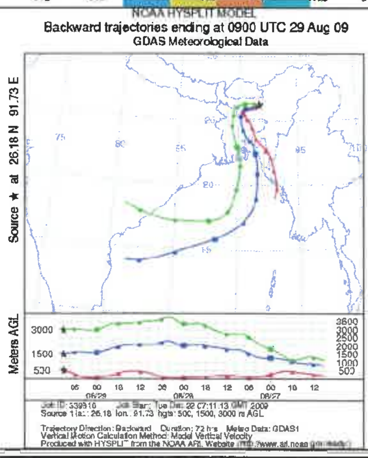
29 August 2009

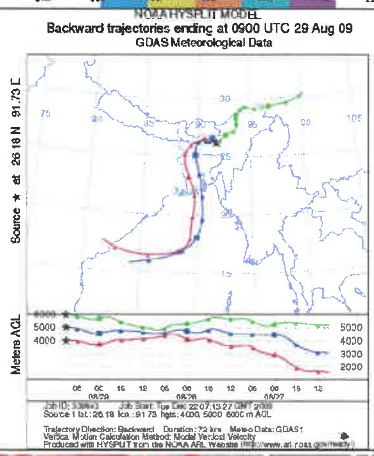


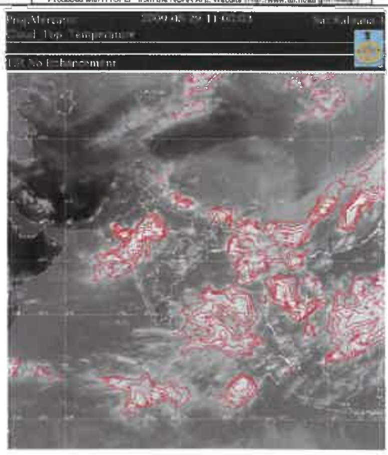


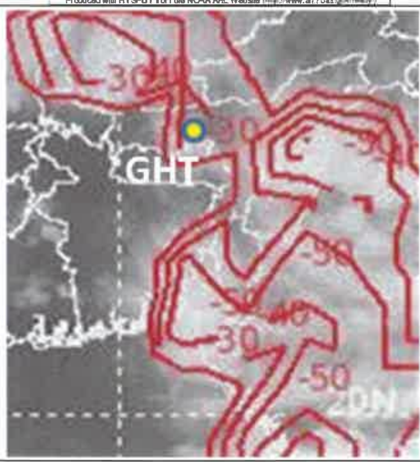












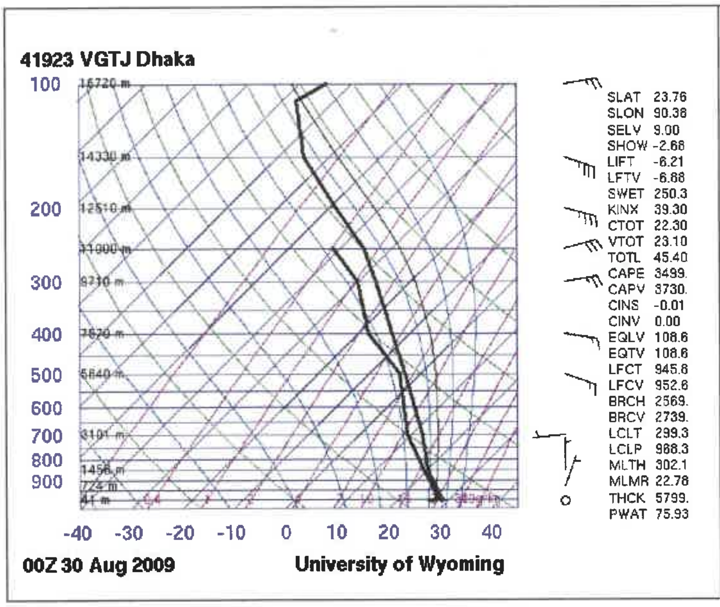
30 August 2009   (Base Guwahati)

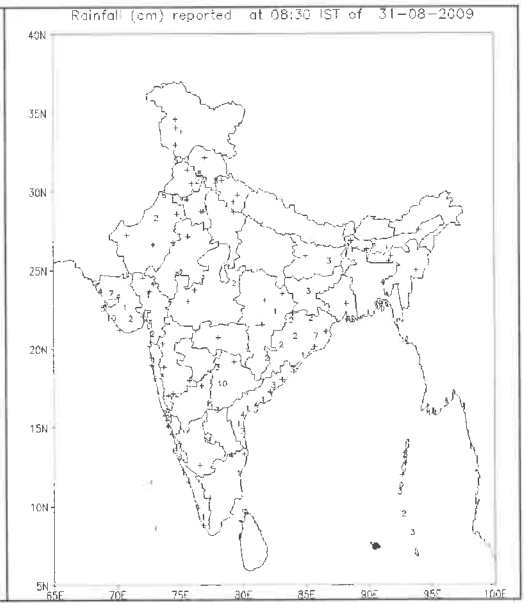
Weather summary :

- Yesterday's low pressure area over west Madhya Pradesh and adjoining east Rajasthan has become less marked. However, associated upper air circulation extending upto mid-tropospheric level lies over south Rajasthan & adjoining Gujarat and neighbourhood.
- An upper air cyclonic circulation lies over west central and adjoining northwest Bay of Bengal extending upto mid-tropospheric level.
- The axis of monsoon trough passes through Barmer, Chittorgarh, Shivpuri, Satna, Ranchi, Balasore and thence southeastward to eastcentral Bay of Bengal.
- The southwest monsoon was vigorous over Gujarat state and active over Konkan & Goa, west Madhya Pradesh, east Rajasthan and Sub-Himalayan west Bengal & Sikkim during past 24 hours.

Flight :

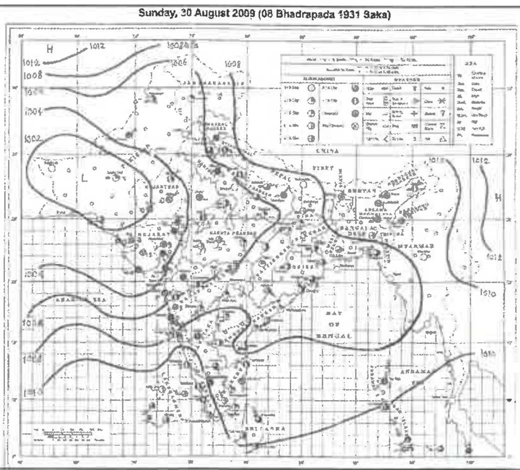
- Station : Guwahati
- Engine on : 14:45
- Engine off : 17:00



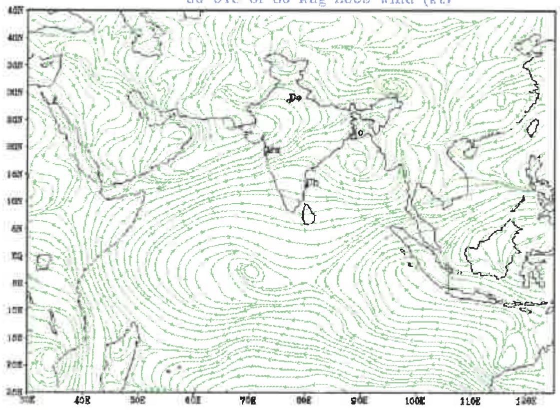


30 August 2009

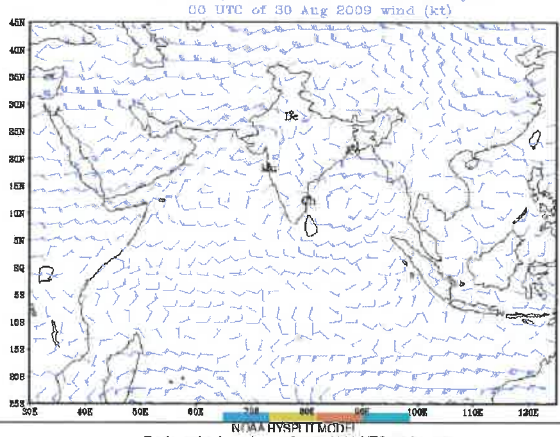
Sunday, 30 August 2009 (08 Bhadrapada 1931 Saka)



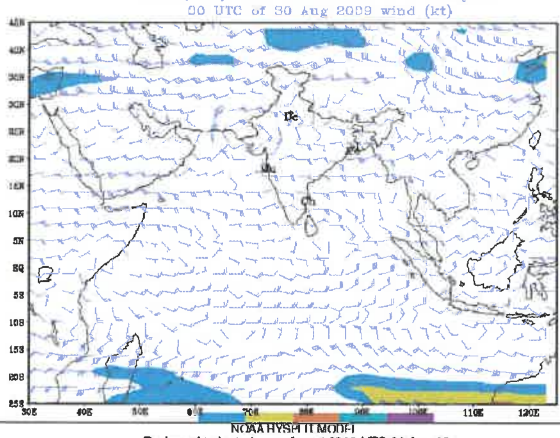
RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 30 Aug 2009 wind (kt)



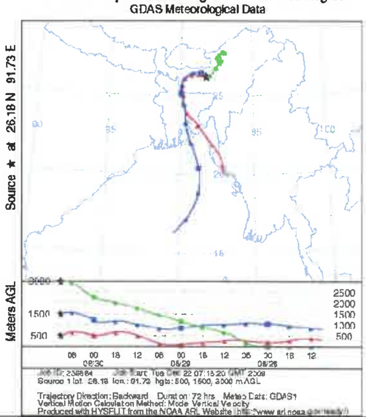
RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 30 Aug 2009 wind (kt)



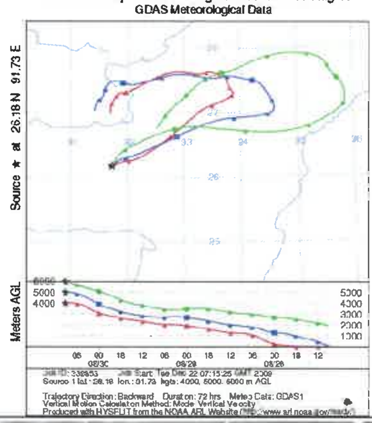
RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 30 Aug 2009 wind (kt)

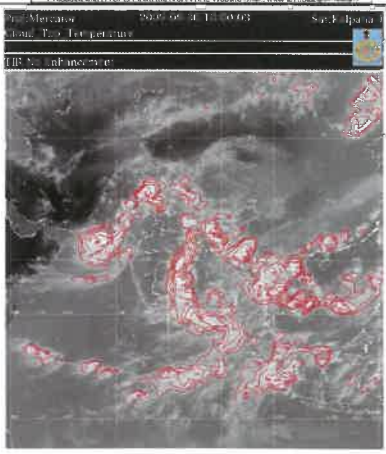


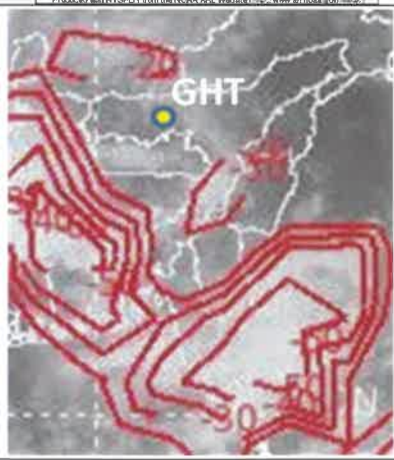
NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 Aug 09
GDAS Meteorological Data



NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 30 Aug 09
GDAS Meteorological Data







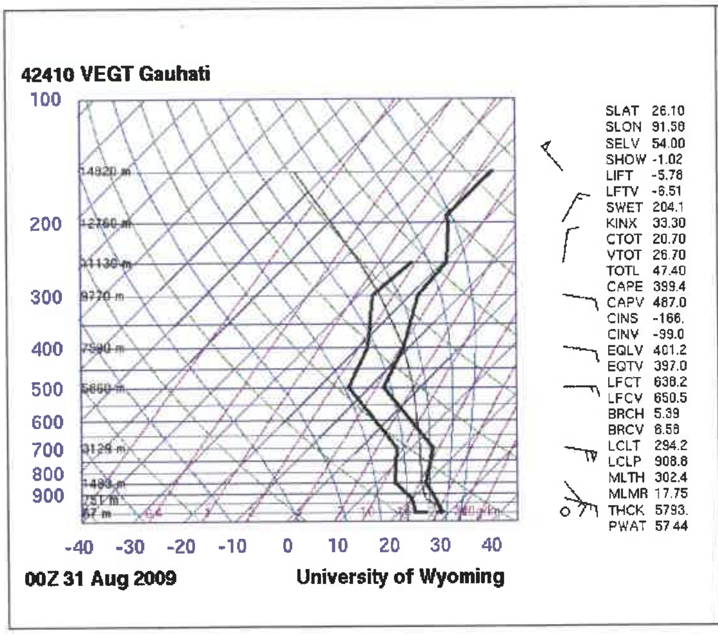
31 August 2009 (Base Guwahati)

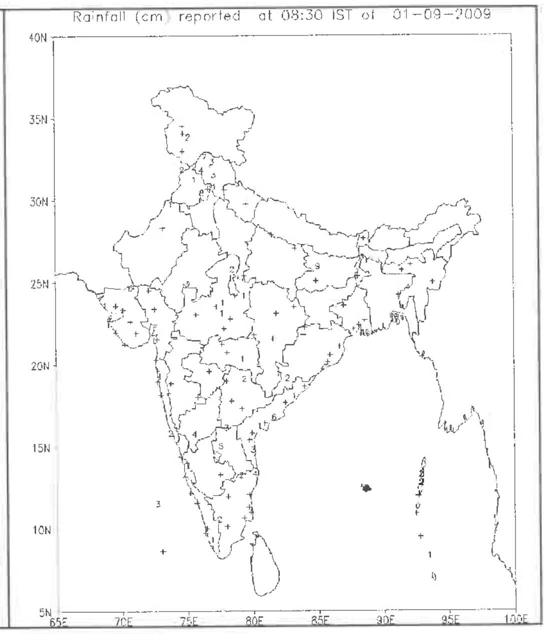
Weather summary :

- Western part of the axis of monsoon trough runs close to the foot hills of Himalayas and eastern part of the axis passes through Forbesganj, Berhampore, Krishnanagar and thence southeastwards to eastcentral Bay of Bengal.
- Subdued rainfall activity is likely over western, central and Peninsular parts of the country during next 4-5 days.
- A feeble off-shore trough extends from Konkan & Goa to Kerala coast.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north and eastcentral Bay of Bengal, north Andaman Sea, southeast Arabian Sea and north Orissa, West Bengal/Sikkim and Tamilnadu. Low/medium clouds are seen over parts of northwest, central, east, Peninsular and northeast India.

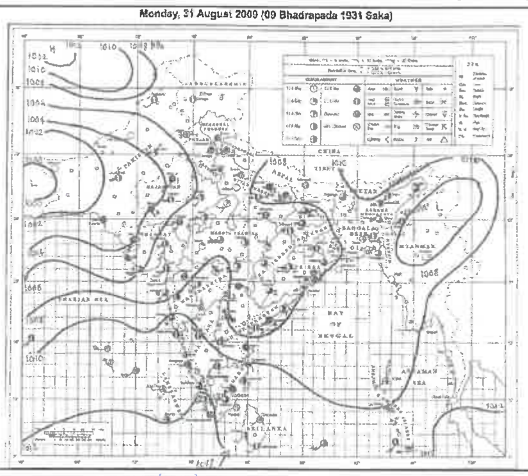
Flight : Nil

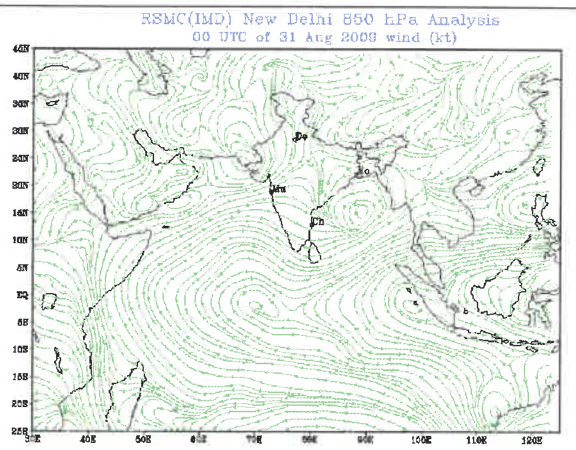
- Station : Guwahati

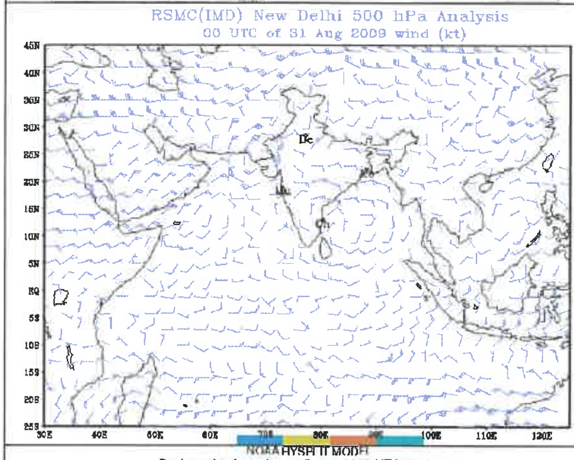


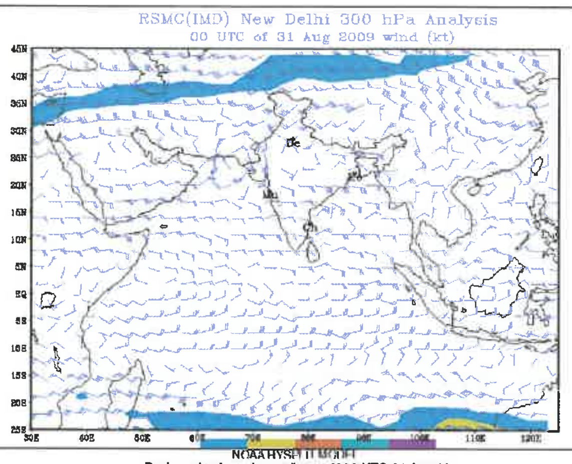


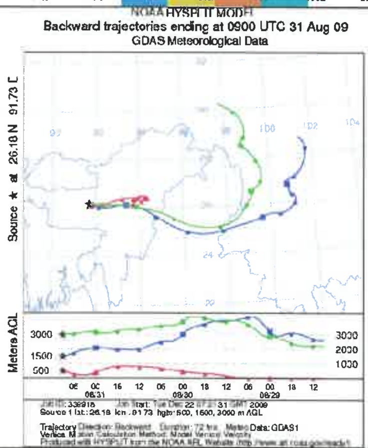
31 August 2009

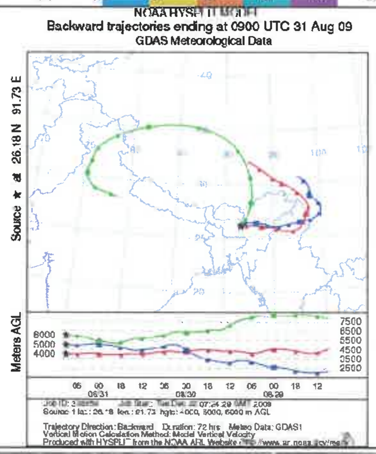


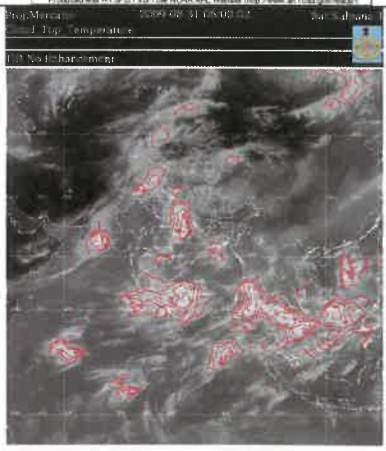


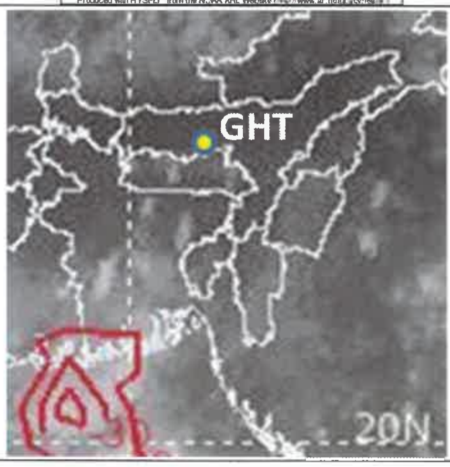












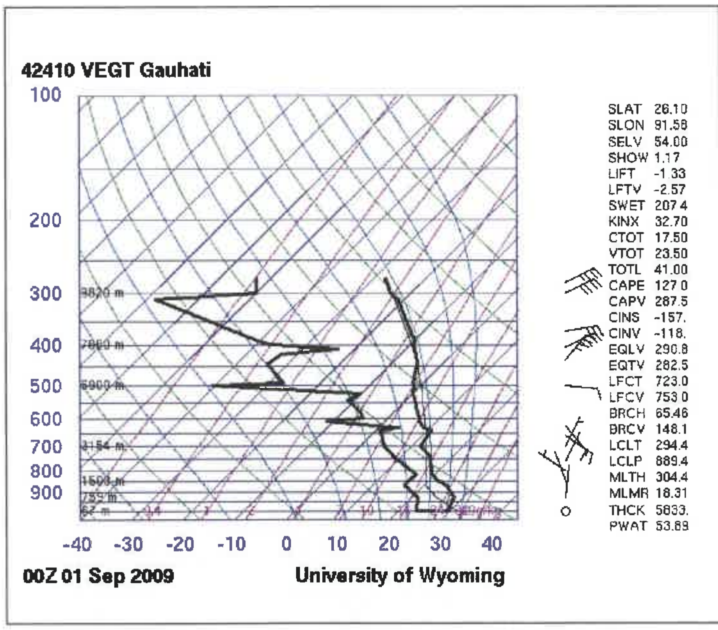
1 September 2009 (Base Guwahati)

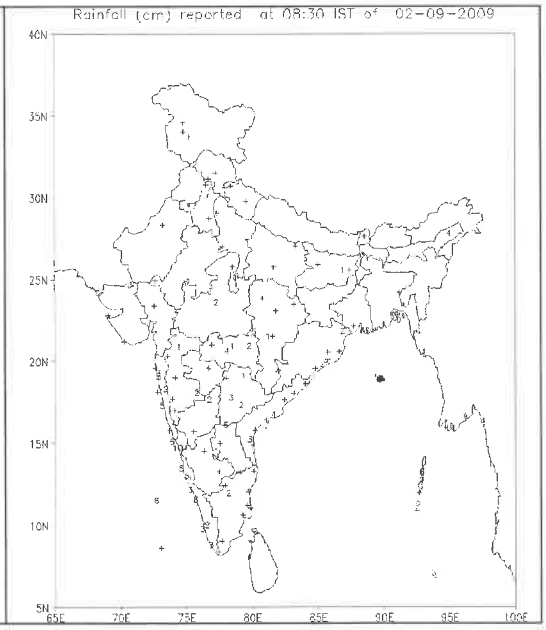
Weather summary :

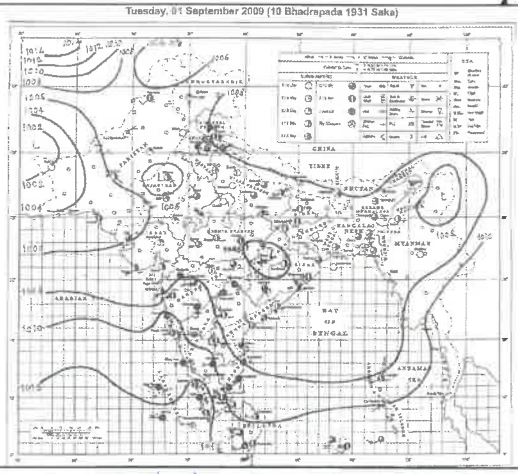
- The upper air cyclonic circulation over west central and adjoining northwest Bay of Bengal extending upto mid-tropospheric level persists.
- The axis of monsoon trough passes through Anoopgarh, Churu, Alwar, Nowgaon, Pendra, Puri and thence southeastward to eastcentral Bay of Bengal
- Chief amounts of rainfall (≥ 5 cm) recorded at 1430 hours IST of today are: Patna-9, Sundernagar & Patiala-8 each, Nahan, Dharamshala, Agumbe & Panambur-7 each, Narsapur-6, Nellore, Anantapur, Mangalore & Gulbarga-5 each.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over southeast Arabian sea, southwest and adjoining westcentral Bay of Bengal, Andaman Sea, Madhya Pradesh, Vidarbha and extreme south peninsular India. Low/medium clouds are seen over parts of northwest, west, east & northeast India and peninsular India.

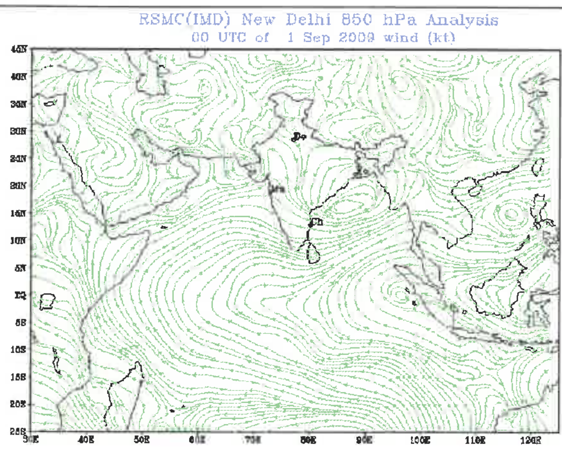
Flight :

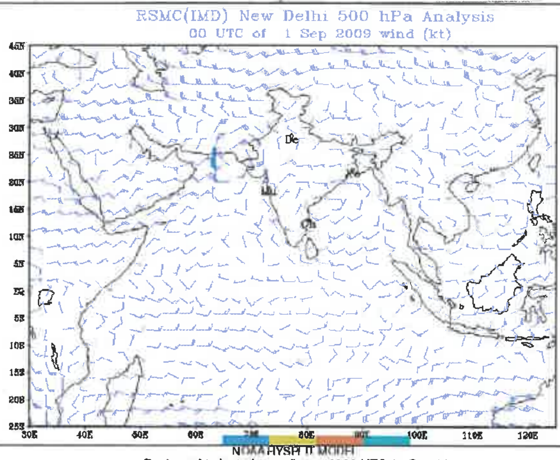
- Station : Guwahati
- Engine on 13:05
- Engine off : 15:10

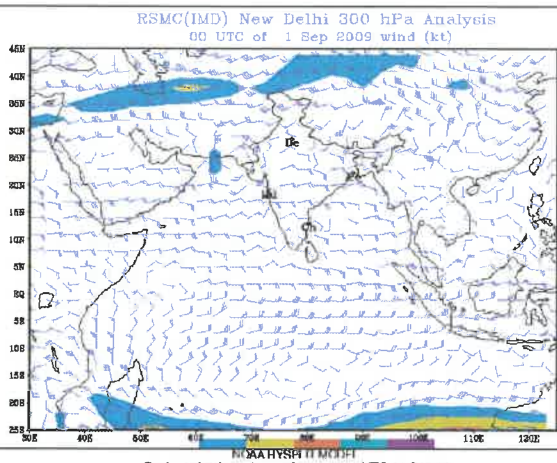


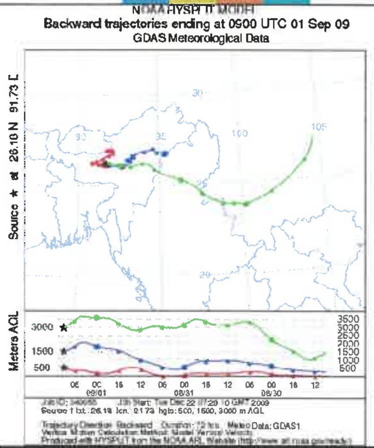


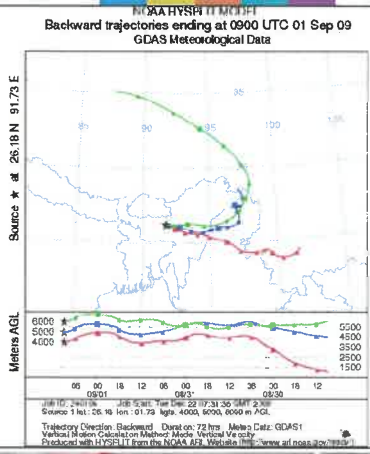

Tuesday, 01 September 2009 (10 Bhadrapada 1931 Saka)

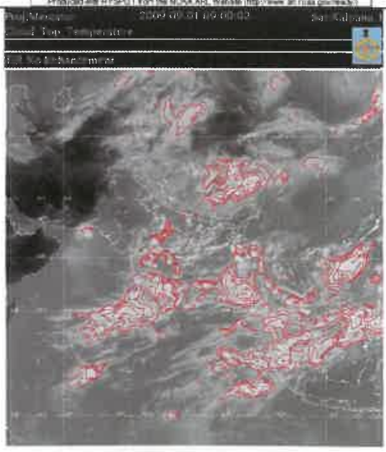

RSMC(IMD) New Delhi 850 hPa Analysis
00 UTC of 1 Sep 2009 wind (kt)

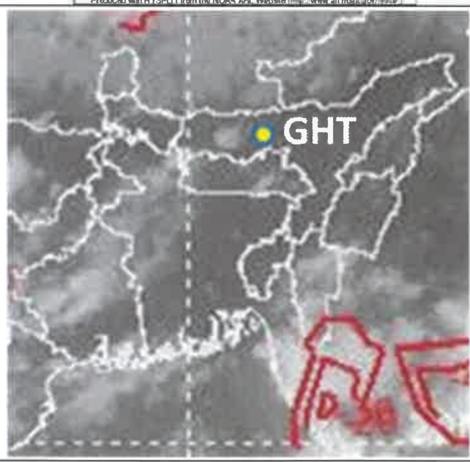

RSMC(IMD) New Delhi 500 hPa Analysis
00 UTC of 1 Sep 2009 wind (kt)


RSMC(IMD) New Delhi 300 hPa Analysis
00 UTC of 1 Sep 2009 wind (kt)


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Sep 09
GDAS Meteorological Data
Source ★ at 26.10 N 91.73 E
Meters AGL


NOAA HYSPLIT MODEL
Backward trajectories ending at 0900 UTC 01 Sep 09
GDAS Meteorological Data
Source ★ at 26.18 N 91.73 E
Meters AGL




GHT

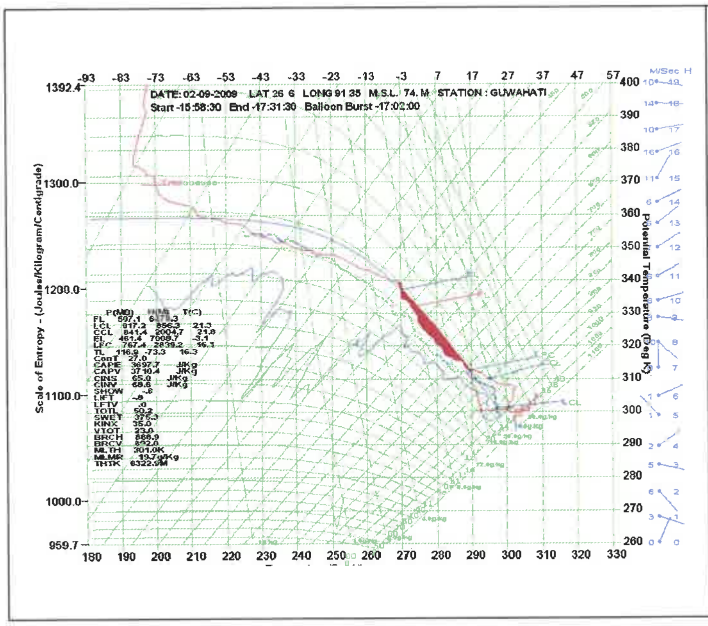
2 September 2009 (Base Guwahati)

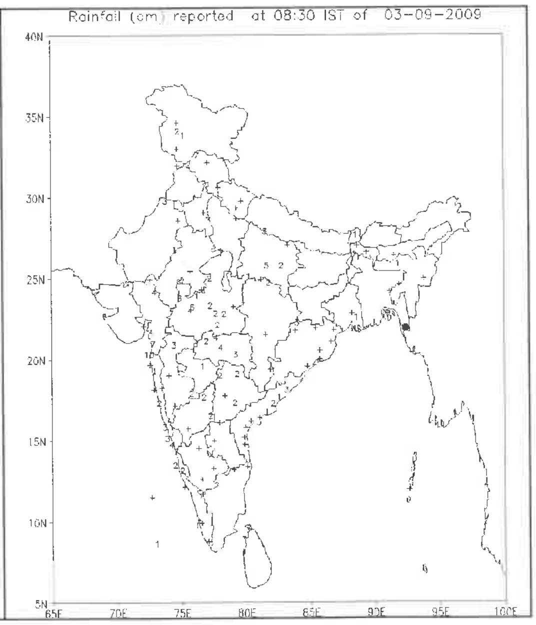
Weather summary :

- The upper air cyclonic circulation over west central and adjoining northwest Bay of Bengal extending upto mid-tropospheric level persists tilting southwestwards with height.
- The western disturbance as an upper air cyclonic circulation over Punjab and neighbourhood persists and extends upto 3.1 km above mean sea level.
- The axis of monsoon trough passes through Anoopgarh, Alwar, Nowgong, Pendra, Bhubaneshwar and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 2 cm) occurred (between 0830 to 1730 hours IST of today) are: Bulsar-7, Allahabad-5, Vishakhapatnam-3, Shirali, Varanasi, Jharsuguda, Nizamabad and Dharmshala-2 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over east Arabian Sea, central Bay of Bengal, north Andaman Sea, parts of Uttar Pradesh, Maharashtra and Andhra Pradesh. Low/medium clouds are seen over parts of northwest, west, east & northeast and peninsular India.

