Probabilistic Forecasts at Regional Scales

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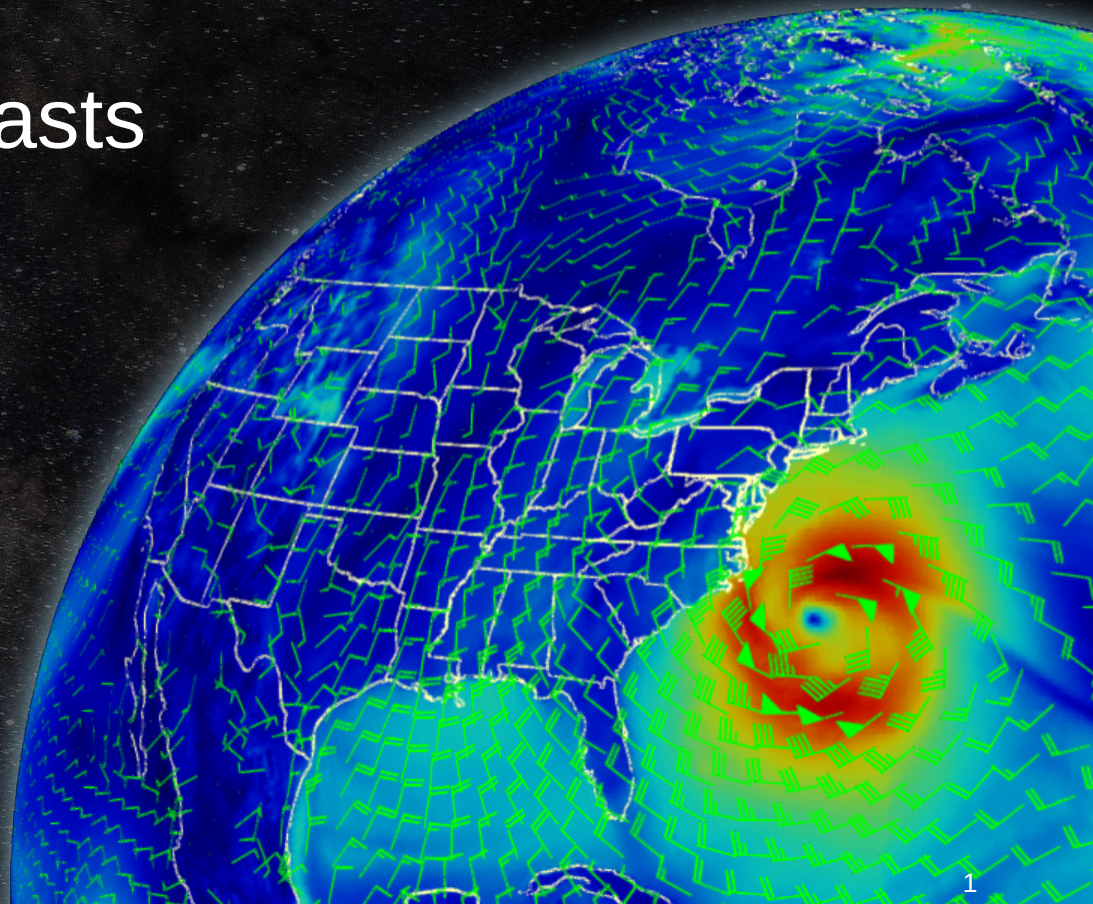
Performing work for ESRL/GSD

