Satellite-Based Precipitation Estimation at the Aviation Weather Center

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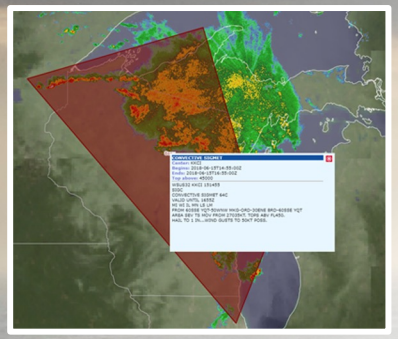
Domestic Aviation Operations

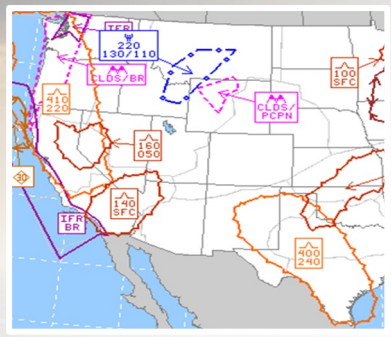
Warnings



SIGMETs

- CONUS
- Coastal Waters

Advisories & Forecasts

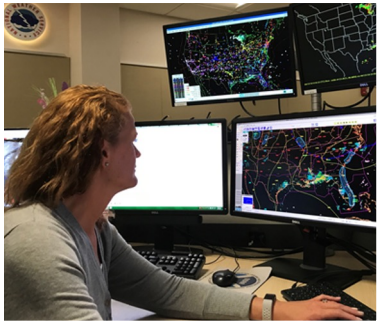


- AIRMET
- TFM Convective Forecast
- Low-Level SIGWX

Collaboration

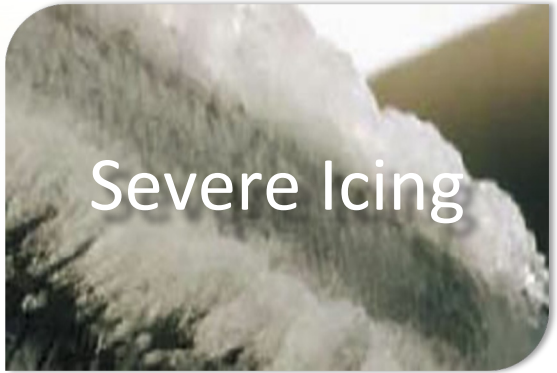
- CWSUs
- Airlines
- WFO

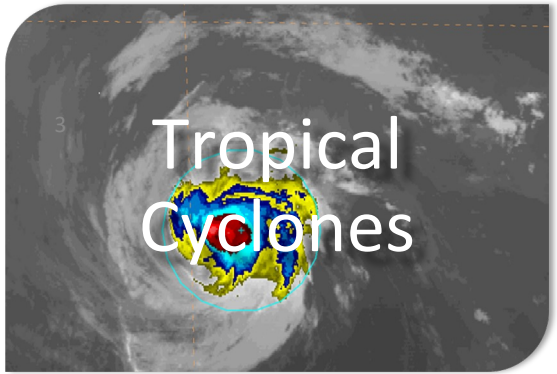
Desks



- Convective SIGMET