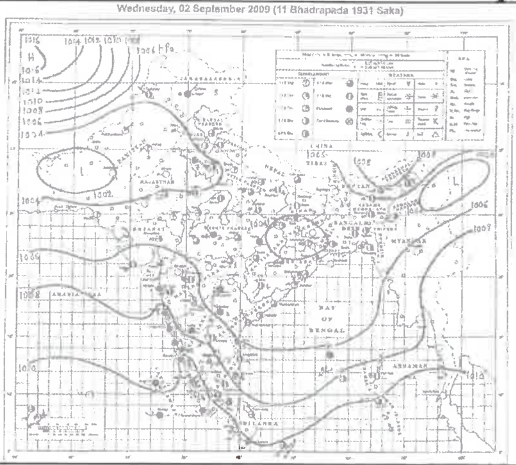
Flight :

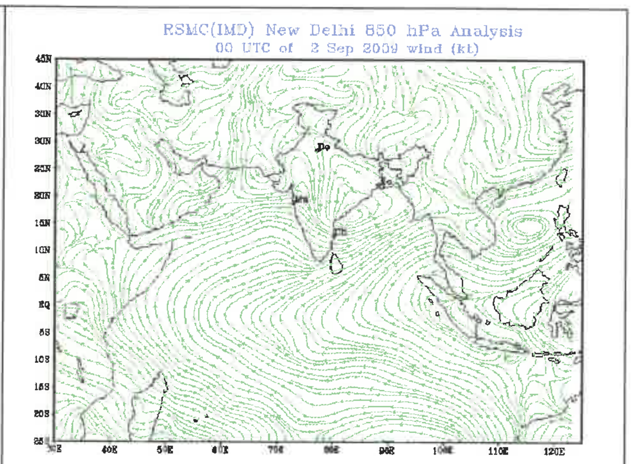
• Station : Guwahati • Engine on : 12:50 • Engine off : 13:30	• Station : Guwahati • Engine on : 14:45 • Engine off : 15:45

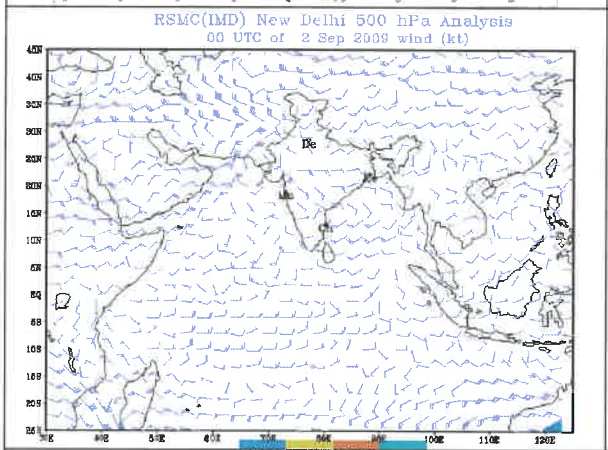


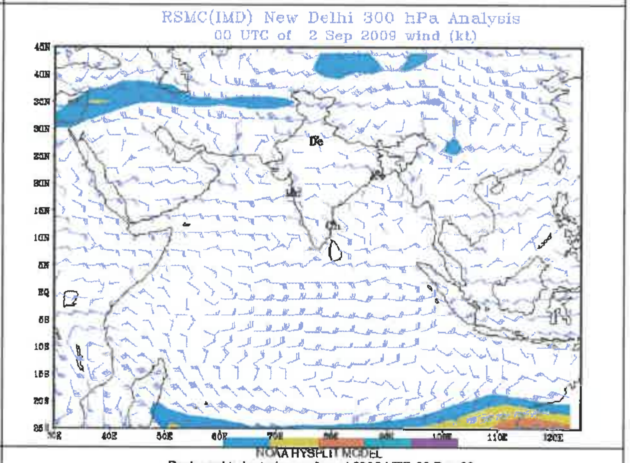


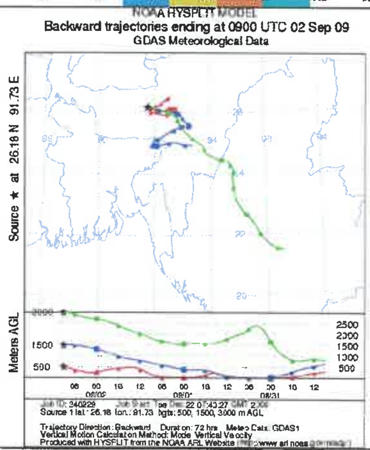
2 September 2009

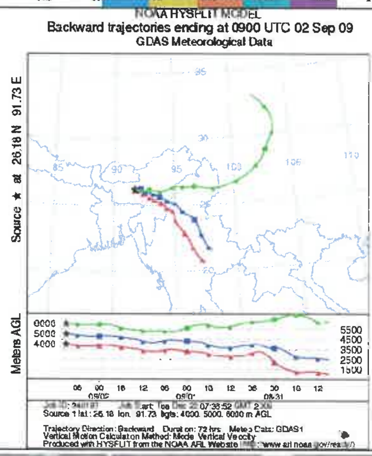


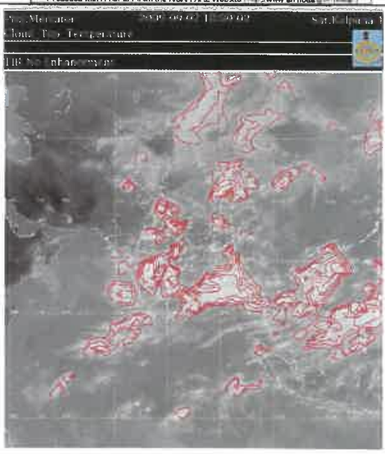


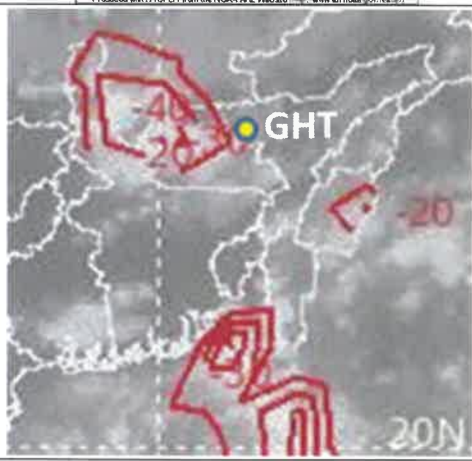










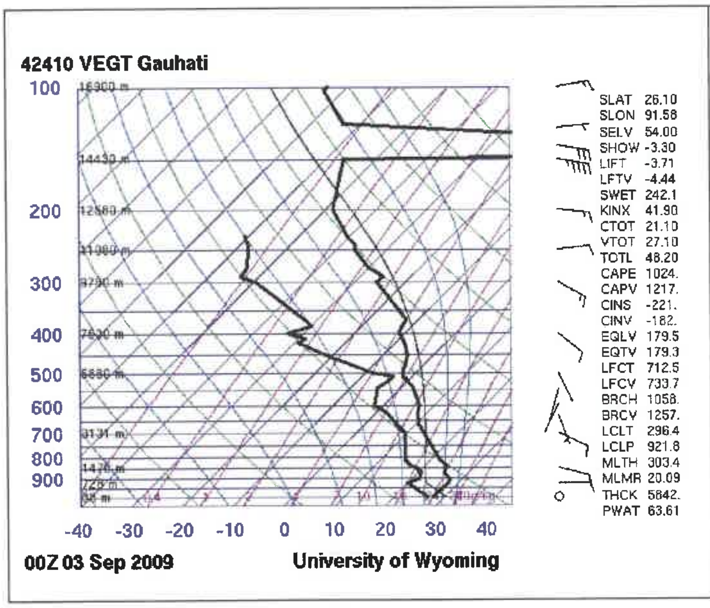


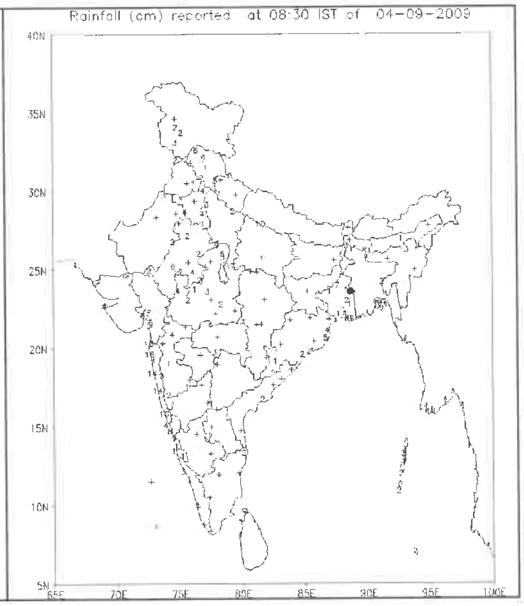
3 September 2009 (Base Guwahati)

Weather summary :

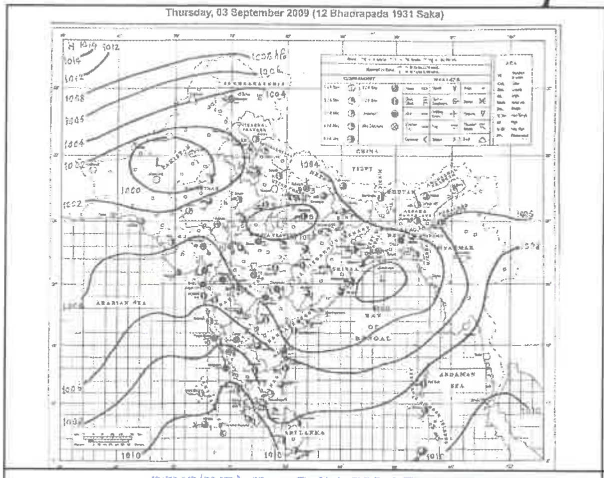
- The low pressure area over westcentral and adjoining northwest Bay of Bengal off Orissa coast persists.
- The upper air cyclonic circulation over north Pakistan, Jammu & Kashmir and adjoining areas persists and extending upto mid-tropospheric level with a trough aloft along Long 73^{0}E and north of Lat 25^{0}N
- The axis of monsoon trough passes through Anupgarh, Jaipur, Nowgaon, Pendra, Jharsuguda, centre of the low pressure area and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall ($\geq$ 5 cm) recorded at 0830 hours IST of today are: Lucknow-14, Jalgaon-13, Dahanu-10, Ratlam-8, Gwalior, Shirali, Bidar, Dharamshala and Bulsar-7 each, Ujjain-6, Goa, Allahabad, Aurangabad, Agumbe and Khandwa-5 each,
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over pats of east Arabian Sea, central & north Bay of Bengal, north Andaman Sea, parts of Uttar Pradesh, Maharashtra and Jammu & Kashmir. Low/medium clouds are seen over parts of northwest, west, east & northeast and peninsular India.

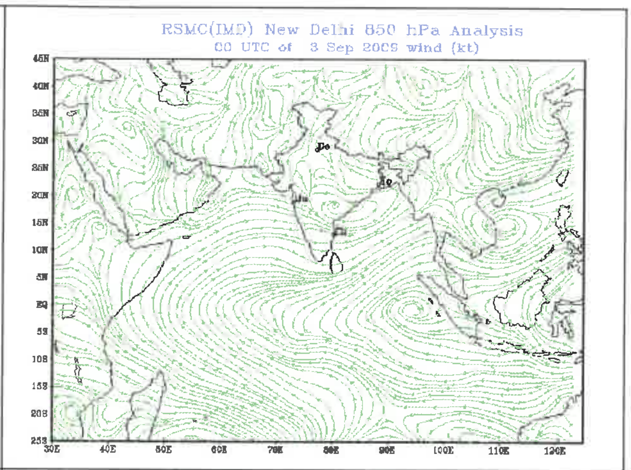
Flight : Nil
Station : Guwahati

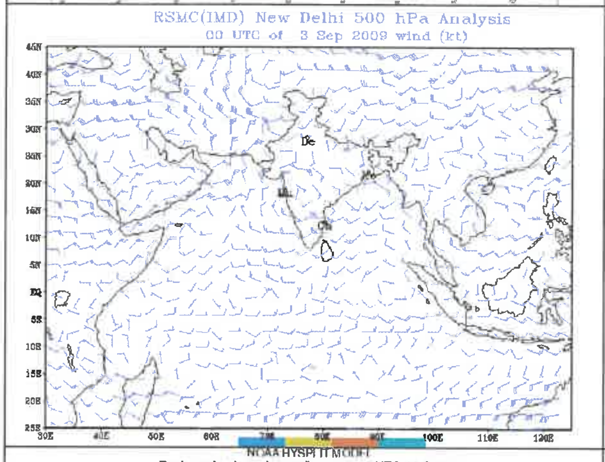


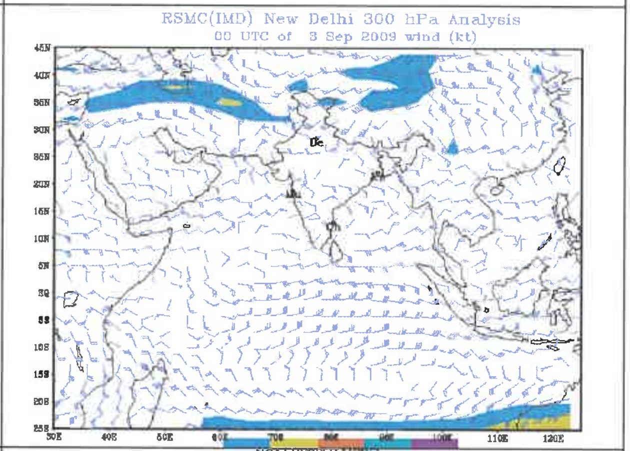


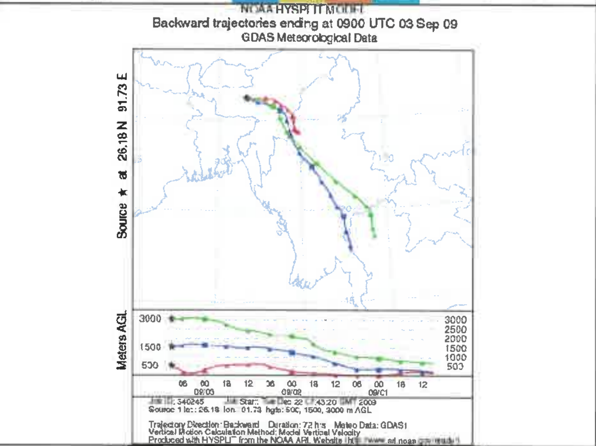
3 September 2009

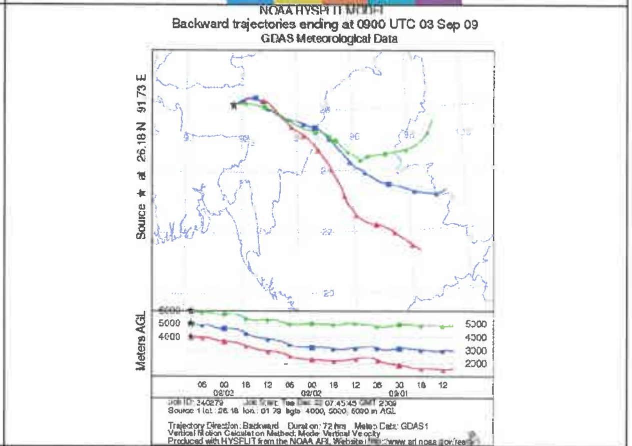


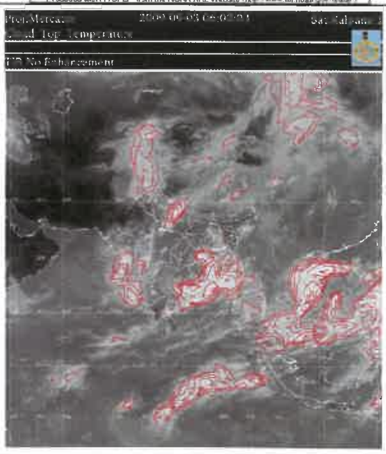


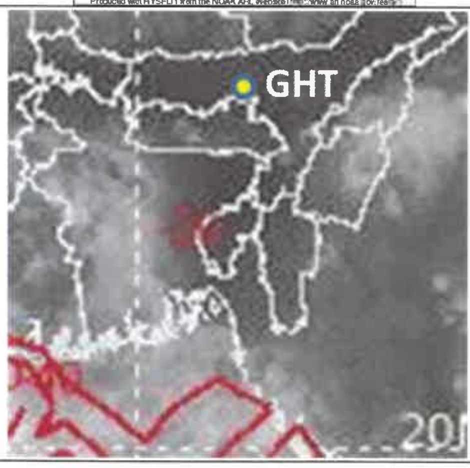












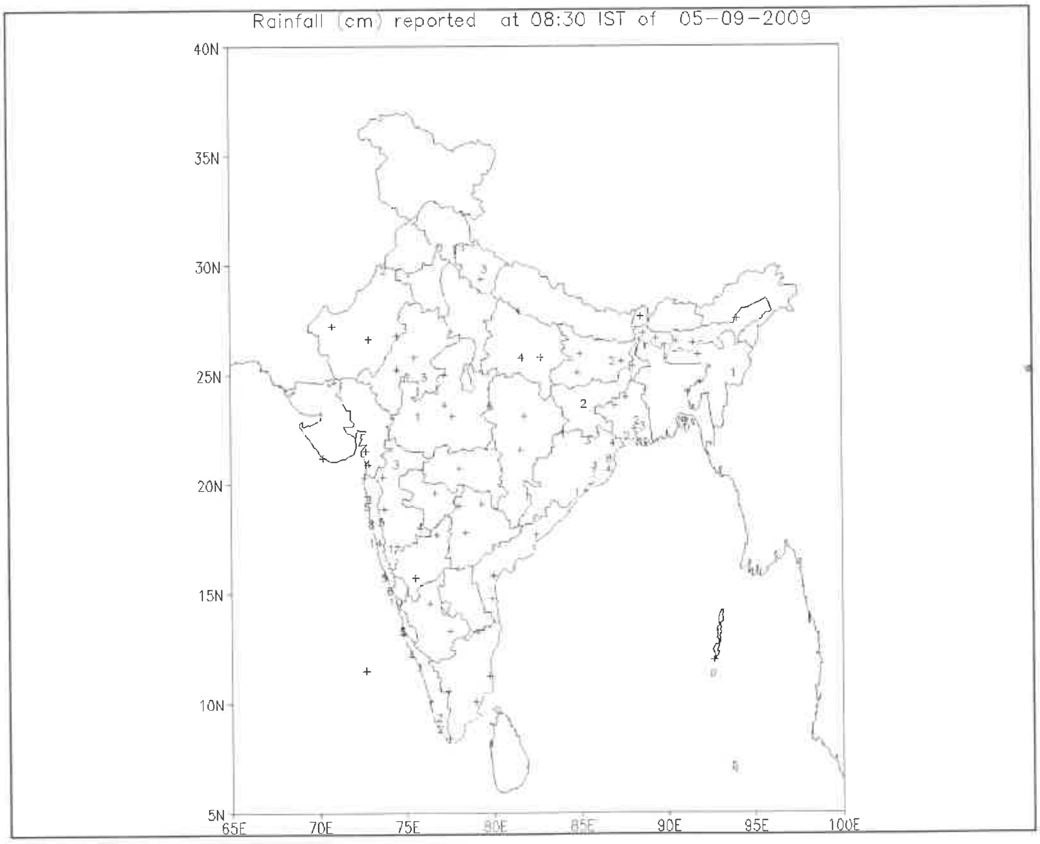
4 September 2009 (Base Guwahati)

Weather summary :

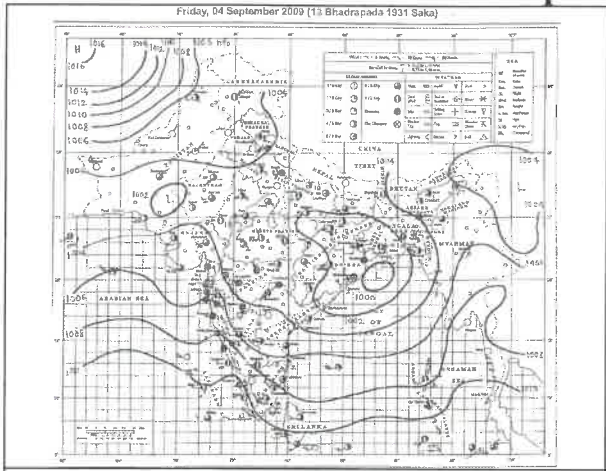
- The well marked low pressure area over northwest Bay of Bengal and adjoining coastal areas of Orissa persists
- The axis of monsoon trough passes through Jaisalmer, Ajmer, Jhansi, Sidhi, Ambikapur, Centre of the well marked low pressure area and thence southeastward to eastcentral Bay of Bengal.
- The Chief amounts of rainfall (≥ 5 cm) recorded at 0830 hours IST of today are : Mumbai(CLB)-19, Mumbai(SCZ)-16, Ratnagiri-14, Harnai, Dahanu-13 each, Mormugao-12, Mangalore, Panambur-11 each, Goa(Dabolim), Baharaich-10 each, Shirali, Mahabaleshwar, Gwalior-9 each, Shantiniketan, Bulsar-7 each, Dharmashala, Bhavnagar, Chittorgarh-6 Each, Paradeep, Valparai, Sundergarh, Delhi(Ridge)-5 Each.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over parts of northwest & central Bay of Bengal, Andaman Sea and east Arabian Sea, East Uttar Pradesh and Bihar. Low medium clouds are seen over parts of northwest, west, east, northeast and peninsular India.

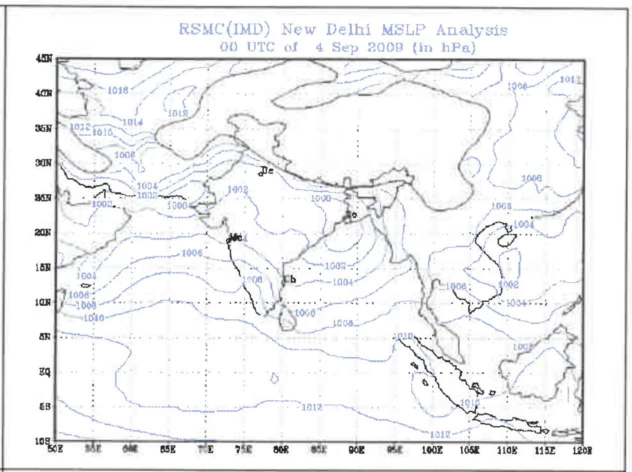
Flight :

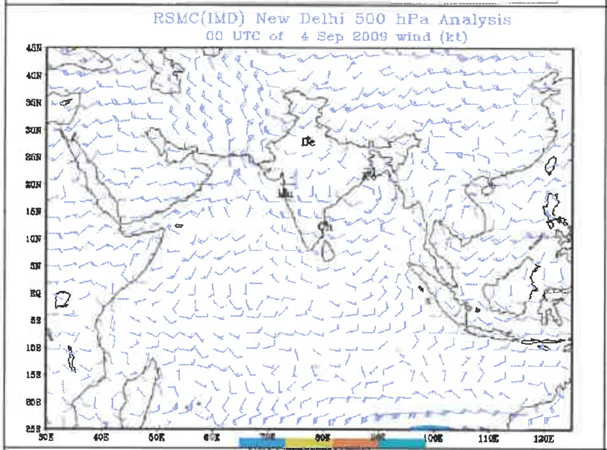
- Station : Guwahati
- Engine on : 12:45
- Engine off : 16:05

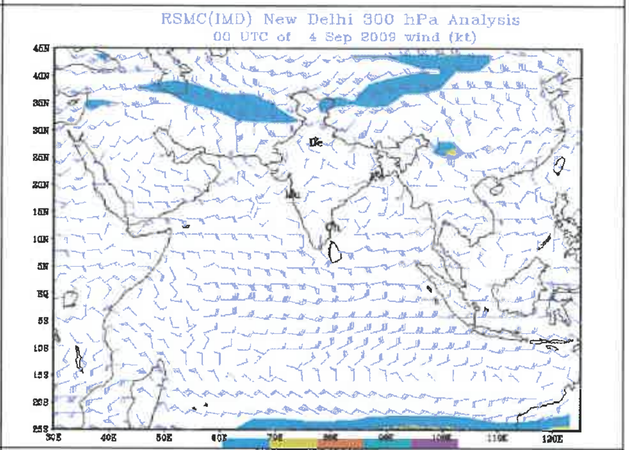


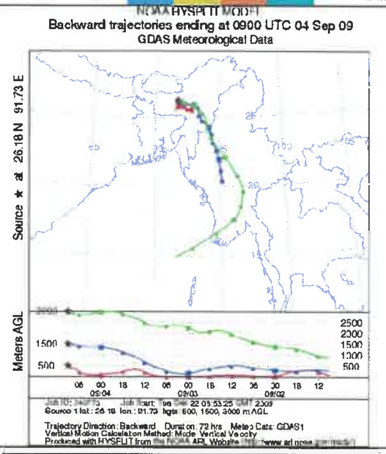
4 September 2009

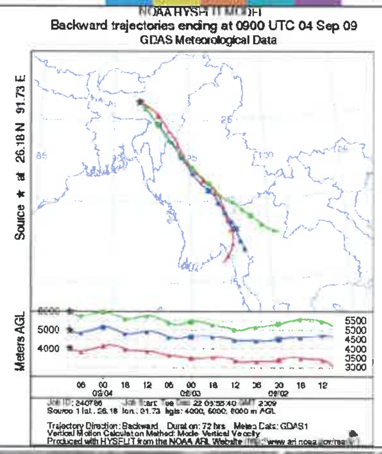


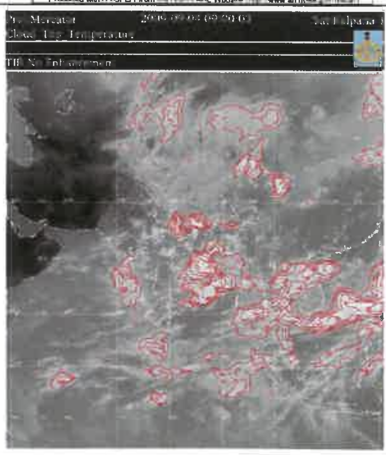


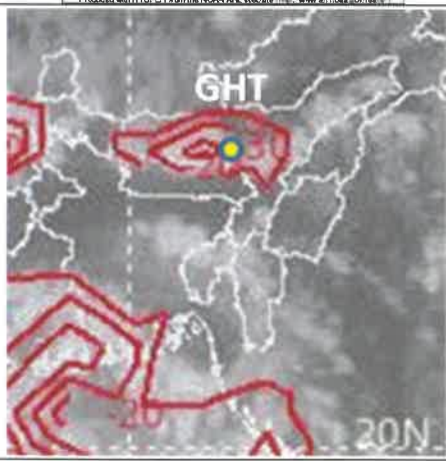










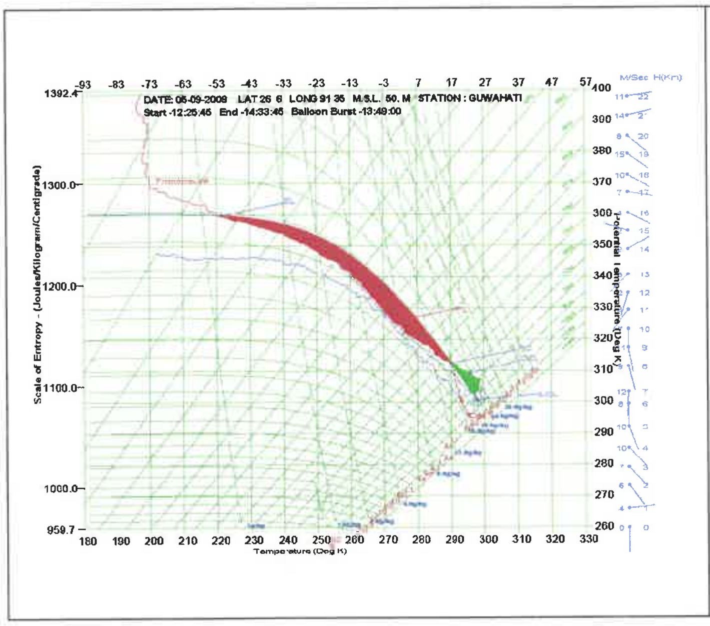


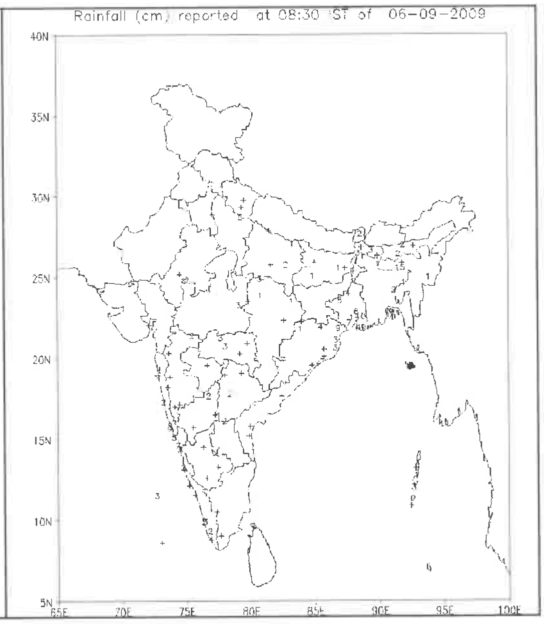
5 September 2009 (Base Guwahati)

Weather summary :

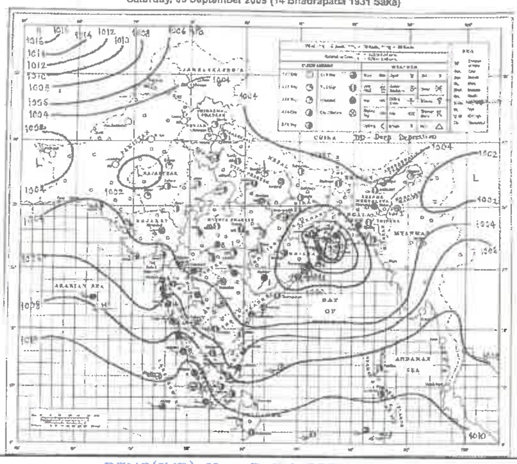
- The deep depression over Gengetic West Bengal near Digha moved slightly north northwestwards and lay centred at 1730 hours IST of today, the 5th September, 2009 near Midnapore over Gangetic West Bengal.
- The axis of monsoon trough passes through Jaisalmer, Jodhpur, Kota, Umaria, Jashpurnagar, Centre of the deep depression and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 3 cm) occurred between 0830 to 1730 hours IST of today are: Balasore -7, Cherapunji, Honavar, Digha -6 each, Bareilly, Karwar, Mormugoa – 5 each, Shirali -4, Narsinghpur, Madikeri, Jamshedpur, Cooch Behar, Diamond Harvour, Port Blair, Hirakud, Mahabaleshwar -3 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds seen over parts of northwest & adjoining central Bay of Bengal, Andaman Sea and east Arabian Sea, north Orissa, Jharkhand, Chhattisgarh, West Bengal, east Uttar Pradesh, east Madhya Pradesh, north Maharashtra and parts of northeastern states. Low/ medium clouds are seen over parts of northwest, west and peninsular India.

