

Ceiling and Visibility

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Inflight Icing

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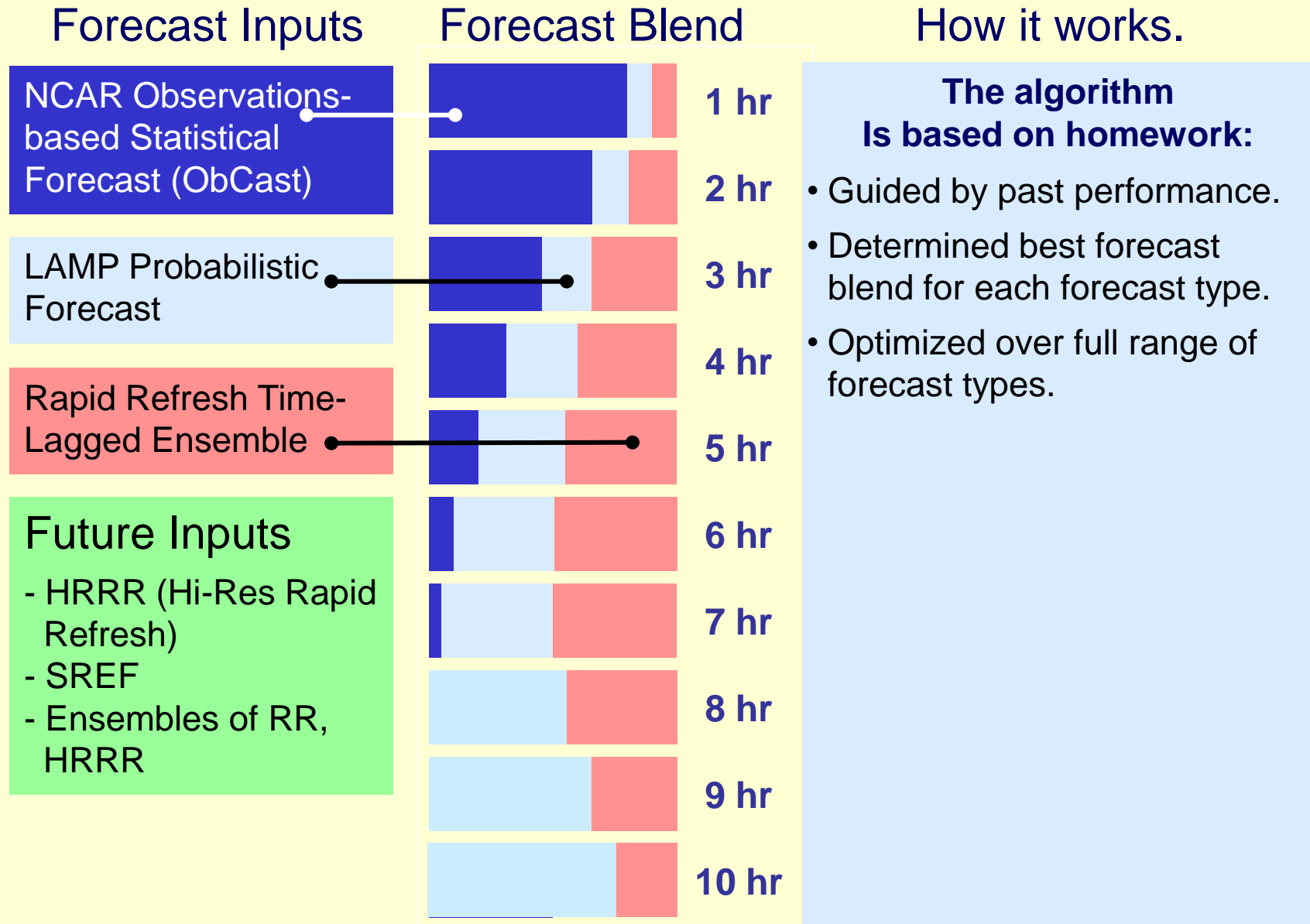


