NATIONAL WEATHER SERVICE
Aviation Weather Center

NWS Research to Operations (R2O): Supporting Aviation Weather Needs

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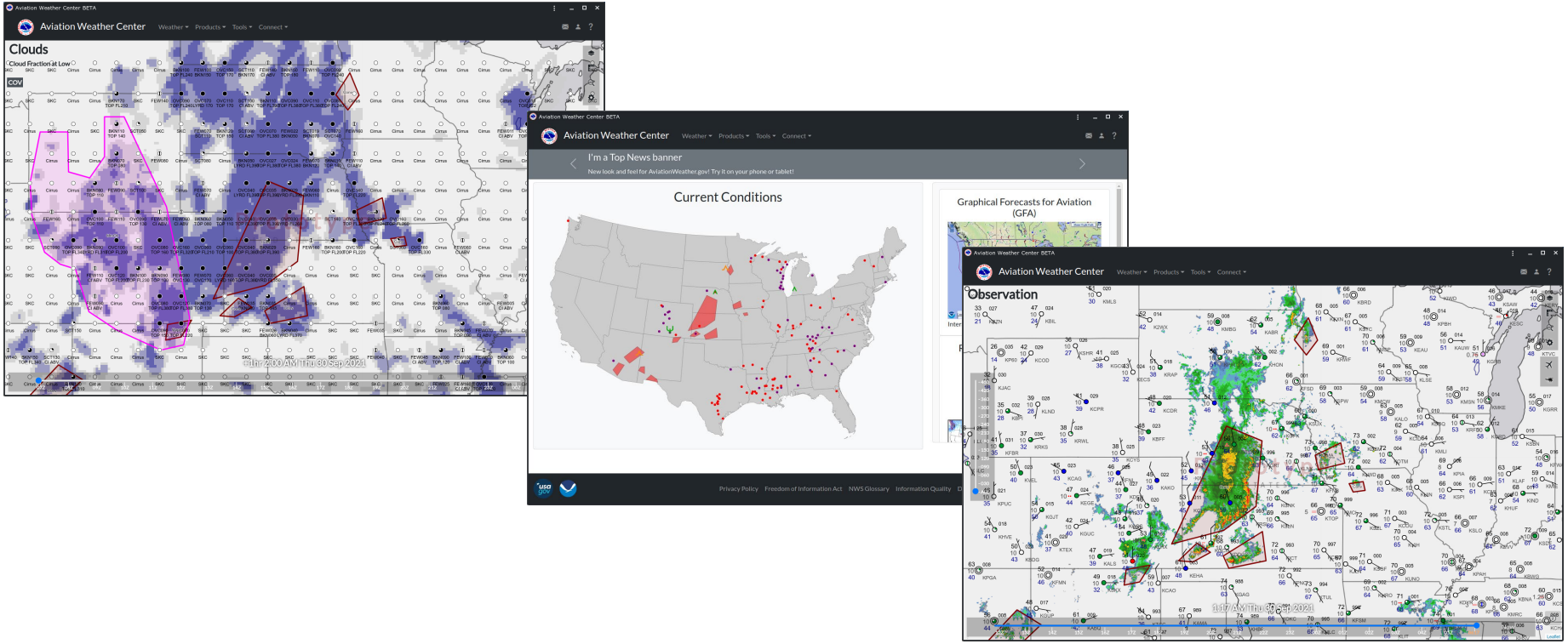
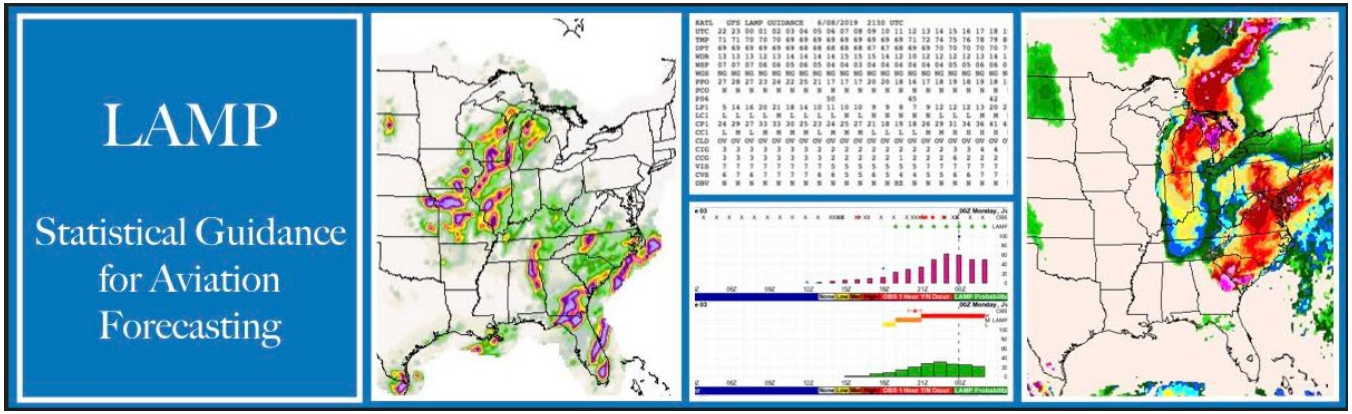
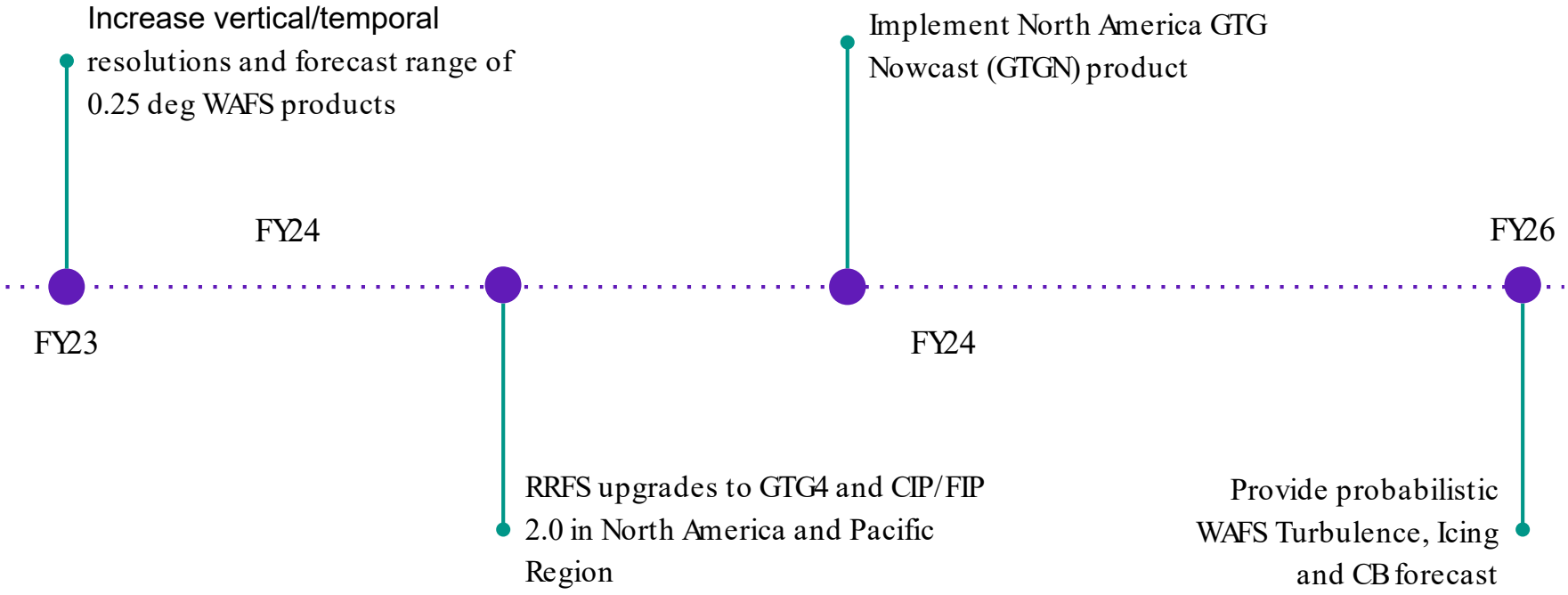


Localized Aviation MOS Program (LAMP)