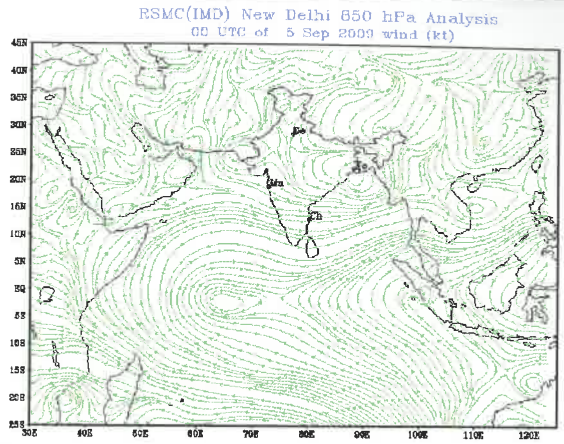
Flight **:** Nil
Station : Guwahati

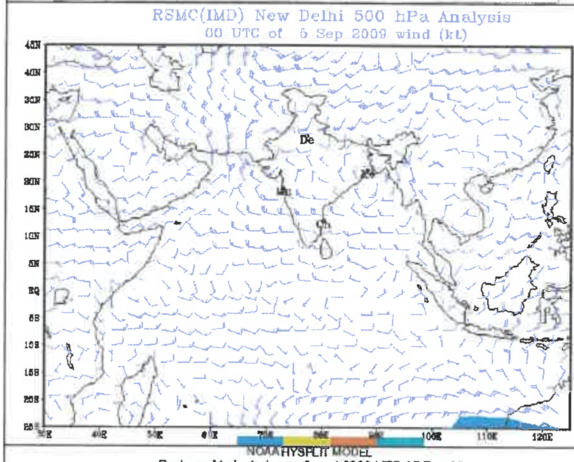


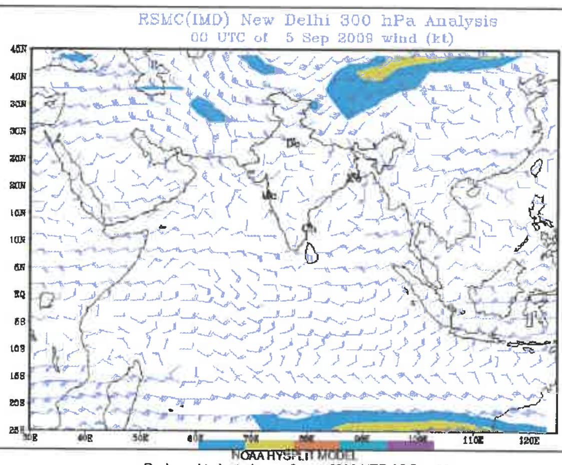


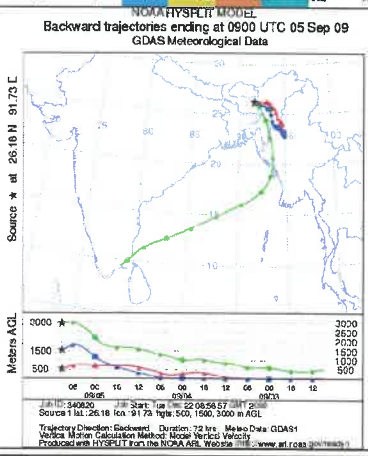
5 September 2009

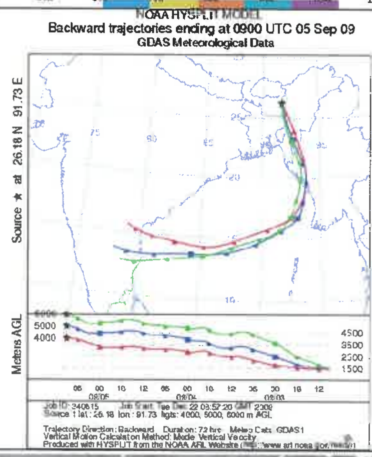


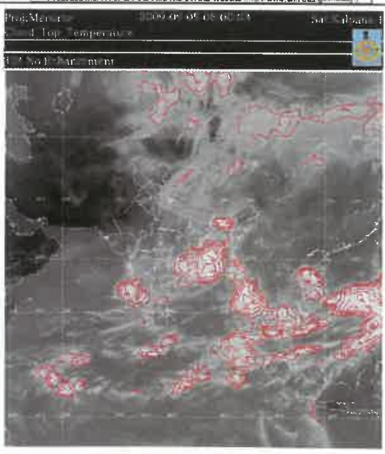












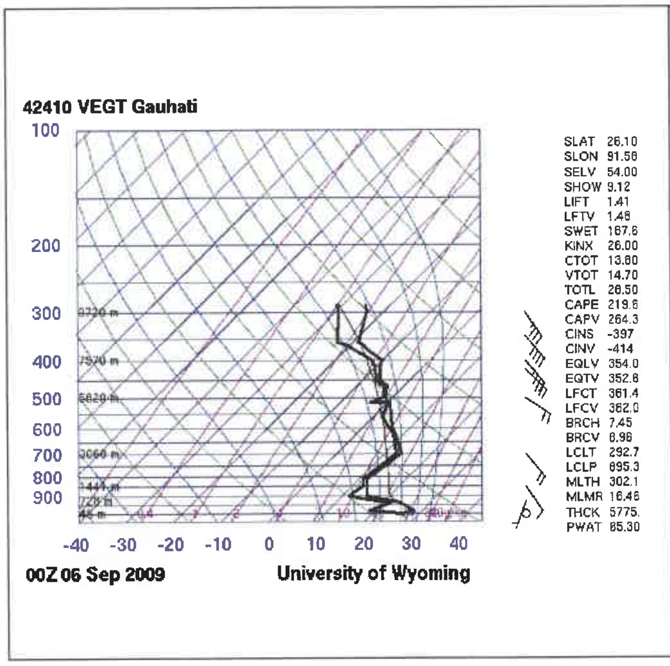
6 September 2009 (Base Guwahati)

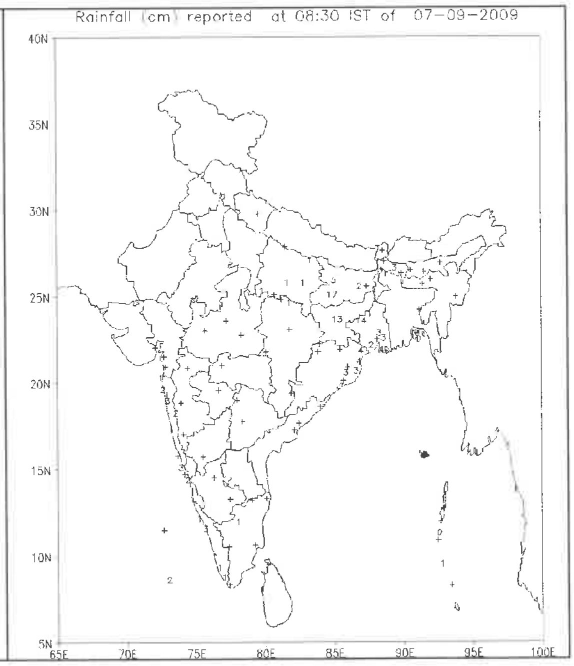
Weather summary :

- The deep depression over Jharkhand moved northwestwards and lay centred at 1730 hours IST of today, the 6th September, 2009 about 50 Km north of Ranchi in Jharkhand
- The axis of monsoon trough passes through Jaisalmer, Jodhpur, Kota, Umaria, Centre of the deep depression and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥ 2 cm) occurred (between 0830 to 1730 hours IST of today) are: Ranchi-5, Karipur-4, Kozikode-3, Madikeri, Mumbai, Canning, Mahabaleshwar, Agathi, Gaya, Bhagalpur and Jamshedpur-2 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds seen over parts of north & eastcentral Bay of Bengal, north Andaman Sea, southeast Arabian Sea, Jharkhand, West Bengal & Sikkim, Chhattisgarh and Bihar. Low/medium clouds are seen over parts of northwest, west, central, northeast and peninsular India.

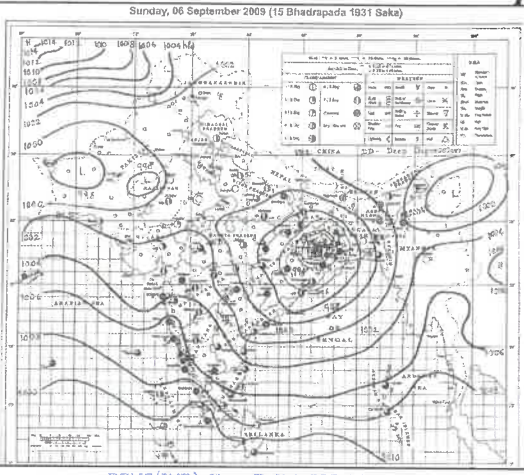
Flight :

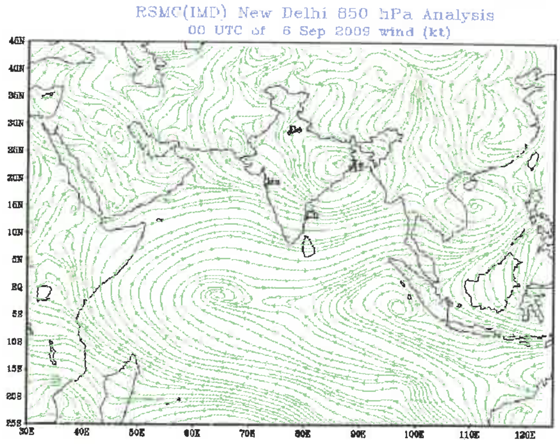
- Station : Guwahati
- Engine on : 11:45
- Engine off : 14:15

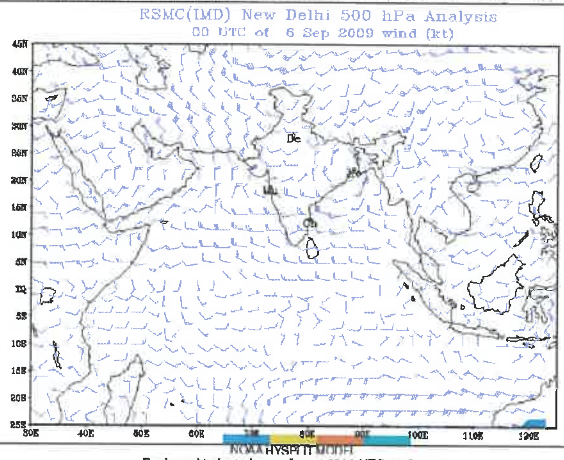


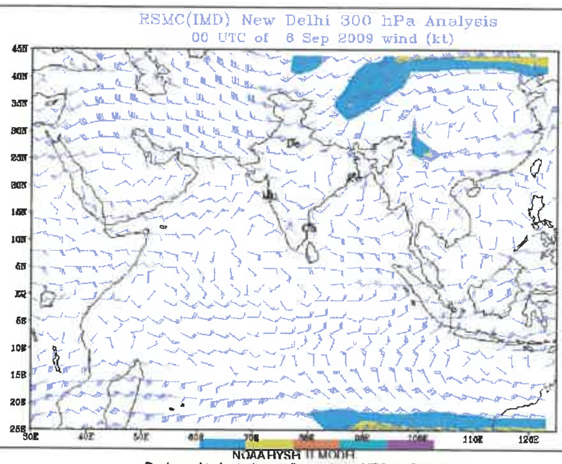


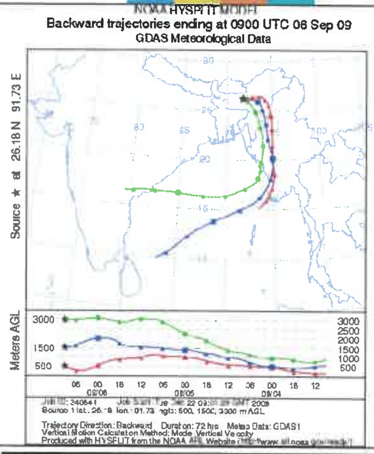
6 September 2009

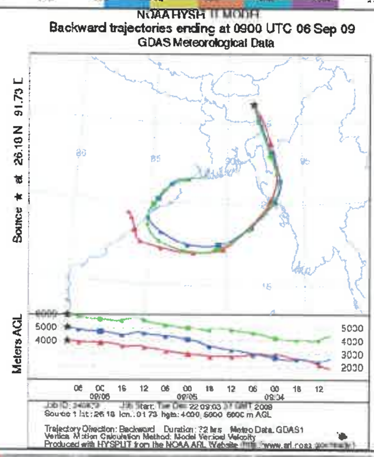


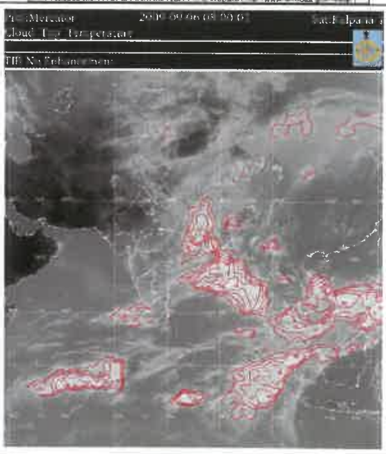


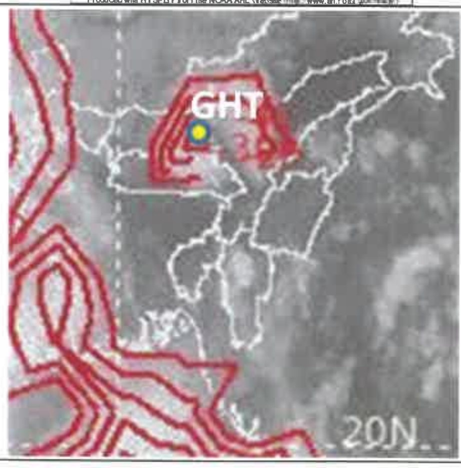












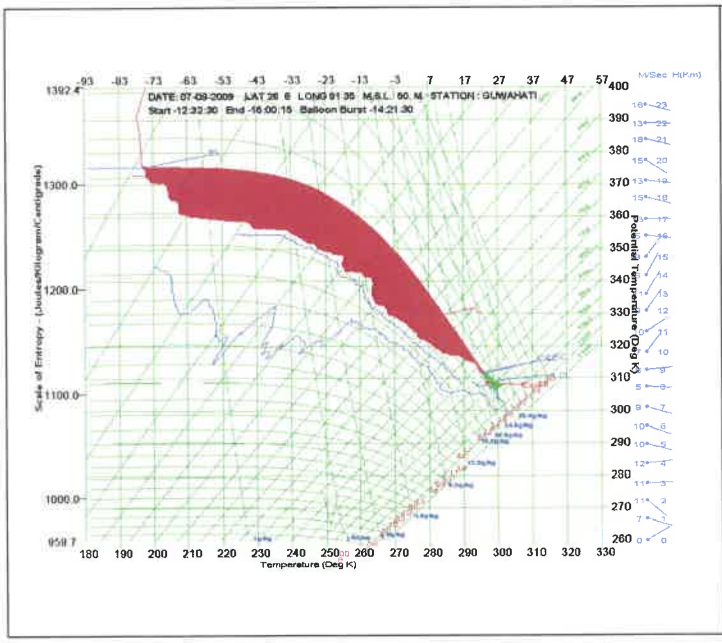
7 September 2009   (Base Guwahati)

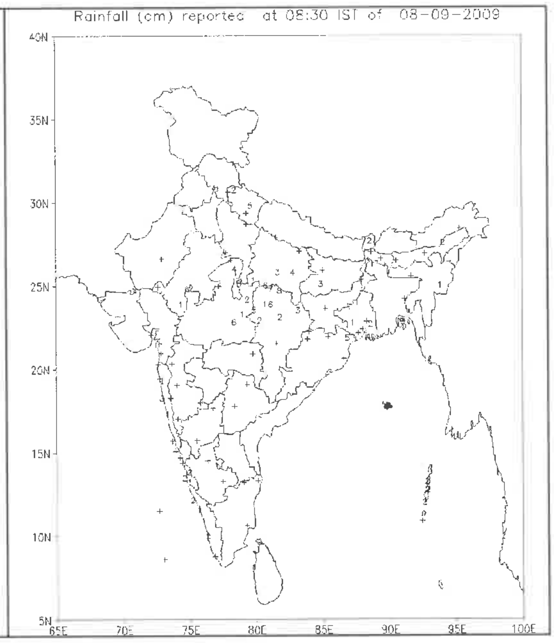
Weather summary :

- The depression over Jharkhand centred close to Daltonganj weakened into a well marked low pressure area. It lay over Jharkhand and adjoining Chhattisgarh, northeast Madhya Pradesh, southeast Uttar Pradesh & southwest Bihar at 1730 hours IST of today, the 7th September 2009.
- The axis of monsoon trough passes through Pathankoat, Ambala, Bareilly, Sultanpur, Centre of the well marked low pressure area, Keonjhargarh and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall (≥2 cm) recorded between 0830 to 1730 hours IST of today are: Varanasi(BHU) and Tikamgarh - 4 each, Varanasi, Gaya and Sidhi-3 each, Nowgong, Agumbe and Daltonganj – 2 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds seen over parts of central and adjoining north Bay of Bengal, north Andaman Sea, Jharkhand, north Chhattisgarh, East Madhya Pradesh and East Uttar Pradesh. Low/medium clouds are seen over parts of northwest, west, central, northeast and peninsular India.

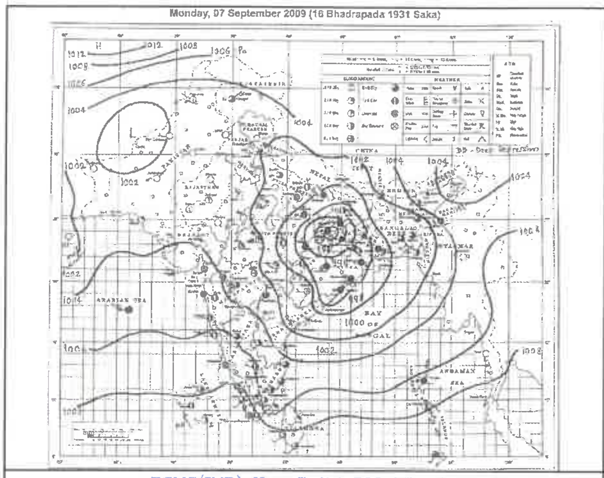
Flight : Nil

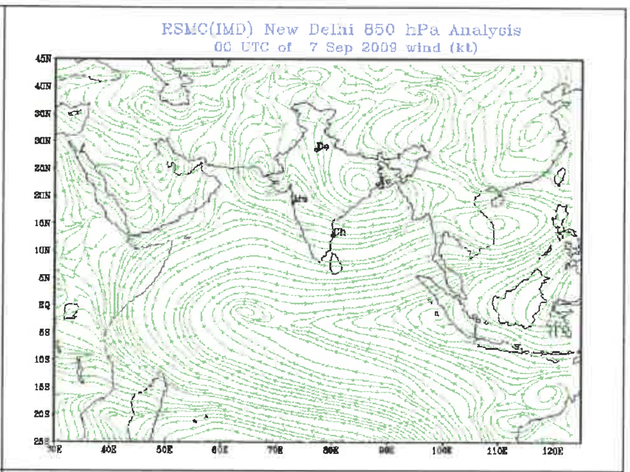
- Station : Guwahati

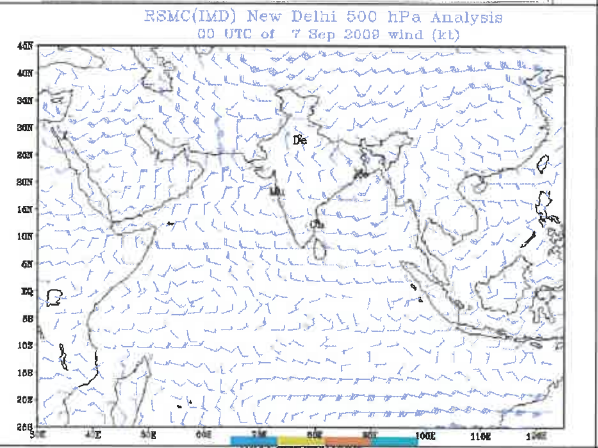


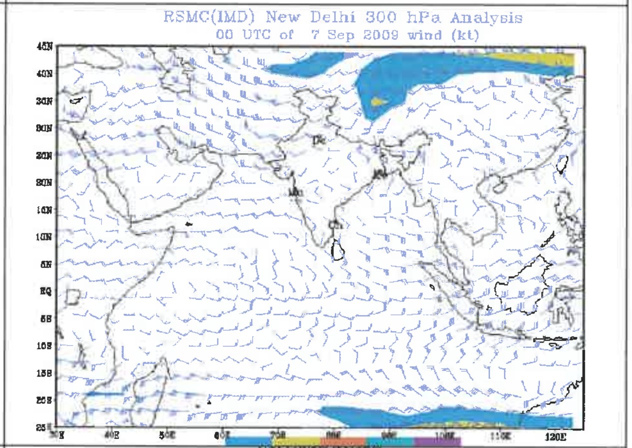


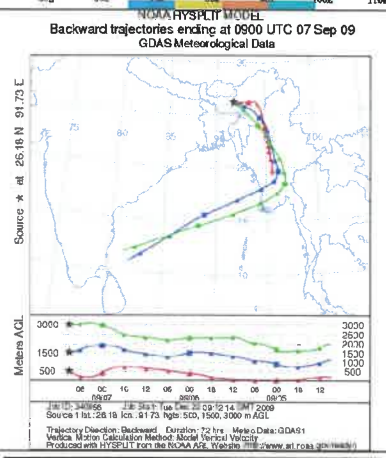
7 September 2009

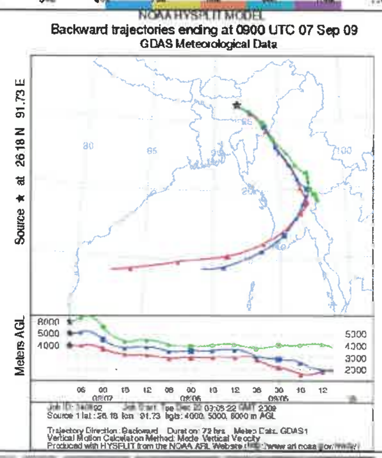


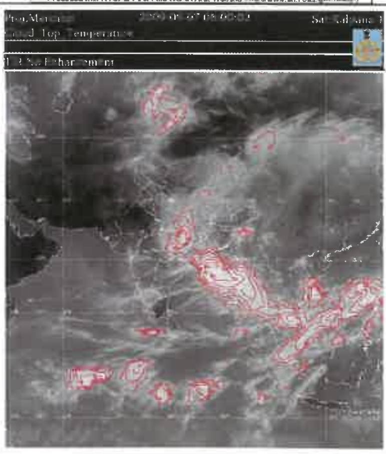


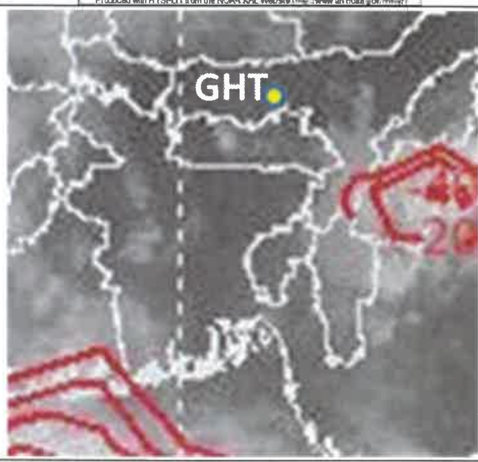










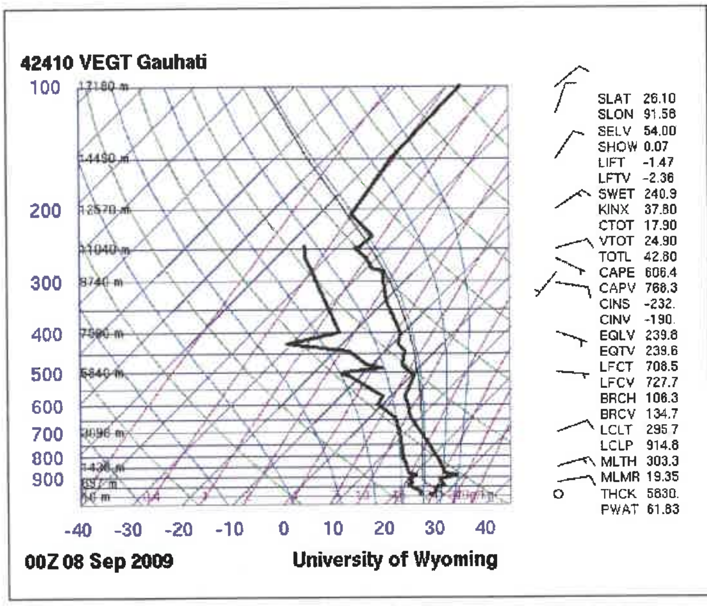


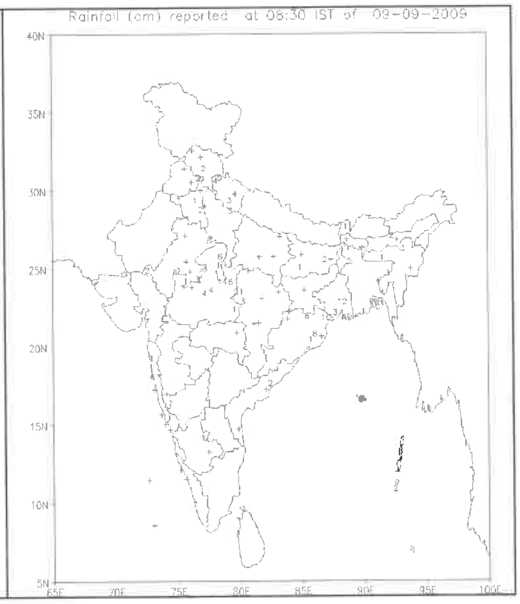
8 September 2009 (Base Guwahati)

Weather summary :

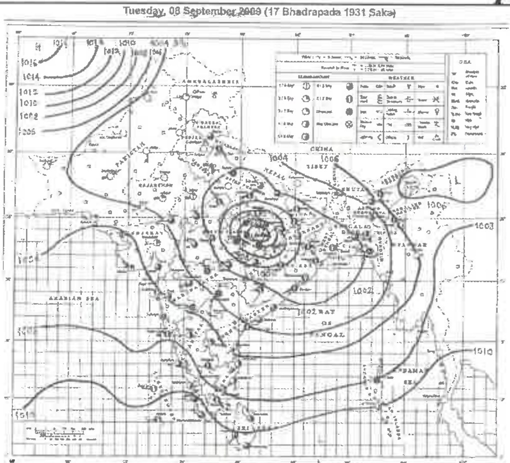
- The well marked low pressure area over central Madhya Pradesh and neighbourhood persists.
- The axis of monsoon trough passes through Phalodi, Ajmer, Shivpuri, Centre of the well marked low pressure area, Ambikapur, Balasore and thence southeastward to eastcentral Bay of Bengal.
- The upper air cyclonic circulation over northwest Bay of Bengal and neighbourhood now lies over coastal areas of West Bengal, north Orissa and adjoining northwest Bay of Bengal and extends upto Mid-tropospheric levels.
- The Chief amounts of rainfall (≥ 3 cm) occurred between 0830 to 1730 hours IST of today are:Jabalpur-15, Kolkata(Alipore)-9, Kolkata(Dumdum), Balasore-6 each, Keongjhargarh-4 and Sagar,Jhansi,Bareily-3 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north and adjoining eastcentral Bay of Bengal, north Andaman Sea, north Orissa, West Bengal and central Madhya Pradesh. Low/medium clouds are seen over parts of northwest, west, central, northeast and peninsular India.

