

# Locust Surveillance Using Geospatial Technology



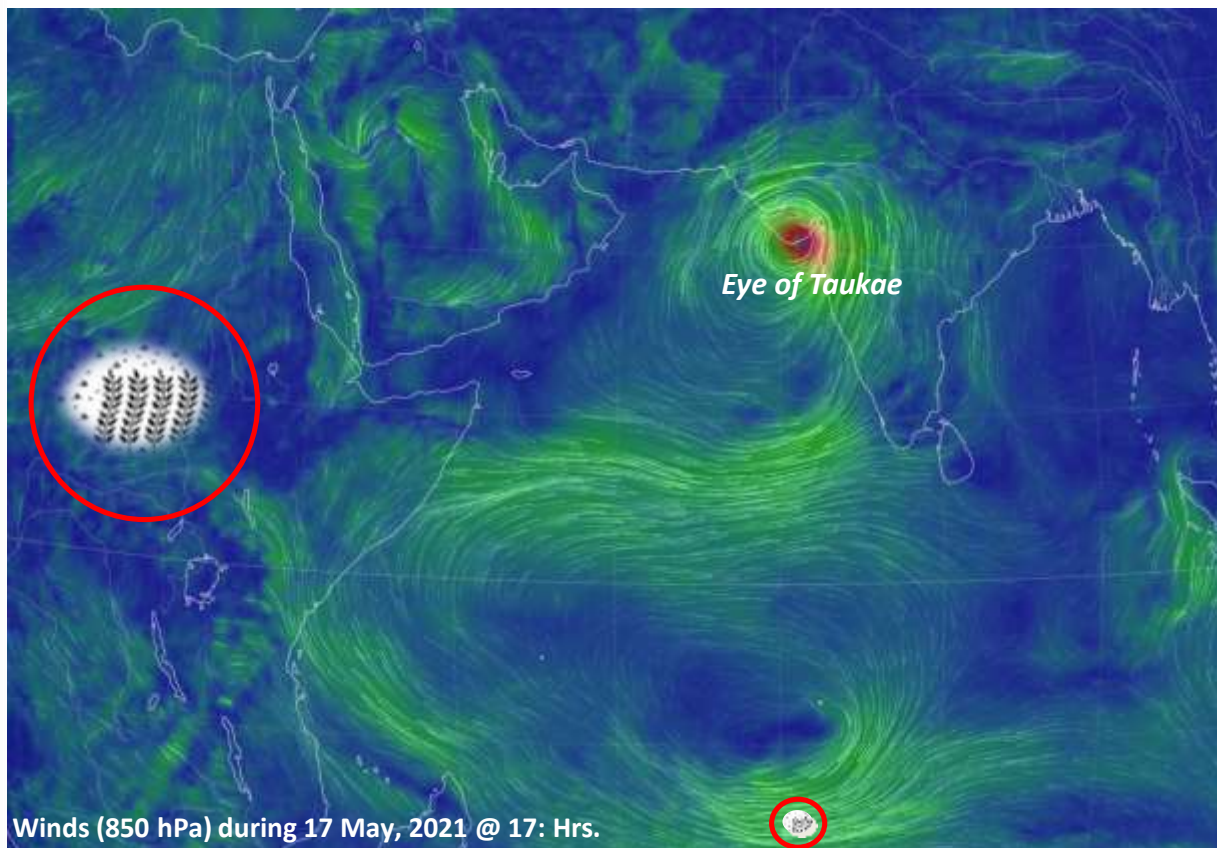
nrsc

No. 2021/22  
Period: 01-31 May.

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Please send your feedback to  
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Winds (850 hPa) during 17 May, 2021 @ 17: Hrs.

*From the origin in Kerala till the landfall in Gujarat coast (14-19 May, 2021), strong winds generated by Taukae cyclone circulation doesn't cover the interior parts of Ethiopia and Somalia where mature swarm persists. Last year, Amphan cyclone (15-21 May, 2020) has dragged the existing swarms from Iran and Pakistan border to the Thar desert region due to its circulatory winds.*

