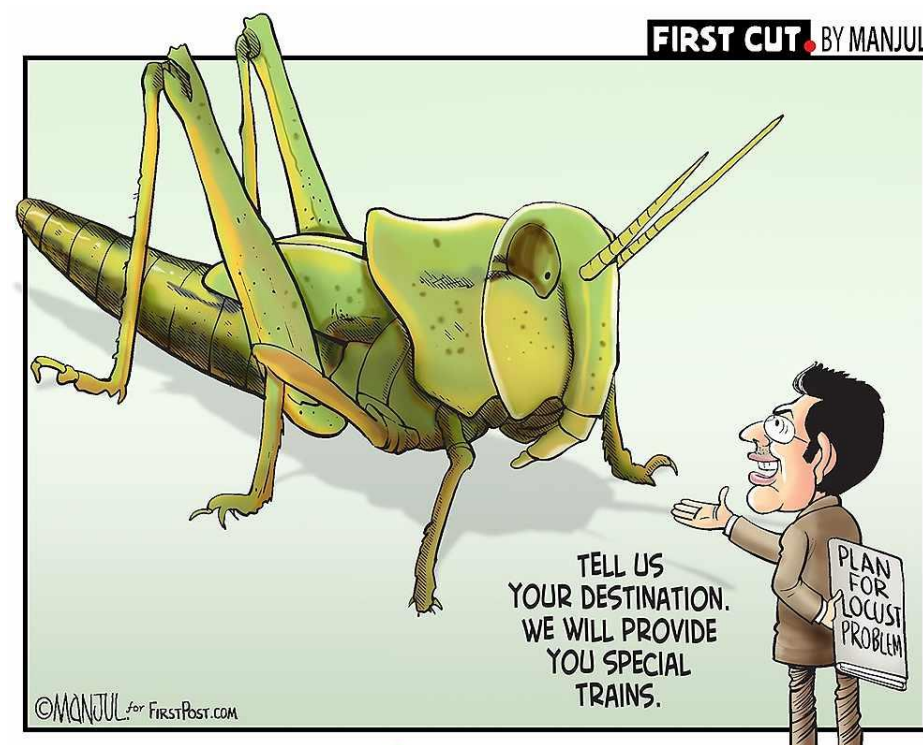


Monitoring the Locust impact for preparedness and response planning

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Research Group Leader: Water Risks and Development Resilience

12 June 2020

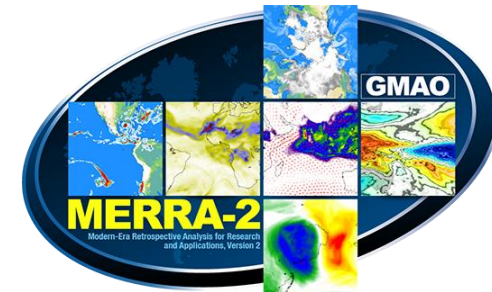
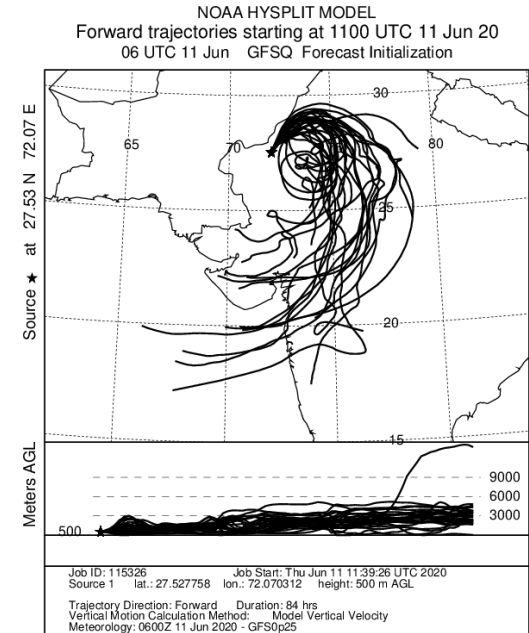
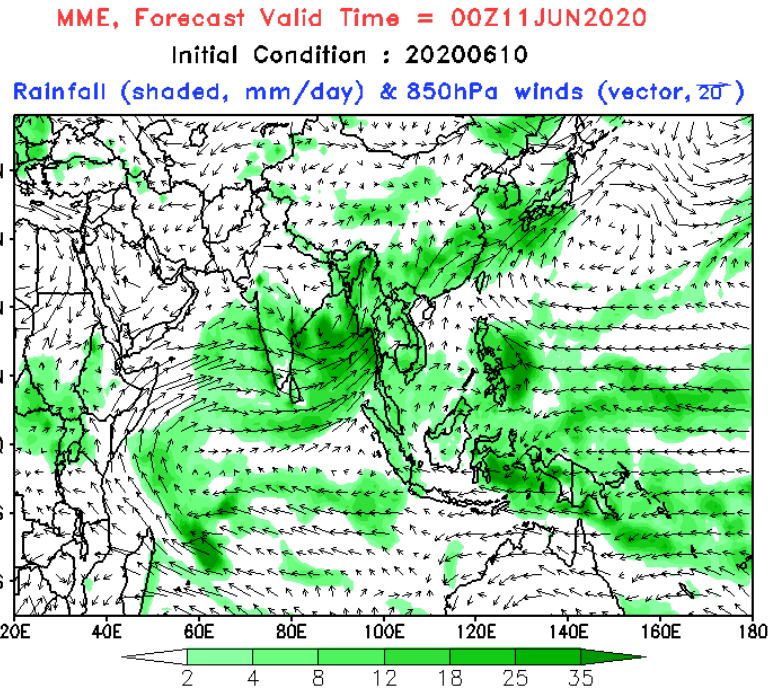
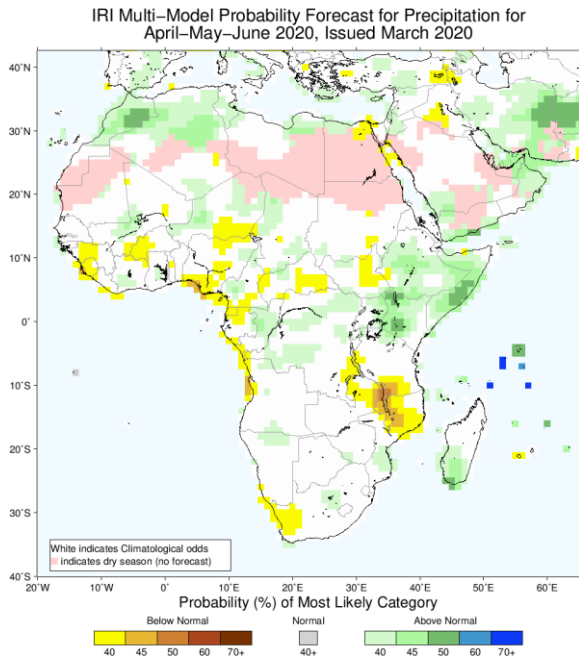