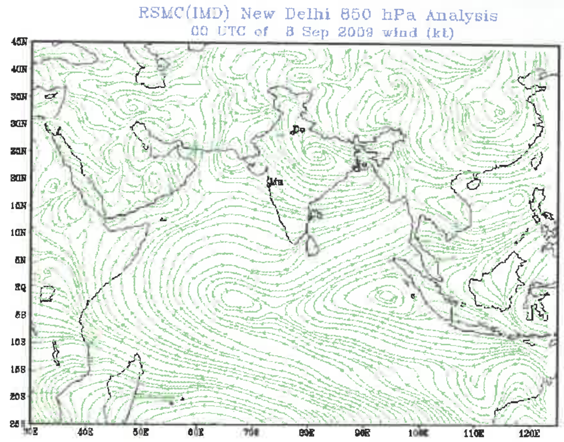
Flight *:* Nil
Station : Guwahati

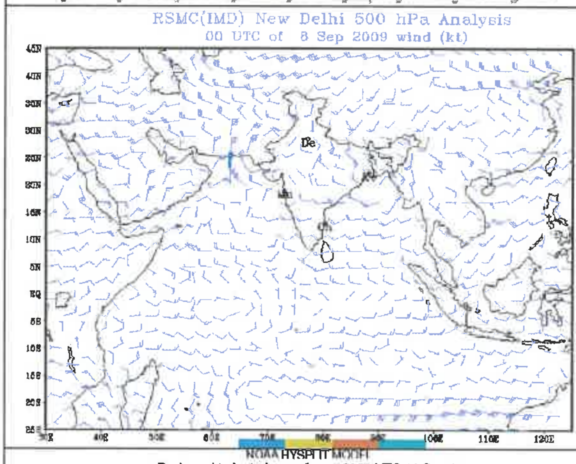


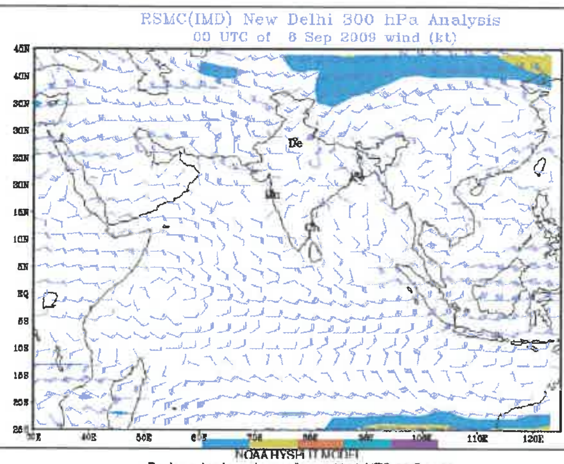


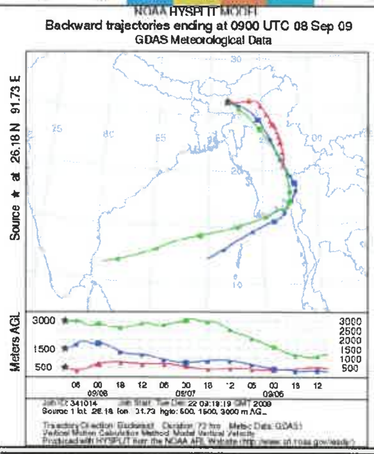
8 September 2009

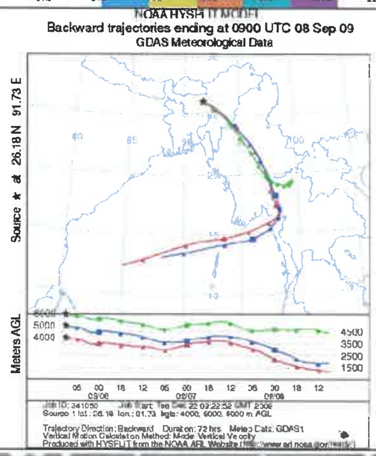


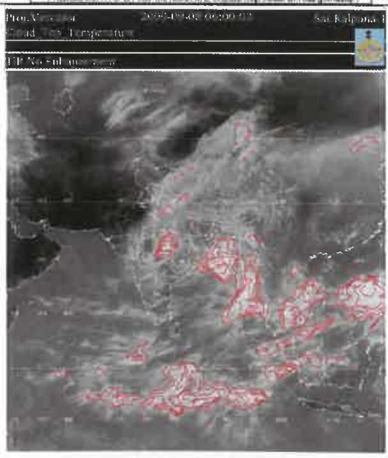


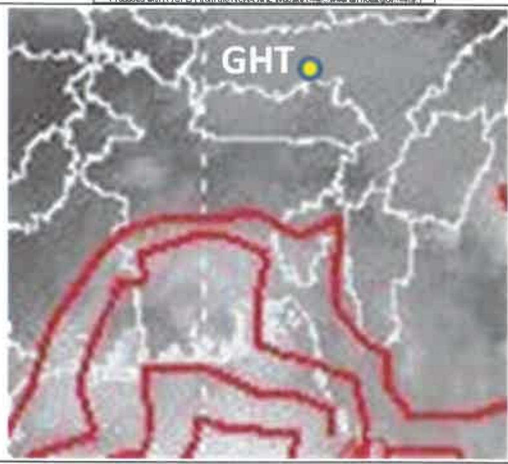












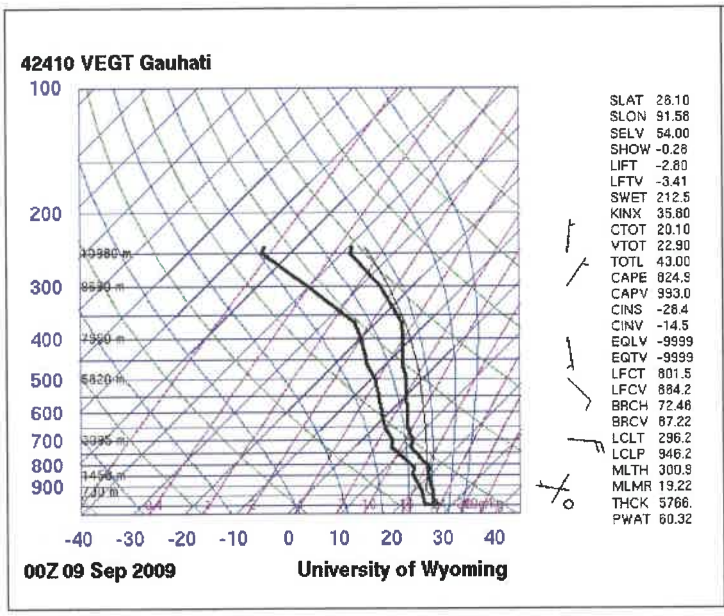
9 September 2009 (Guwahati-Ranchi)

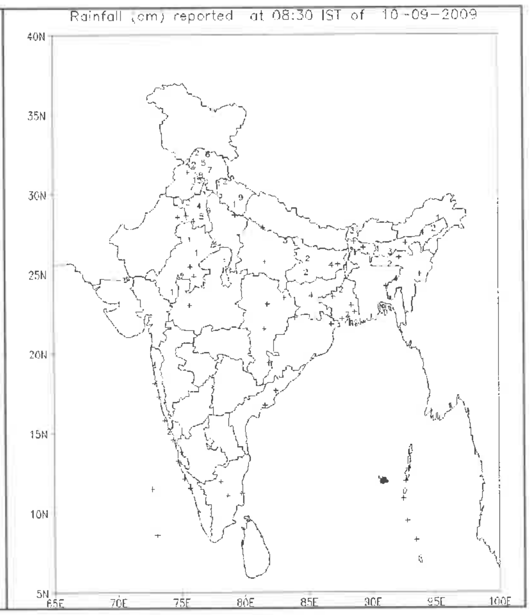
Weather summary :

- The well marked low pressure area over central Madhya Pradesh and neighbourhood persists.
- The axis of monsoon trough passes through Jaisalmer, Ajmer, Guna, Centre of the well marked low pressure area, Jharsuguda, Balasore and thence southeastward to eastcentral Bay of Bengal.
- Chief amounts of rainfall ($\geq$ 5 cm) recorded at 0830 hours IST of today are: Narsinghpur-29, Jabalpur-21, Kolkata (Alipore)-12, Balasore-10, Kolkata (Dum Dum)-9, Cuttack-8, Keonjhargarh, Hoshangabad and Damoh-6, Tehri, Jhansi and Kalpa-5.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over parts of north and adjoining eastcentral Bay of Bengal, Andaman Sea, north Orissa, West Bengal, Bihar, Himachal Pradesh and central Madhya Pradesh. Low/medium clouds are seen over parts of northwest, west, central, northeast and peninsular India.

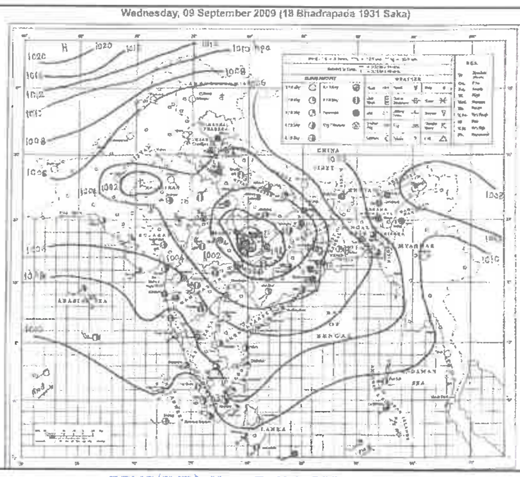
Flight :

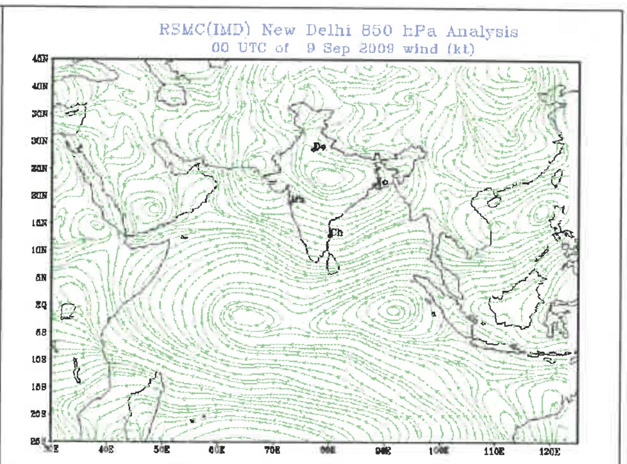
- Station : Guwahati - Ranchi
- Engine on : 12:00
- Engine off : 14:45

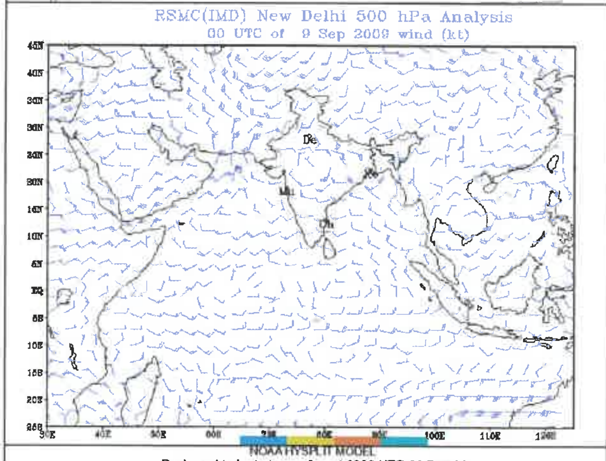


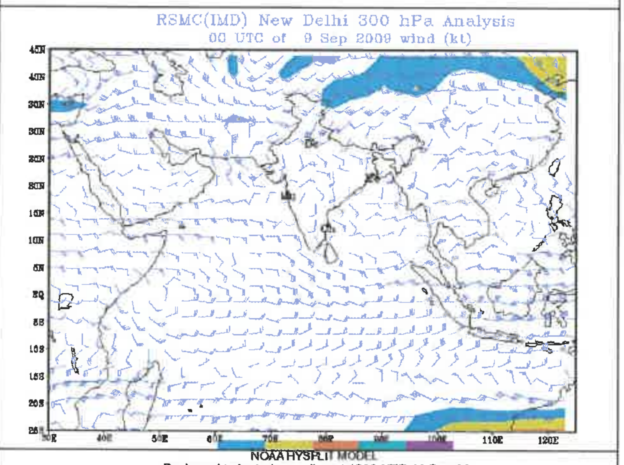


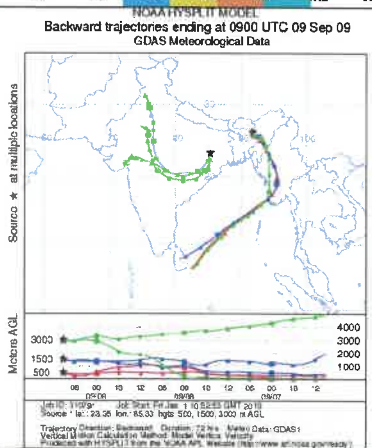
9 September 2009

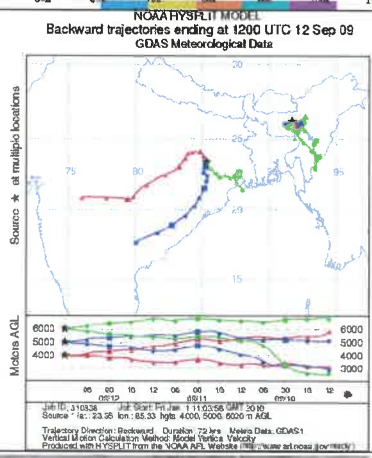


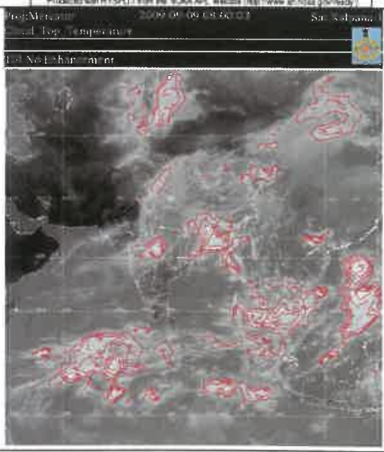


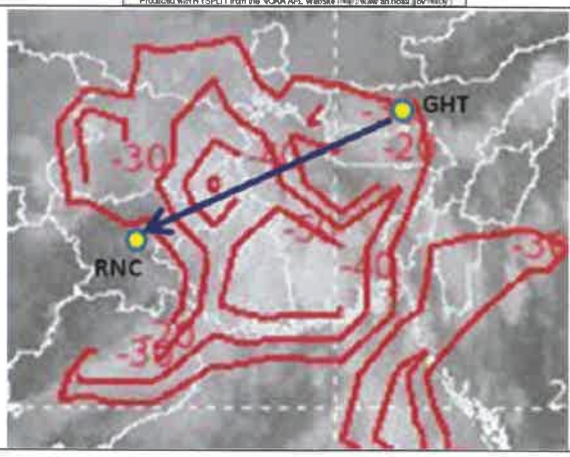












12 September 2009 (Ranchi-Hyderabad)

Weather summary :

- The upper air cyclonic circulation over Uttarakhand & neighbourhood now lies over north Uttar Pradesh and neighbourhood and extends upto 1.5 km above mean sea level.
- The axis of monsoon trough passes through Pathankot, Dehradoon, Nutanwa, Darbhanga and thence east-southeastward to Manipur through Bangla Desh.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north Andhra Pradesh, north Maharashtra, northeast Bay of Bengal. Low/medium clouds are seen over parts of northwest, west, central, northeast and south India.

Flight :

- Station : Ranchi - Hyderabad
- Engine on 08:05
- Engine off : 11:45

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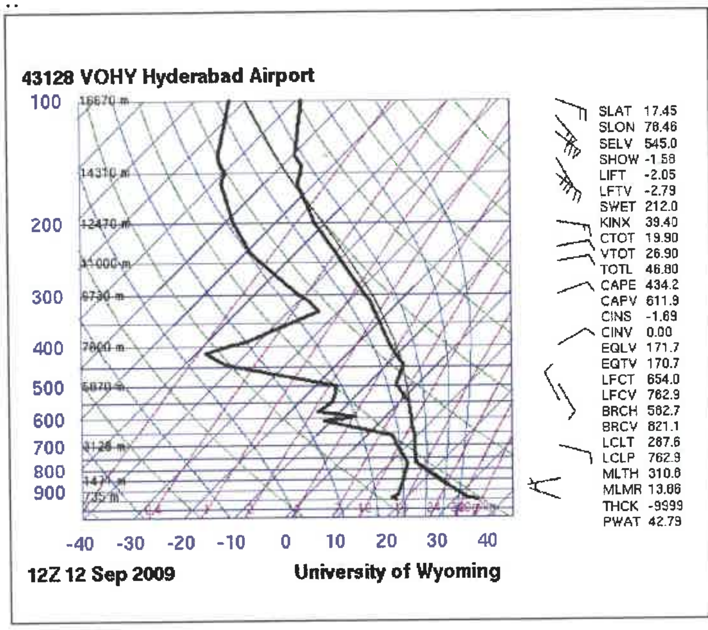
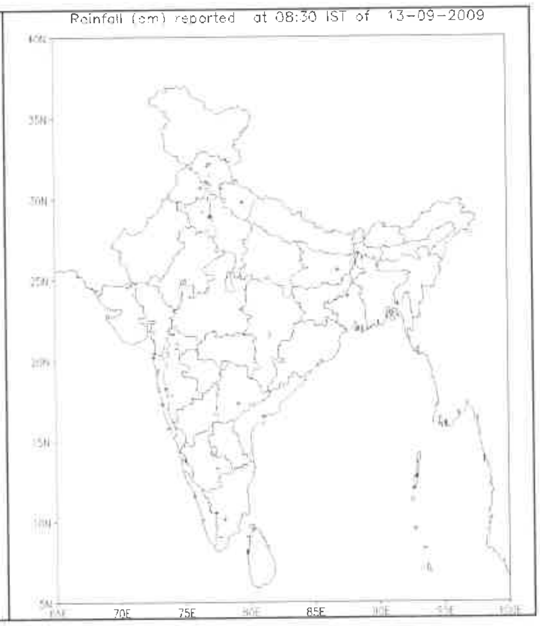
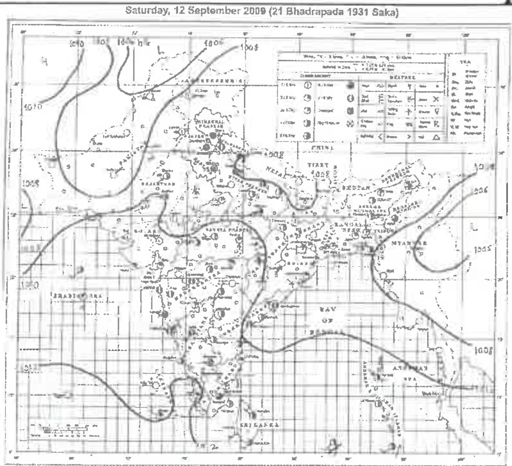
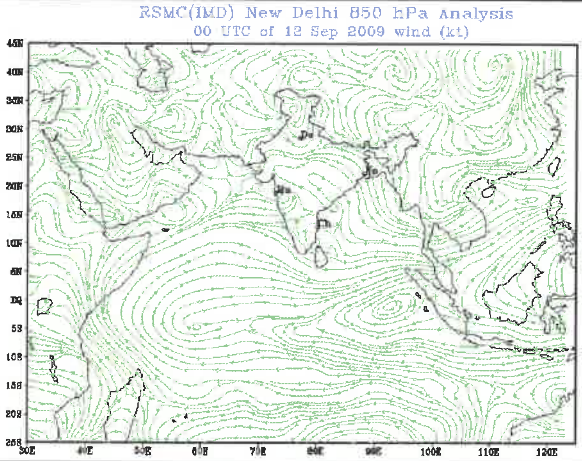
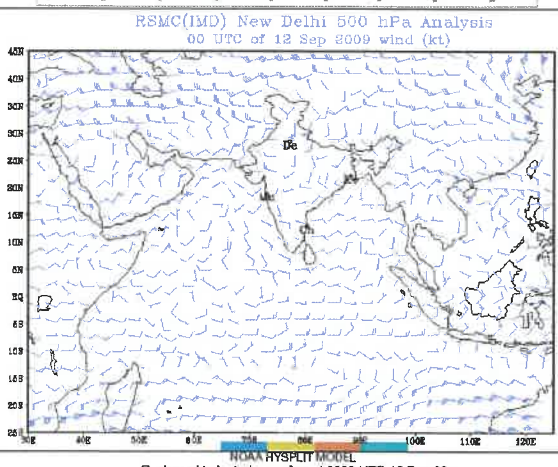


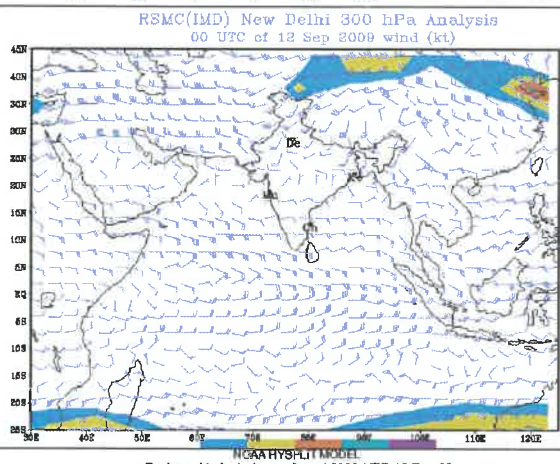


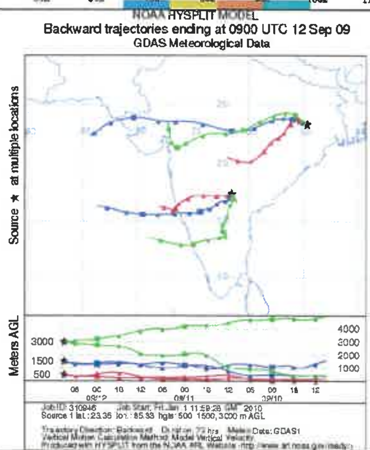
12 September 2009

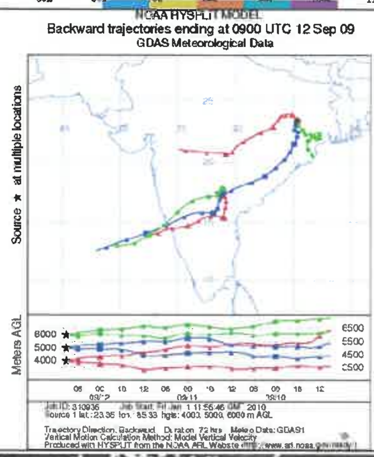


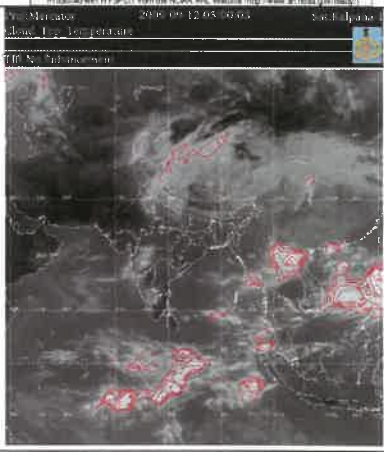


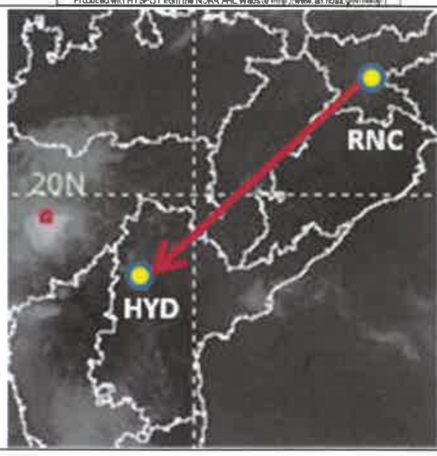








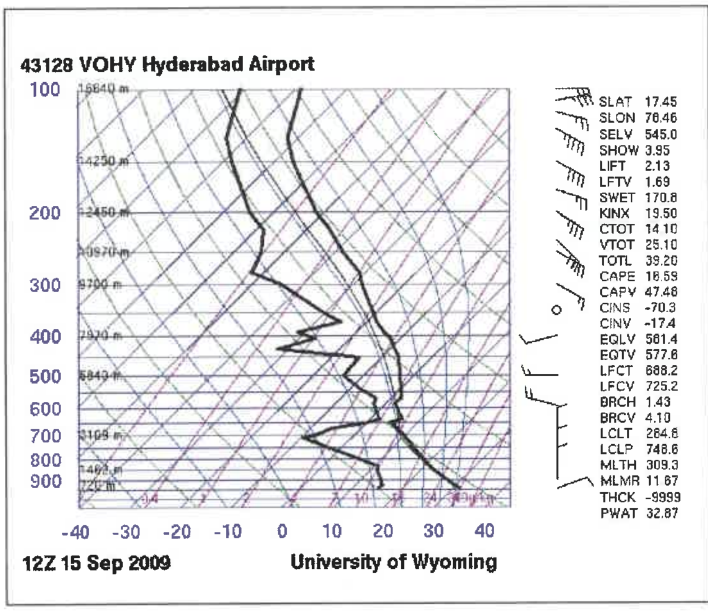


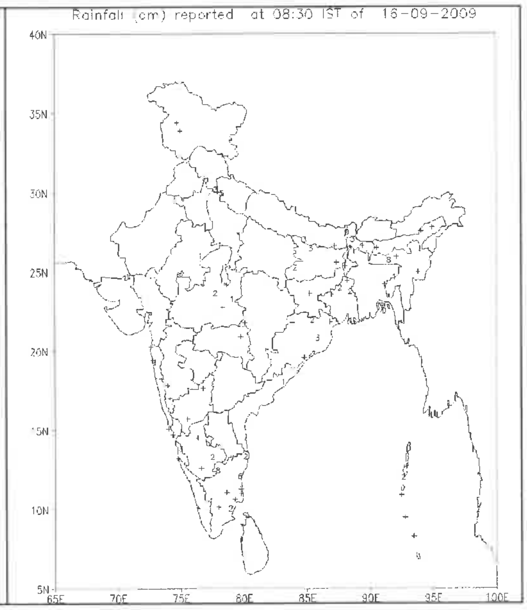


15 September 2009 (Hyderabad-Pune)

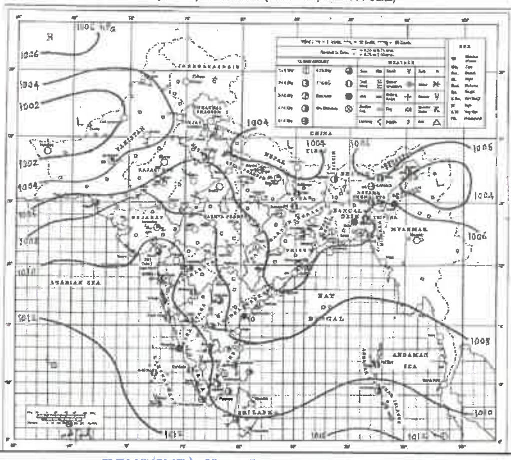
Flight :

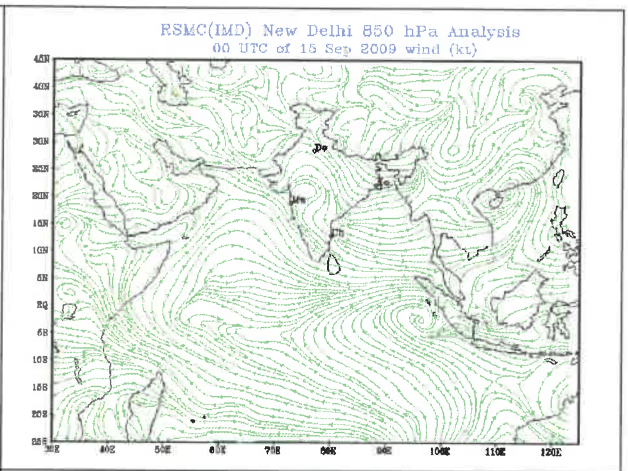
- Station : Hyderabad - Pune
- Engine on 12:15
- Engine off : 13:55

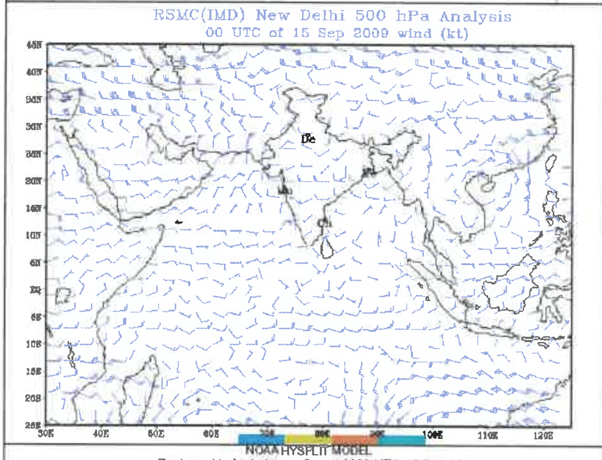


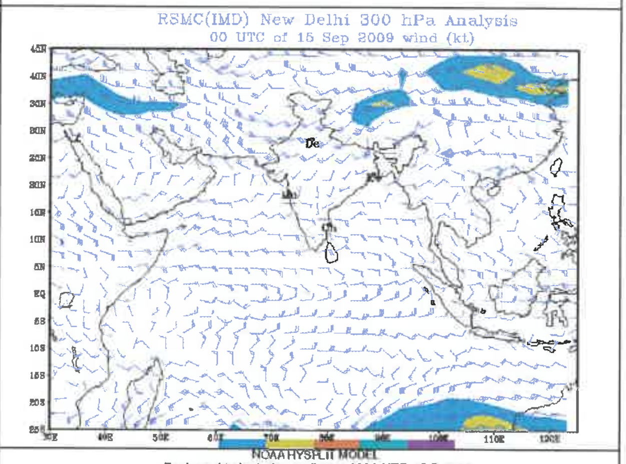


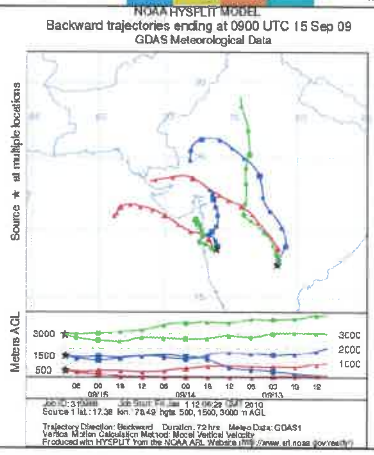
15 September 2009

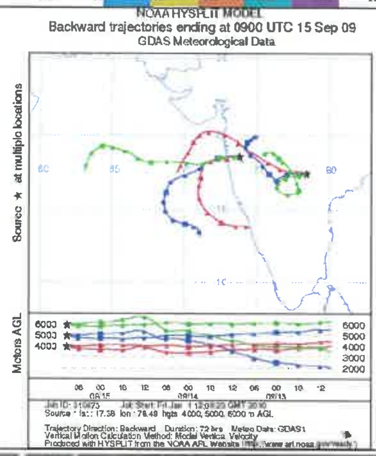


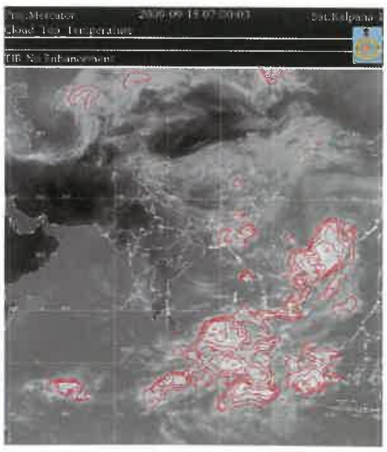


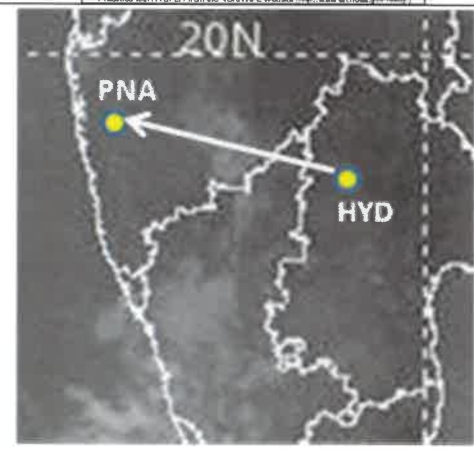












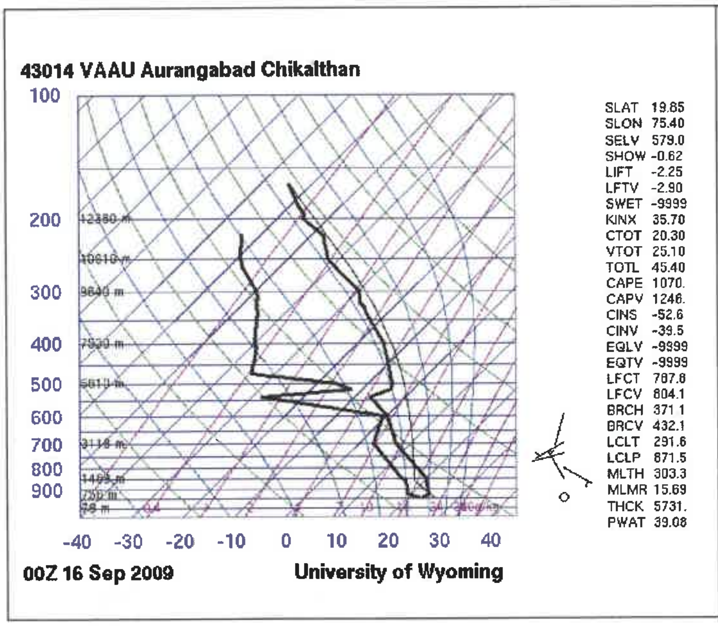
16 September 2009 (Base Pune)

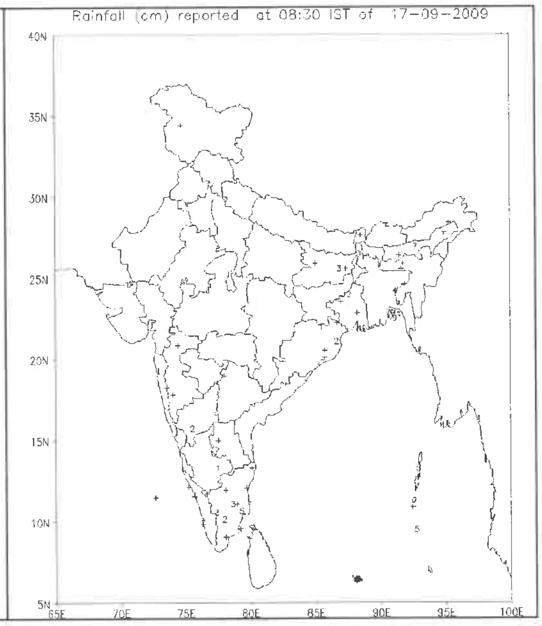
Weather summary :

- The trough in lower tropospheric level runs from Sub Himalayan West Bengal to Tamil nadu coast through Gangetic West Bengal, Orissa coast and Coastal Andhra Pradesh with embedded cyclonic circulation.
- Chief amounts of rainfall (≥2 cm) recorded at 0830 hours IST to 1730 hours IST of today are: Agartala-4, Kodaikanal and Bhagalpur-3 each, Chandbali-2
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over south Andaman Sea, southeast Bay of Bengal, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura. Low/medium clouds are seen over parts of east and rest south peninsular India.