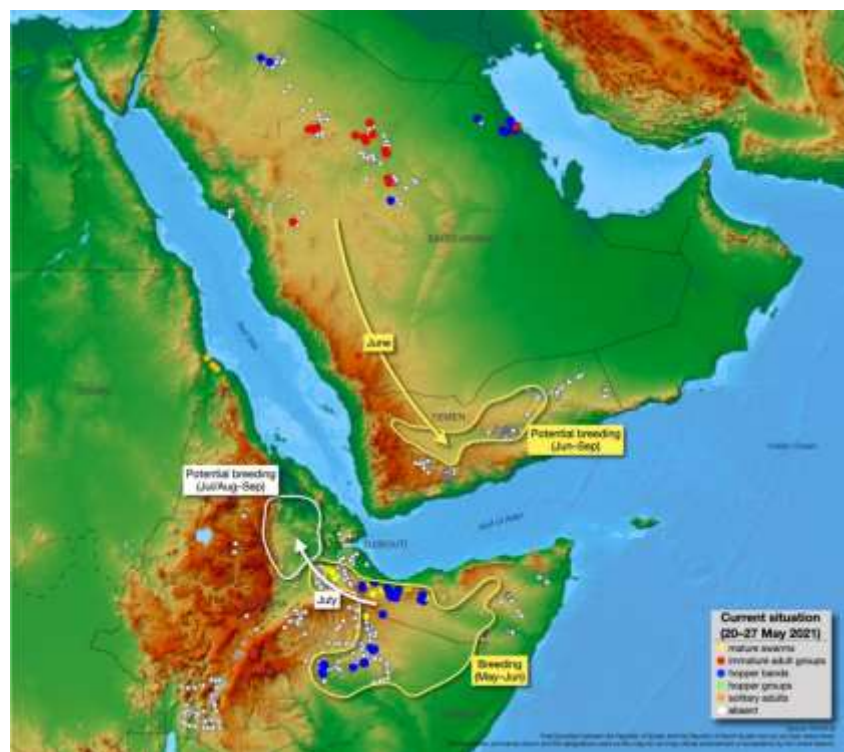
Image courtesy: earth.nullschool.net

Locust Surveillance Using Geospatial Technology Bulletin is issued by Regional Remote Sensing Centre (West), NRSC/ISRO – Jodhpur. RRSC-W continuously monitors the weather and ecology to provide early warning based on survey and control results from Locust Warning Organisation (LWO), Jodhpur combined with remote sensing inputs.

## Status & Forecast

Locusts are currently active in the Horn of Africa and Saudi Arabia.

- **Ethiopia** - More hatching and band formation is taking place. Mature swarms persist south of Djibouti in Siti zone where hatching and band formation are imminent.
- **Somalia** - Hatching continues and more bands are forming on the escarpment and plateau in the northwest (Somaliland) where mature swarms are still laying eggs
- **Saudi Arabia** - Control operations continue against a few early instar hopper bands . A few immature adult groups appeared in the Asir Mountains
- **Yemen** - Scattered adults in the interior areas of Shabwah and Hadhramaut
- **Sudan** - Locusts declined on the Red Sea coast
- **Iraq** - Control operations ended against hopper groups in the upper Euphrates Valley
- **Iran** - A few early instar hopper groups remain on the southwest coast near Bushehr

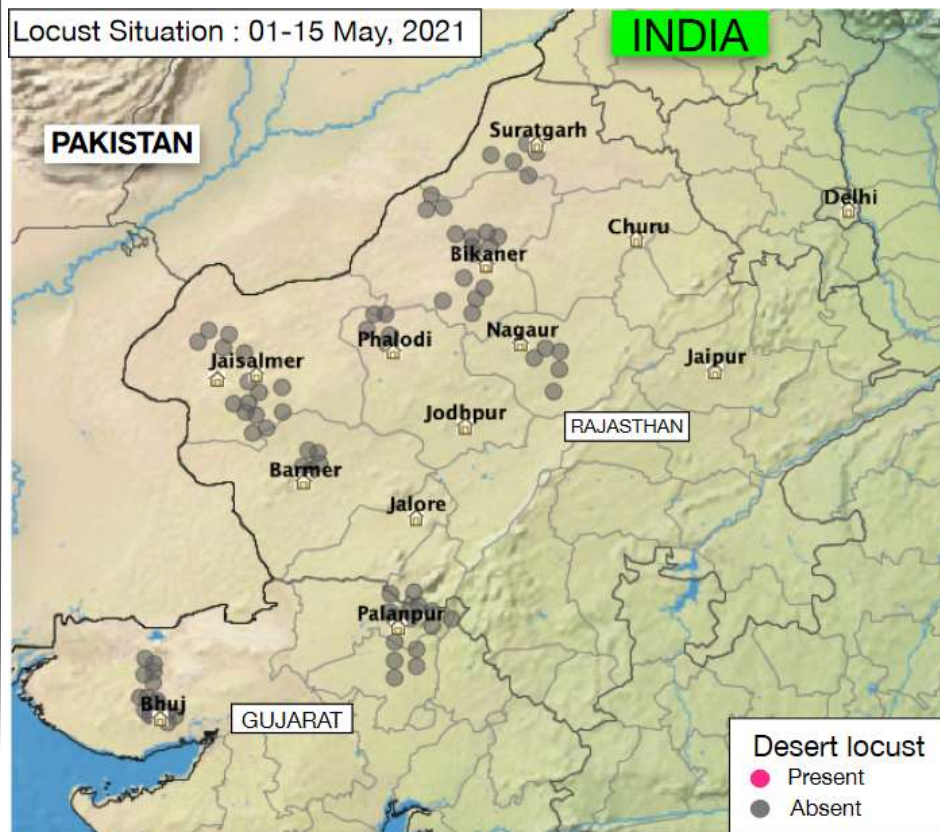


Source: Desert Locust Global Situation update 27<sup>th</sup> May 2021 by Food and Agriculture Organisation, UN.

