



A model to guide you on rain & shine

In A First, India Has Developed A Computerized Model That Will Take Into Account A Host Of Factors To Forecast Climate Accurately

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This time next year when you hear Indian meteorological department's (IMD) rain or shine prediction, you'd better believe it because the information will be generated using a new computer-generated climate model that will soon be launched by the Indian Institute of Tropical Meteorology (IITM) in Pune. The model is in the final stages of its launch and further experiments to determine climate change will begin at IITM from mid-2015. Also, India would have developed its own climate model and started generating data taking into account a host of climatic factors that were heretofore unused.

IITM director R Krishnan said that the scientists at the Centre for Climate Change Research (CCCR) has developed the model by including parameters like ocean biogeography, aerosols, ocean sea surface temperatures (SST), atmospheric data and other ocean dynamics. "We will be able to predict the role of aerosols in climate change which is a major topic at the global climate change discussions," he said.

Shailesh Nayak, secretary, ministry of earth sciences (MoES) said that the model will be launched next month. "Right now, we do not have a model to predict the climate, but proven prototypes that predict our monsoon with an accuracy of over 90%. In fact, India's data is also being used by the US and Australian agencies in their prediction of global monsoon," he said.

Also, India will file its first official climate data in the sixth assessment report of the intergovernmental Panel on Climate Change (IPCC) in 2020. The report will include monsoon monitoring and greenhouse gas pollution data.

All existing sources of information on atmospheric and ocean temperature, bio-geo characteristics of oceans, aerosols and other particulate matter from air will be incorporated into the new model which will give an idea of what is the state of climate in this part of the world.

IPCC is the leading international body for the assessment of climate

change established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts. IPCC releases its reports every five years.

The new climate model assumes significance in the backdrop of China already submitting its data for the present IPCC report.

"Since our systems are not online, we can't contribute to the fifth IPCC report. There are already 35 models being used in different parts of the world to assess climate change. Our model will help finetune our monsoon prediction system that is critical for an agriculture-driven economy," said Krishnan.

While earlier monsoon predictions were made using only atmospheric data, IMD, over the past few years, has been running 'coupled' models in which temperature, humidity and other parameters of the ocean-surface were combined with atmospheric data to make near accurate monsoon prediction.

Developed countries, led by America, have been accusing India and China of increasing greenhouse emissions at the global climate dialogues and insisting that they pay pollution dues. Scientists say that data generated will help in assessing the changing atmospheric dynamics while demarcating the levels of pollution.

"It will help in planning and preparing mitigation and disaster management plans in the wake of any unexpected climate events," said the IITM director.

There's a lot of scientific work going on the role of aerosols in affecting rain-bearing clouds that usher in monsoon. "We have already started our work running the base model, but the new parameters have not been used. Our first publications on the experiments will begin in a few months," said Roxy Mathew Koll, scientist, CCCR-Pune.

MAPPING THE CHANGE

WHY IT IS IMPORTANT? The importance of the climate model simulation is that it will help government plan sustainable development, issue early disaster warning and plan mitigation programmes and thus make them more effective

AUTOMATIC WEATHER STATIONS | They have sensors that will collect information on the temperature, humidity, rain, soil, wind, solar radiation and lightning. They are land-based stations

