Locust Surveillance Using Geospatial Technology

No. 2021/25.
Period: 01-31 August.

Sir Boris Petrovitch Uvarov
(1907-1970)

Boris Petrovitch Uvarov was born in 1888 at Uralsk in South-Eastern Russia. By 1915 he had established his reputation as an entomologist and had acquired a special knowledge of locusts and locust control. In 1920 he came to England to take up an appointment at the Imperial Bureau (later Commonwealth Institute) of Entomology in London.

In 1929, Uvarov was given the task of organising and supervising the investigations into swarming locusts commissioned from the Commonwealth Institute by the Committee on Civil Research. As a result, the Anti-Locust Research Centre was established under the Colonial Office in 1945.

Anti-Locust Research Centre became the world's leading laboratory in the field of locust research and did much to further international co-operation in locust control.

Uvarov retired from his directorship of the centre in 1959 but acted as a consultant and continued his research on grasshoppers and locusts until his death on 18 March 1970. He received many honours during his lifetime including that of Companion of St Michael and St George (1943) and a Knighthood of the same Order (1961).

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Please send your feedback to
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Locust Surveillance Using Geospatial Technology Bulletin is issued by Regional Remote Sensing Centre (West), NRSC/ISRO – Jodhpur. RRSC-W , NRSC/ISRO continuously monitors the space based weather & ecological parameters along with heuristic models to provide Locust warning and information. The heuristics models are driven by the inputs based on the surveys and control operation by Locust Warning Organisation (LWO), Jodhpur.

Locust Update by Food and Agriculture Organization, UN.

Status & Forecast

Spring breeding has ended in eastern Ethiopia and northwest Somalia where control operation continue to decline as there is reduction in the number and size of the spring bred immature swarms. As anticipated, at least several swarms migrated to northeast Ethiopia where above average rains since mid-July allowed them to mature and probably lay eggs in the Afar region and southern Djibouti although this could not be confirmed and very few swarms have been seen recently due to difficulties in accessing the breeding area. Hatching and hopper band formation should be expected from early August onwards that could give rise to new swarms after late September.

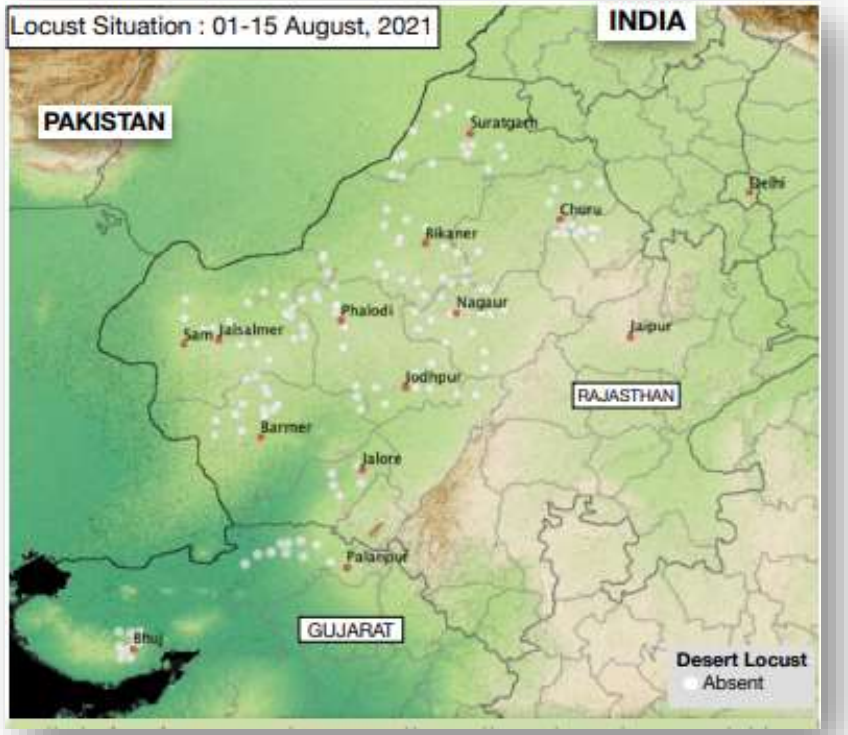
Source: Desert Locust Global Situation update 25th August 2021 by Food and Agriculture Organisation, UN.

Locust Update by Locust Warning Organisation, India.