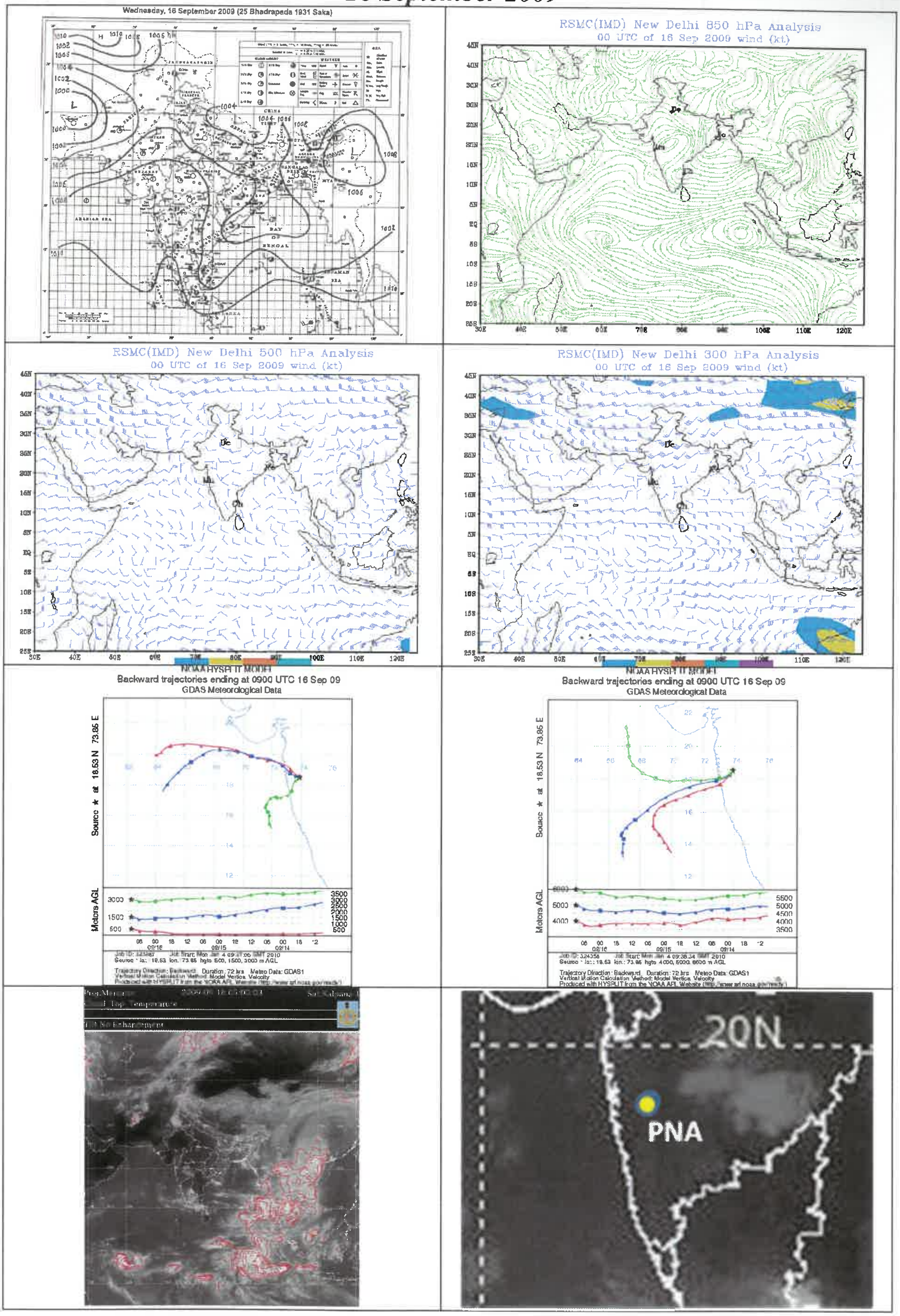
Flight :

- Station : Pune
- Engine on : 09:00
- Engine off : 11:55





16 September 2009



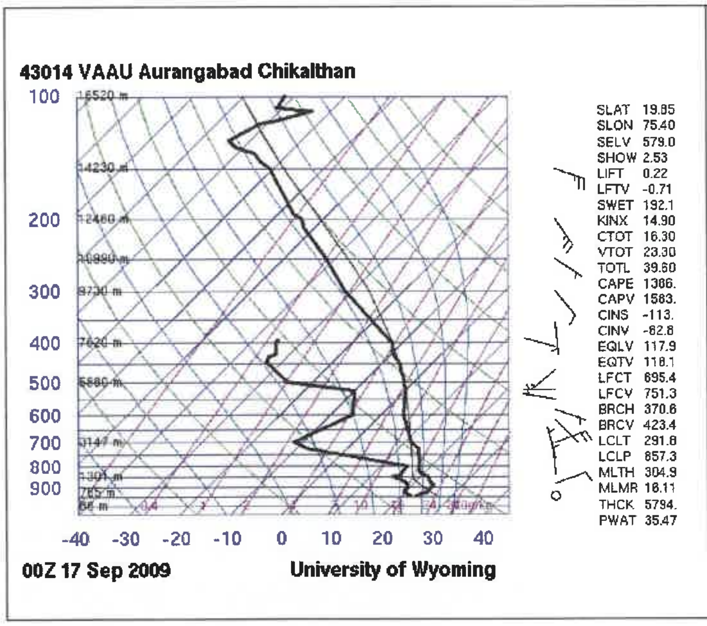
17 September 2009 *(Pune-Baramati-Pune))*

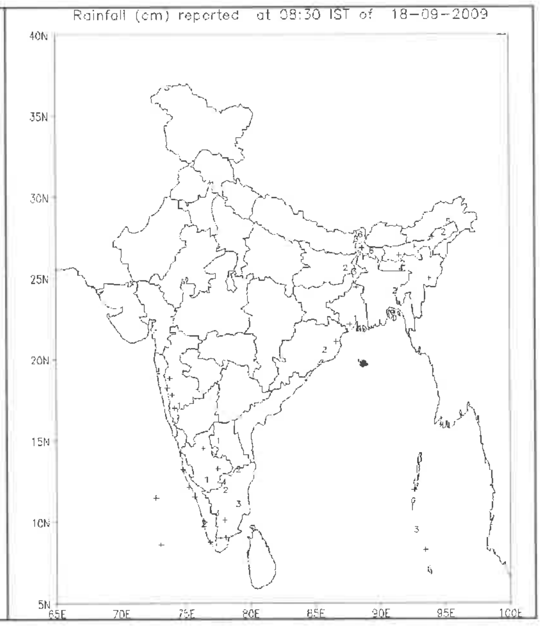
Weather summary :

- The north-south trough extending upto in Mid-tropospheric level from Sub-Himalayan West Bengal to southwest Bay of Bengal persists with an embedded upper air cyclonic circulation over west central Bay of Bengal neighbourhood.
- Chief amounts of rainfall (≥2 cm) recorded during 0830 hours IST to 1730 hours IST of today are: Nedumbassery-8, Carnicobar, Dharmapuri, Malda, Valparai, Kodaikanal - 3 each, Agumbe, Shillong, Cherrapunji, Karipur, Alapuzha, Kottayam, Purena, Vellore - 2 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southeast Arabian sea, Andaman Sea, Kerala, Coastal & South interior Karnataka, south Bay of Bengal , Nagaland, Manipur, Mizoram , Tripura, Sub-Himalayan West Bengal & Sikkim and Bihar. Low/medium clouds are seen over parts of east and rest south peninsular India.

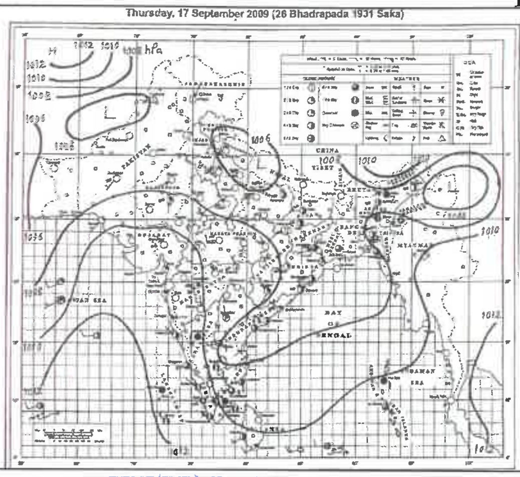
Flight:

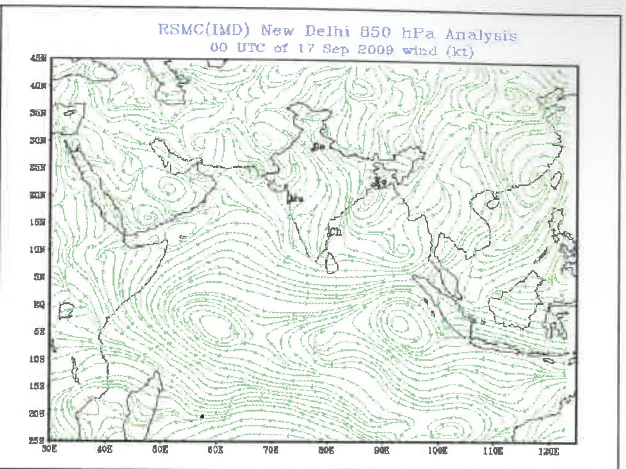
• Station : Pune - Baramati • Engine on : 12:00 • Engine off : 12:50	• Station : Baramati - Pune • Engine on : 14:45 • Engine off : 16:15

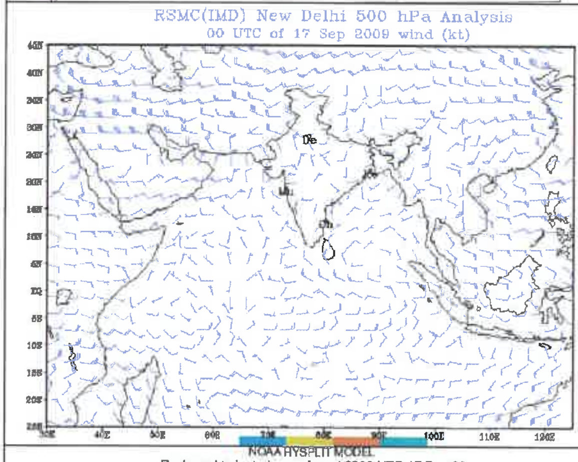


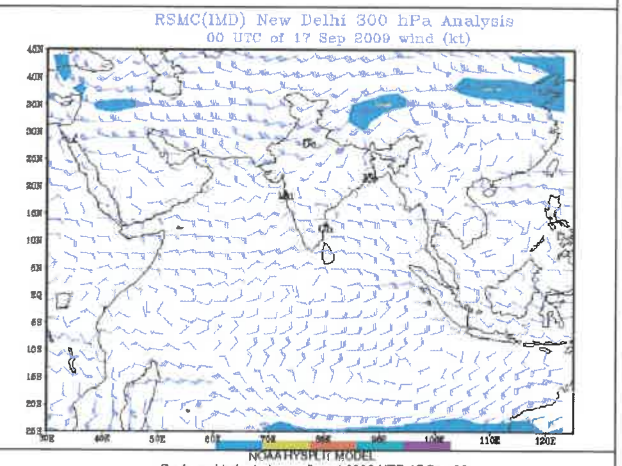


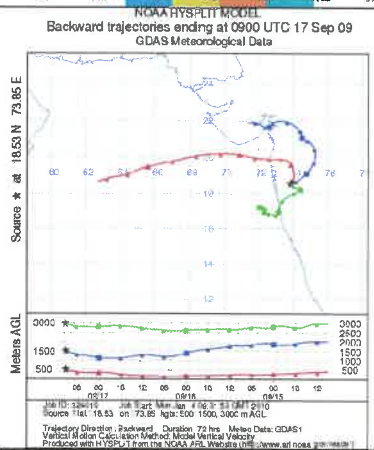
17 September 2009

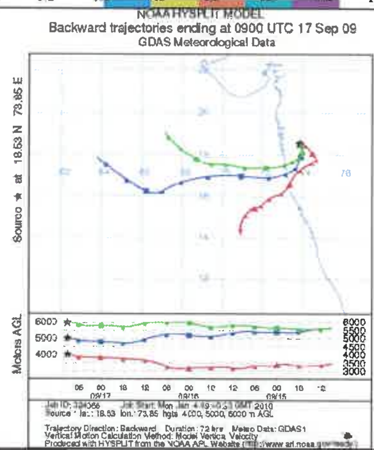


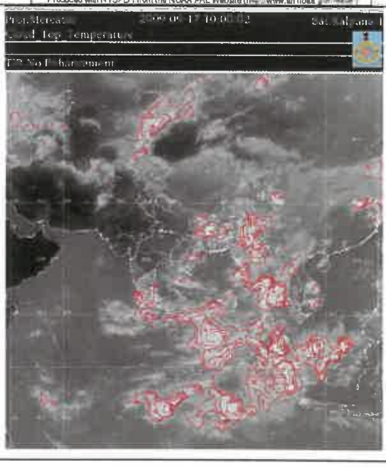


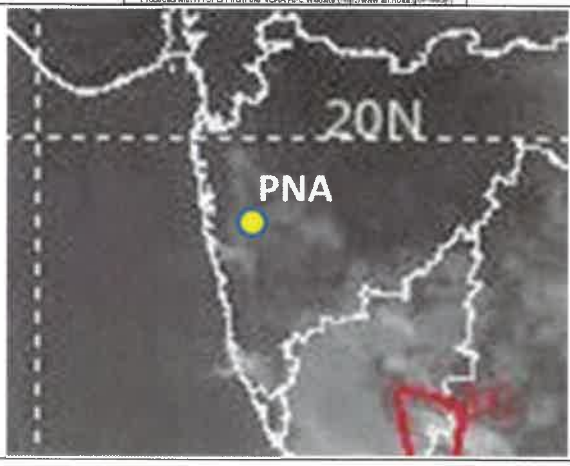












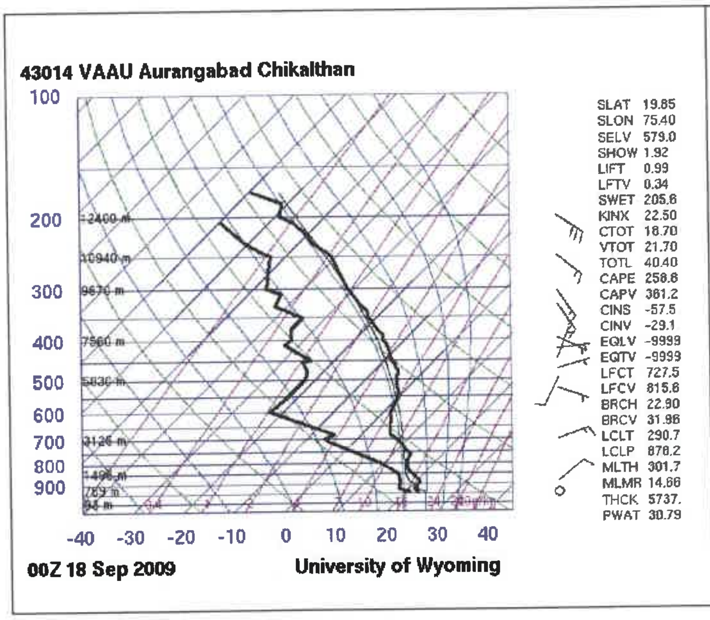
18 September 2009 (Pune- Ozer)

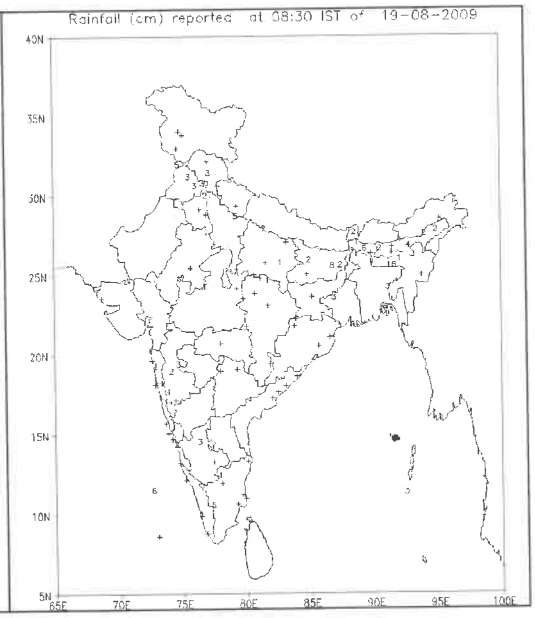
Weather summary :

- The north-south trough extending upto Mid-tropospheric level from Sub-Himalayan West Bengal to southwest Bay of Bengal persists.
- The upper air cyclonic circulation over west central Bay of Bengal and neighbourhood in the lower tropospheric level persists. The another upper air cyclonic circulation over southwest Bay of Bengal and neighbourhood in mid-tropospheric level also persists.
- Chief amounts of rainfall (≥ 3 cm) recorded at 0830 hours IST of today are: Kochi(nedubassery)-8, Silchar-7, Thanjavur and Cooch Behar-6 each, Passighat-5, Cherrapunji-4, Valparai, Kodaikanal, Carnicobar, Tadong, Darjeeling and Punalur-3 each.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over parts of southeast Arabian Sea, westcentral & south Bay of Bengal, south Andaman Sea and northeastern states. Low/medium clouds are seen over parts of northwest, east and south peninsular India.

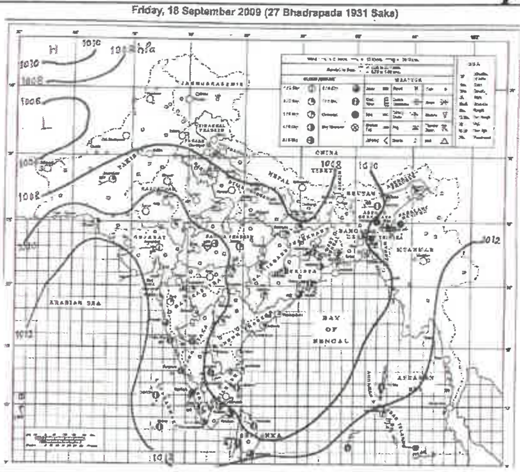
Flight :

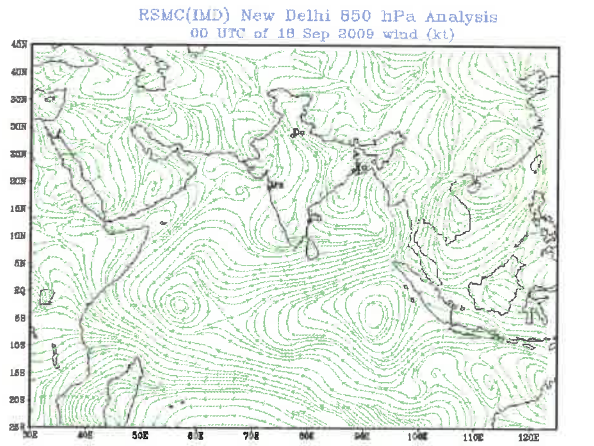
- Station : Pune – Ozar
- Engine on : 13:05
- Engine off : 13:45

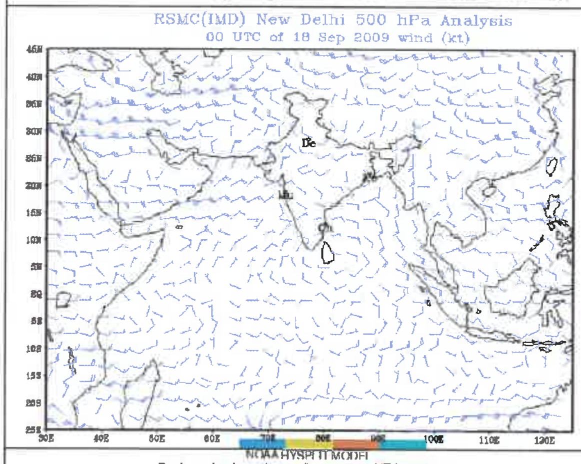


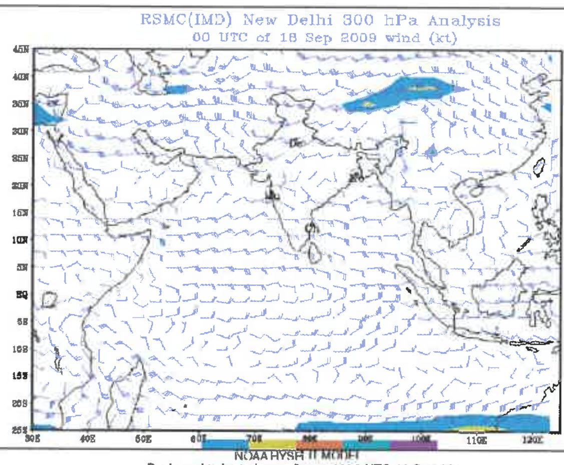


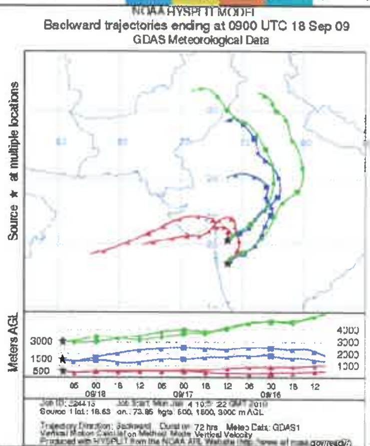
18 September 2009

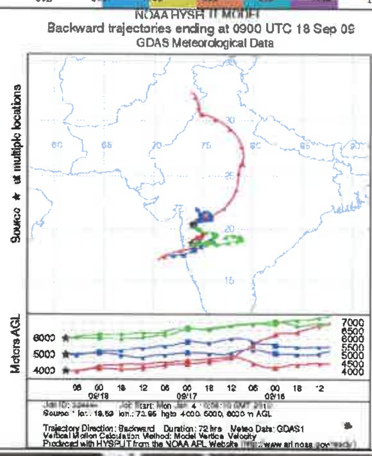


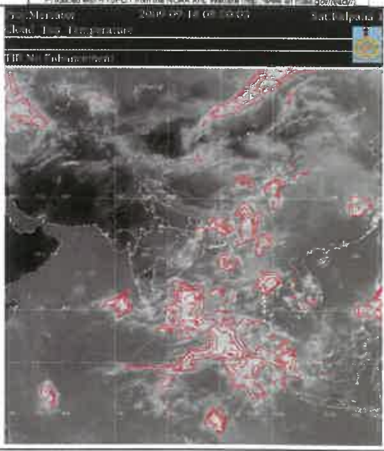












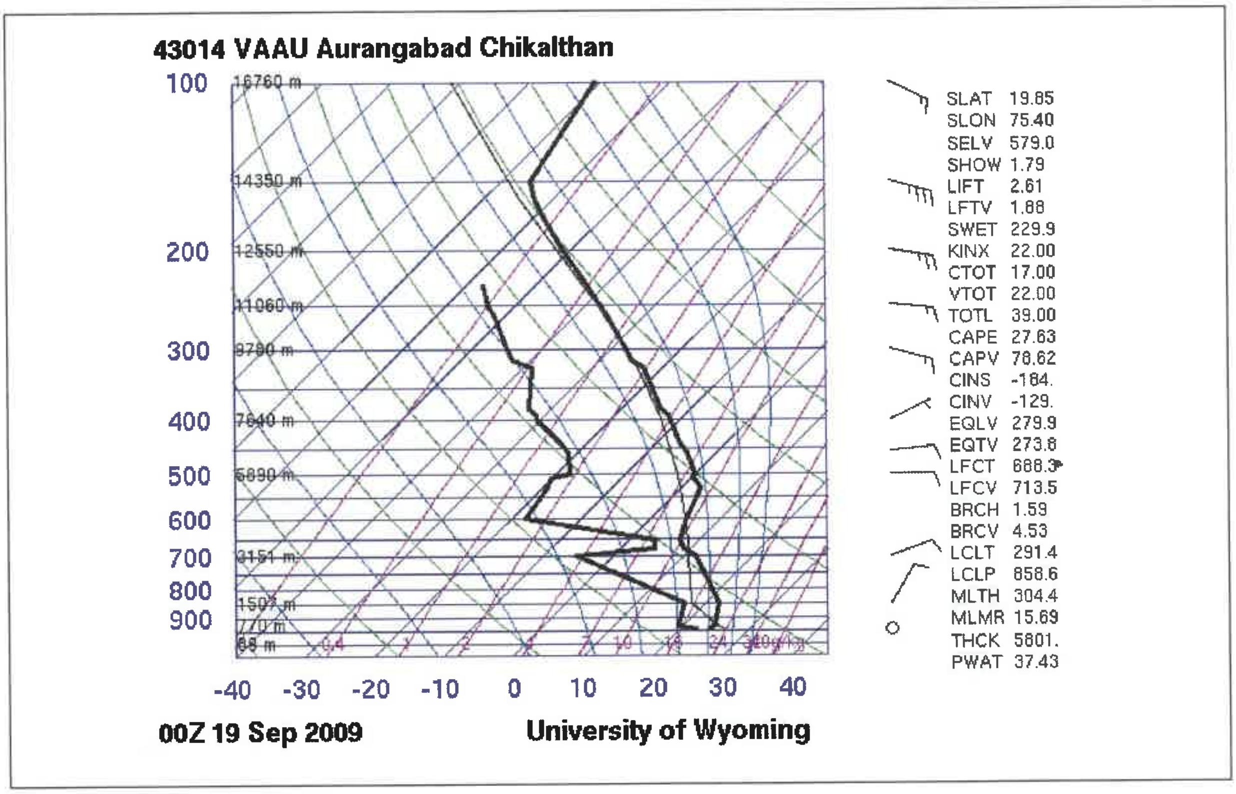
19 September 2009 (Ozer)

Weather summary :

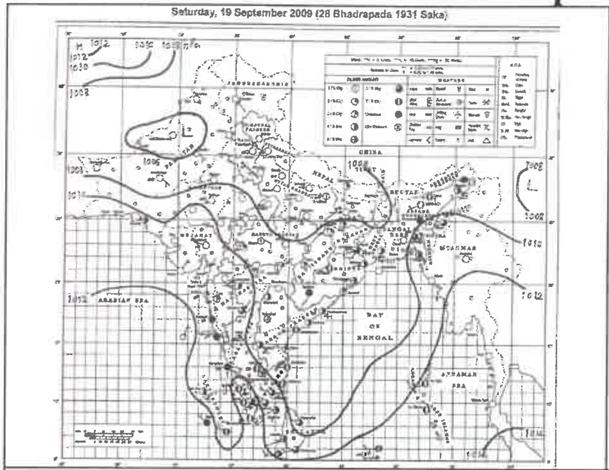
- The north-south trough from Bihar to Coastal Karnataka extending upto 2.1 km above sea level persists.
- The upper air cyclonic circulation between 3.1 km to 4.5 km above sea level over southwest Bay of Bengal and neighbourhood now lies over westcentral and adjoining southwest Bay of Bengal.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southeast Arabian Sea, southwest and adjoining west central Bay of Bengal, Andhra Pradesh ,Chhattisgarh, Orissa, Jharkhand, Sub Himalayan West Bengal , Coastal & South interior Karnataka. Low/medium clouds are seen over parts of northwest, central, east , northeast and south peninsular India.

