What DTC would like to contribute in 2010

and beyond

Tara Jensen

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Repeat 2009 Set-up

- Models (hereon referred to as "Core Models")
  - ARW_CAPS_C0
  - ARW_CAPS_CN
  - HRRR
- Observations
  - Q2 QPE and Composite Reflectivity
- Initializations and runtimes
  - 00 Z and 12 Z initializations
  - 00 Z initialization – moving domain
  - 12 Z initialization – static domain
  - Out to 12 hours
- Verification
  - Traditional and Object Oriented Verification
  - Verification completed by 11 am each day

Expand to more "core models"

- More Models
  - MMM 3 km WRF-ARW
  - NSSL 4 km WRF-ARW
  - EMC 4 km WRF-NMM
- What will this require?
  - Forecast files to "trickle in" as they are written
    - last year the files generally became available within a short period of time
    - There was very little room for error each day when running verification
  - Double the computing resources over what we had last year but this still fits on Linux box
  - No increase in personnel

Ensemble Vx Demo

- Demonstrate newly implemented ensemble verification capability
  - Full 20+ member CAPS Storm Scale Ensemble Forecast system (SSEF)
- What will this require?
  - Forecast files to "trickle in" as they are written
  - Some sort of small linux cluster dedicated to processing or possibly processing on NCAR IBM (bluefire)
  - Additional compute resources on HWT side for pre-processing OR use more bandwidth and store larger model output and pre-process on DTC computers
  - 0.25 FTE personnel increase between DTC/HWT

Education and Outreach

- A DTC Member participates each week of Spring Experiment
  - Prepare handout for Spring Experiment participants explaining evaluation measures to be used in Experiment
  - Present a short tutorial on evaluation measures
  - Participate on forecasting team when space available
  - Lead Objective Evaluation discussion and answer questions as they come up

Thematic Research

- Perform expanded evaluation of select case-studies
  - To help identify areas for model and ensemble improvement
  - To increase speed of research to operations transition
  - To help drive future Spring Experiment planning
- Interactive Evaluation Tool to facilitate this research

If there is Time/Funding/Interest…

New Testbed Framework

- Help outline the framework for potential Mesoscale Ensemble Testbed by expanding ensemble evaluation to additional Ensembles
  - SREF
  - HRRR Ensemble
  - Other GSD Ensembles if available
- What will this require?
  - Same as Ensemble Vx Demo – Compute power! and personnel

I'll defer to Bill's talk for more of the details

MODE 3D Demo

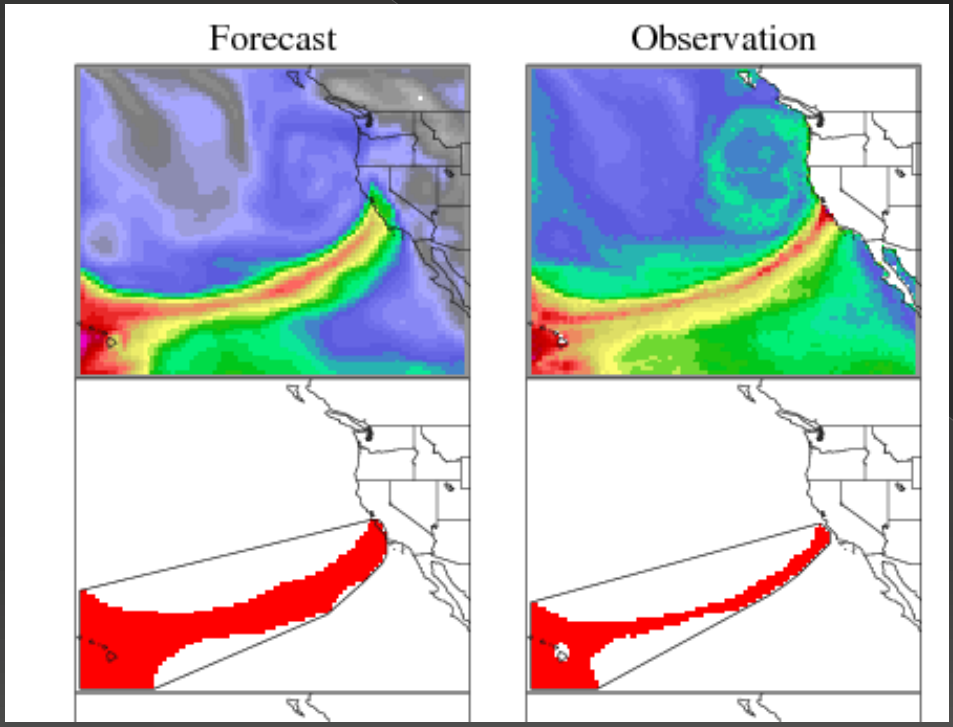
- Demonstrate prototype MODE-based verification that includes temporal evolution
  - Potentially on the three "core" verification members (ARW_CAPS_C0, ARW_CAPS_CN, HRRR)
- What will this require?
  - Some additional configuration set-up
  - Uncertain of computer requirements
  - Participation with MODE 3D developer (Randy Bullock)

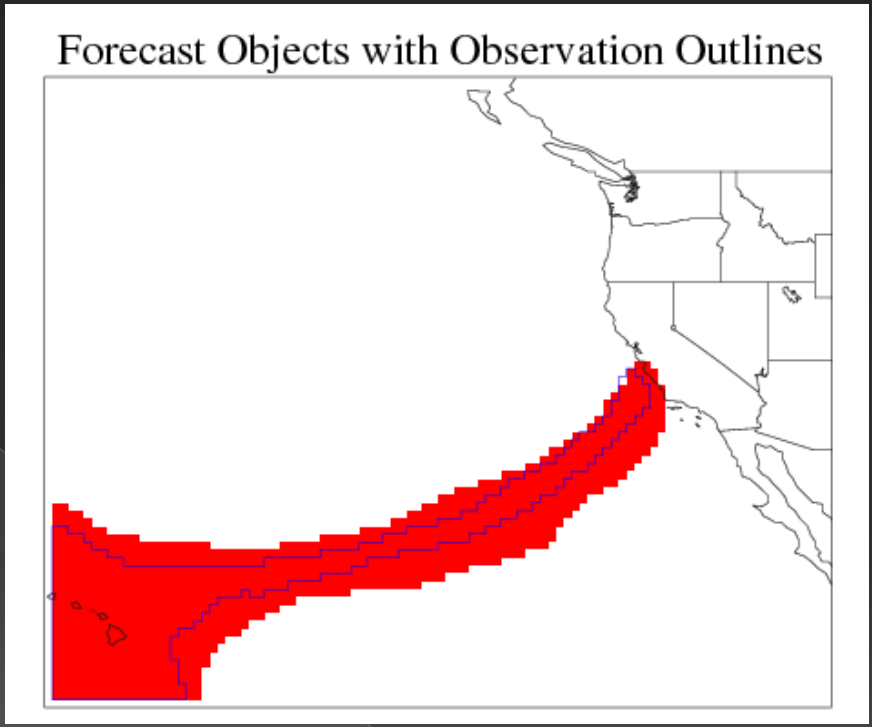
- Randy's MODE 3D Animation goes here

Cloud Vx Demo

- Demonstrate newly implemented cloud verification techniques if deemed important
  - We could perform evaluation of select cloud properties (cloud top, cloud base, total condensate as an indicator of cloud location)
- What will this require?
  - Observational dataset such as GOES/GOES-R, Cloud-Sat, or something in PrepBufr files
  - Incremental computer time
  - 0.1 FTE for additional set-up

Example of Cloud-Like Vx





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