Status & Forecast

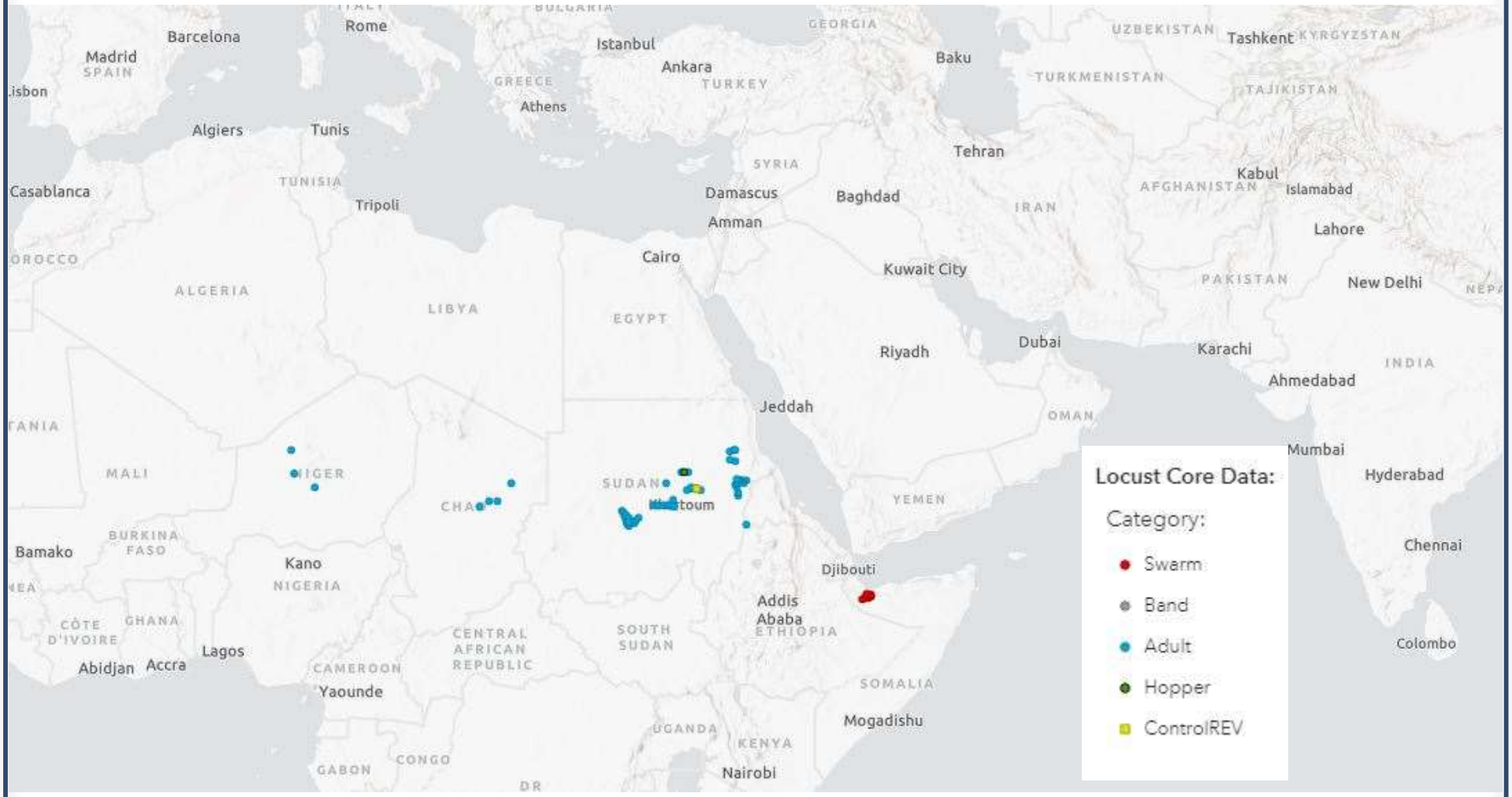
During the routine survey, it has been observed that India is free from gregarious as well as solitary desert locust activities during the 1st fortnight of August, 2021. Total 145 nos. of spots were observed during the surveys which are plotted on the map.

India is free from gregarious as well as solitary desert locust activities.



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

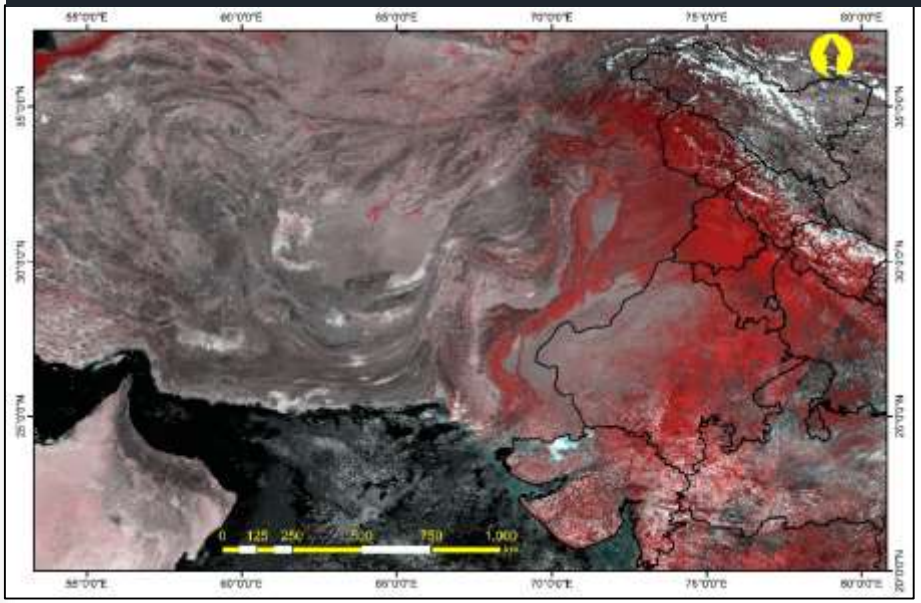
Status of Active Locust (24 – 31 August, 2021)



