Three hourly gridded OLR data from Kalpana-1 VHRR

Outgoing Longwave Radiations (OLR) is estimated by utilizing infrared (10.5-12.5 µm) and water vapor (5.7-7.1 µm) radiances of Very High Resolution Radiometer (VHRR) instrument onboard Kalpana-1 satellite stationed at 74^0E. The VHRR images were obtained from the archival of National Satellite Data Centre of the India Meteorological Department, New Delhi. Retrieval methodology and some applications of this data are available in the accompanying article *Mahakur et al*. (2013) based on which the data is generated. Narrow band to broadband conversion was performed through empirical relations developed using Genetic algorithm [*Singh et al*. (2007)].

These data are available at three hour intervals (i.e. 00, 03, … , 18 and 21 UTC) starting May 2004 over the Indian region (40^0S - 40^0N, 25^0E - 125^0E) in regular latitude-longitude grid of resolution 0.25 × 0.25 degrees. A file listing the missing hours of data can be found in the README folder. Along with the three-hourly data (3Hrly); daily (DlyAvg) and monthly (MonAvg) averages are also provided in separate folders.

The data is written in Classic NetCDF format (http://www.unidata.ucar.edu/software/netcdf/) following the CF conventions (http://cf-pcmdi.llnl.gov/documents/cf-conventions/1.6/cf-conventions.html).

If you have any suggestion or technical problem while accessing the data please notify *mmahakur@tropmet.res.in* or *sapre@tropmet.res.in*.

Citation: This data were generated through the Indian Institute of Tropical Meteorology, India Meteorological Department and Space Applications Centre (ISRO) collaboration. If you are using this data in any publication please acknowledge Indian Institute of Tropical Meteorology, Pune for making the data available for you through its website.

References

Mahakur, M., Prabhu, A., Sharma, A. K.,Rao, V. R., Senroy, S., Singh, Randhir and Goswami, B. N., A high resolution outgoing longwave radiation dataset from Kalpana-1 satellite during 2004-2012, **Curr. Sci.**, 2013, 105(8), 1124-1133.

Singh, R., Thapliyal, P. K., Kishtawal, C. M., Pal, P. K., and Joshi, P. C., A new technique for estimating outgoing longwave radiation using infrared window and water vapour radiances from Kalpana very high resolution radiometer, **Geophys. Res. Lett**., 2007, 34, L238815, doi:10.1029/2007GL031715.

List of Files

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K1OLR
|-- 0README
|   |-- K1OLR.2004_2013.MissingHours.txt
|   |-- Mahakur_etal_CurrSci2013.pdf
|   `-- README_First.pdf
|-- 3Hrly
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2004.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2005.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2006.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2007.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2008.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2009.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2010.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2011.nc
|   |-- IITM_K1OLR_3Hrly_0.25_v1.0_2012.nc
|   `-- IITM_K1OLR_3Hrly_0.25_v1.0_2013.nc
|-- DlyAvg
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2004.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2005.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2006.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2007.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2008.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2009.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2010.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2011.nc
|   |-- IITM_K1OLR_Dly_0.25_v1.0_2012.nc
|   `-- IITM_K1OLR_Dly_0.25_v1.0_2013.nc
`-- MonAvg
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_00UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_03UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_06UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_09UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_12UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_15UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_18UTC.nc
    |-- IITM_K1OLR_Diur_Mon_0.25_v1.0_21UTC.nc
    `-- IITM_K1OLR_Mon_0.25_v1.0.nc
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