## Status & Forecast

During the routine survey, it has been observed that India is free from gregarious as well as solitary desert locust activities during the 1st fortnight of May, 2021. Total 80 nos. of spots were observed during the surveys which are plotted on the map.

However, Locust alert warning has been issued in Jaisalmer district by Rajasthan Govt. following the advisory of FAO.

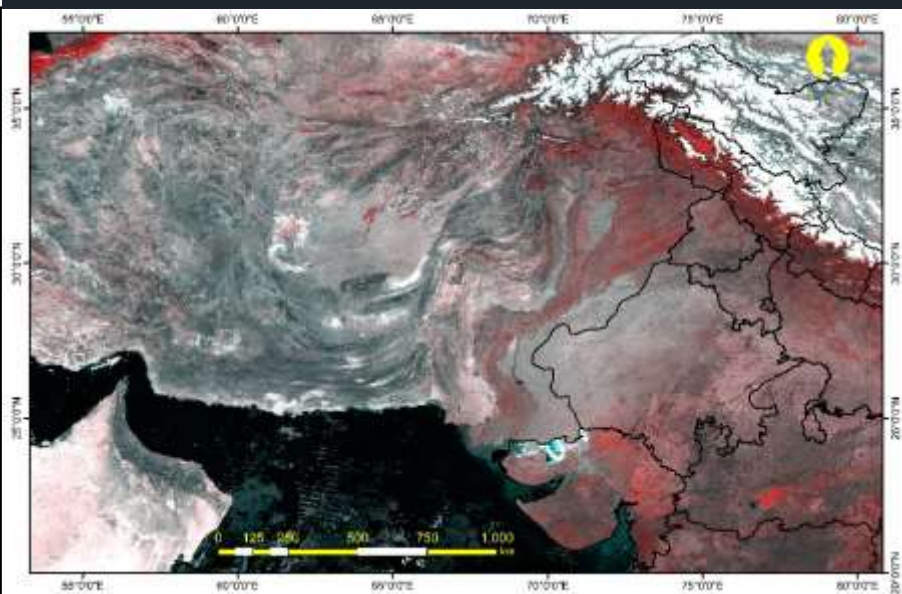


Source: Desert Locust Situation Bulletin. 01-15 April 2021, LWO, Min. of Agriculture, Farmer's Welfare