- TCF
- Turbulence
- Icing
- Clouds & Visibility

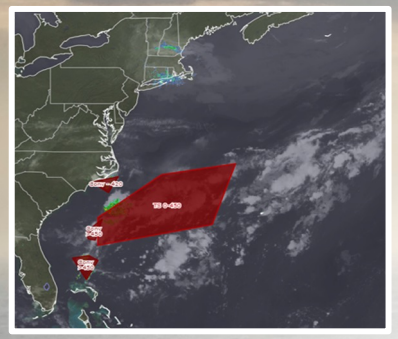
Meteorological Watch Office SIGMETs





International Aviation Operations

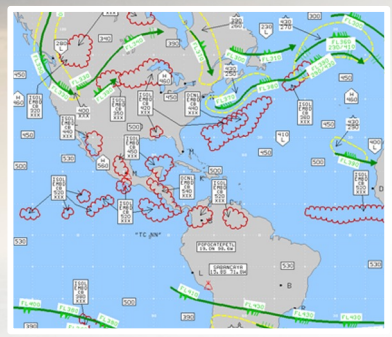
Warnings



SIGMETs

- Atlantic
- Pacific
- Gulf of Mexico & Caribbean

Forecasts



- Global Sig Weather (SIGWX)
- Area Forecasts
  - Gulf of Mexico
  - Caribbean

Collaboration

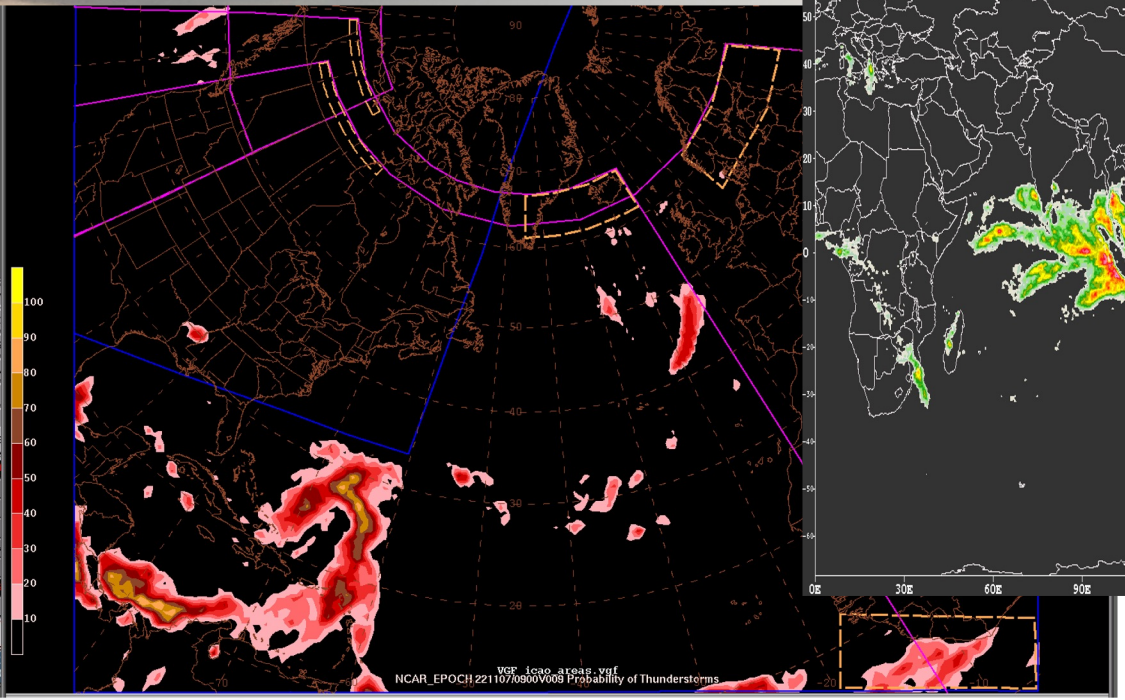
Global Met. Services

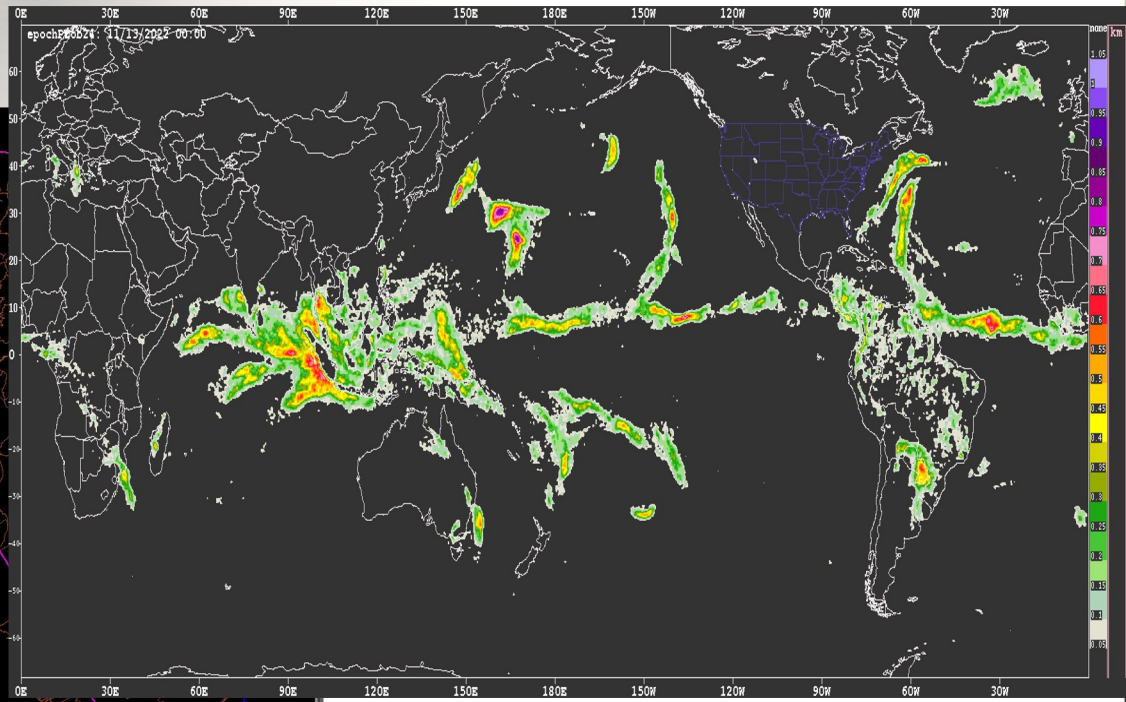
- UK, Canada, Brazil, Australia, NZ, Guam, Hawaii, Taiwan
- Japan