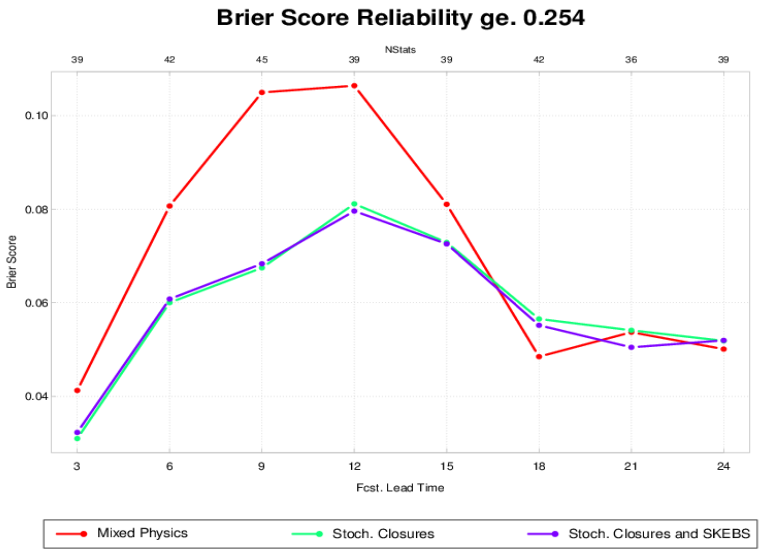


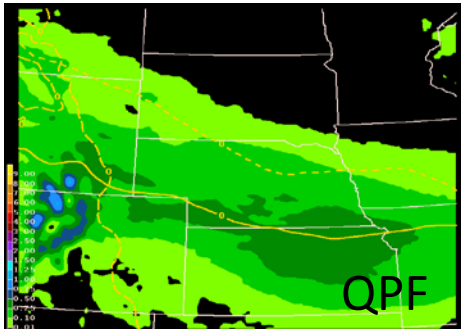
GSD Science Review
3-5 Nov 2015

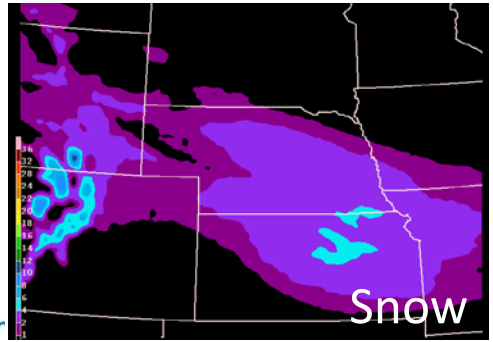
North American Rapid Refresh Ensemble (NARRE)

NARRE configuration:

- ARW and NMMB dynamic cores
- Eight members (4RAP and 4NAM)
- Rapid Refresh
- 13km grid spacing
- Different IC and LBC
- Mixed physics