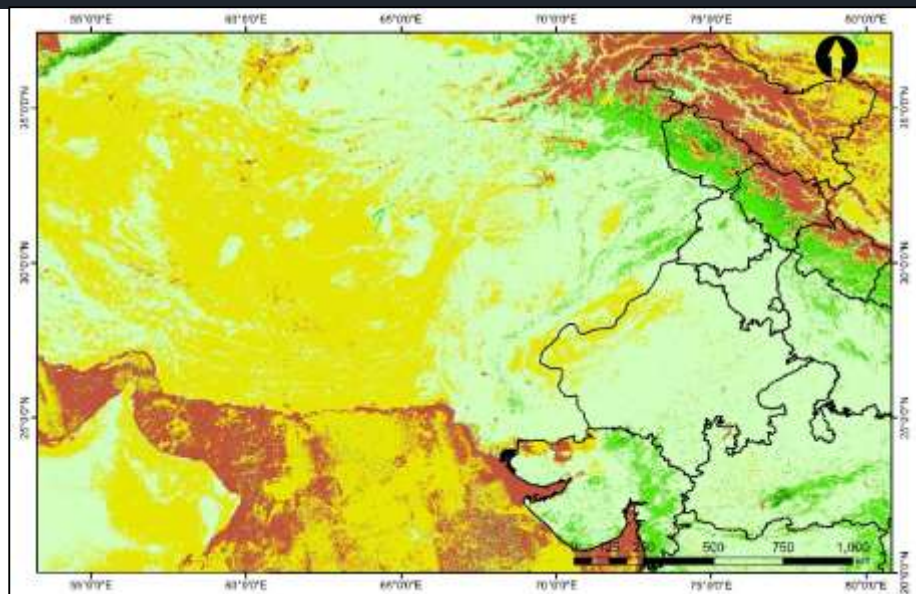


## False Colour Composite (FCC)

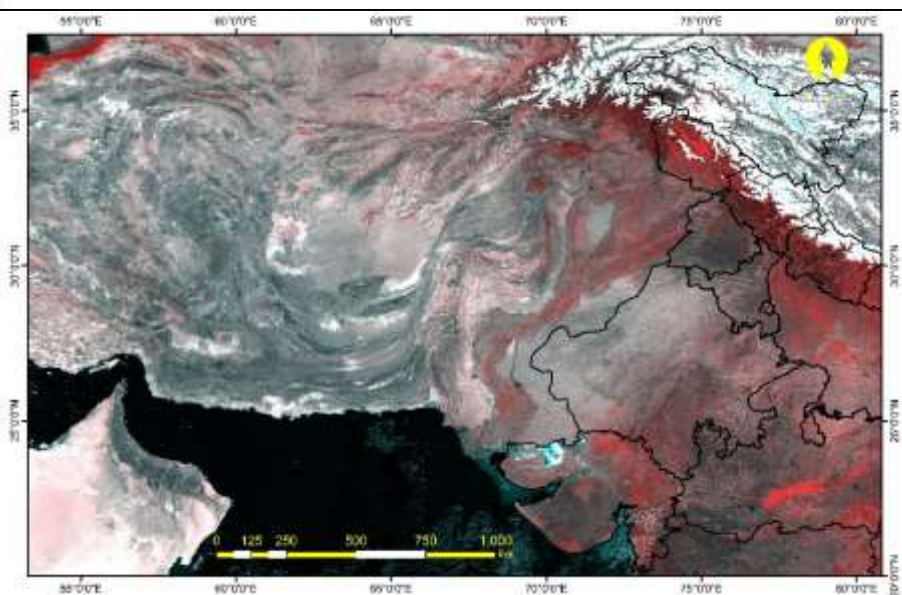
## Normalized Difference Vegetation Index (NDVI)



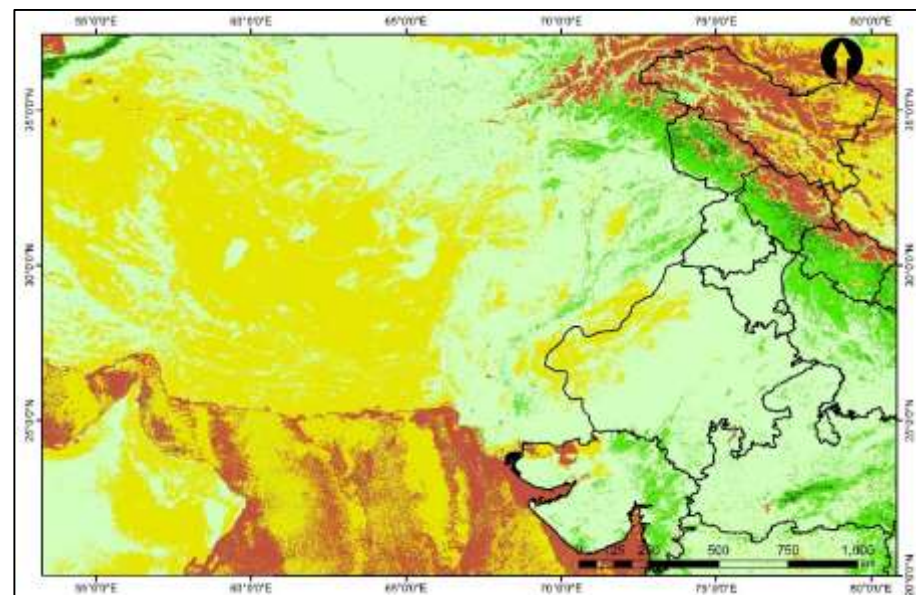
1<sup>st</sup> May – 8<sup>th</sup> May, 2021



1<sup>st</sup> May – 10<sup>th</sup> May, 2021



17<sup>th</sup> May – 25<sup>th</sup> May, 2021



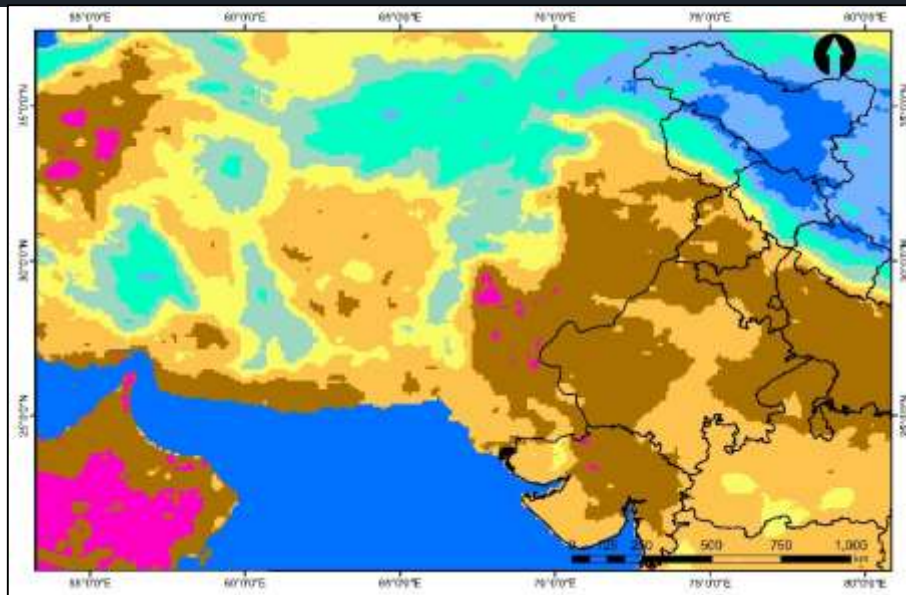
16<sup>th</sup> May – 25<sup>th</sup> May, 2021