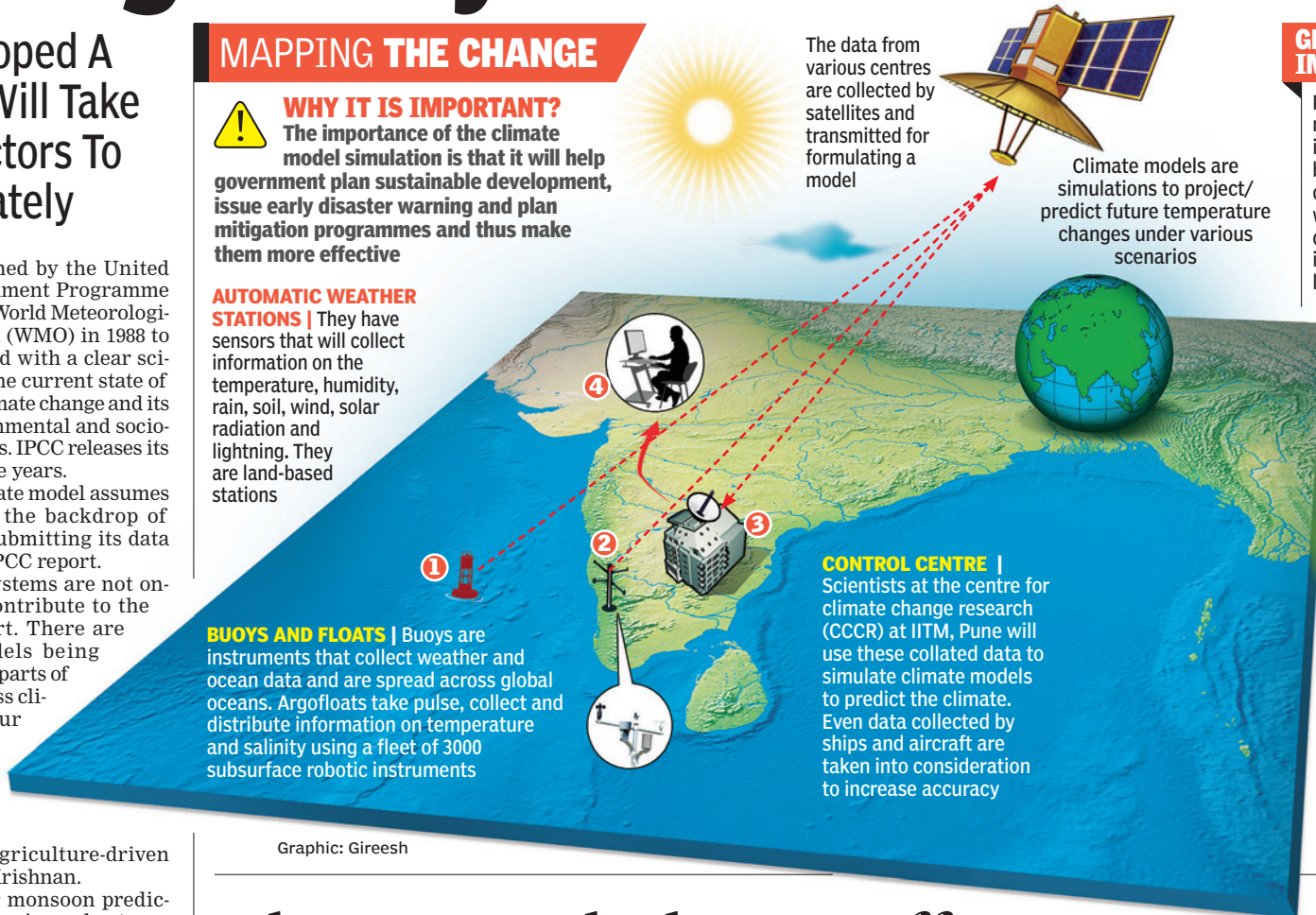
BUOYS AND FLOATS | Buoys are instruments that collect weather and ocean data and are spread across global oceans. Argofloats take pulse, collect and distribute information on temperature and salinity using a fleet of 3000 subsurface robotic instruments

The data from various centres are collected by satellites and transmitted for formulating a model

Climate models are simulations to project/predict future temperature changes under various scenarios

GLOBAL IMPLICATIONS

Polluter Pays. The model gains importance in the background of the climate dialogue in which developed countries have been insisting that countries like India and China must cut down on emissions. However, both nations have insisted on the polluter pays principle that makes all polluting parties responsible for this scenario and thus making them liable to pay for environmental damages. Since developed industrialized nations have been polluting for several decades, they have to pay up. The polluter pays principle reinforces environmental policy such as an ecotax



Graphic: Gireesh

El Nino imbalance affecting monsoon

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Kochi: If you have been wondering why the south west monsoon is changing its pattern each year; then blame it on the changing temperatures in the western Indian Ocean. A promise of heavy rain for a few days suddenly changing track and moving away has now become a recurrent occurrence.

While countries across the world have been looking at Asia for reasons that contribute to global warming, a new study published in the American meteorological society (AMS) last week said that the warming of the Indian Ocean has contributed much to the increase in sea surface temperatures (SST) across the world.

The southwest monsoon reaches the country from a western Indian Ocean direction and hence any changes in the ocean-atmosphere temperature will surely affect monsoon pattern here. "It is known that the Indian



WINDS OF CHANGE: Changing temperatures in the western Indian Ocean has affected the monsoon pattern, says the study

Ocean warm pool (which includes central-east Indian Ocean) witnessed an increase of 0.7 degree celsius from 1901-2012, while the western Indian Ocean has experienced a warming of 1.2 degrees. This has the potential to change the Asian monsoon circulation and rainfall as well as alter the marine food web in this biologically productive region," said Roxy Mathew

Koll, lead author of the paper and scientist at Centre for Climate Change Research (CCCR) at IITM, Pune.

According to the authors of the report, while recent studies have pointed out an increase in the warming of the Indian Ocean during the past five decades, the reasons behind this are still debated. But, study results here reveal a

larger picture that the western tropical Indian Ocean has been warming for more than a century at a rate faster than any other region of the tropical oceans and it is the largest contributor to the overall trend in the global mean sea surface temperature (SST).