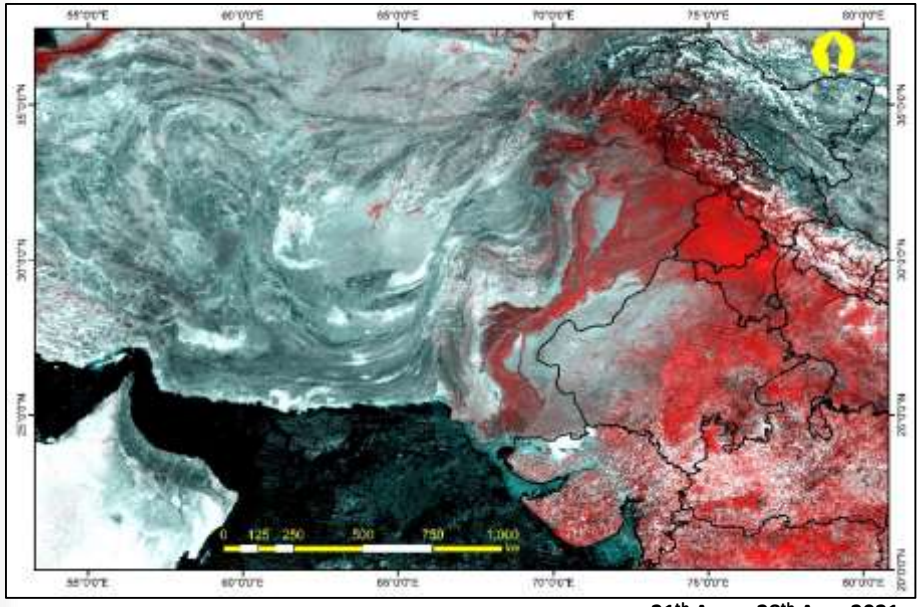
Source: FAO Locust Hub

Source: FAO web portal

False Colour Composite (FCC)