THE CRISIS IN NUMBERS



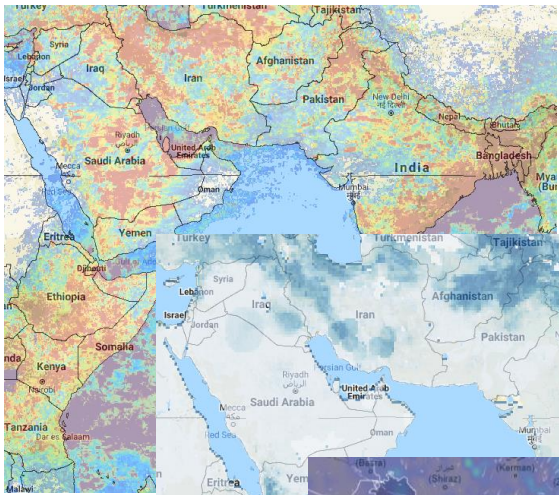
Source: FAO

Potential use of seasonal forecast and atmospheric models for LEWS

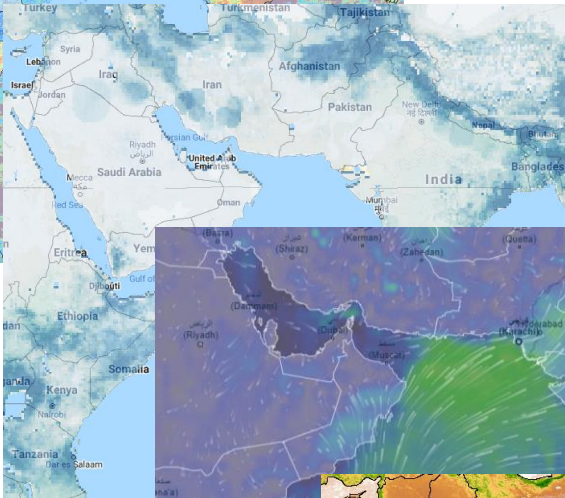


- Combination of long and short-term forecasting can help the government in forecasting the movement and behavior of locust accurately;
- Operational weather and climate variables can guide authorities to prepare response mechanism to deal with the crisis;

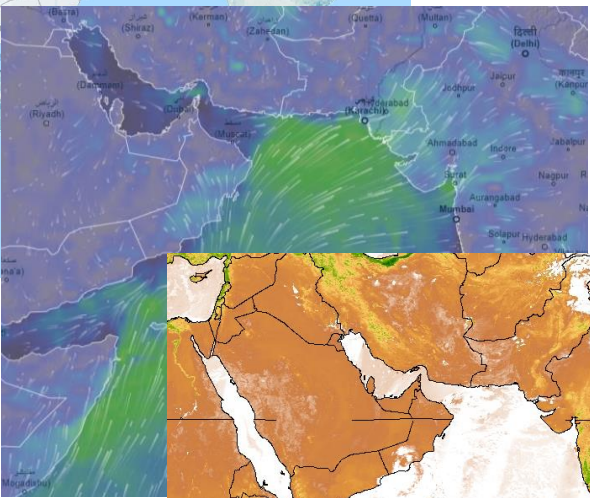
What datasets are useful in monitoring and early warning?