Desks

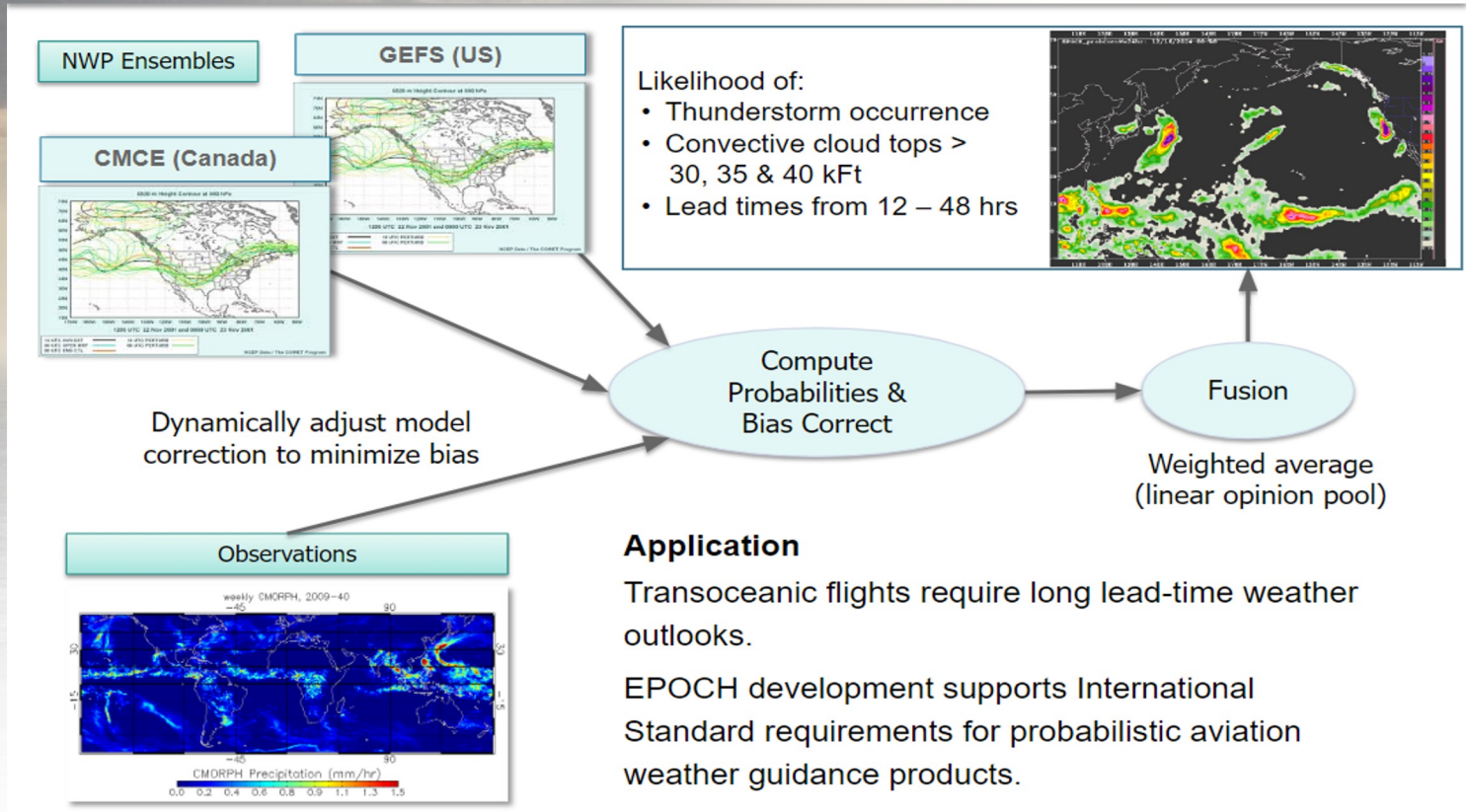
- Tropical
- SIGWX North
- SIGWX South

Ensemble Prediction of Oceanic Convective Hazards (EPOCH)





EPOCH Methodology



Application

Transoceanic flights require long lead-time weather outlooks.

EPOCH development supports International Standard requirements for probabilistic aviation weather guidance products.

Gaps/Needs – Icing

- Areas of stratiform precipitation under non-glaciated clouds is important for icing.
  - Perhaps a cloud product could highlight those areas where this occurs and the temperature profile is icing-friendly (0 through -40 degrees C)

- A use case would be if a satellite could tell us where/how much supercooled water is detected.
  - LW IR band from GOES-16 at AWC just shades the clouds that are determined to be in the SLD temperature range.

Gaps/Needs – TC

- Precip intensity could have utility to the tropical desk forecaster when issuing TS SIGMETs
  - A combination of cloud tops and precipitation intensity could be useful.

Questions?

Thank you!