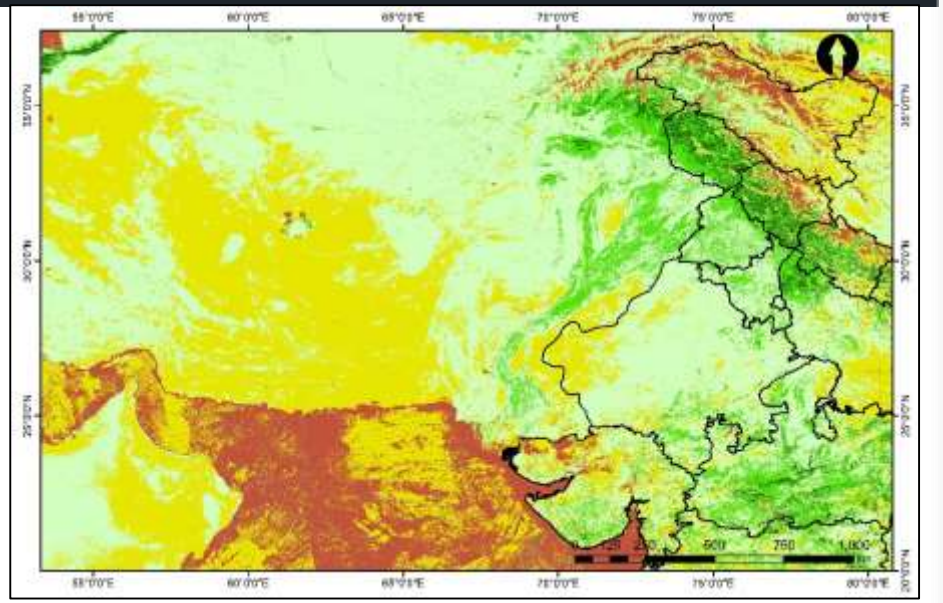
5th Aug – 13th Aug, 2021



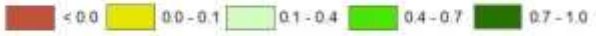
21th Aug – 28th Aug, 2021

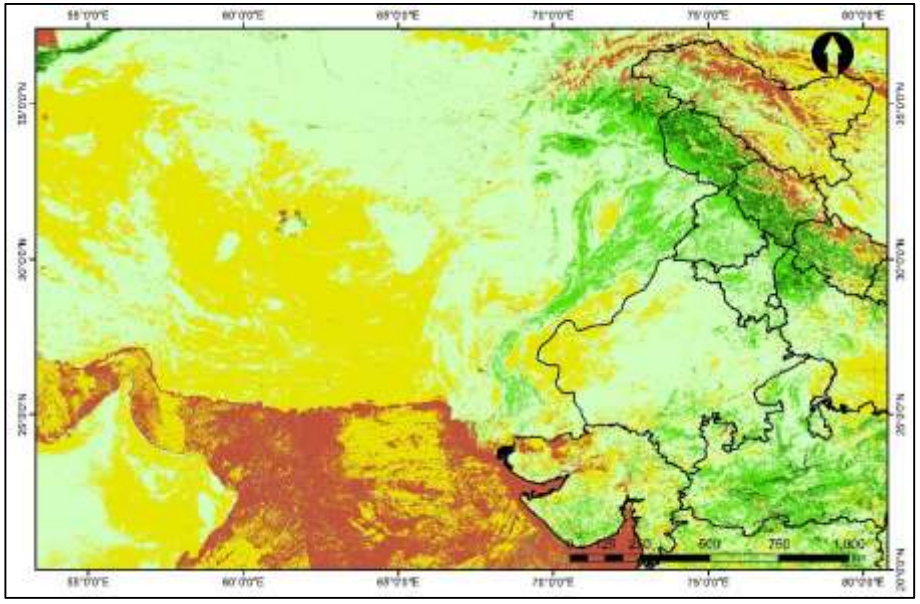
Source: MODIS 8 day Composite

Normalized Difference Vegetation Index (NDVI)