He said that the data proved these regions have been experiencing mini El Niños over the recent years. Normally, El Niño and La Niña are alternative cycles in the atmosphere with El Niño leading to warming and La Niña cooling the temperature. "But in this region, there is an imbalance and La Niña effect has been less when compared to El Niño occurrences. This leads to increase in temperature in oceans," he added.

"We have used observations and coupled global ocean-atmosphere model simulations to get the evidence that besides direct contribution from greenhouse warming, the long-term warming trend is highly dependent on El Niño," he said.

Shipyard delivers fast patrol vessel

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Kochi: Cochin Shipyard Limited (CSL) on Friday delivered a fast patrol vessel (FPV) built by it to the Indian Coast Guard. The Shipyard also delivered a high end platform support vessel (PSV), 'Sea Triumph', to a Liberian firm on Thursday. 'ICGS Amartya' is the eighth of the series of 20 FPVs being built by the CSL for the Coast Guard. The first vessel in the series was delivered to the Coast Guard on September 25, 2013.

The Rs 1,500-crore contract for FPV was signed between the Coast Guard and CSL in March 2010 and as per the deal the last vessel has to be delivered before the beginning of 2017. The initial plan was to deliver one vessel in every three months after the delivery of the first one. "But now we are delivering one vessel every two months," said a CSL official.

The vessel is capable of achieving speeds of 33 knots.

Special trains announced

TIMES NEWS NETWORK

Thiruvananthapuram: The Southern Railway will operate four special trains to clear the rush during Puja and Deepavali holidays. Two weekly specials will be operated between Kochuveli and Guwahati and two premium superfast special trains between Thiruvananthapuram Central and Bangalore Cantonment.

The Kochuveli-Guwahati weekly special (train no 06336) will leave Kochuveli at 12 noon on October 5, 12, 19 and 26 (Sundays) and reach Guwahati on Wednesdays at 8.15am. In the return direction, the train (06335) will leave Guwahati at 11.25pm on October 8, 15, 22 and 29 (Wednesdays) and reach Kochuveli at 10.30pm on Saturdays. The Bangalore Cantt-Tvm premium superfast special (02657) will leave Bangalore Cantt at 7.15pm on October 26 and 28 and reach Tvm at 8.20am the next day. On return, the train (02658) will leave Tvm at 7pm on October 27 and 29 and reach Bangalore Cantt at 8.10am the next day.

GOOD FRIDAY



REASON TO CHEER: Students of St Teresa's College celebrate the victory of their favourite candidate by bursting crackers on Friday. This is the first union election after the college was made autonomous

Tickets sold out, govt wins an Onam bumper

TIMES NEWS NETWORK

Thiruvananthapuram: For the first time in the history of lottery department under the state government, all the lottery tickets that were printed were sold out, setting a new record. The Onam bumper lottery, despite being priced on the higher side at Rs 200, was sold out on the morning of Friday when the lucky draw was held.

The department had printed 51 lakh tickets for Onam bumper. The revenue from the sales touched a whopping Rs 102 crore which is another record in the history of Kerala state lotteries. The record sale was during the period from July 19 to September 18. Last year's Onam bumper series had sold 46.23 lakh of the 48 lakh

lotteries that were printed. According to lottery department officials, the record sale was unexpected, as this series was priced higher. "Since the tickets ensure Rs 1 crore and above for seven persons and Rs 1 lakh and above for 75 people, the lotteries were priced at the highest rate at Rs 200," an official said. The first prize was Rs 6 crore. In the draw held at Sri Chitra poor home on Friday, a ticket sold at Alappuzha bagged the first prize.

The government spends Rs 29 crore for the Onam bumper prizes alone. Of the income from the series, Rs 2.9 crore will be paid as agents' commission in addition to the Rs 1.43 crore as agents' commission from the state exchequer. After all expenses, the govern-

ment may get around Rs 65 crore as profit this year.

"It is a very big achievement. It proves the confidence of people in state lotteries. We will go ahead by respecting the trust of the people," said finance minister K M Mani. He also said initiatives such as Karunya lottery has helped to give an image makeover for state lotteries and this might be another reason for the increase in sales.

Even though there is another series priced at Rs 30 per lottery that prints 54 lakh lotteries, the sales had never touched 100% mark.

The lotteries department had sought permission to print 54 lakh tickets for Onam bumper, but the government had sanctioned only 51 lakh.

Dept defends study on adolescent girls

Thiruvananthapuram: Responding to media reports that the state government approved Rs 86 lakh for a study on adolescent girls in Kerala by a pro-CPM NGO, the social justice department defended it stating that the approval for the study was based on the NGO policy of the state government that permits such an activity with the support of social organizations.