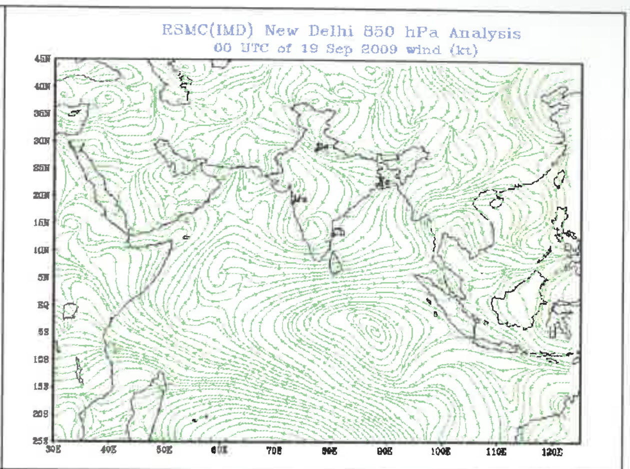
Flight :

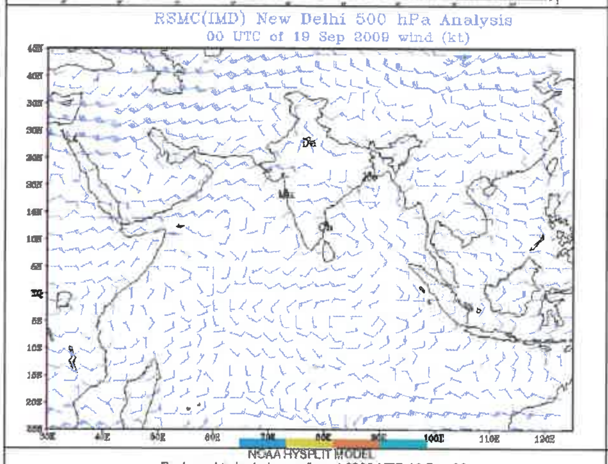
- Station : Ozar
- Engine on : 16:05
- Engine off : 16:20

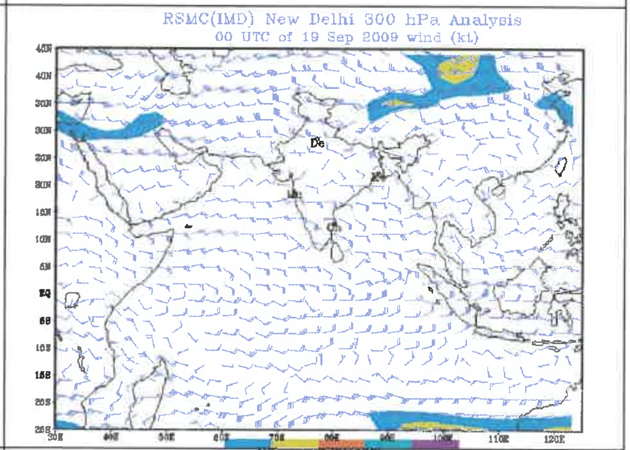


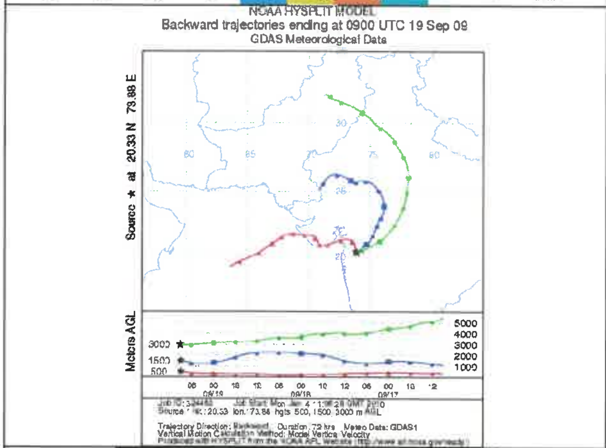
19 September 2009

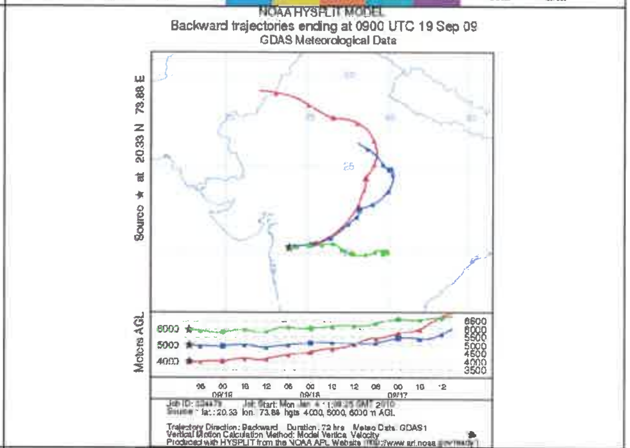


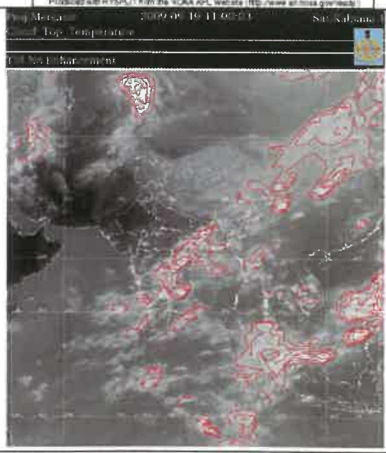


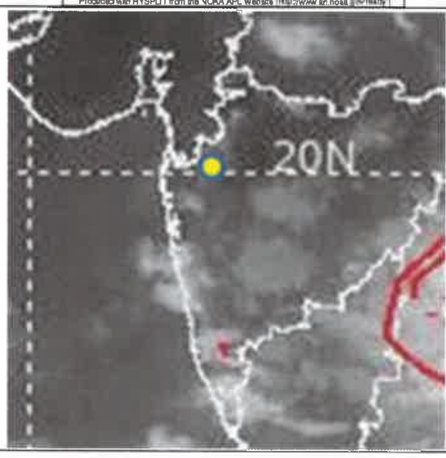












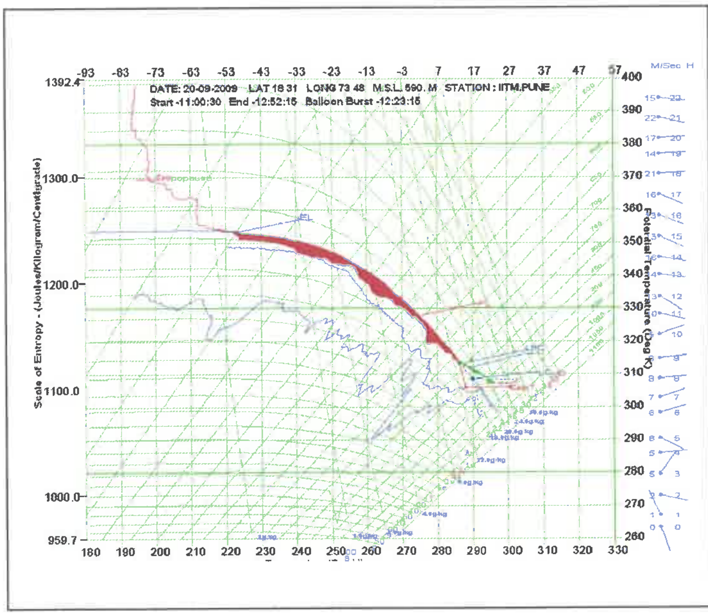
20 September 2009 (Ozer-Pune)

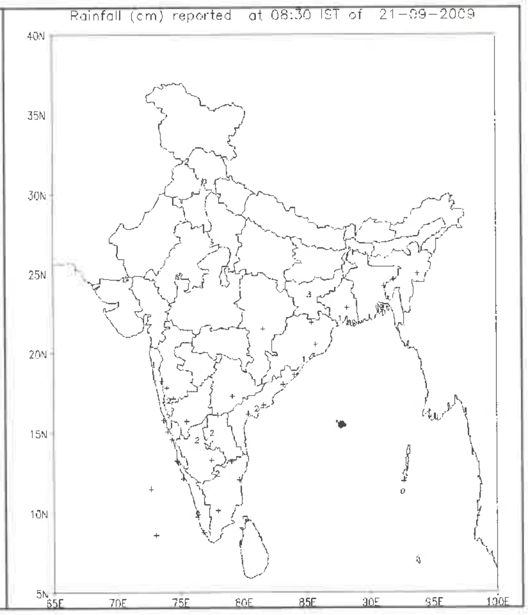
Weather summary :

- The north-south trough from Bihar to Kerala coast persists and extends upto 3.1 km above mean sea level.
- The upper air cyclonic circulation over westcentral and adjoining southwest Bay of Bengal now lies over Andhra Pradesh and neighbourhood between 3.6 km and 5.8 km above mean sea level.
- Chief amounts of rainfall recorded between 0830 to 1730 hours IST of today are: Alleppy, Belguam-2 each, Kolkata, kochi, Mahableswar, Nedumbassery, Pasighat ,Mayabandar-1 each.
- Maximum temperatures are above 40°C over some parts of Rajasthan.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southeast Arabian Sea, Chhattisgarh, Orissa, Jharkhand and Karnataka. Low/medium clouds are seen over parts of east, northeast and rest south peninsular India.

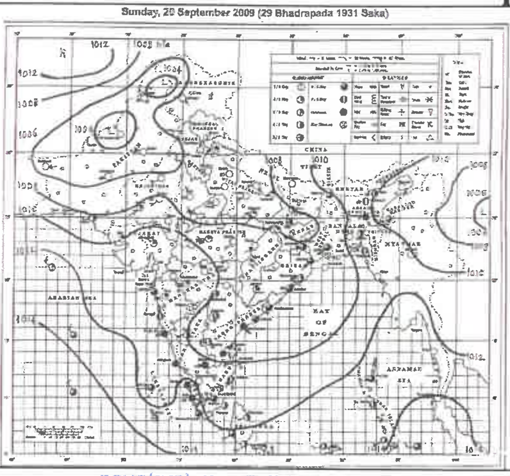
Flight :

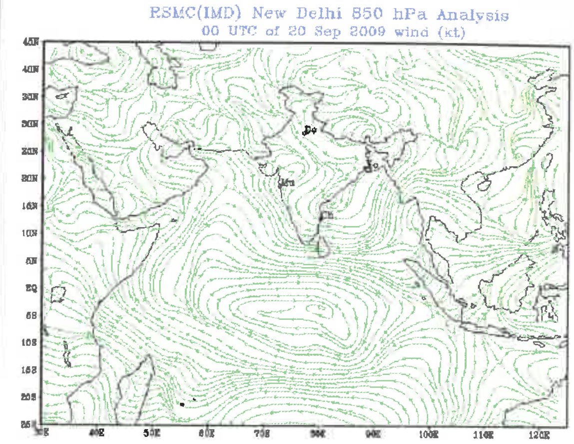
- Station : Ozar - Pune
- Engine on : 16:00
- Engine off : 16:45

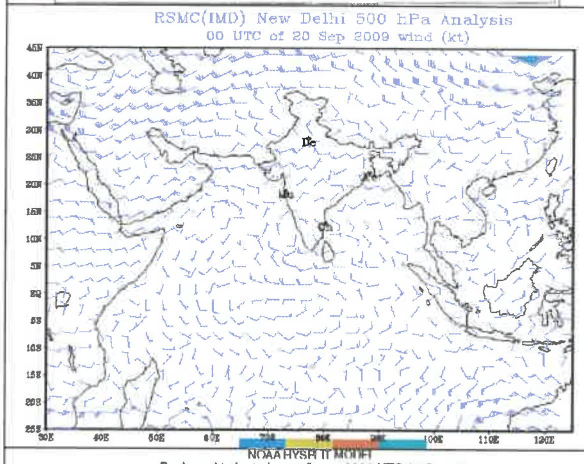


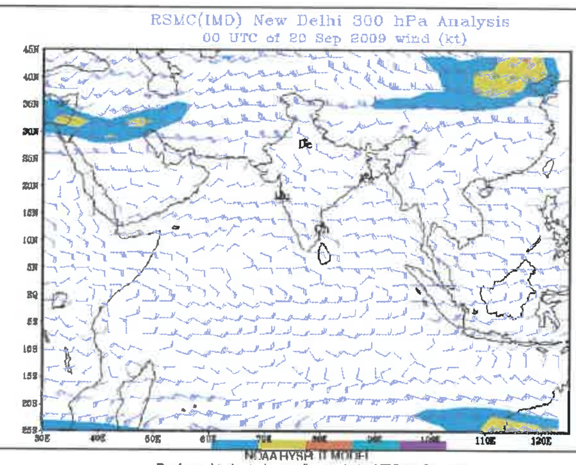


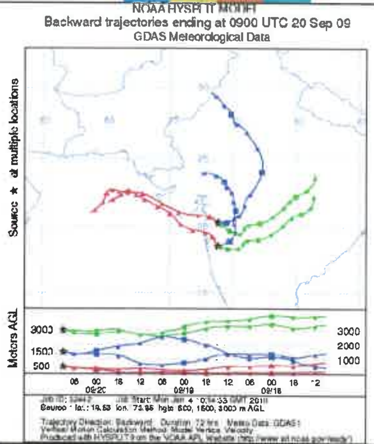
20 September 2009

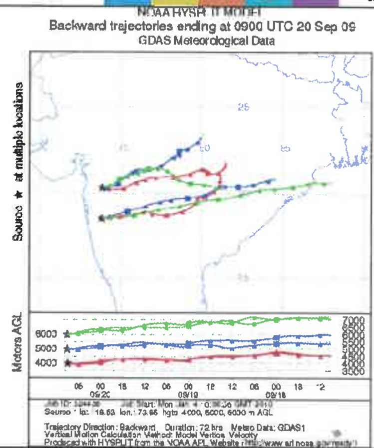


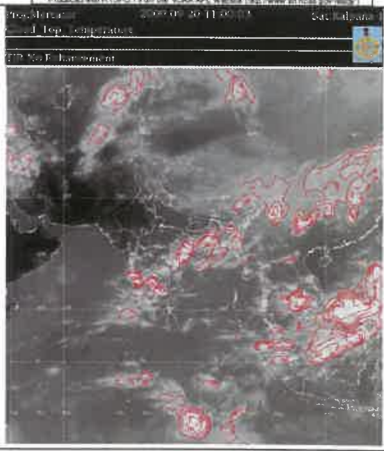












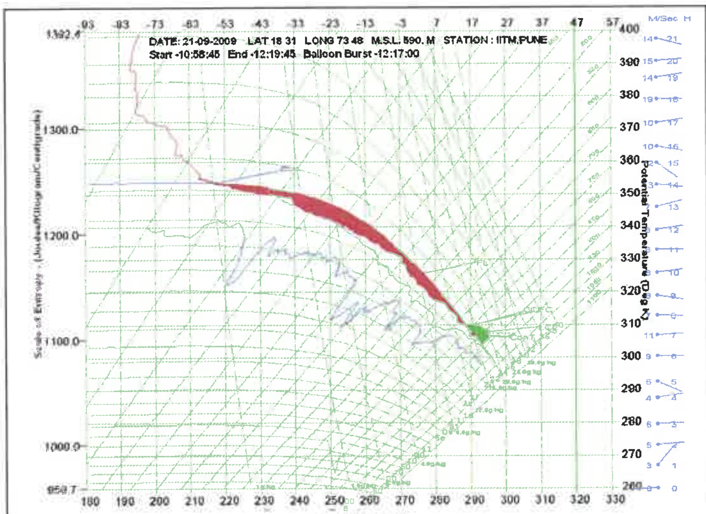
21 September 2009 (Base Pune)

Weather summary :

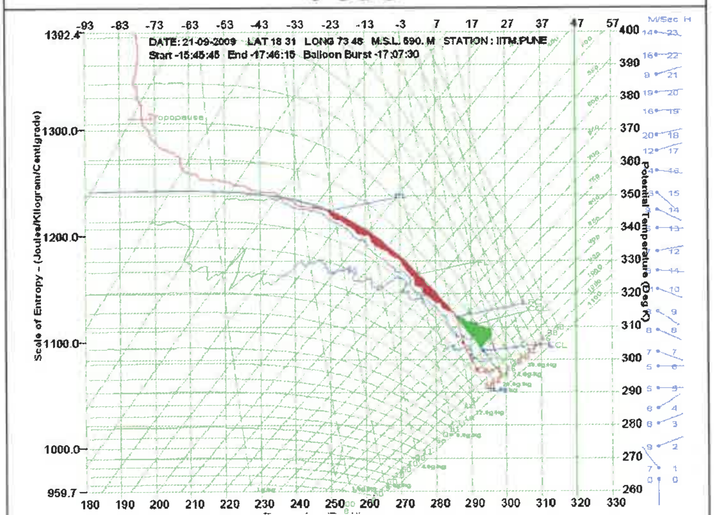
- The north-south trough from Bihar to Kerala coast extending upto 3.1 km above mean sea level persists.
- The upper air cyclonic circulation over Andhra Pradesh and neighbourhood between 2.1 km and 4.5 km above mean sea level persists.
- Chief amounts of rainfall (≥ 3 cm) recorded at 0830 hours IST of today are: Itanagar-7, North Lakhimpur-4, Gangtok, Gadag, Ranchi, Tadong-3 each.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over Kerala, Telangana, Gangetic West Bengal, Orissa and westcentral and adjoining northwest Bay of Bengal. Low/medium clouds are seen over parts of peninsular India and northeastern states.

Flight :

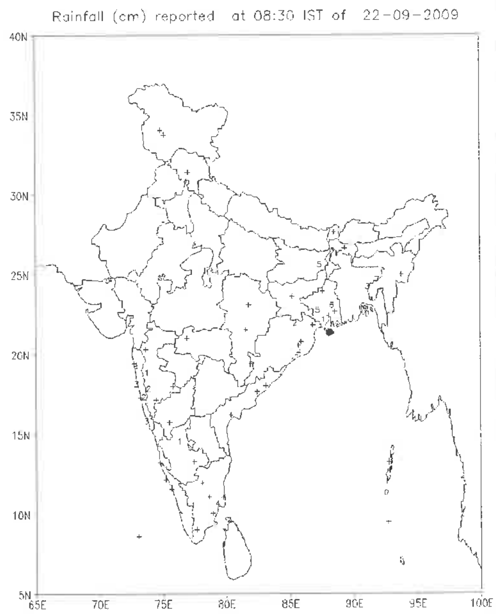
- Station : Pune
- Engine on : 12:45
- Engine off : 13:20



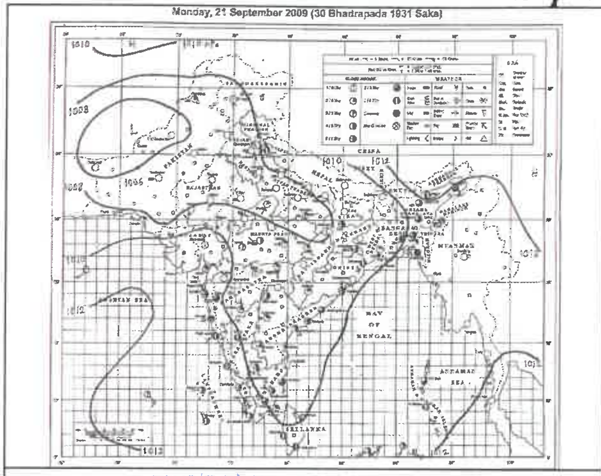
6 UTC

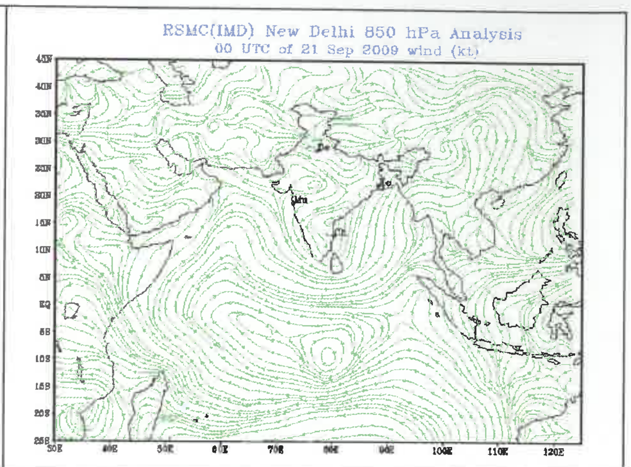


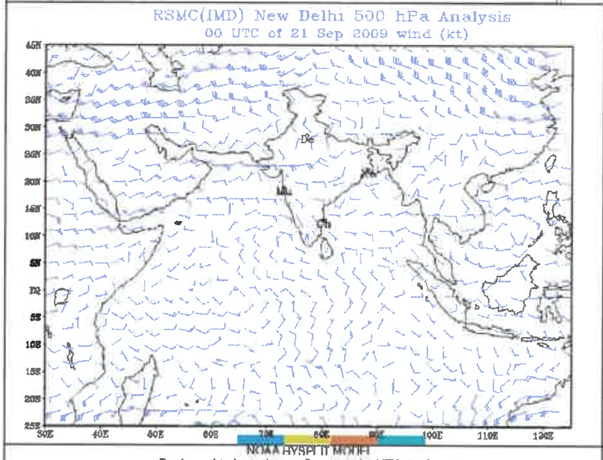
11 UTC

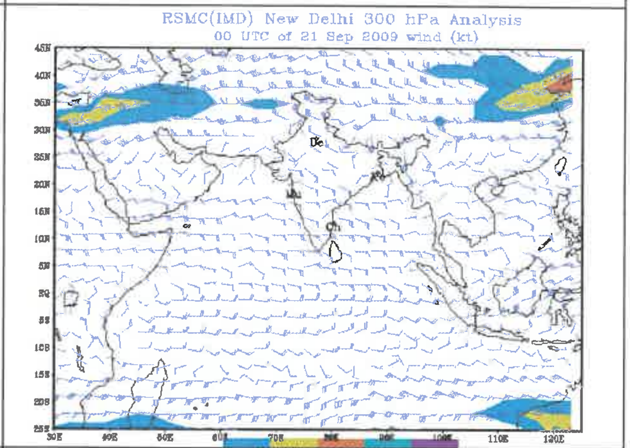


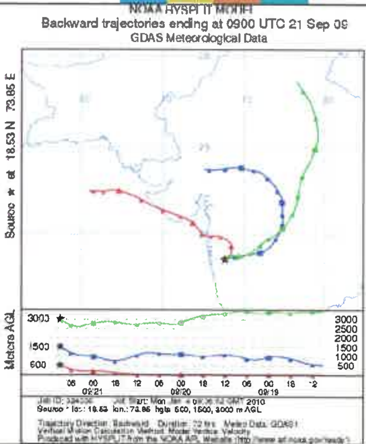
21 September 2009

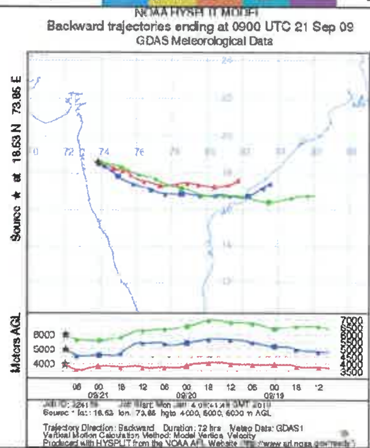


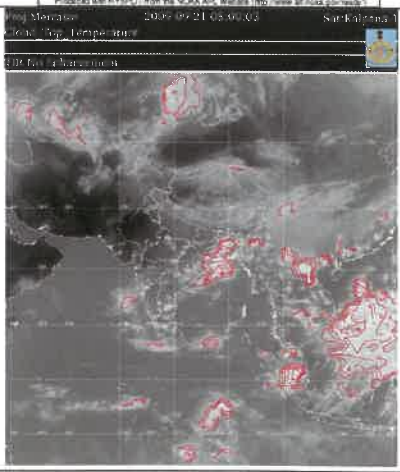


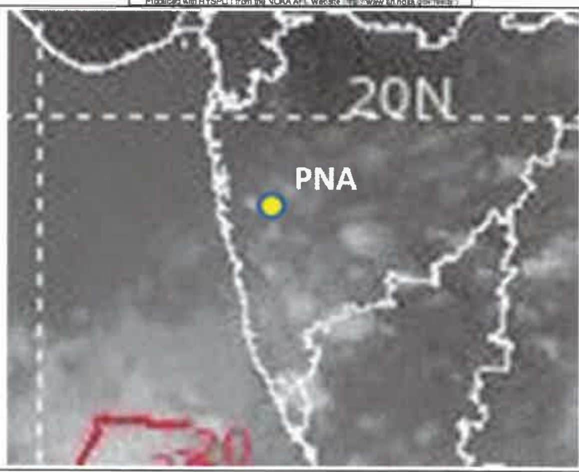












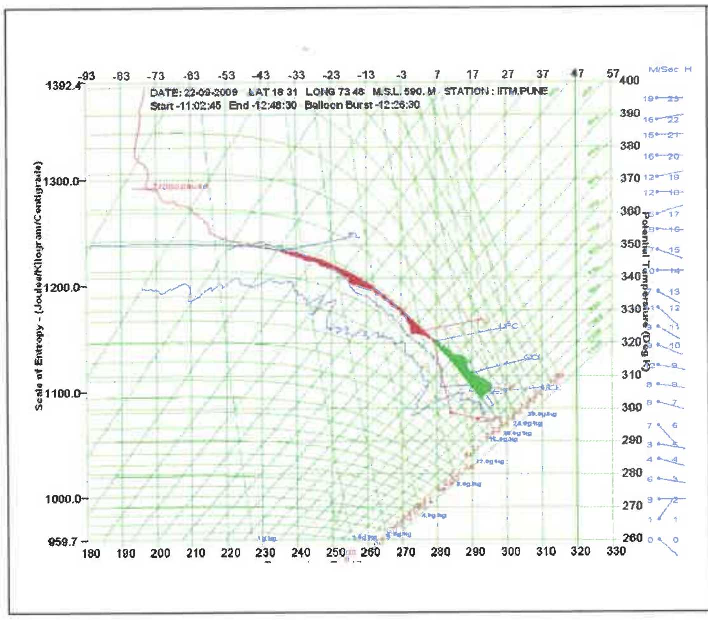
22 September 2009 (Base Pune)

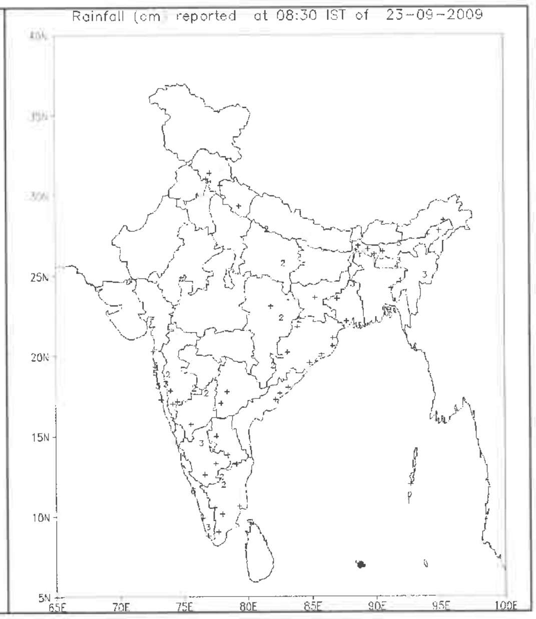
Weather summary :

- The upper air cyclonic circulation over Karnataka and neighbourhood persists and now extends upto 3.1 km above mean sea level.
- Chief amounts of rainfall (in cm), recorded between 0830 and 1730 hours IST of today are: Harnai-7, Agumbe-3, Satara-2, Shillong-2, Kailashahar, Jagdalpur, Dehradun, Solapur-1 each.
- Maximum temperatures are above 40°C over most parts of Rajasthan
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of northwest & adjoining westcentral Bay of Bengal, Jharkhand and east Arabian Sea. Low/medium clouds are seen over parts of peninsular India and northeastern states.

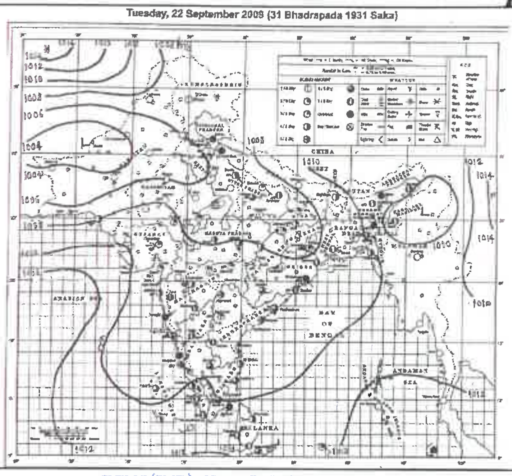
Flight :

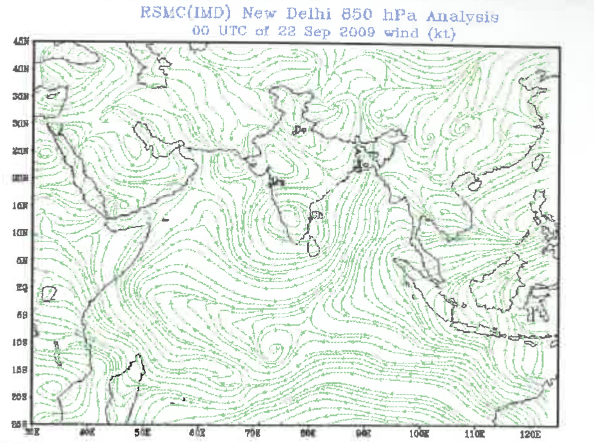
- Station : Pune
- Engine on : 14:45
- Engine off : 17:15

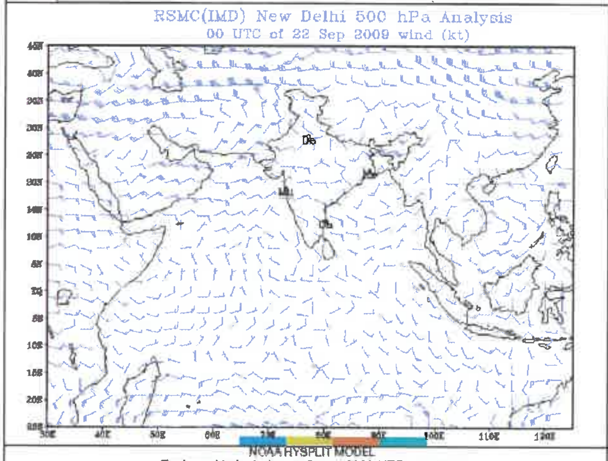


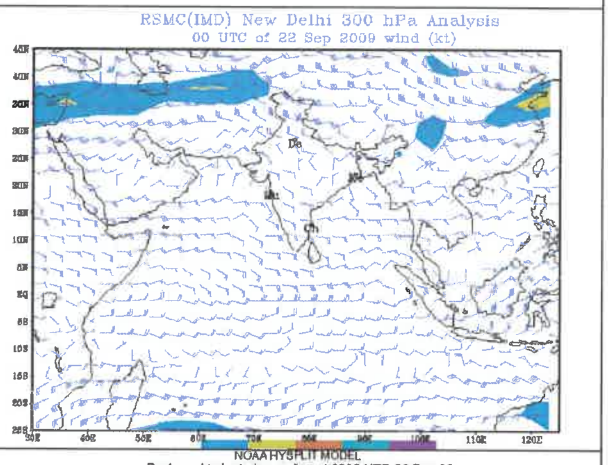


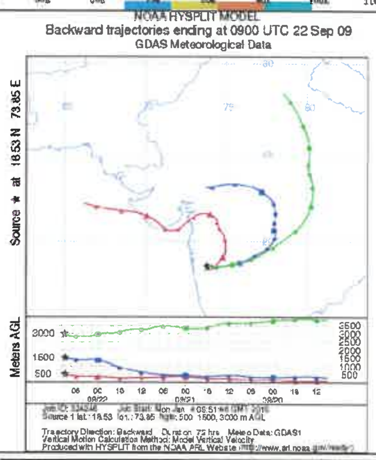
22 September 2009

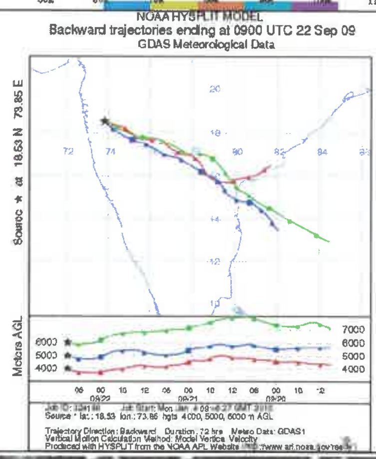


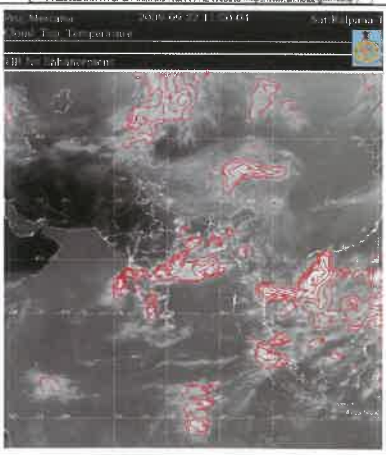


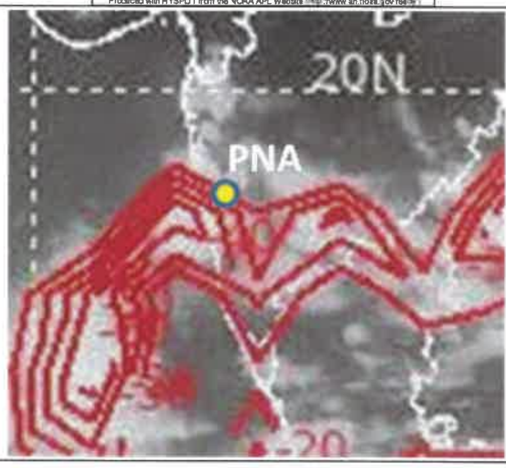












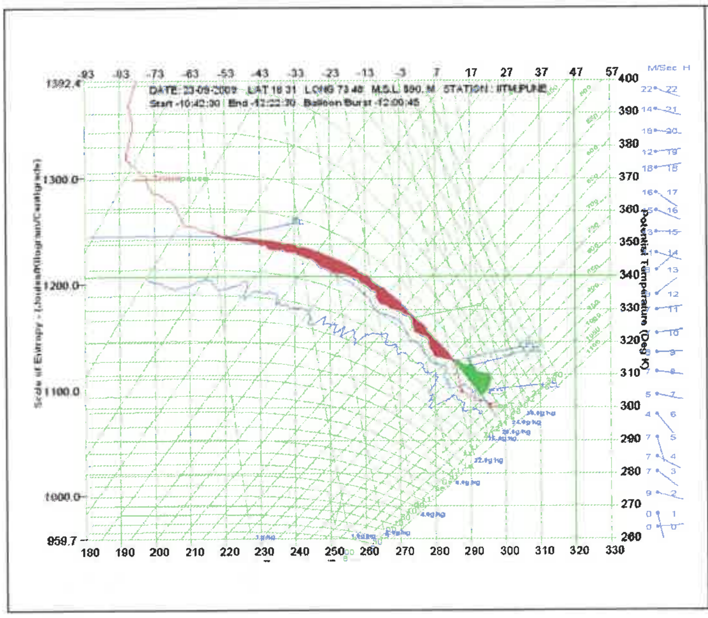
23 September 2009 (Base Pune)

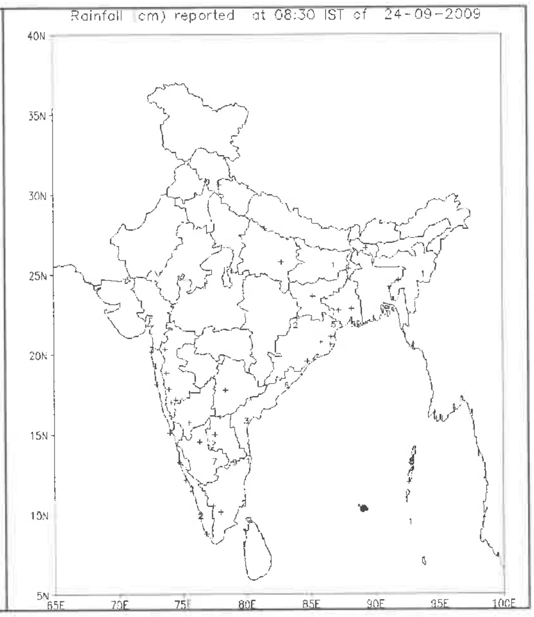
Weather summary :

- The upper air cyclonic circulation over Coastal Karnataka and neighbourhood persists and extends upto 3.1 km above mean sea level.
- The north-south trough extends from Bihar to north coastal Karnataka with a cyclonic circulation over Bihar and adjoining East Uttar Pradesh persists.
- Many places in Rajasthan recorded maximum temperatures more than 40°C.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of north Bay of Bengal, north Andaman Sea, Chhattisgarh, Orissa and eastcentral Arabian Sea, Konkan and south Madhya Maharashtra. Low/medium clouds are seen over parts of peninsular India and northeastern states.