1st – 10th Aug, 2021

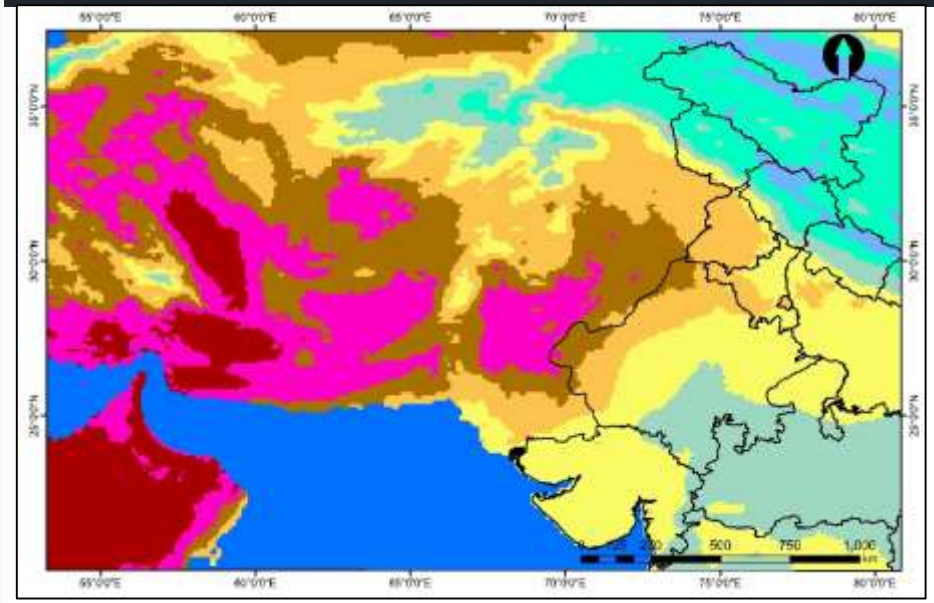




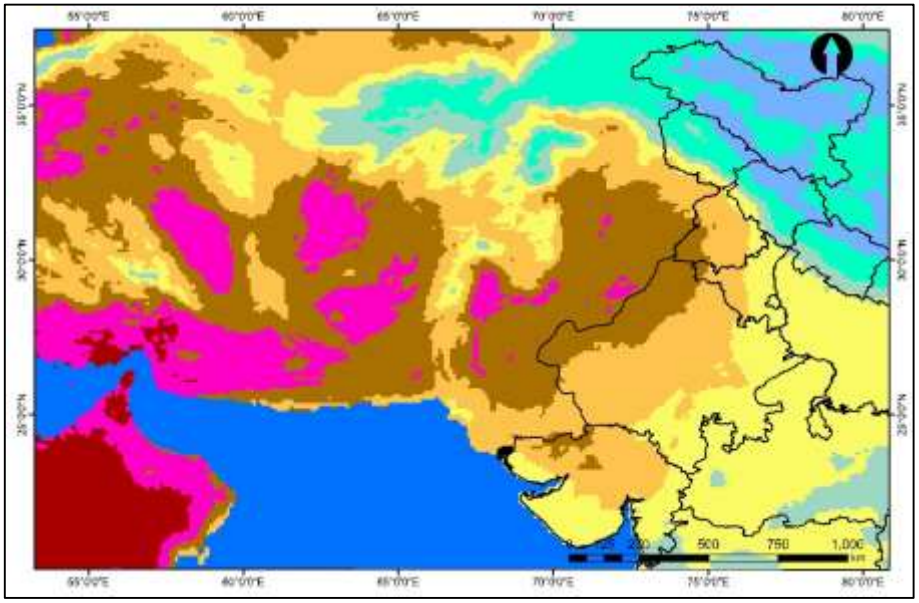
16th – 26th Aug, 2021

Source: eMODIS Ver. 6

Land Surface Temperature (^{0}C)



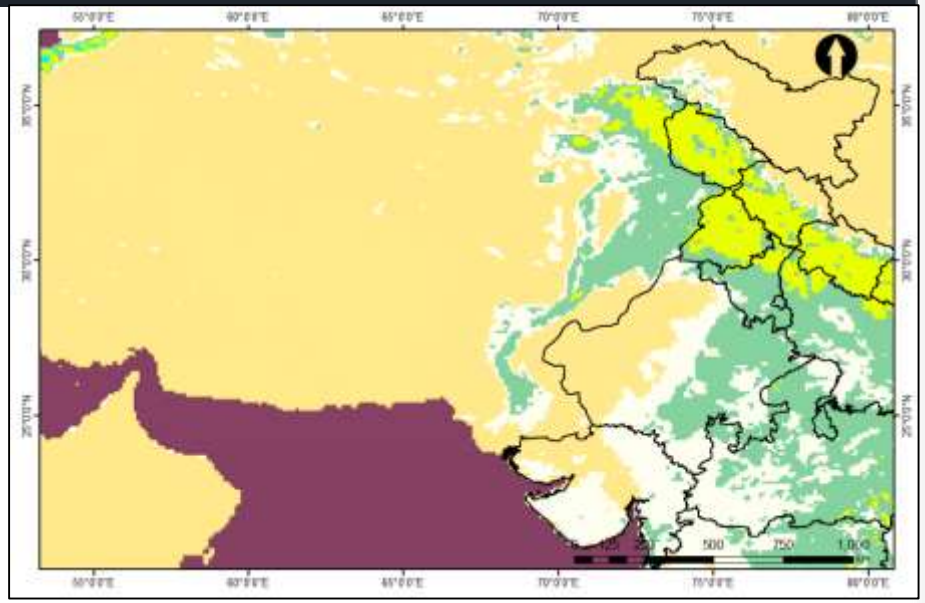
19:00 Hrs. (1st Aug 2021)



Source: SMAP Enhanced L4 Global 3 Hourly 9 km Product

19:00 Hrs. (28th Aug 2021)

Leaf Area Index (LAI)



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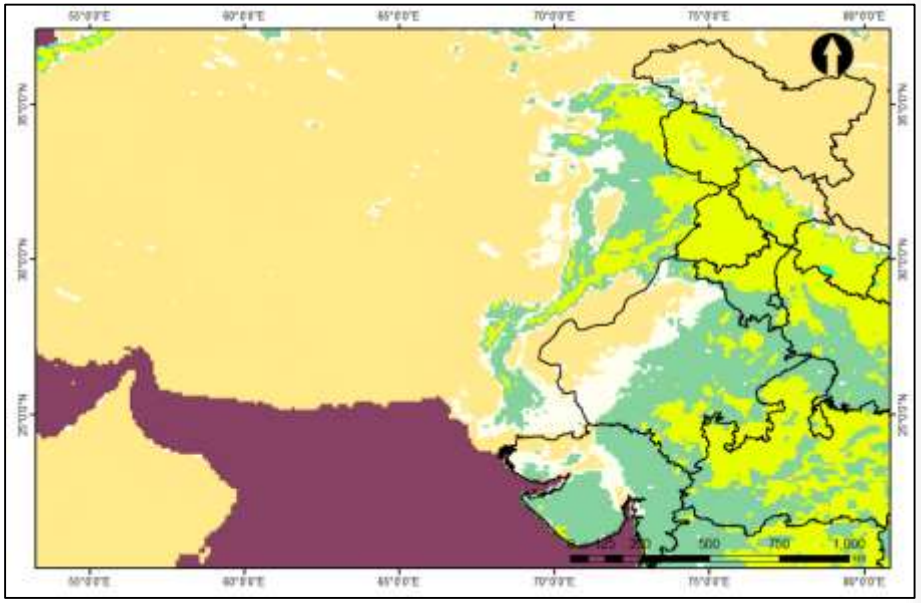