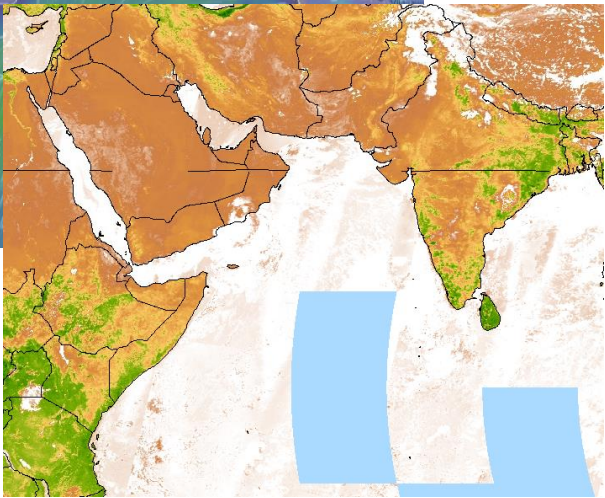
Rainfall



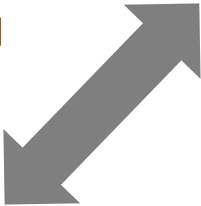
Soil Moisture



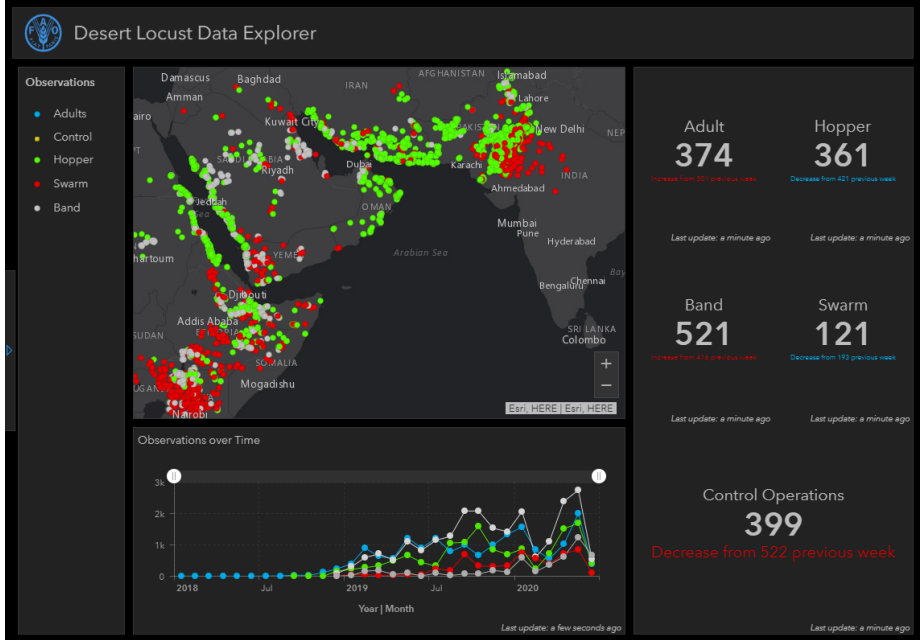
Wind Speed



Greenness cover



Field Data and Telecommunication



Implemented in Google Earth Engine and Arc GIS

Key message

- All these technologies have contributed to better early warning and timely decision making process
- Satellite-based rainfall estimates and greenness cover have probably had the greatest impact on monitoring locust populations in Africa and Asia.
- Technology alone will not prevent locust plagues but integrated with field station and national locust preventive program aided with sufficient resources can contribute to improving early warning as a means of reducing the frequency of locust plagues.



Credit: AFP

References

<http://www.un-spider.org/links-and-resources/data-sources/daotm-locust-monitoring>

<http://www.fao.org/emergencies/crisis/desertlocust/fr/>

<http://www.fao.org/ag/locusts/en/info/info/index.html>

<https://locust-hub-hqfao.hub.arcgis.com/>

<https://www.downtoearth.org.in/news/agriculture/locust-attack-40-of-mp-s-55-districts-hit-71525>