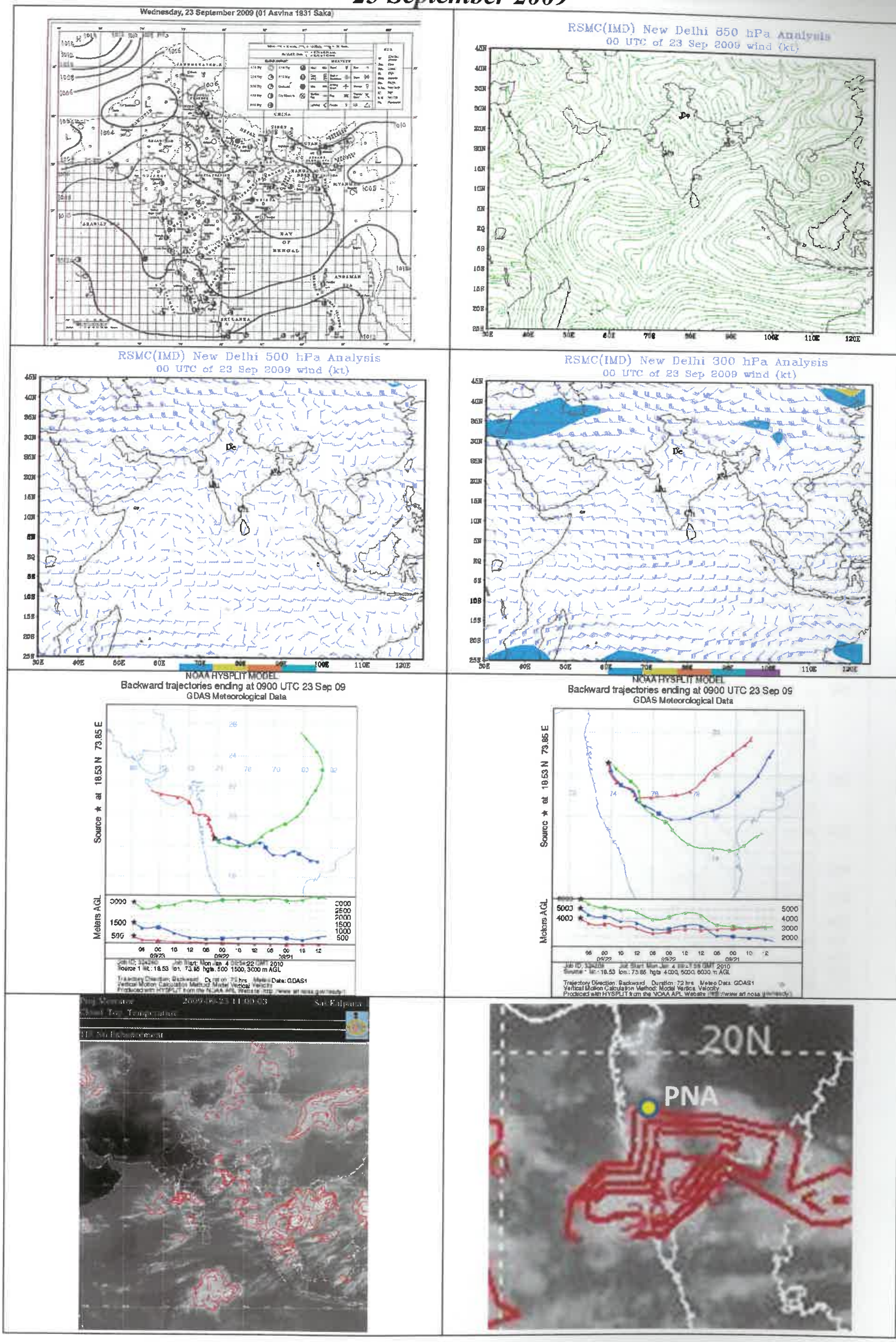
Flight :

- Station : Pune
- Engine on : 15:15
- Engine off : 18:35





23 September 2009



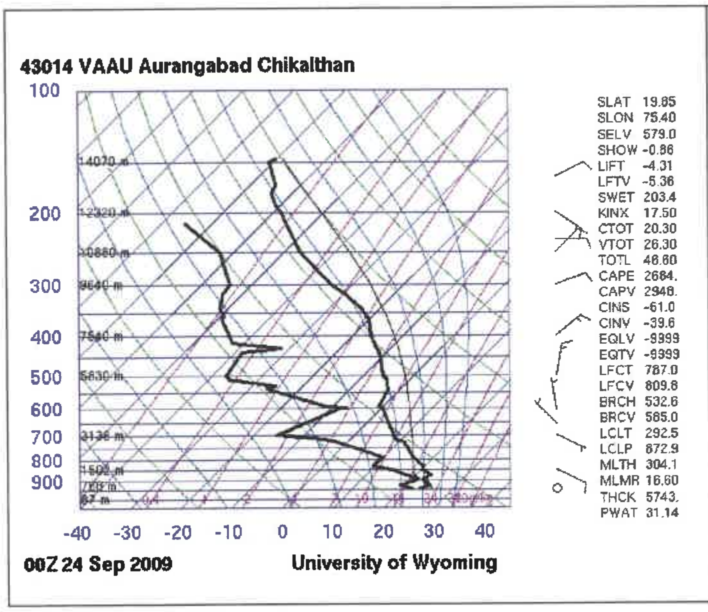
24 September 2009 (Base Pune)

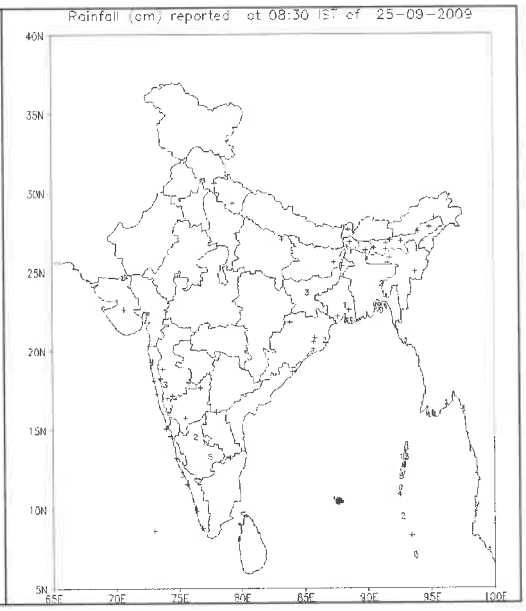
Weather summary :

- The cyclonic circulation over Bihar and adjoining West Bengal extending upto 3.1 km above mean sea level and a trough extending from this upto southwest Bay of Bengal persists.
- A trough in the lower level extending upto 3.1 km above mean sea level off north Konkan to Kerala coast persists.
- Chief amounts of rainfall (≥ 3 cm) recorded between 0830 hours to 1730 hours IST of today are: Mayabandar-6, Port Blair, Long island and Satara-3 cm each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southeast Bay of Bengal, south Andaman Sea, east Arabian Sea, south interior Karnataka, Orissa and north Chhattisgarh. Low/medium clouds are seen over parts of, peninsular India and northeastern states.

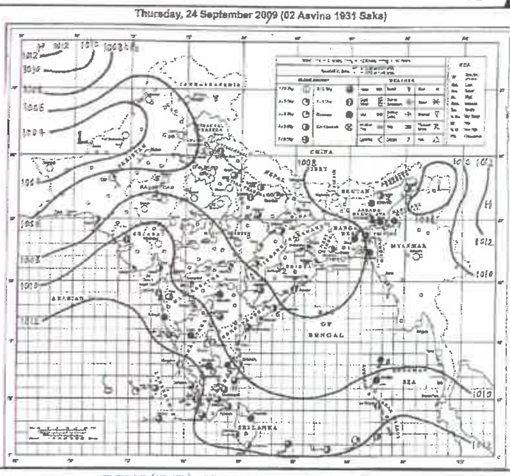
Flight :

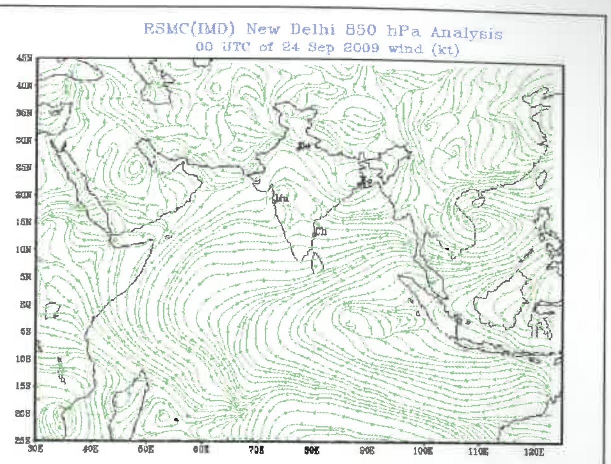
- Station : Pune
- Engine on : 09:00
- Engine off : 11:55

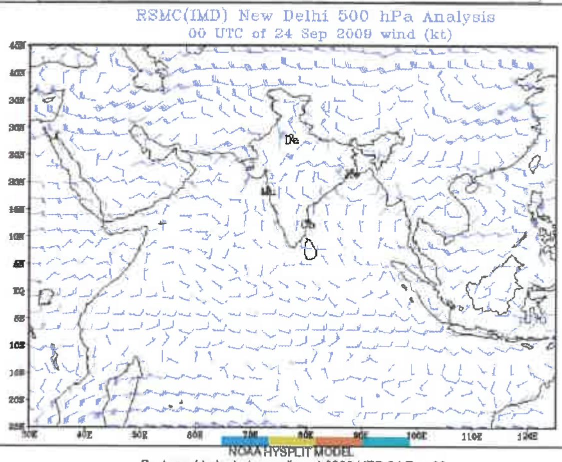


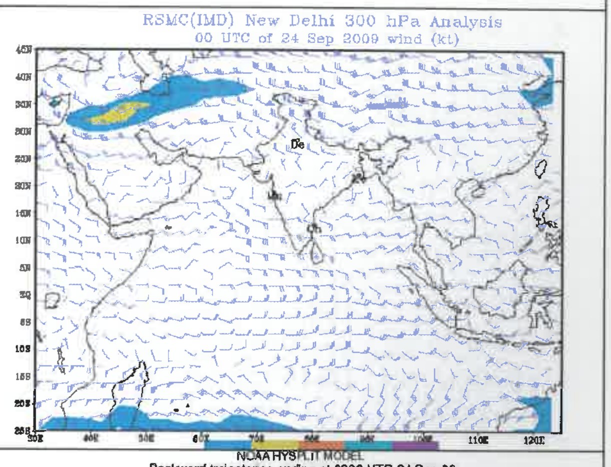


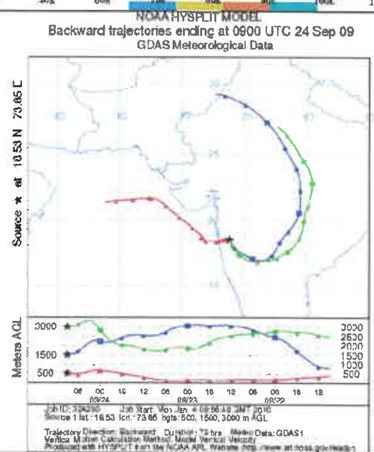
24 September 2009

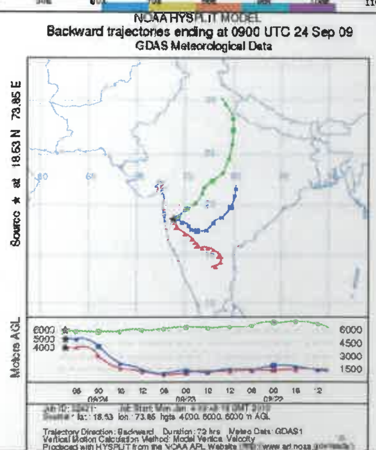


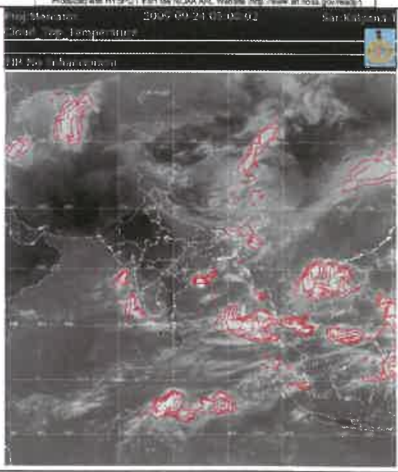


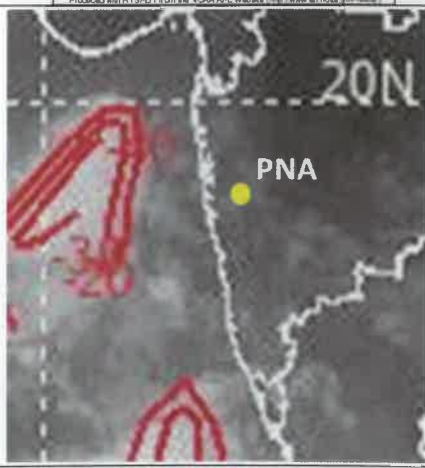












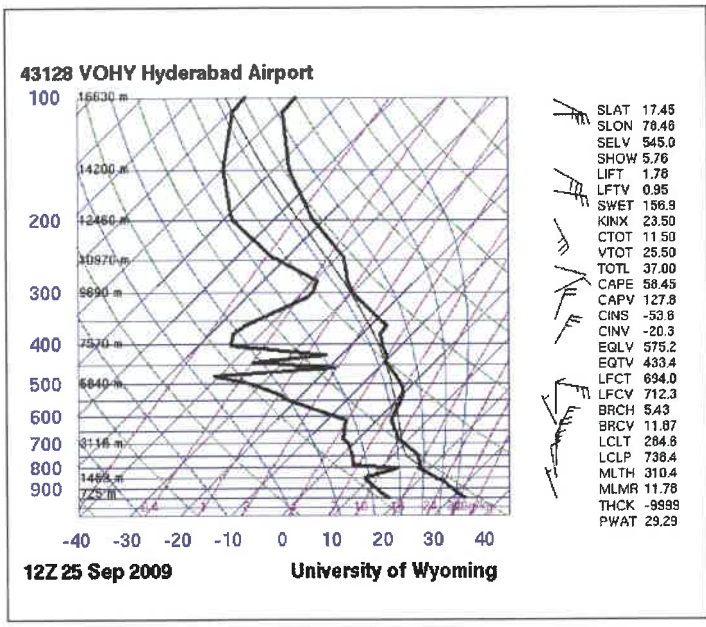
25 September 2009 (Pune-Hyderabad)

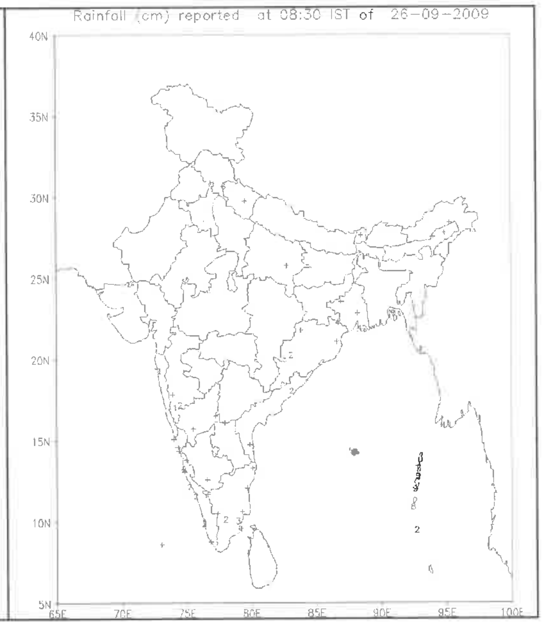
Weather summary :

- Southwest monsoon has withdrawn from many parts of West Rajasthan. The withdrawal line passes through Ganganagar, Churu, Jodhpur and Barmer. It is likely to withdraw from some more parts of northwest India during next 3-4 days.
- An upper air cyclonic circulation lies over northwest and adjoining westcentral Bay of Bengal persists and extends upto 5.8 Km above mean sea level. Under its influence, a low pressure area is likely to form during next 48 hours over westcentral Bay of Bengal & neighbourhood.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over parts of southeast and west central Bay of Bengal and Andaman Sea. Low/medium clouds are seen over parts of, peninsular India and northeastern states.

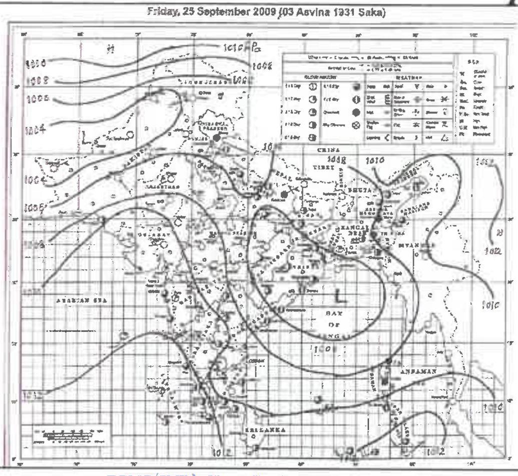
Flight :

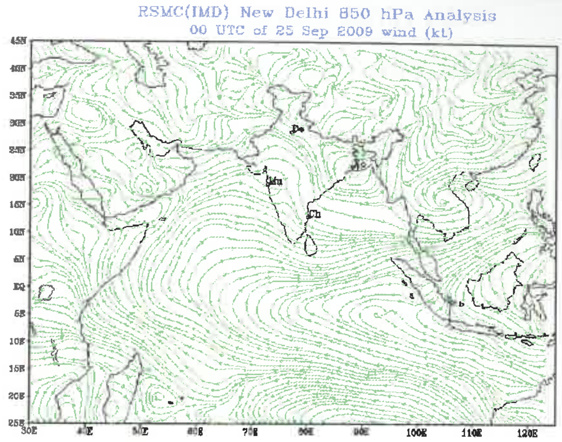
- Station : Pune - Hyderabad
- Engine on : 13:20
- Engine off : 16:45

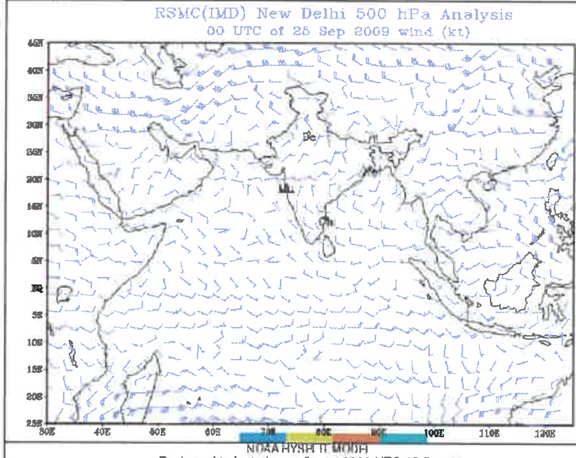


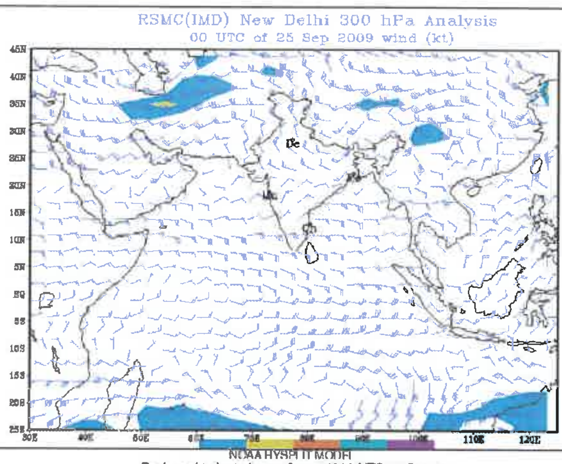


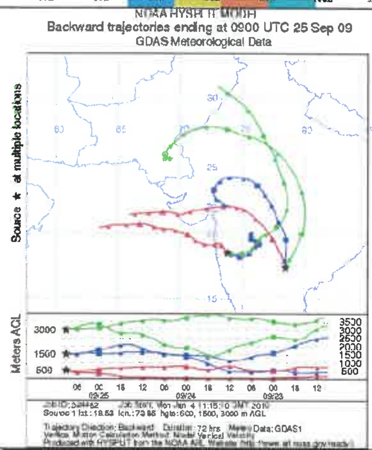
25 September 2009

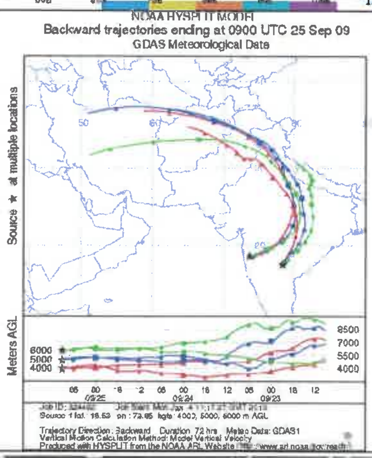


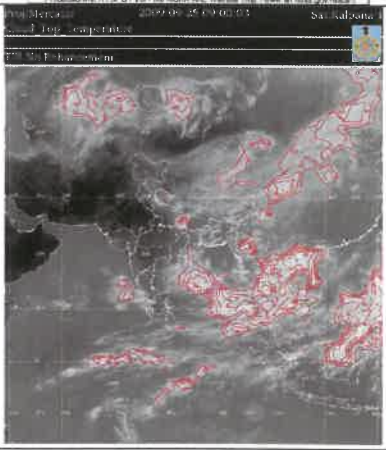


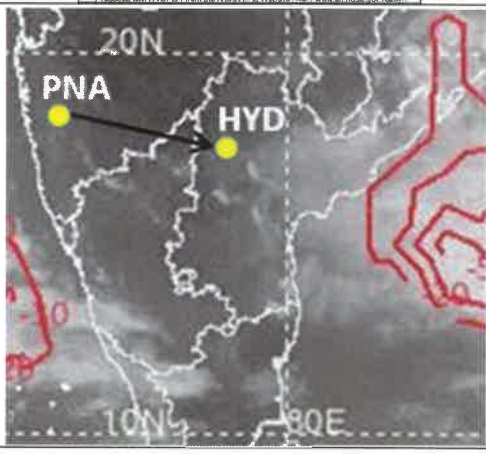










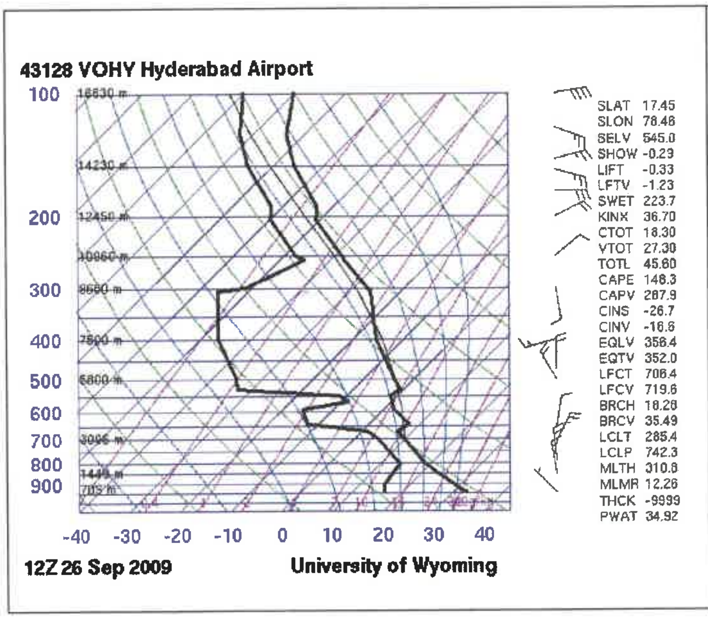


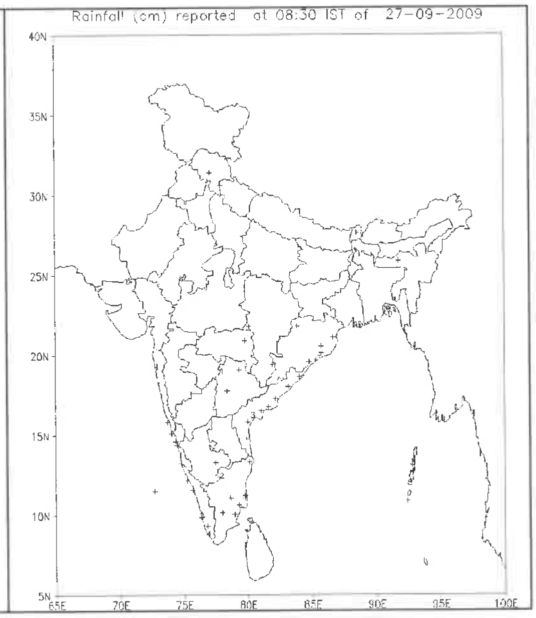
26 September 2009 (Base Hyderabad)

Weather summary :

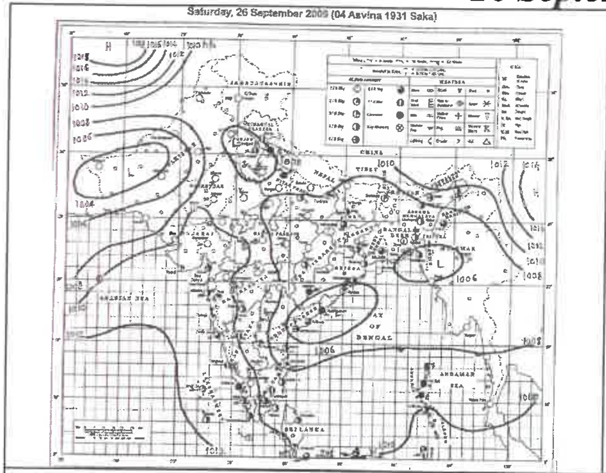
- The upper air cyclonic circulation over westcentral and adjoining northwest Bay of Bengal persists and extends upto 5.8 Km above mean sea level.
- KALPANA–1 Cloud Imagery at 1430 hours IST shows convective clouds over parts of southeast and west central Bay of Bengal and Andaman Sea. Low/medium clouds are seen over parts of, peninsular India and northeastern states, Jammu & Kashmir, Himachal Pradesh and Uttrakhand.