Source: MODIS 8 day Composite

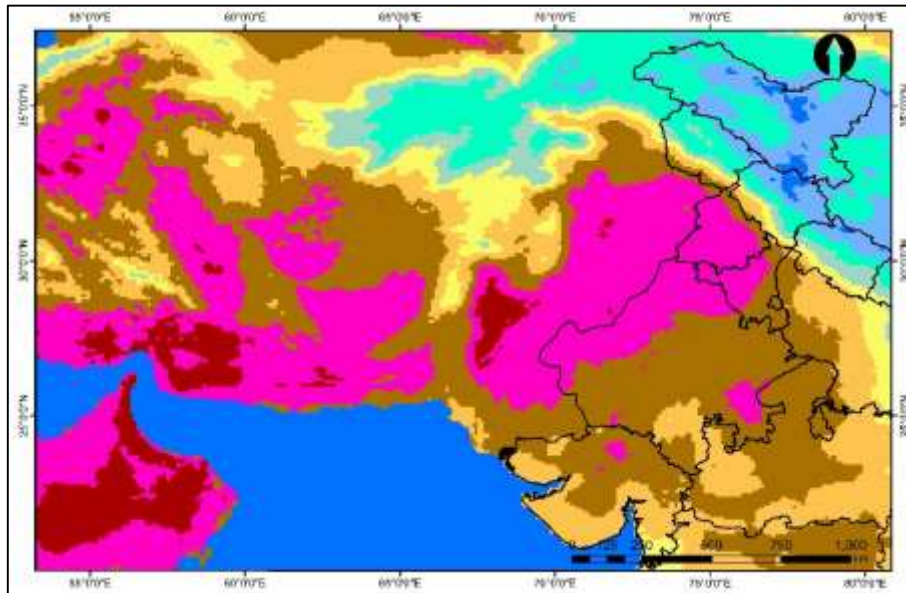
Source: eMODIS Ver. 6



## Land Surface Temperature ( $^{\circ}\text{C}$ )

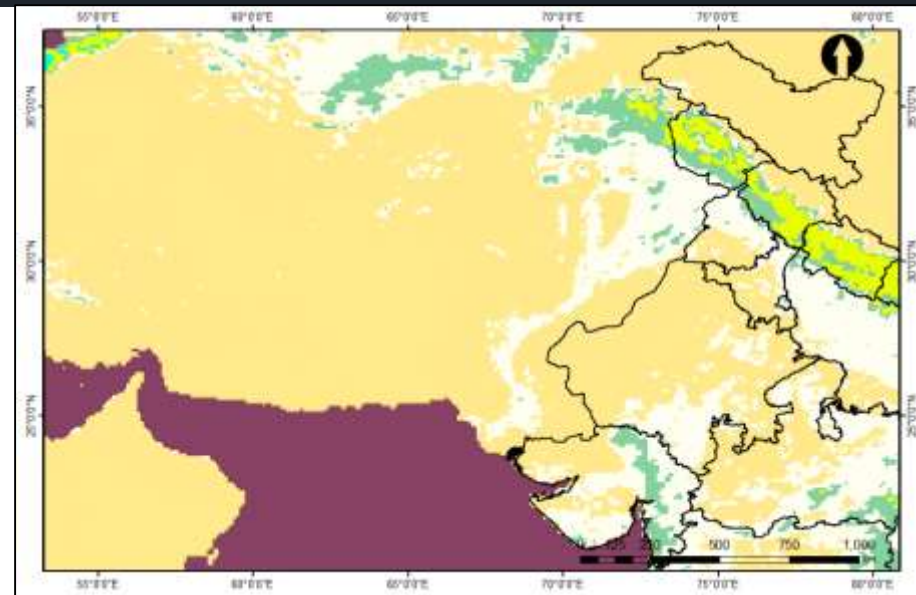


19:00 Hrs. IST of 1<sup>st</sup> May - 2021

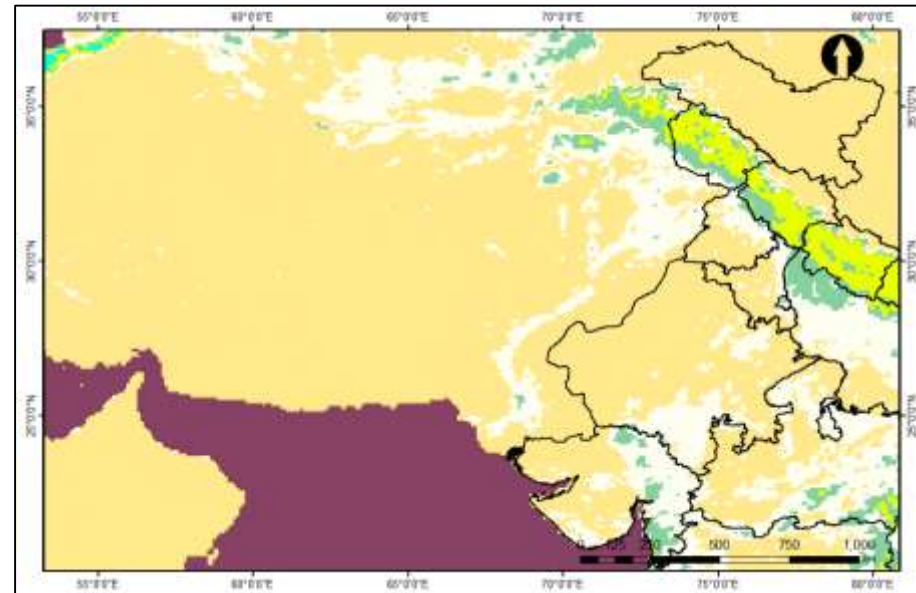