Photo Credit: AOPA Air Safety Foundation

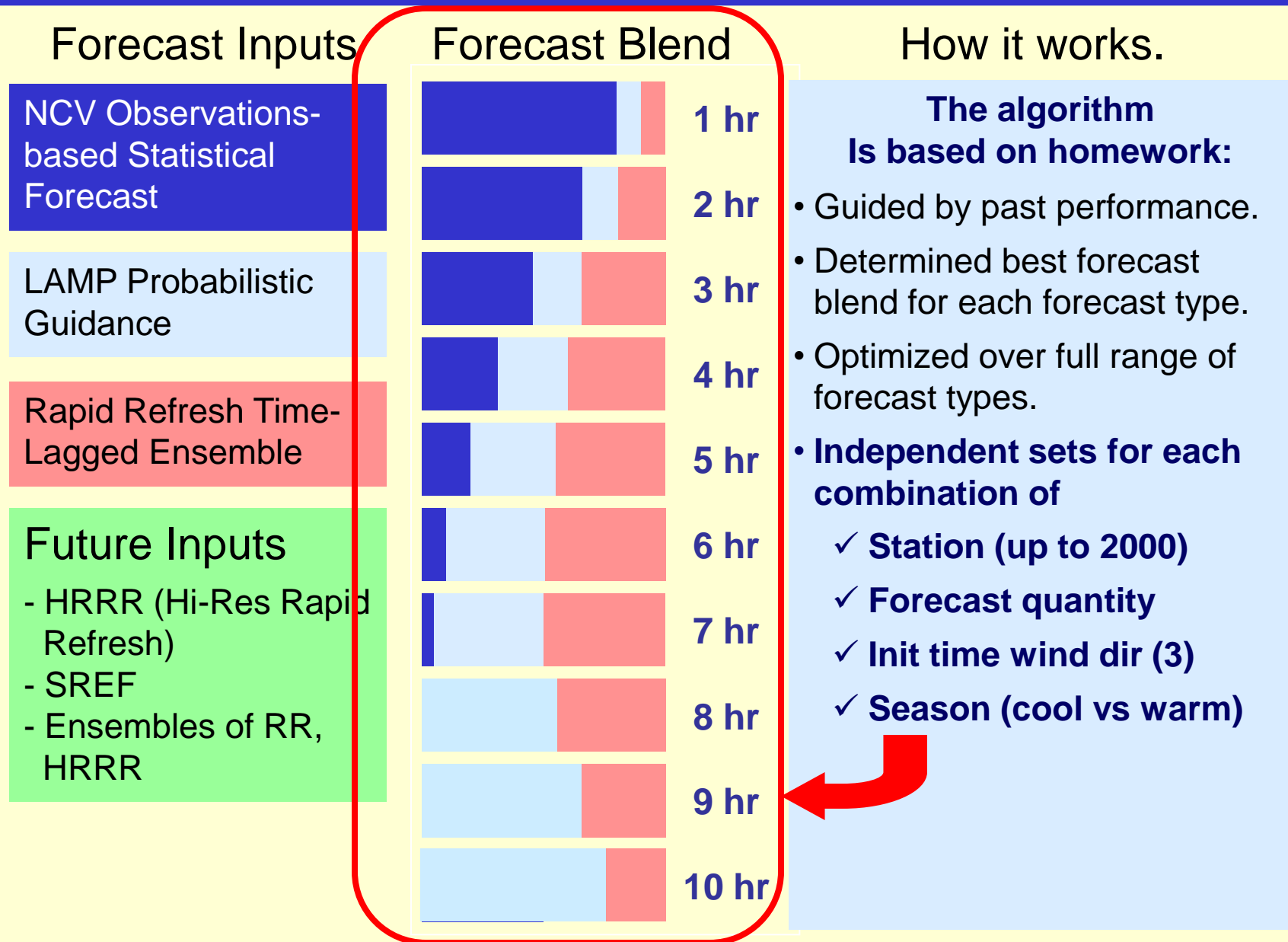


FPAW
Atlanta, GA
21 October 2010

NCAR's Ceiling & Visibility Forecast (CVF) Methodology



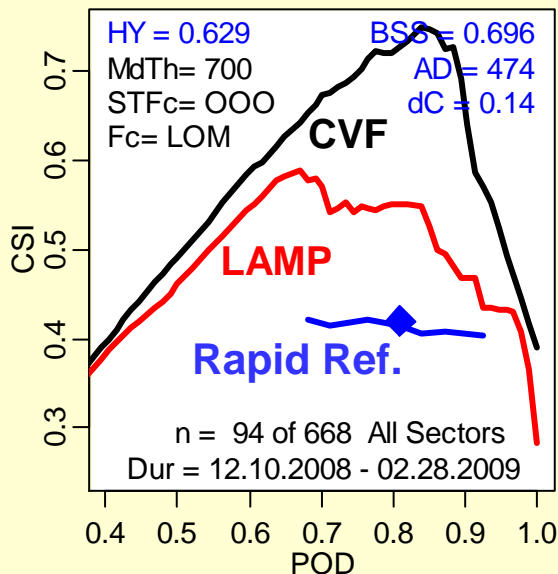
NCAR's Ceiling & Visibility Forecast (CVF) Methodology