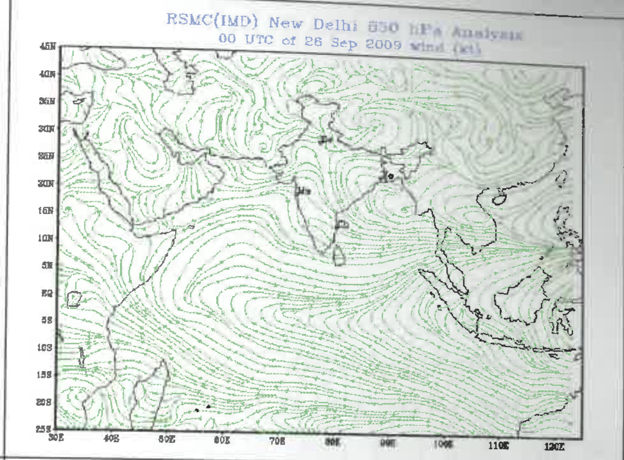
Flight : Nil

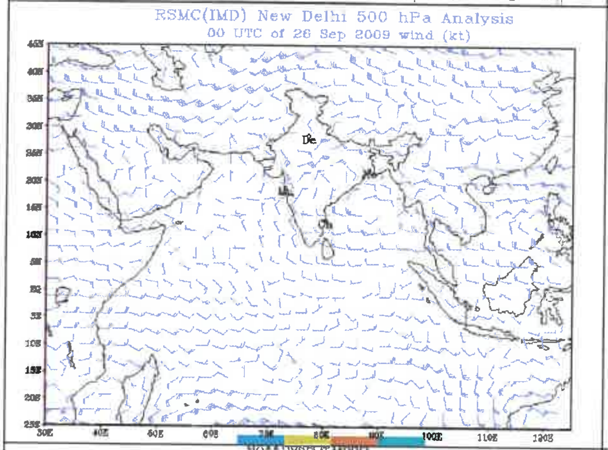


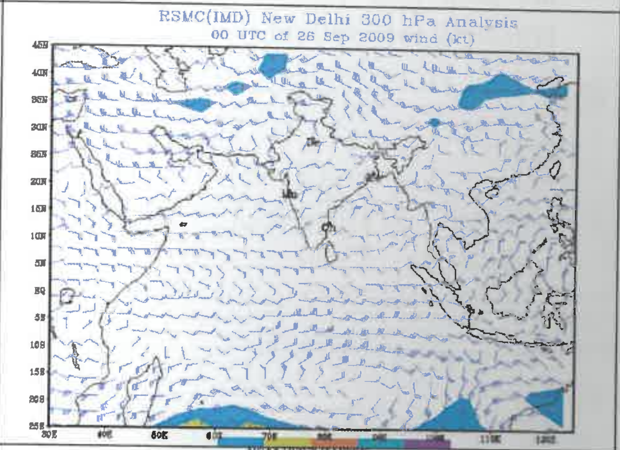


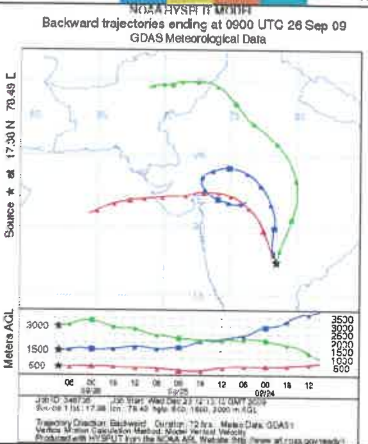
26 September 2009

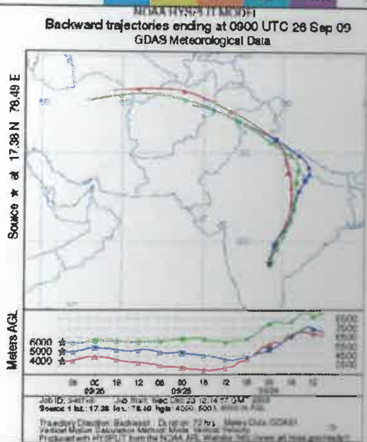


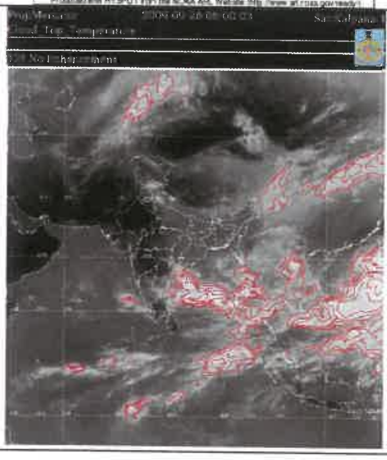












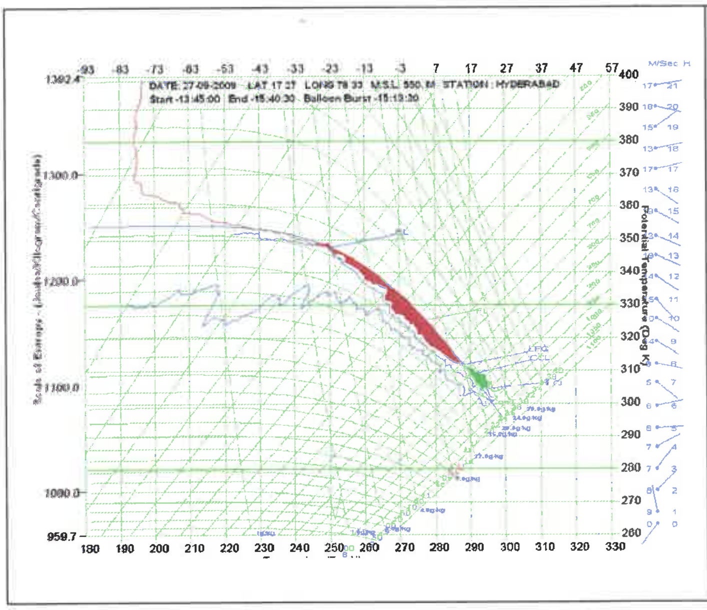
27 September 2009 (Base Hyderabad)

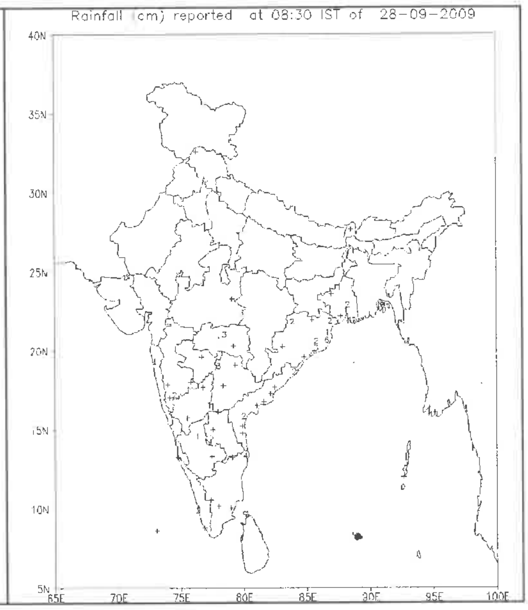
Weather summary :

- The upper air cyclonic circulation over westcentral and adjoining northwest Bay of Bengal persists and extends upto 5.8 Km above mean sea level.
- Maximum temperature where above normal by 4-6°C over Rajasthan and parts of Madhya Pradesh and by 2-4°C above normal over Madhya Maharashtra,Vidharba and Uttar Pradesh.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over many parts of Bay of Bengal, Andaman Sea, Orissa and coastal Andhra Pradesh. Low/medium clouds are seen over parts of, peninsular India and northeastern states, Jammu & Kashmir, Himachal Pradesh and Uttrakhand.

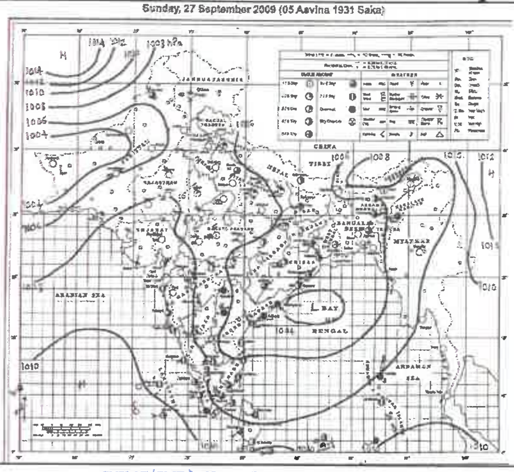
Flight :

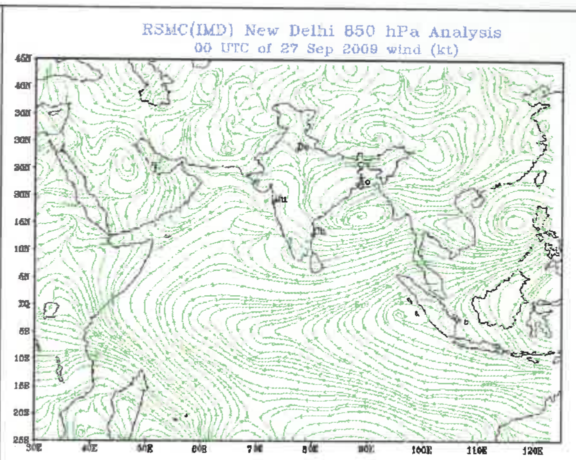
- Station : Hyderabad
- Engine on : 13:30
- Engine off : 17:35

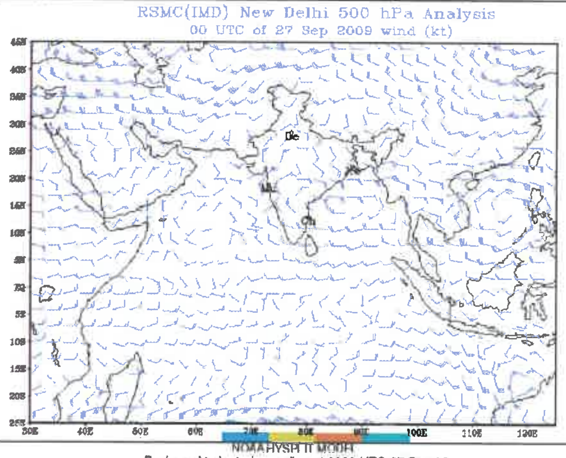


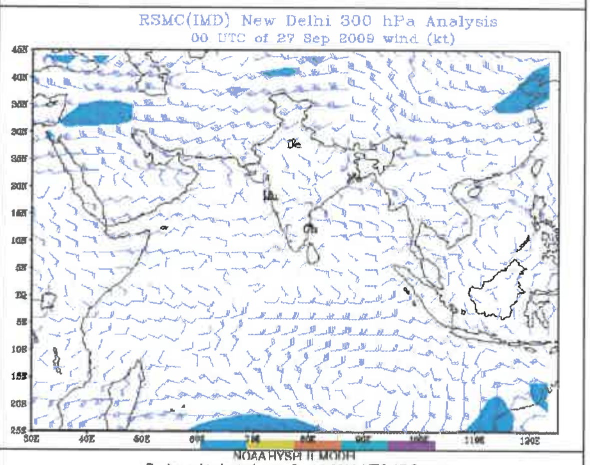


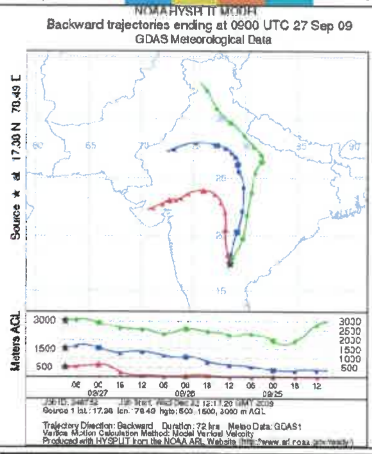
27 September 2009

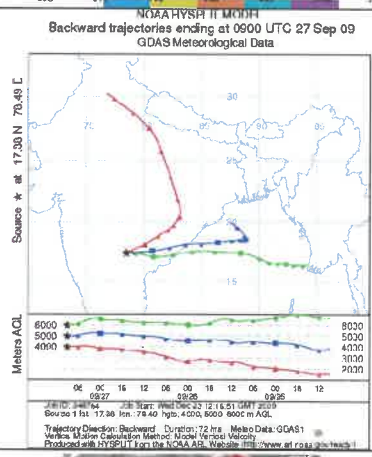


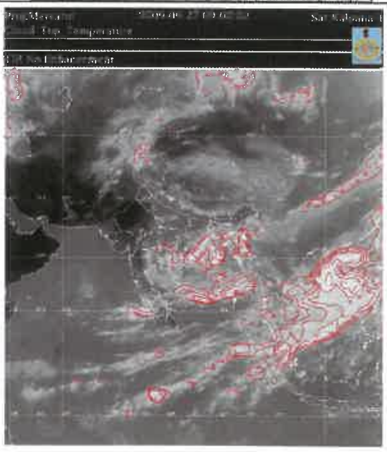


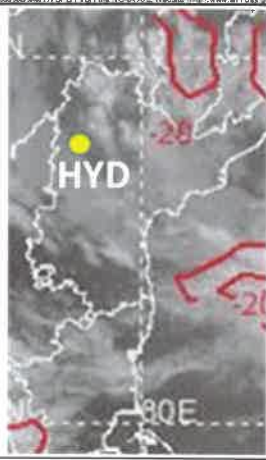












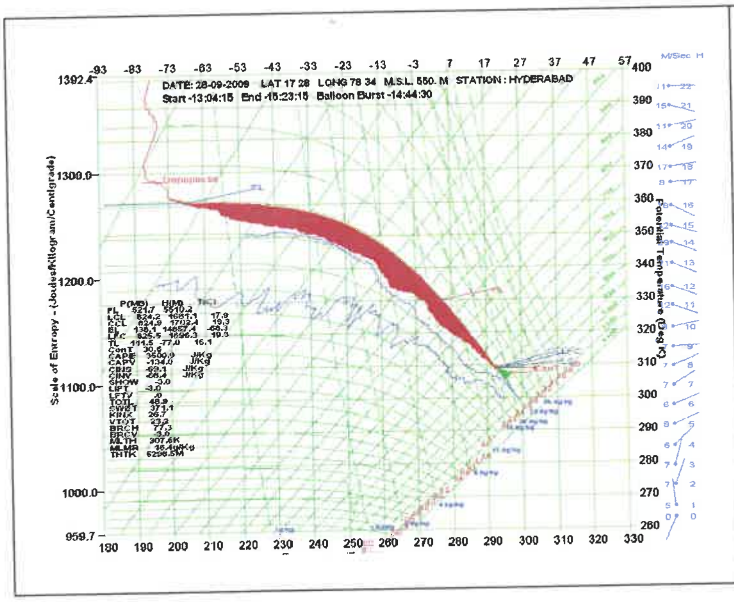
28 September 2009 (Base Hyderabad)

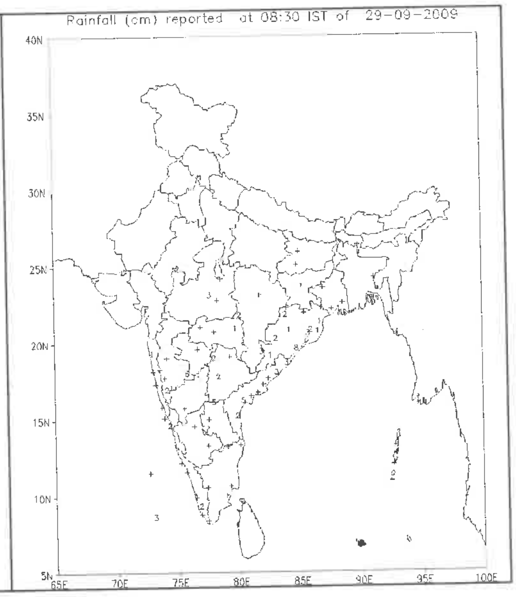
Weather summary :

- Southwest monsoon has withdrawn from entire Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, many parts of Rajasthan and some parts of Uttarakhand, west Uttar Pradesh and north Gujarat. The withdrawal line passes through Uttarkashi, Aligarh, Sawai Madhopur, Udaipur and Naliya.
- The low pressure area over westcentral Bay of Bengal and neighbourhood persists.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over many parts of Bay of Bengal, Andaman Sea, Orissa Chathisgarh,Vidarbha and West Bengal. Low/medium clouds are seen over parts of, peninsular India and northeastern states, Jammu & Kashmir, Himachal Pradesh and Uttrakhand.

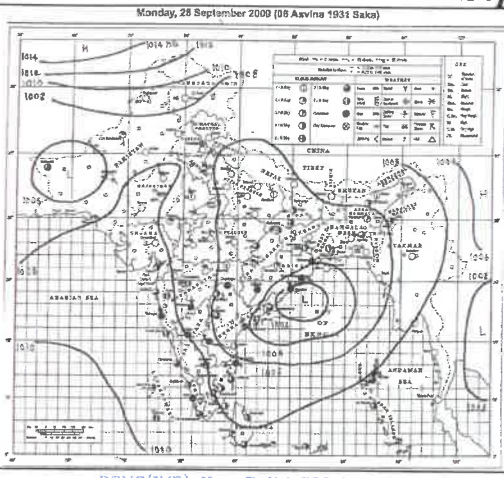
Flight :

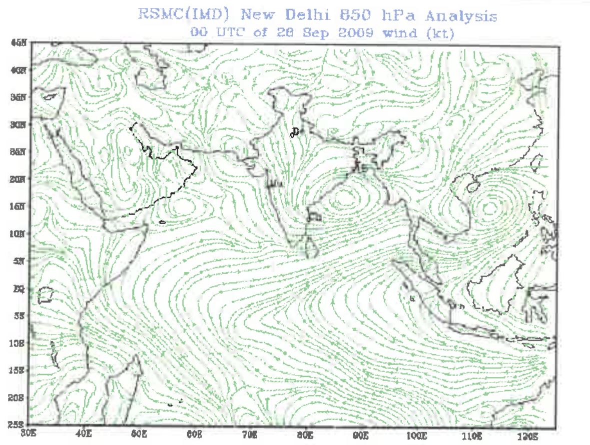
• Station : Hyderabad • Engine on : 08:05 • Engine off : 10:25	• Station : Hyderabad • Engine on : 13:10 • Engine off : 17:40

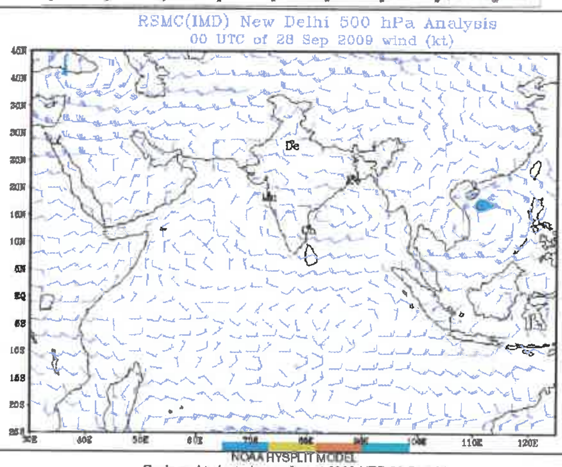


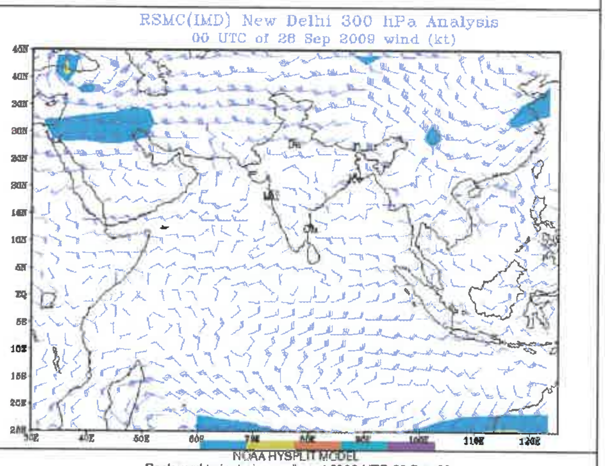


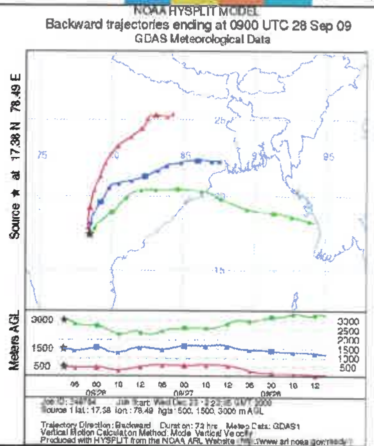
28 September 2009

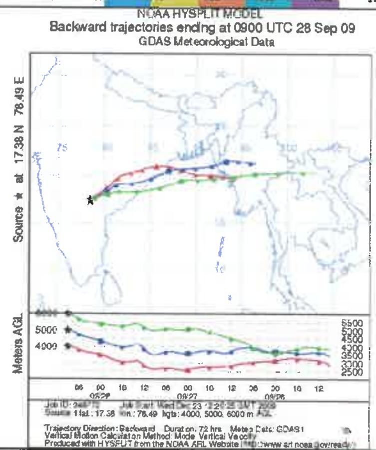


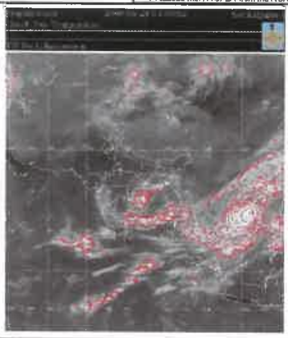


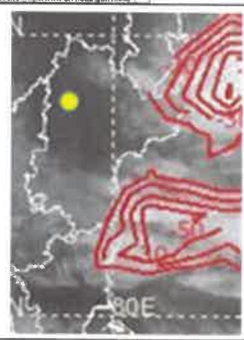


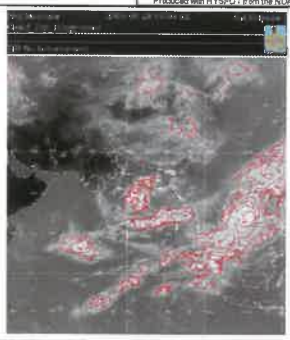


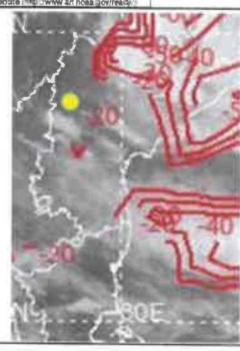












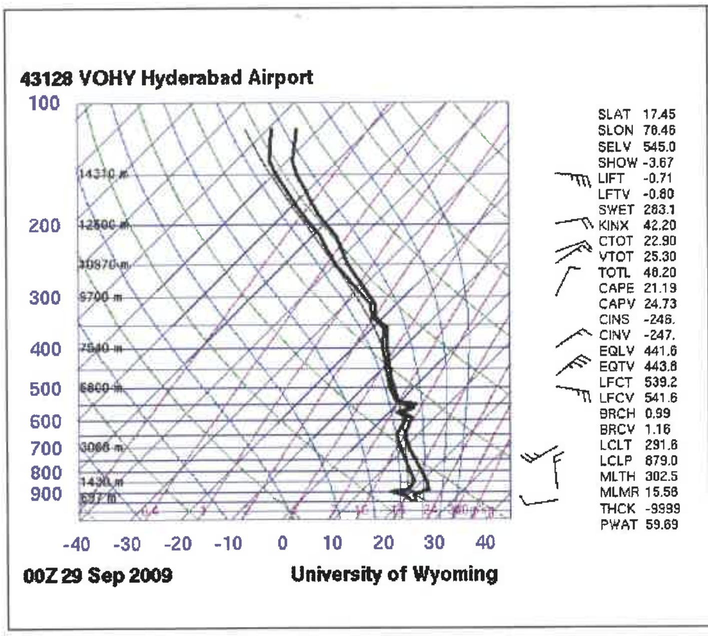
29 September 2009 (Base Hyderabad)

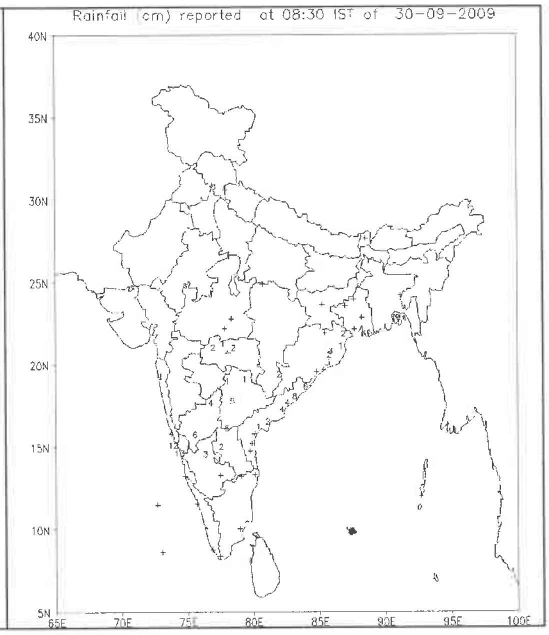
Weather summary :

- The well marked low pressure area over westcentral Bay of Bengal and neighbourhood persists.
- Chief amounts of rainfall ($\geq$ 3 cm) recorded between 0830 and 1730 hours IST of today are: Ratnagiri-13, Vishakhapatnam-08, Parbhani-04, Kurnool, Honavar and Shirali -03 each.
- KALPANA–1 Cloud Imagery at 1730 hours IST shows convective clouds over central Bay of Bengal and parts of southwest Bay of Bengal, north Andaman Sea, Coastal Andhra Pradesh, south Orissa, Marathwada, south Madhya Maharashtra and Karnataka. Low/medium clouds are seen over remaining parts of peninsular India, central and east India.

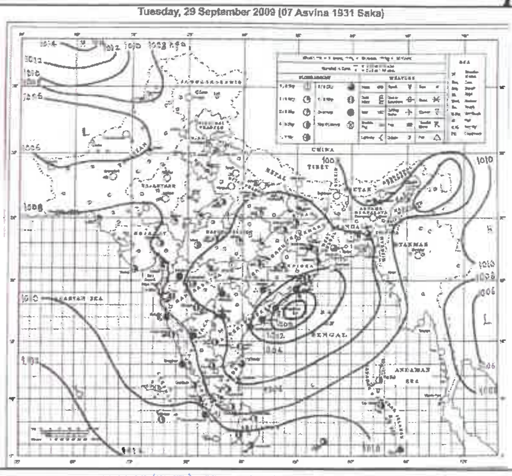
Flight :

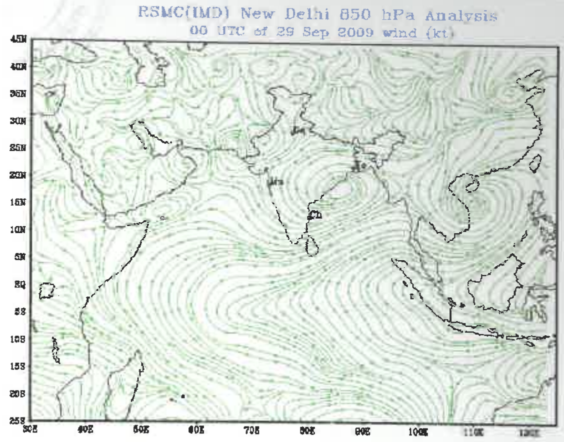
- Station : Hyderabad
- Engine on : 13:20
- Engine off : 15:00

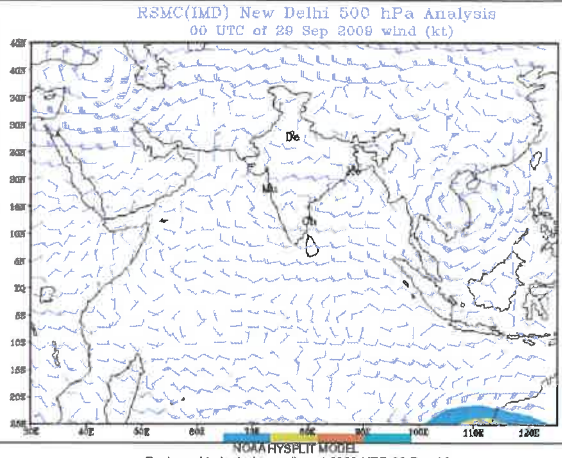


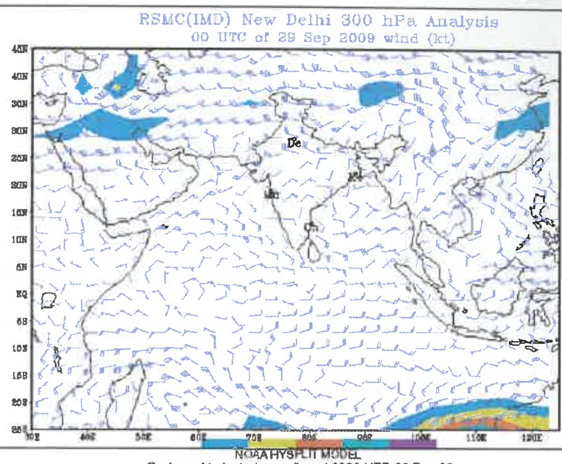


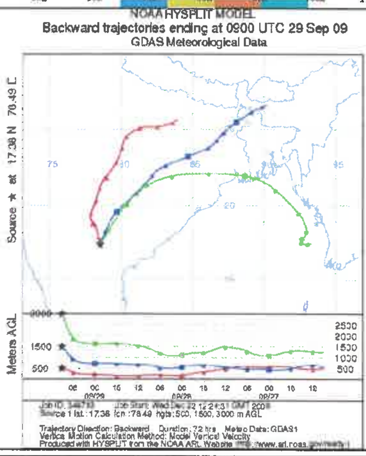
29 September 2009

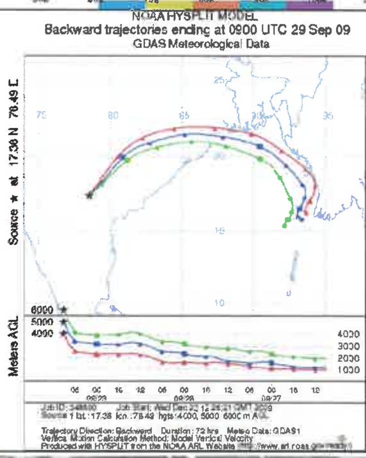


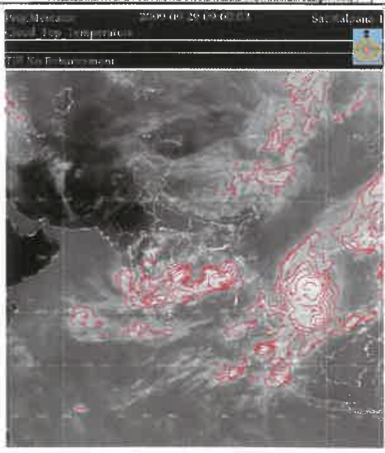


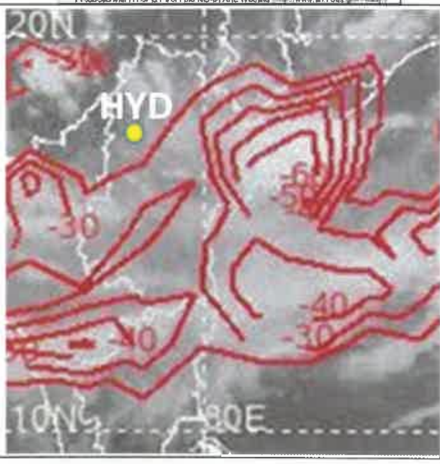












Acknowledgement

It is the constant encouragement and full support of the IITM Director Prof. B.N. Goswami, which made the first phase of CAIPEEX a grand success. Authors are grateful for his further encouragement in preparing this report. While preparing this report various weather products prepared by IMD were extensively used. We are thankful to the Director General of Meteorology (DGM), IMD, for making such products readily available. We sincerely appreciate and acknowledge the work done by Dr. Vijaykumar for preparing the thermodynamic diagrams used in this reports. Dr. Rashmi Joshi and her team of CAIPEEX data centre has taken great efforts to archive data in collaboration with computer unit of IITM, headed by Mr. Jilani. It made our task of collecting different information easy. We are much thankful to them. We are also thankful to the international agencies that have made various meteorological products freely available on different web sites. The authors gratefully acknowledge the NOAA Air Resources Laboratory (ARL) for the provision of the HYSPLIT transport and dispersion model and READY website (http://www.arl.noaa.gov/ready.php) used in this publication.