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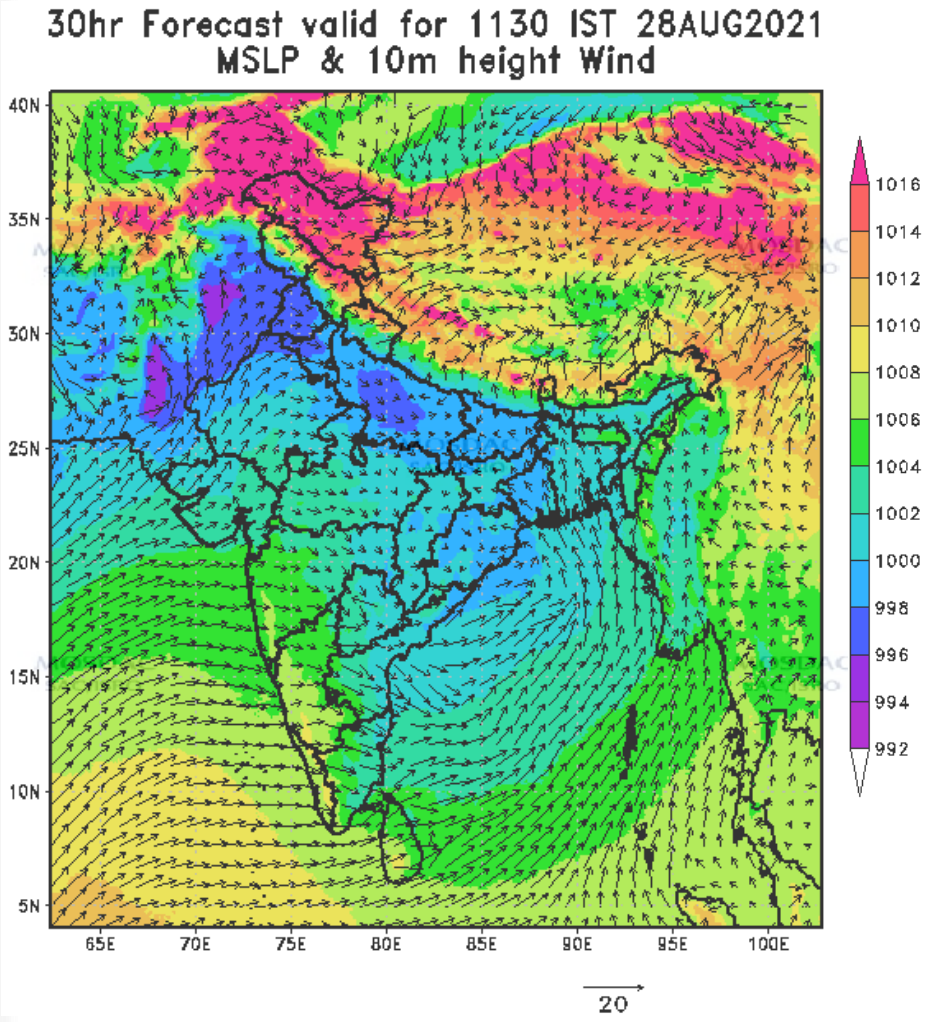
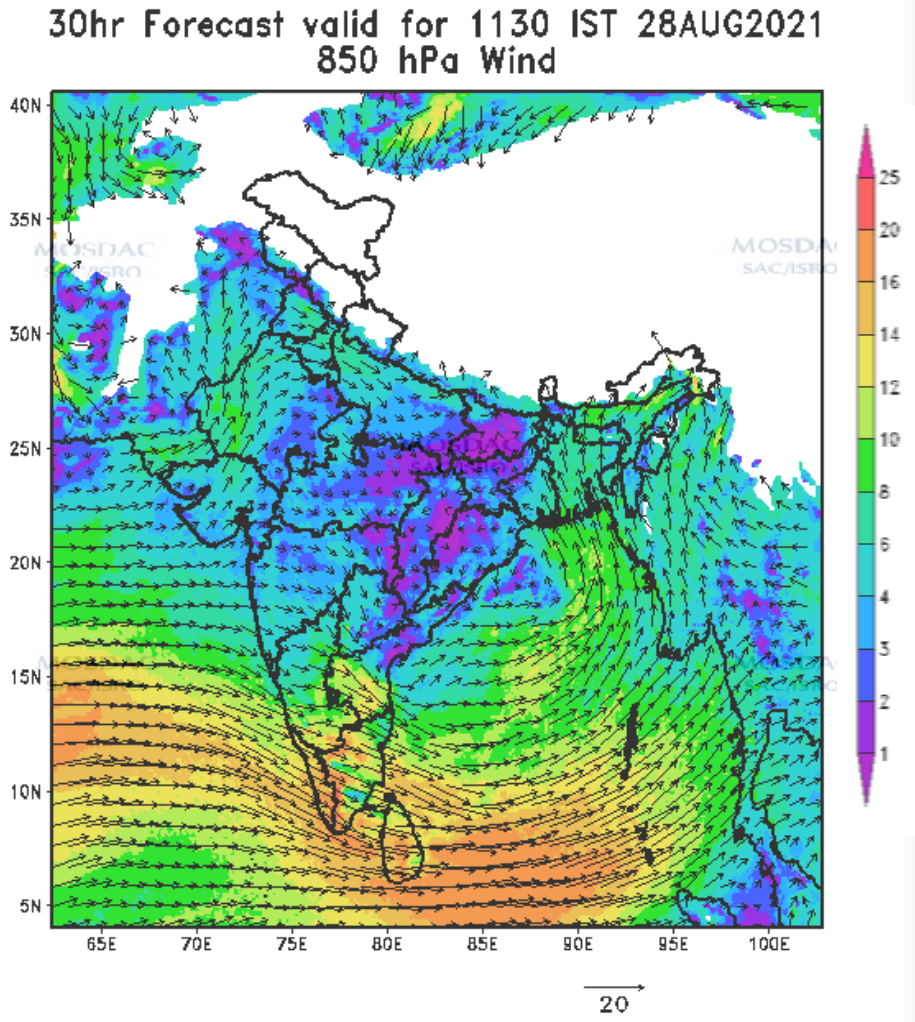
Wind Vectors