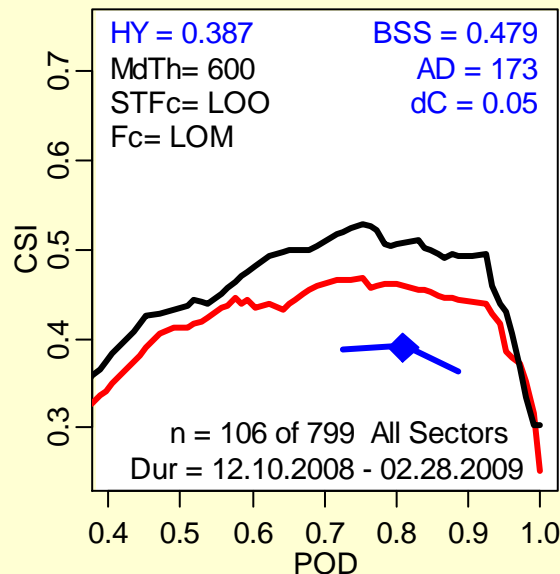
Ceiling < 1000' – 2.5 Month Verification - Atlanta

Deterministic

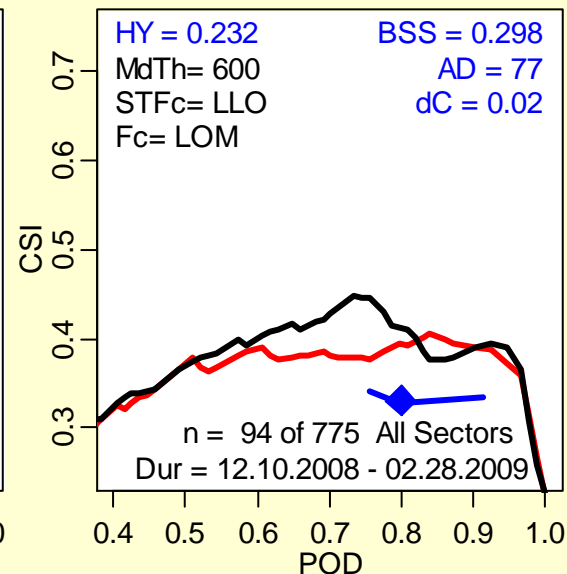
CSI katl 1hr C1000 00-23L



CSI katl 3hr C1000 00-23L

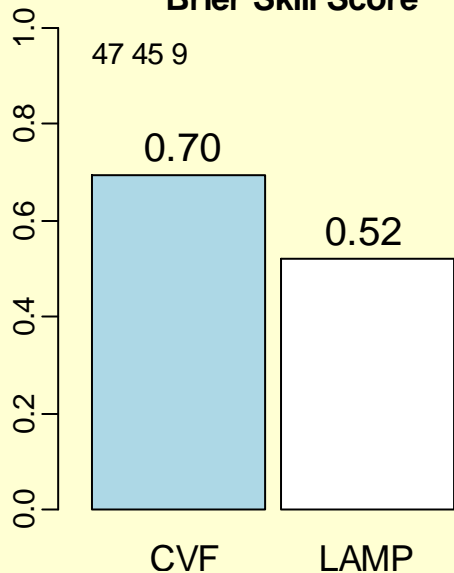


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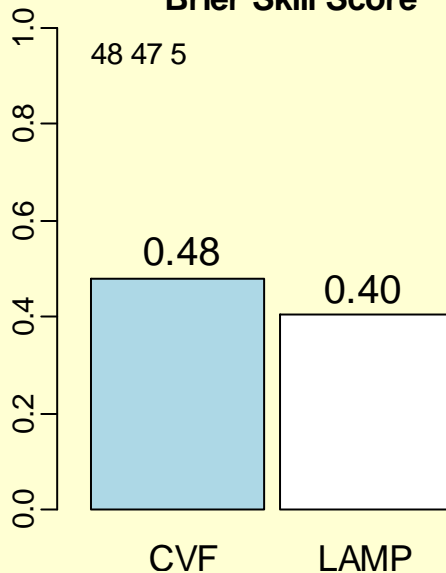


