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Introduction

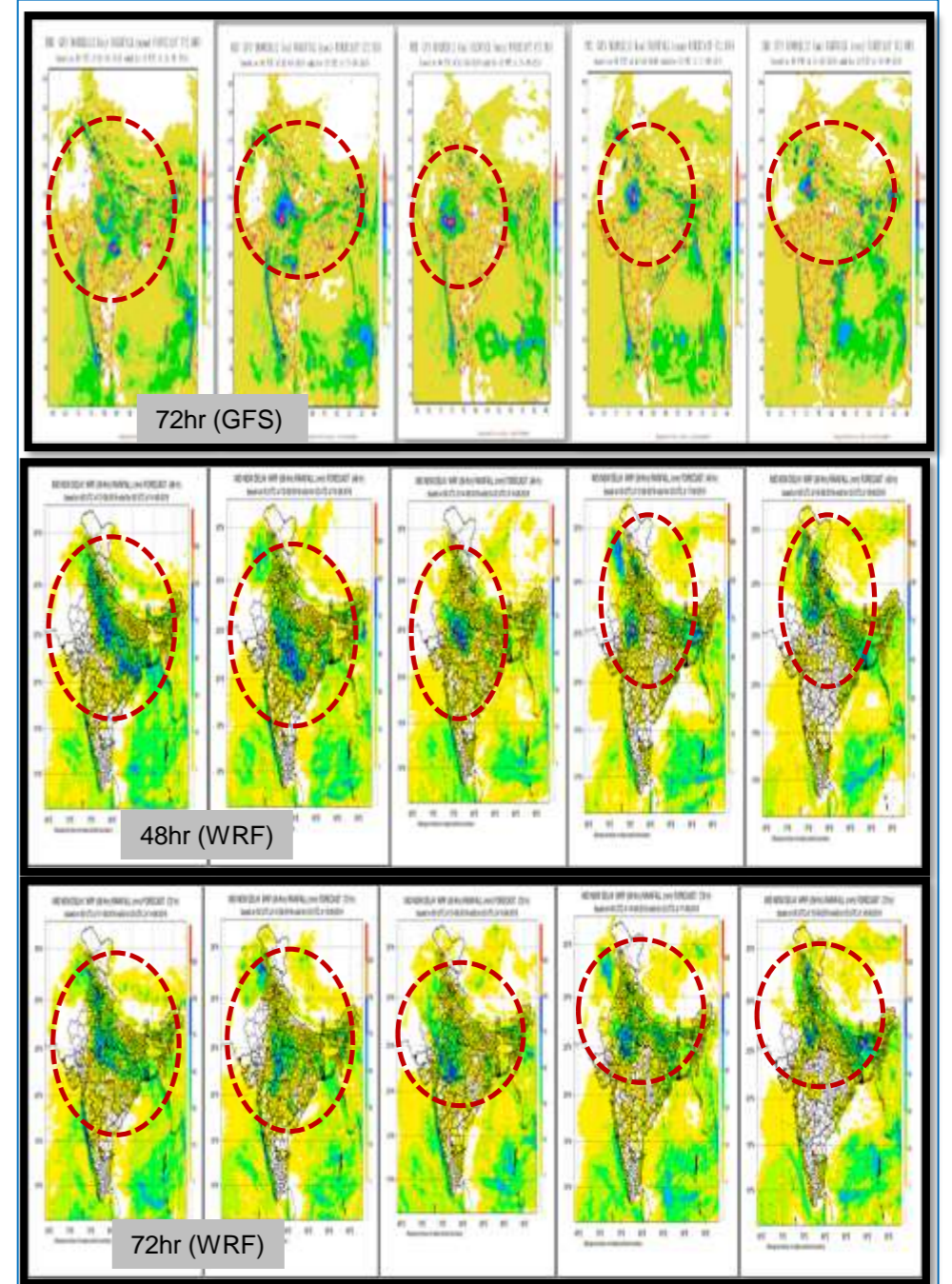
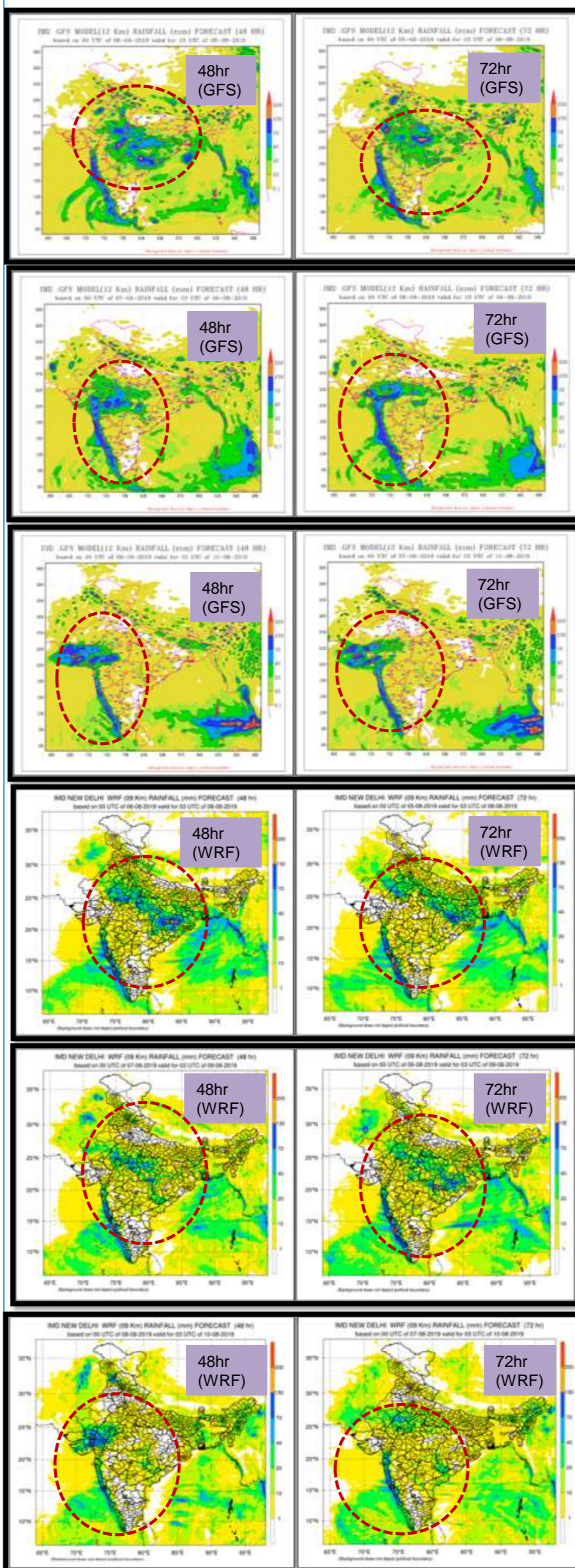
Heavy precipitation refers to instances during which the amount of rain or snow experienced in a location substantially exceeds what is normal.