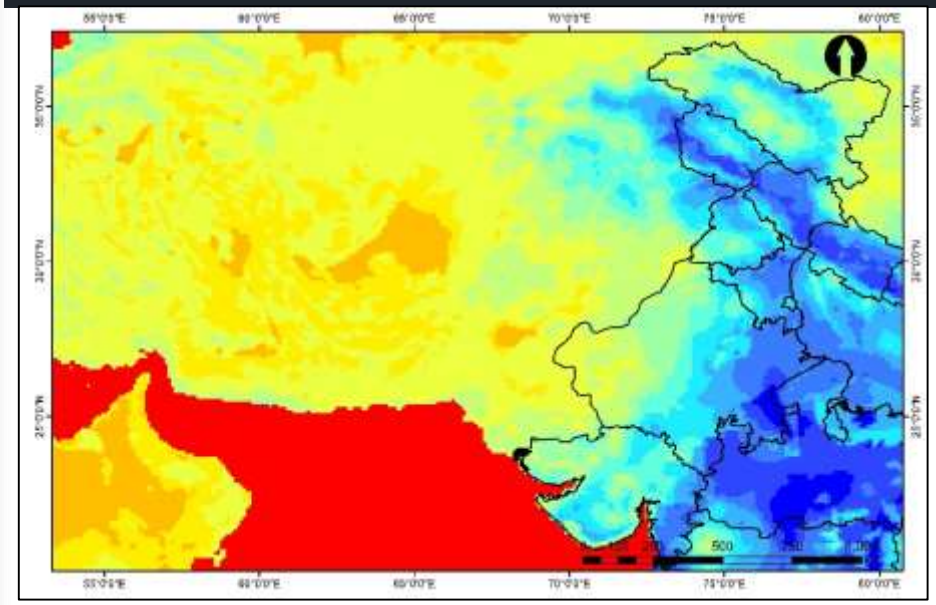




Source: MOSDAC web portal

Wind speed @ 1.46 km from msl.

Surface Soil Moisture Map (%)



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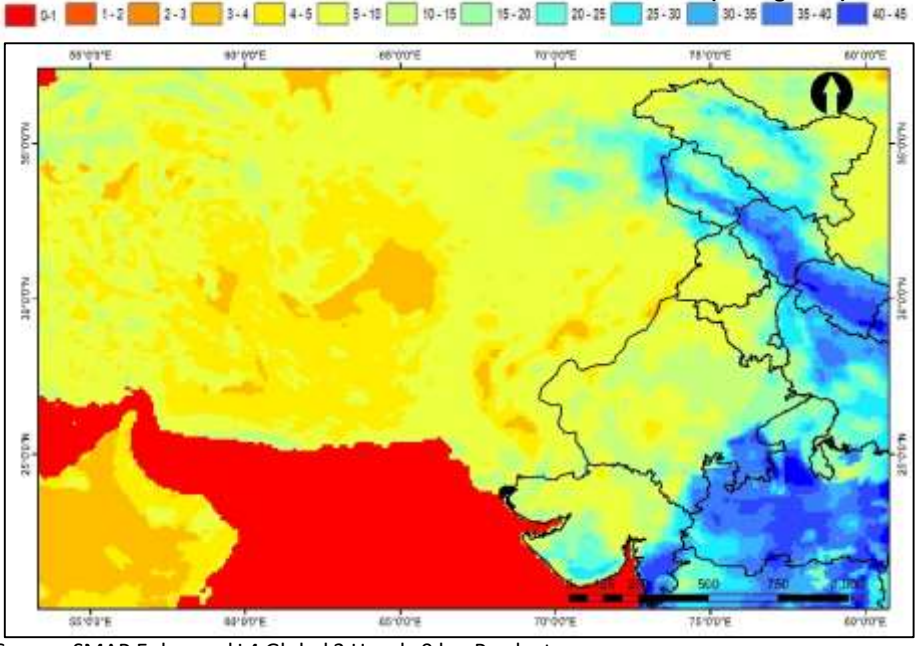