Source: SMAP Enhanced L4 Global 3 Hourly 9 km Product 19:00 Hrs. IST of 28<sup>th</sup> May 2021.

## Leaf Area Index (LAI)



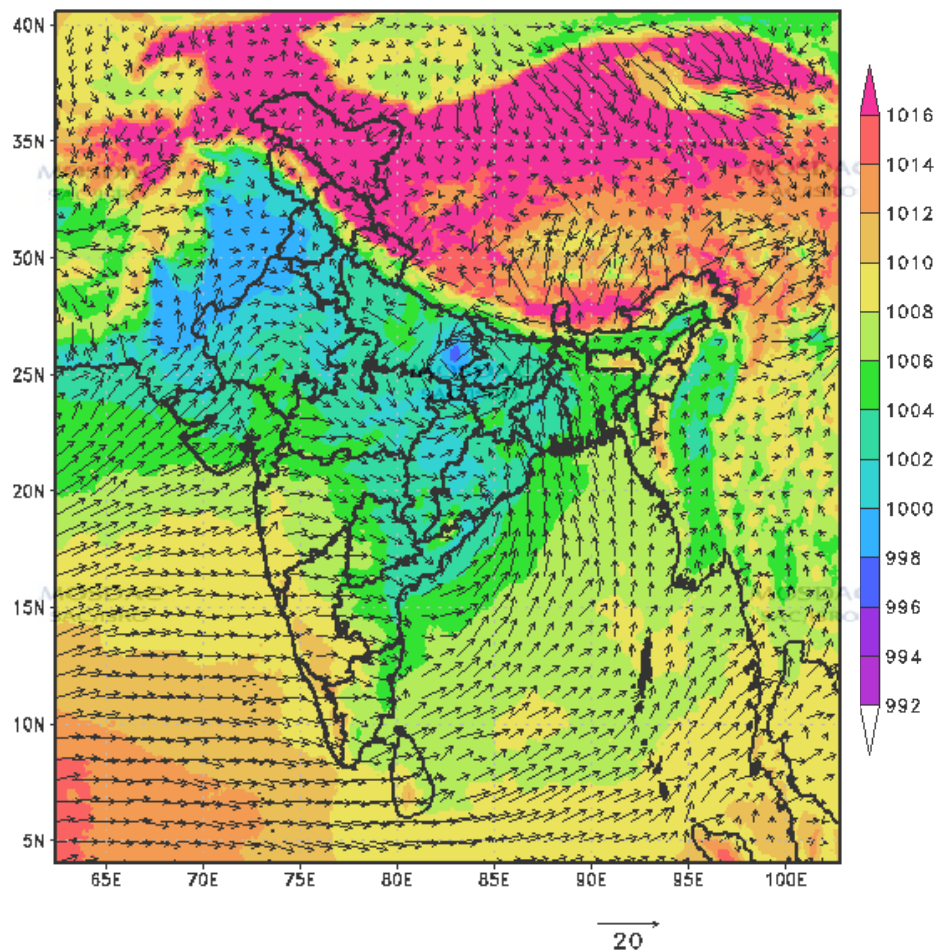
19:00 Hrs. IST of 1<sup>st</sup> May 2021.



19:00 Hrs. IST of 28<sup>th</sup> May 2021.

