# Development of High resolution (12.5km) Global Forecast System (GFS/GEFS T1534) for High Impact Weather & Societal Application



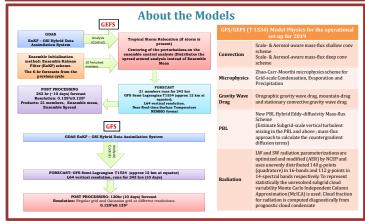
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## Highlights

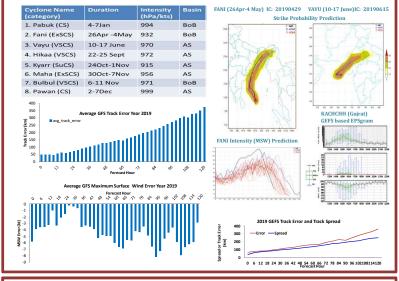
- NCEP Global Forecast System (GFS T1534) implemented and tested at HTM in June 2016.
- On 1 June 2018, the high resolution short range Ensemble Prediction System has been operationalized at ITTM for probabilistic prediction.
  With this World's highest resolution (12km) Ensemble
- With this World's highest resolution (12km) Ensemble Prediction System (EPS) with 21 ensemble members for short range forecast system based on GEFS (T1534) has been put in place by IITM and handed over to IMD for operational implementation.
- The forecast based on GEFS T1534 and GFS T1534 is being continued by IMD operationally. The forecast is available at
- http://srf.tropmet.res.in/srf/hires\_gefs/index.php



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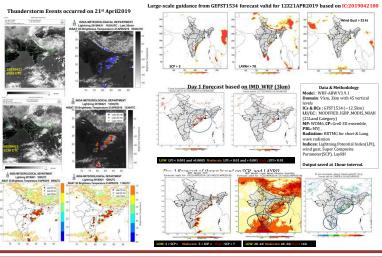
# Probability (contours, %) of rainfall writ to lead time (Y axis) for thresholds of (a) climi-150 (b) climi-250 and (c) climi-350 (b) climi-250 (

# **Tropical Cyclones prediction and verification during 2019**

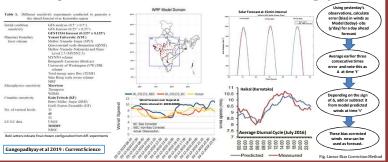


# **Development of Thunderstorm Prediction System**

This system is based on an idea of initiating guidance of GEFST1534 L64 by deriving probability of various thermodynamic indices. Based on these outlook, forecast of lightning and thunder/hail storm event has been attempted using WRF-ARW model derived indices viz SCP, HEI, LAYRH, Wind Gust, LPI.



# **Development of Wind and Solar Radiation forecasting System**



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