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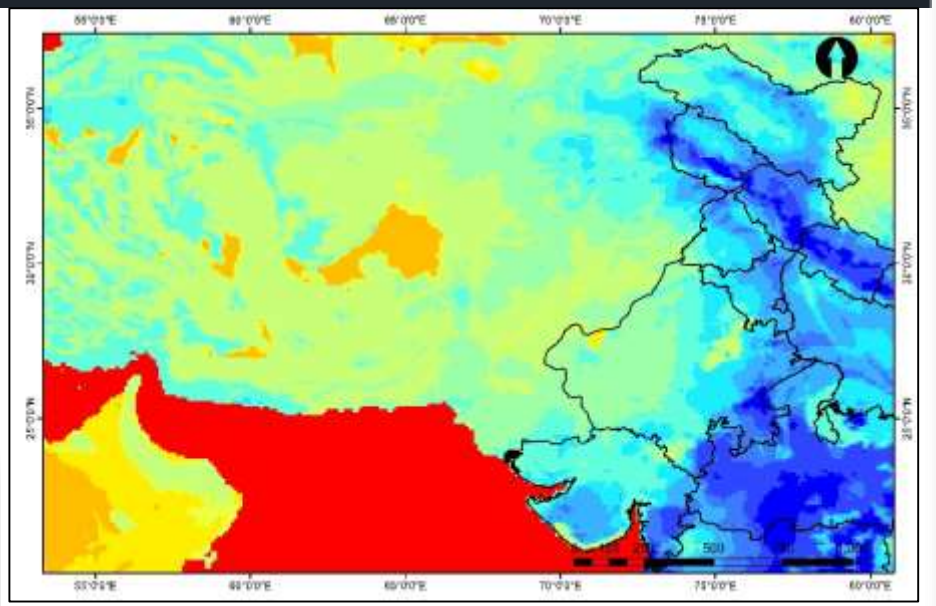
Root-Zone Soil Moisture Map (%)



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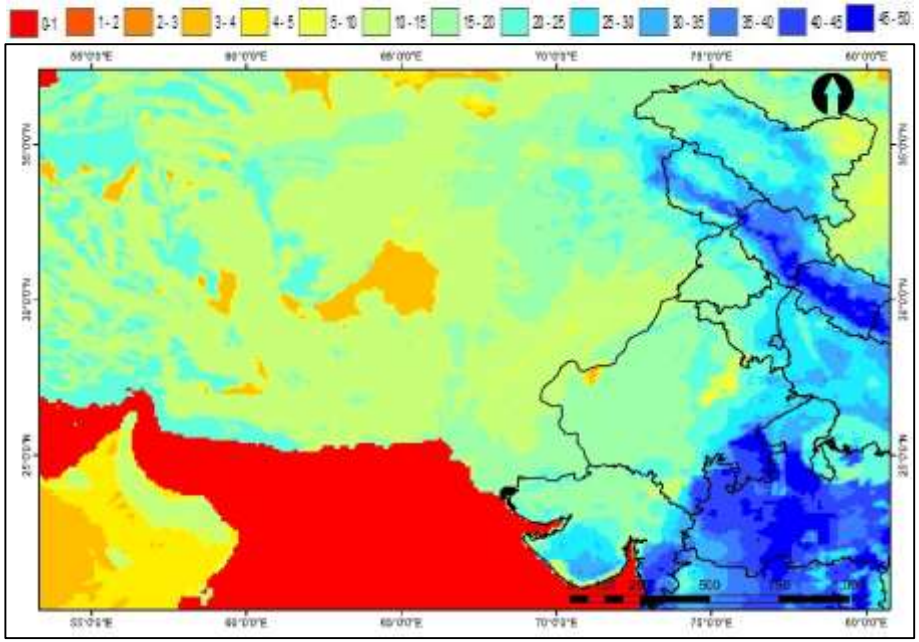

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