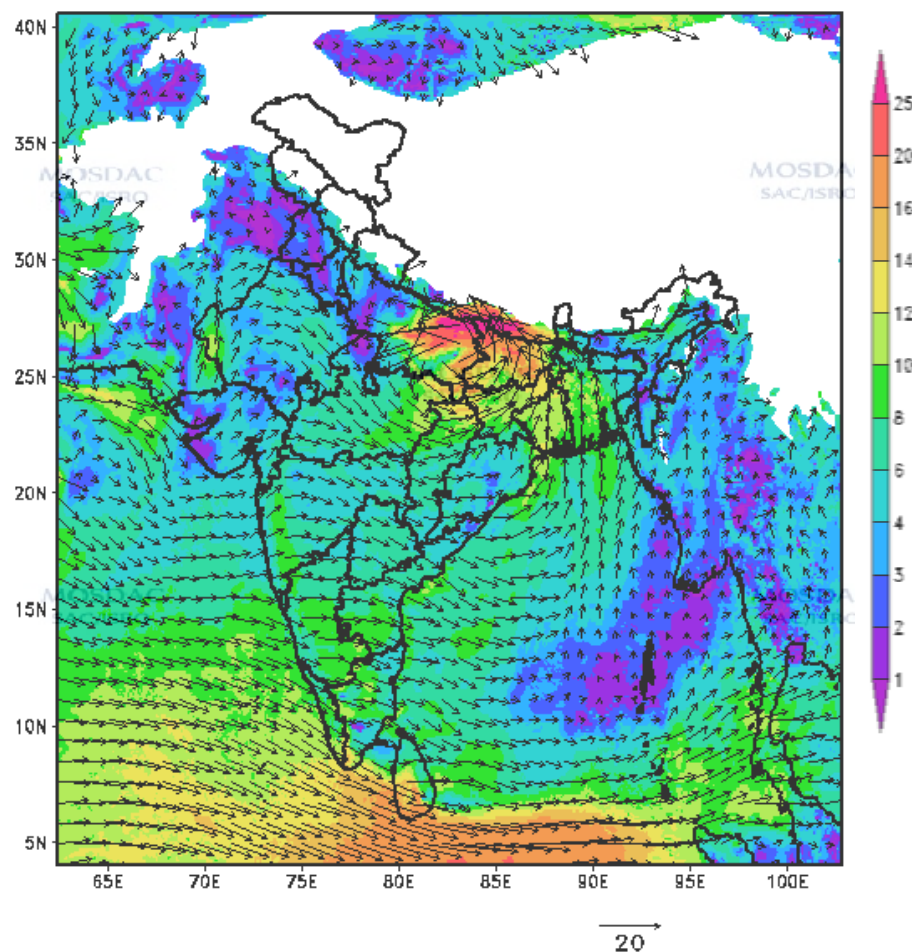
# Wind Vectors

06hr Forecast valid for 1130 IST 28MAY2021  
MSLP & 10m height Wind



Source: MOSDAC web portal

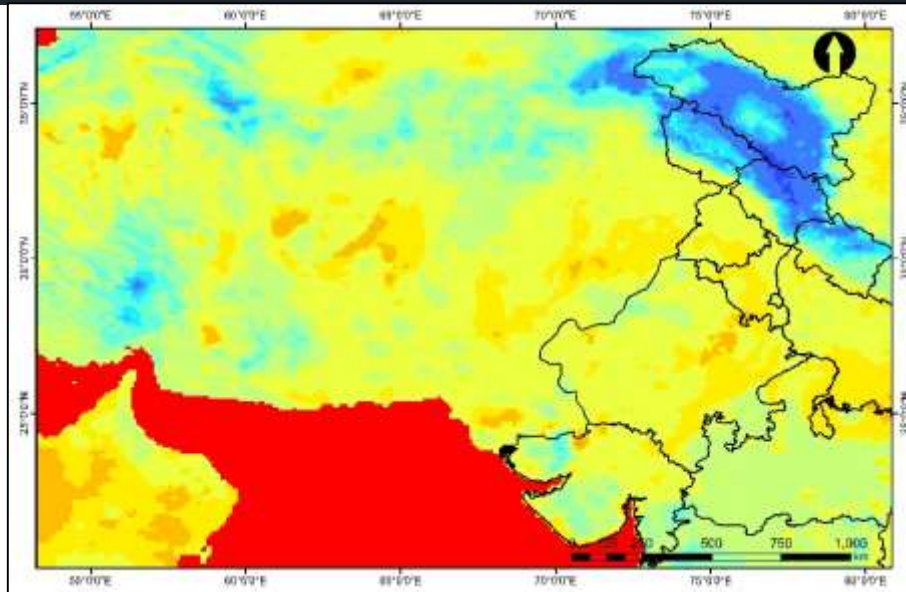
06hr Forecast valid for 1130 IST 28MAY2021  
850 hPa Wind