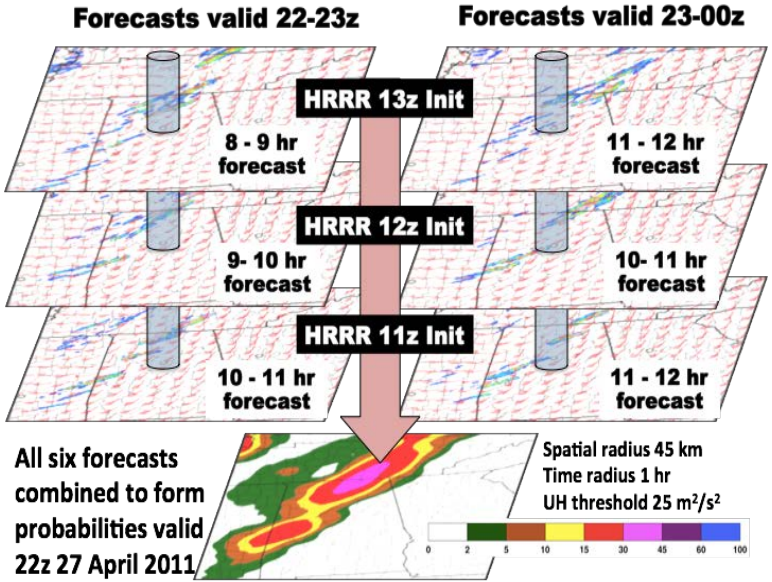
Stochastic Physics Approach

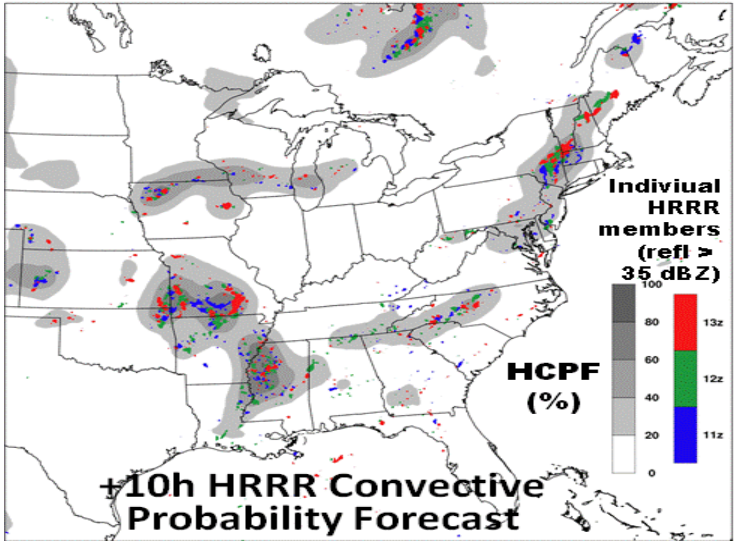
- Evaluation of stochastic vs. mixed physics approach
- Focus on convective treatment, PBL and LSM

Developmental Testbed Center

Toward High Resolution Rapid Refresh Ensemble

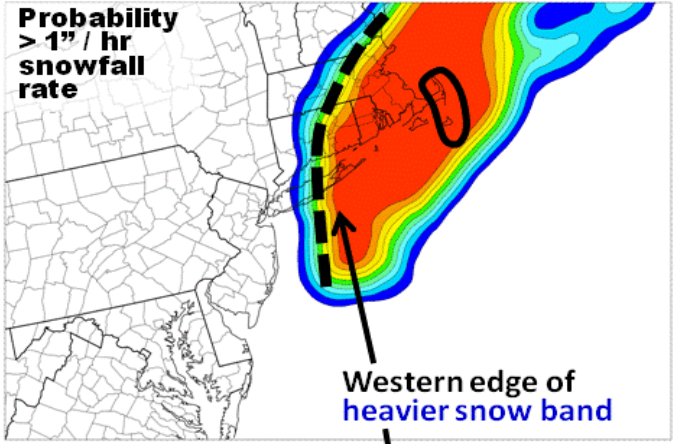
- 3km grid spacing
- CONUS scales
- Rapid Refresh
- 18 hour forecasts
- Time-lagged Ensemble
- Spatial and temporal filters

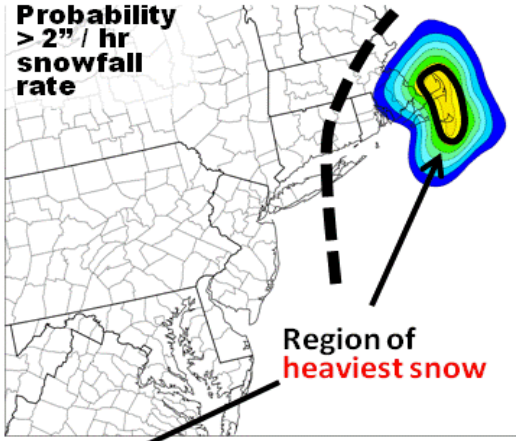


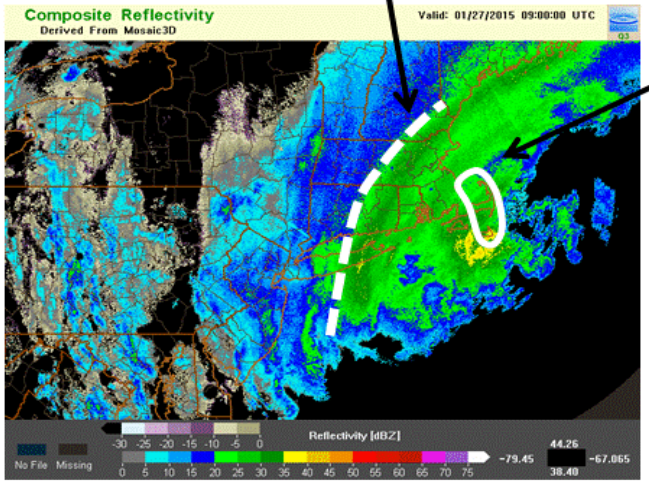


More details … on the poster

Probabilistic Hazard Prediction Tool (PHPT)







12-h HRRR time-lagged ensemble forecasts of heavier snow regions and sample feature extraction, valid 0900 UTC for Jan 27, 2015 New England blizzard.

- Intense rainfall
- Heavy snowfall
- Severe weather
- Aviation hazards

PHPT is planned for transfer to operations in 2018.