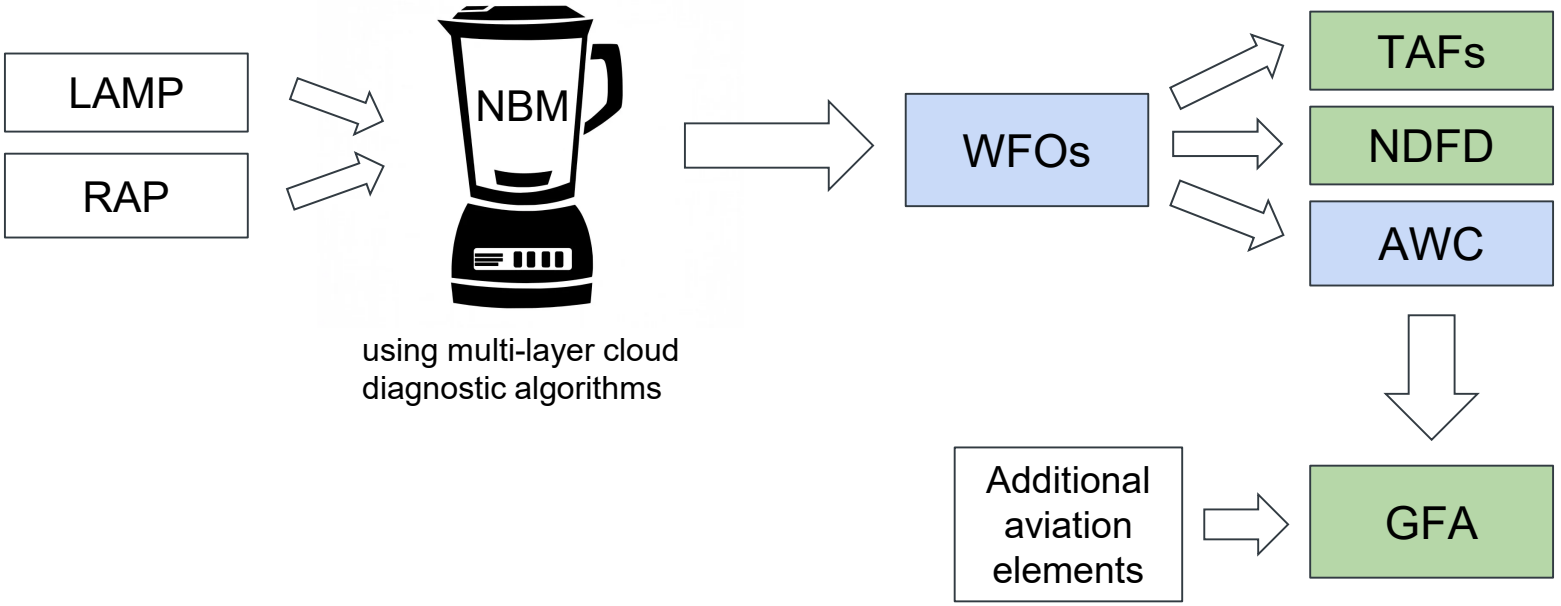


- Postprocess observations, NWP forecasts, and MOS output from multiple models to produce guidance for the aviation community
- Statistically weights observations heavily in the early period, and weights model output predictors higher in the middle and later periods
- Site-specific forecast guidance at stations; also gridded on the CONUS and (new!) Alaska domains