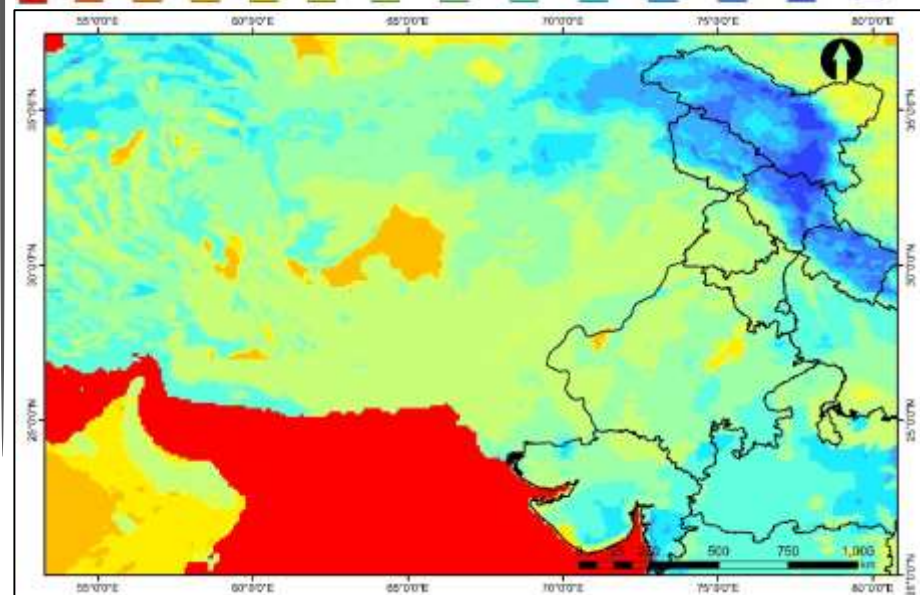
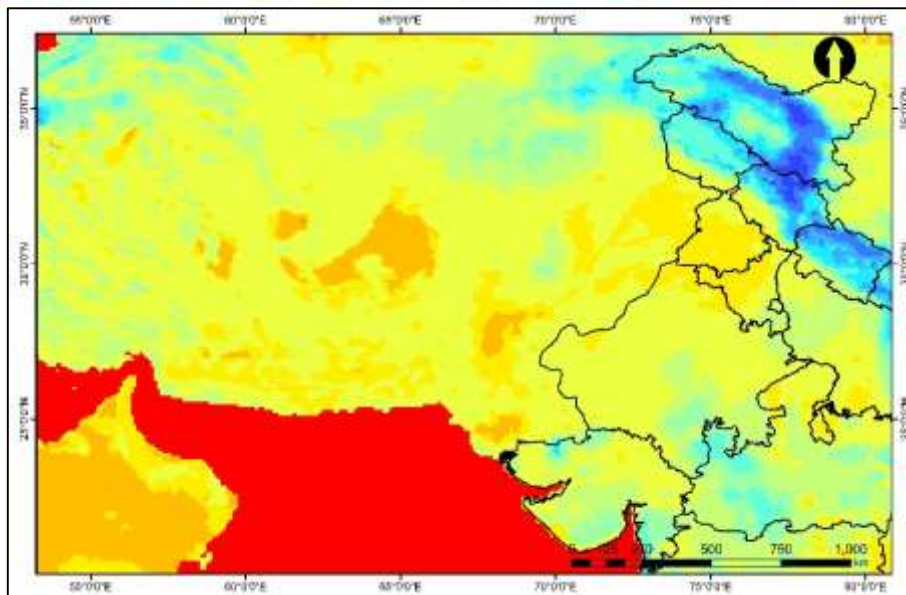
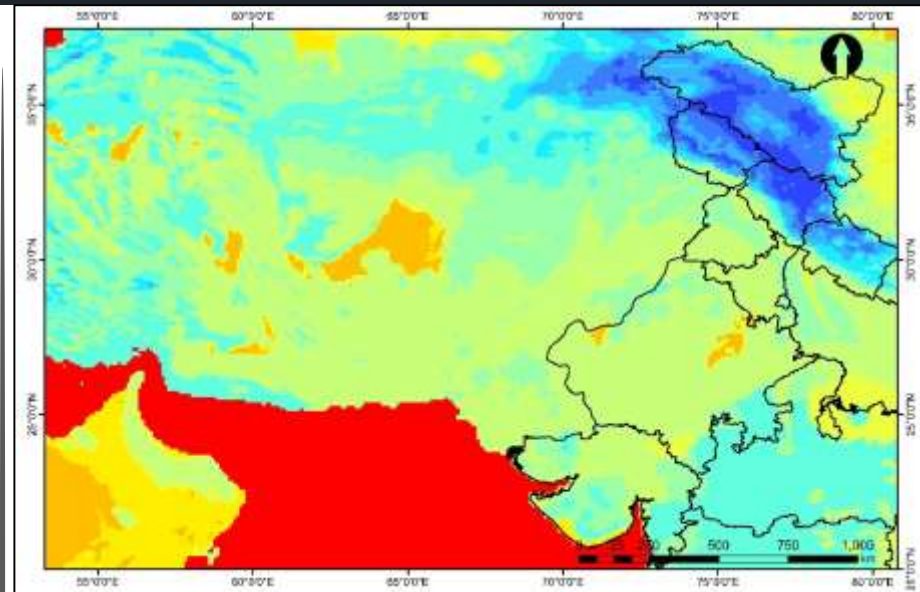
Wind speed @ 1.46 km from msl.



## Surface Soil Moisture Map (%)



## Root-Zone Soil Moisture Map (%)



Source: SMAP Enhanced L4 Global 3 Hourly 9 km Product

19:00 Hrs. IST of 28th May 2021.