Heavy rainfall is very common in central India during southwest monsoon season. It brings a lot of misery to the people of this region. Monsoon season 2019 witnessed massive flood during August over many parts of India.



Results & Discussion

CASE-1 (4-11 August 2019)

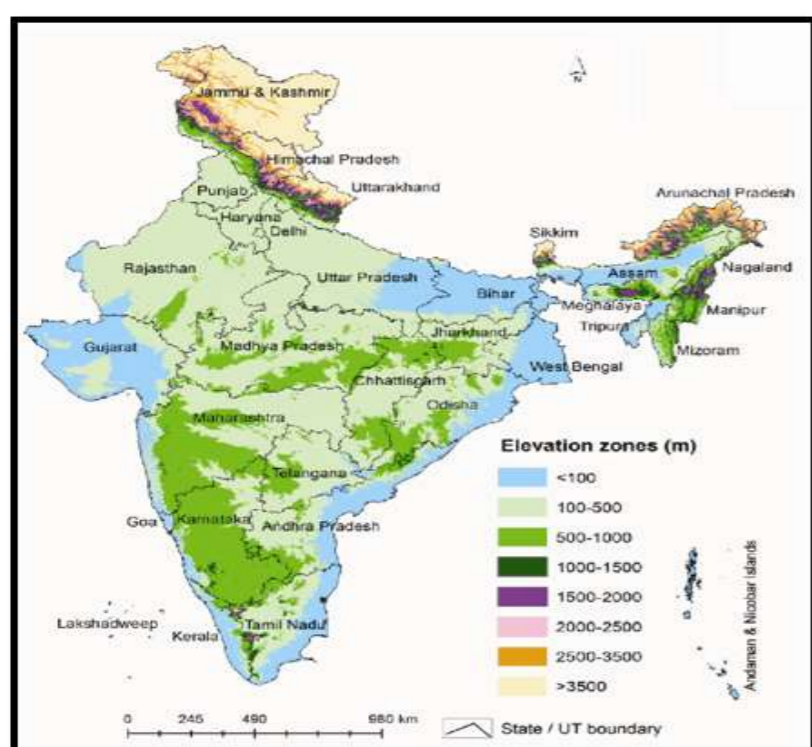


Objectives

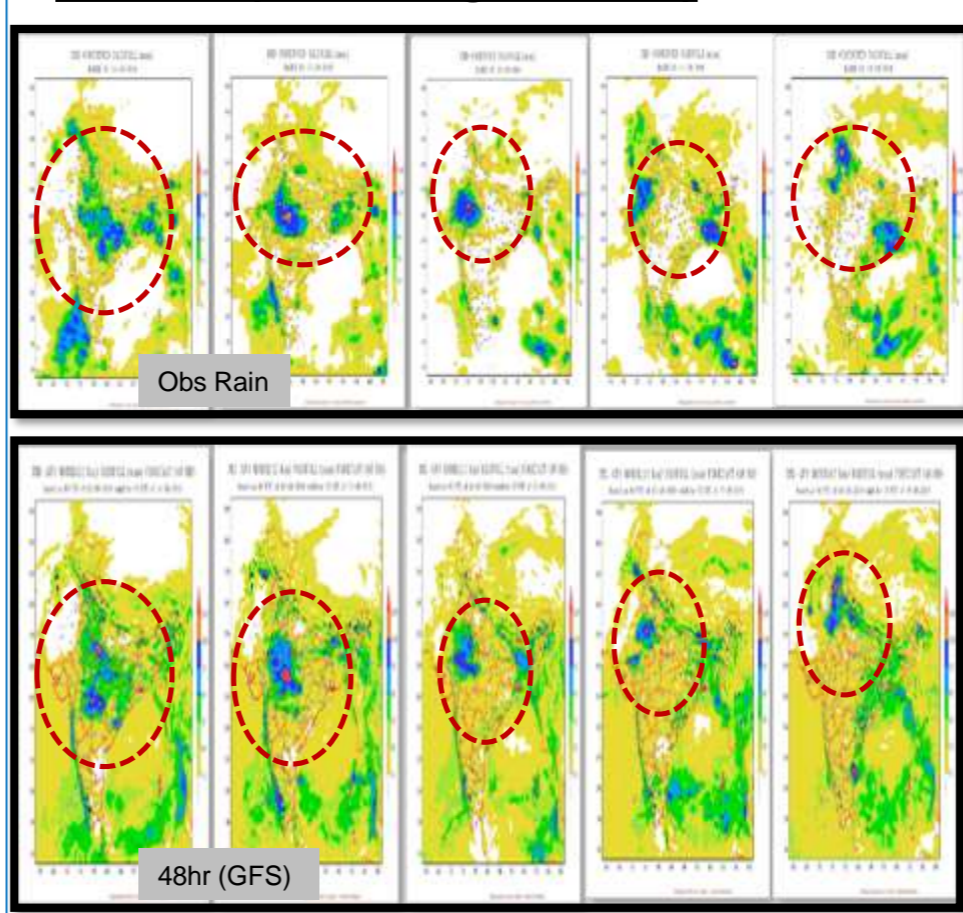
The month of August 2019 witnessed many heavy rainfall episodes over different parts of India leading to floods. In the present study the two heavy rainfall spells from 4-11 August and 14-18 August 2019 along with the performance of Global Forecast System (GFS) model at a horizontal resolution of 12 km have been discussed.

Data & Study Area

- Global Forecast System (GFS) model at a horizontal resolution of 12 km have been used.
- Weather Research and Forecasting (WRF) model version 3.6.1 at 9 km resolution has been used for simulation and investigation of the two heavy rainfall events.



CASE-2 (14-18 August 2019)



Summary

- The GFS model could capture the spatial distribution and intensity of heavy rainfall event during 4-11 August and 14-18 August 2019 very well in its forecasts valid for 48 hrs and 72 hrs.
- Similarly the model simulation from the WRF model also validate the forecasts for 48hrs and 72 hrs for the two cases.

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