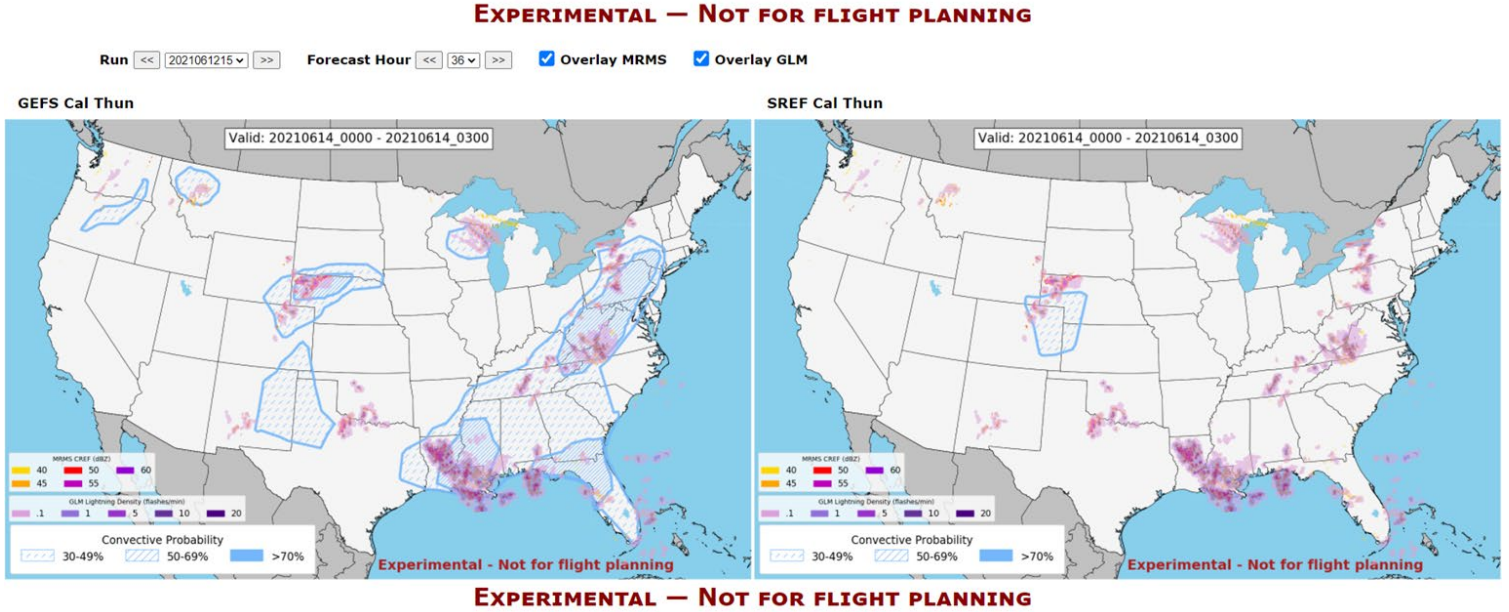
NWS Aviation Product Upgrade Timelines



Potential NWS Aviation Grid Generation

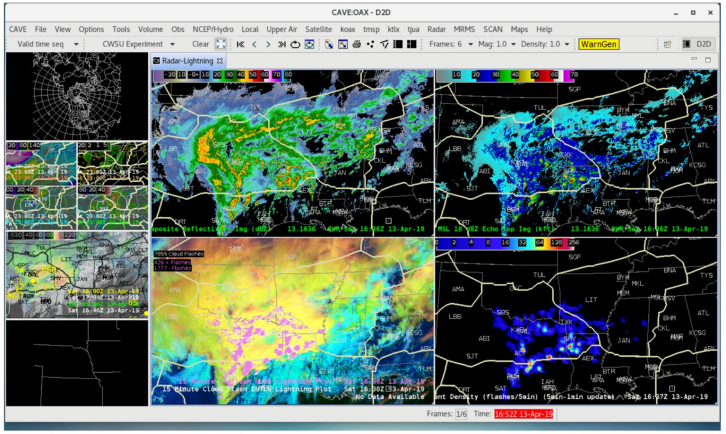


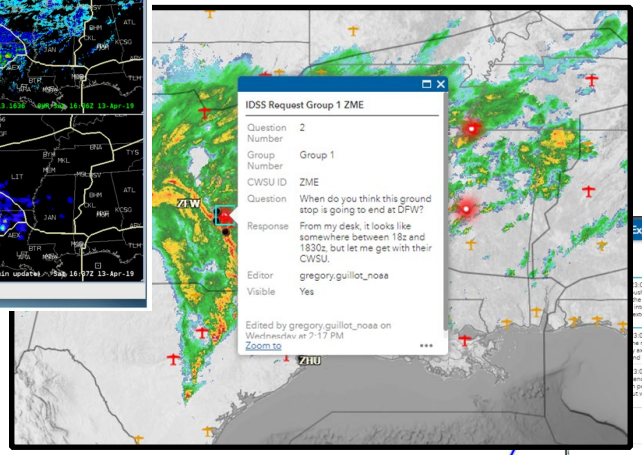
AWT/HWT Extended Convective Forecast Product (ECFP) Assessment