"It is in the light of the NGO policy of the government that the department had given the nod for the two-year long study on adolescent girls with the technical support of Kerala Shree Padana Kendram," said SJD additional chief secretary K M Abraham.

To examine the study and to offer directions for the proper orientation of the study, the government has constituted a guidance committee with social experts. "For budgetary support at various phases of the study, it requires the permit of the guidance committee at the

Add chief secretary K M Abraham said that the study was given the go ahead after consulting the NGO policy

beginning of each phase," he said.

Further, the guidance committee will oversee the functioning of the study and monitor quality standards every month and report it to the SJD. The study will look into the problems confronting adolescent girls across various social segments including students, employed, married, distressed and victims of abuse.

It will offer solutions and recommendations to sort out the problems, department officials said. However, the department is silent on the need for calling an expression of interest before giving approval to a particular team for the study. **TNN**

Maoists form two more armed squads in Kerala

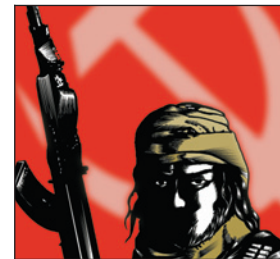
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Kozhikode: Taking their activities in Kerala to a new level, the Maoists have set up two more all-Malayali dalams (armed squads) in the state. The two new squads — Bhavani and Nadukani — set up a few months ago are now active in Malappuram and Palakkad districts. Earlier, the Wayanad-based Kabani dalam was the only known armed Maoist squad in Kerala.

Maoists from Kerala, till recently, were attached to squads from Tamil Nadu and Karnataka. The move to set up more exclusive Malayali squads is seen as part of the party's efforts at concentrating more on issues related to Kerala.

The CPI-ML (Naxalbari), another Maoist outfit operating in Kerala, had merged with CPI (Maoist) in May. The merger led to the strengthening of Maoist activities in the state. Malayali Maoist leader

The move to set up more exclusive Malayali squads is seen as part of the party's efforts at concentrating more on issues related to Kerala



Sinoj who died in an accidental explosion in Wayanad two months ago was imparting training to new recruits to the armed squads, sources said.

Apart from the increase in Maoist activities, what worries the police is the rapport the rebels have managed to establish with the tribals in Kerala. After initial apprehensions and suspicion, the

tribals seem to have developed a positive inclination towards the rebels who regularly visit their colonies.

"We are increasingly finding it difficult to get information regarding Maoist movements from the tribals. Last month, the rebels had visited a colony near the Munderi farm in Malappuram and distributed pamphlets in more than 30 houses. We came to know about the visit only a few days later and didn't get a single copy of the pamphlet from the tribals," said a police official.

The Maoists have succeeded in instilling confidence among the tribals who are agitated over the backwardness of their areas and the general apathy of the government officials.

Maoists are learnt to have assured the tribals that more armed rebel contingents would be deployed in Kerala from other parts of the country to ensure their protection from the police.

On why maids can't do without English

TIMES NEWS NETWORK

Kochi: "Welcome home", "How are you?", "Please be seated, madam will just join you". Spoken English has caught on with housemaids who are looking for better employment opportunities as well as to speak to their children, who are increasingly being enrolled in English medium schools.

A CBSE school in Kochi, which has several children of maids on their rolls, said that the maids themselves expressed their desire to learn the language during a PTA meeting. "We have children, whose mothers work as



"We have children, whose mothers work as housemaids, in our school. They said they were eager to learn spoken English as it would help them with their jobs and ensure that they are able to communicate with their children"

ISHRATH NOUSHAD
Principal National Public School

housemaids, in our school. They said that they were eager to learn spoken English as it would help them with their jobs and ensure that they are able to communi-

cate with their children," said Ishrath Noushad, principal, National Public School, Karugapally. The school held two-hour English classes for a

month for maids who were taught alphabets and words. They were given sessions on what to speak to guests at work.

"They were taught basics such as how to greet, wish and pass information to people in English," the principal added.

"Basic knowledge of English is really helpful. It improves job opportunities not only in Kerala but also outside. One of our members recently said that she was planning to enrol for a spoken English course as it would help her converse with people better," said Tara Babu, president, National Domestic Workers Move-

ment, Ernakulam region. Though most of them are school dropouts, it is not stopped them from giving good education to their children in English medium schools. "Even if they don't know English and are not able to help their children with lessons, they send them for tuitions and ensure that their wards perform well. After all, they want to give the best possible education to their children. Learning English is a priority for these parents, an opportunity that they didn't probably get as children," added M C Andu, principal, Modern Public School, Kakkanaad.