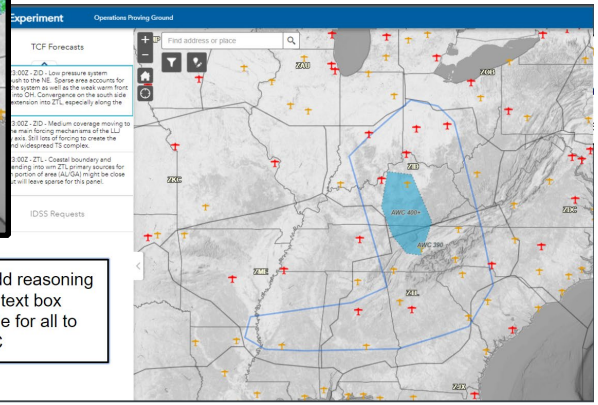


- SPC experimentally generating calibrated thunder from the GEFS using GEFS 20 year reforecast dataset!
- Comparison of GEFS based ECFP version with SREF version via webpage during 2021 SPC HWT Spring Experiment

AWT-OPG CWSU Collaboration

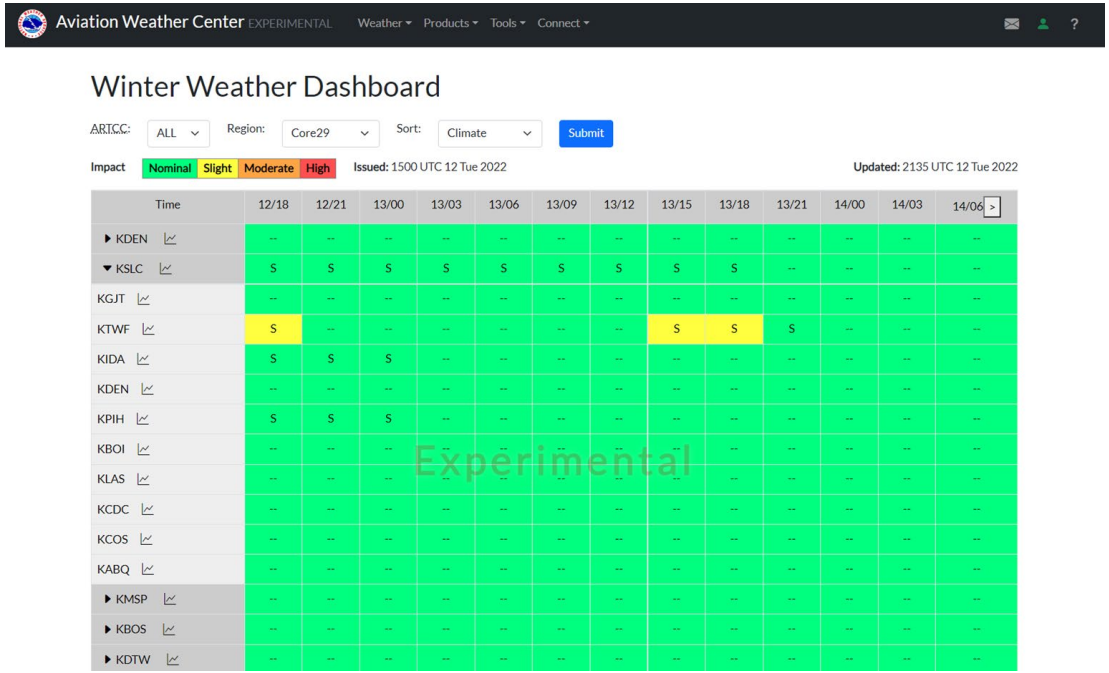






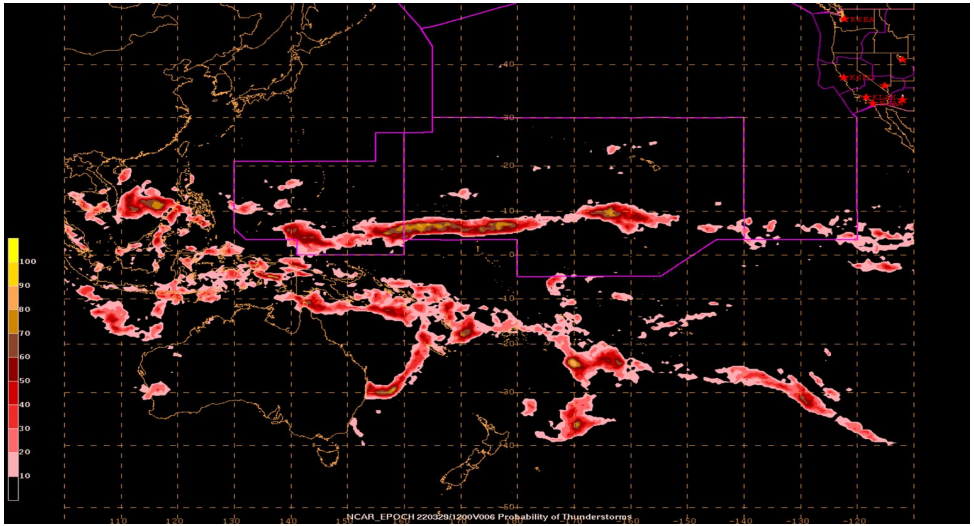
They could also add reasoning within the polygon text box which was available for all to see including AWC

Winter Weather Dashboard



EPOCH

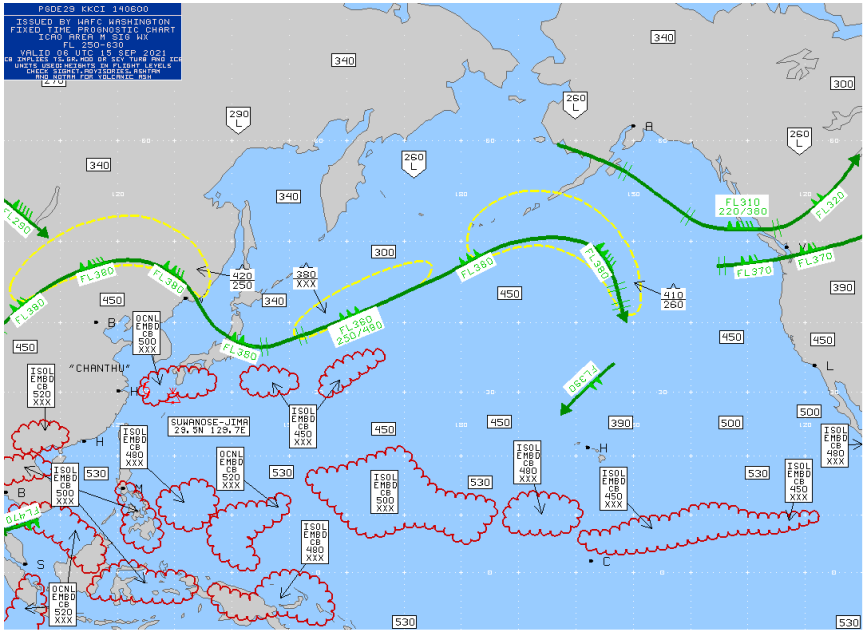
NCAR's multi-ensemble algorithm that combines bias-corrected fields of convective precipitation and convective energy diagnostics (CAPE) to produce a self-calibrating ensemble probability of convection



The goal of this capability is to:

- Produce skillful, reliable, probabilistic guidance for global convection and convective tops exceeding 30, 35, and 40 kft
- Produce guidance every 6 hours for projections 1-48 hours at 1-hour intervals on the NCEP WCOSS2 platform

AutoSigWx



Goal: Produce this chart automatically

SIGWX charts

- Produced by AWC and UKMET
- Used for aviation planning
- Very labor intensive

Automation is a joint effort between AWC and UKMET to free up staff for other priorities and to provide our partners with SIGWX charts at multiple forecast hours per cycle.

AWC's role is to figure out how to mimic human judgment to automatically place the labels.

Questions?

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WIFS Improvement Plan

- ICAO Annex 3 requires that WIFS include a subscription based data stream delivery plus a request and reply delivery interface
  - Replace existing poll/pull data interface
  - Add streaming service using a Pub/Sub system
  - Allow users to filter the data on the subscription queues
  - Add on-demand Request/Reply system
  - Allow users to select which data they need
  - Both systems will be available to disseminate OPMET and gridded data