Probabilistic

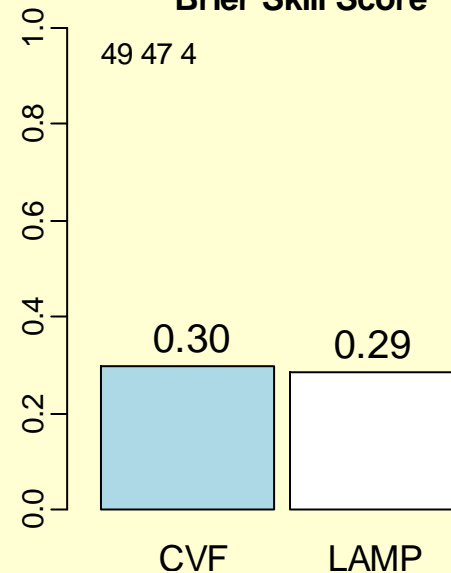
Brier Skill Score



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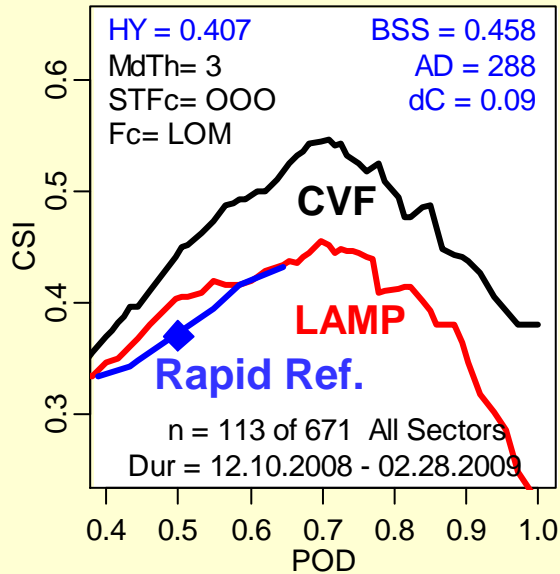
Brier Skill Score



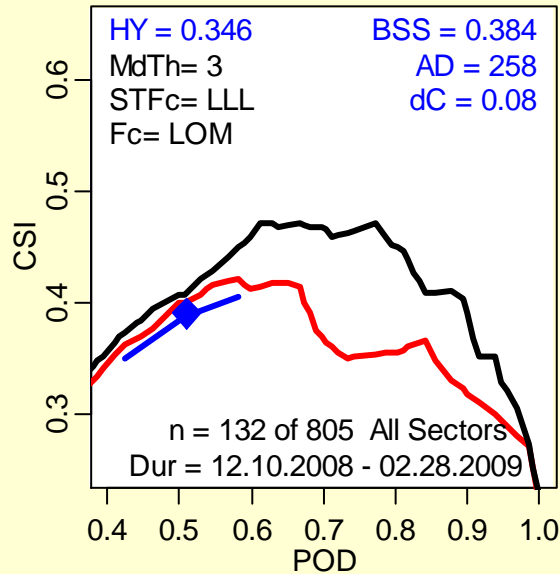
Visibility < 3 mi – 2.5 Month Verification - Cleveland

Deterministic

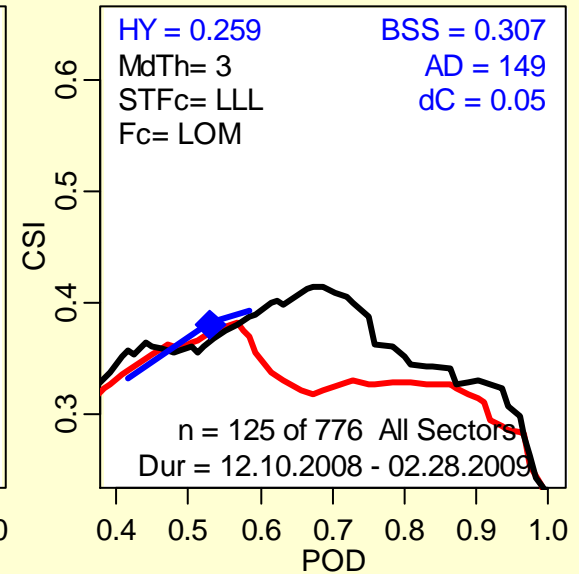
CSI kcle 1hr Vis3 00-23L



CSI kcle 3hr Vis3 00-23L

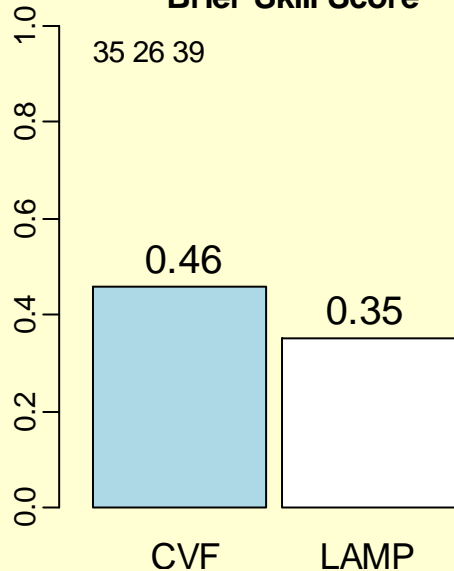


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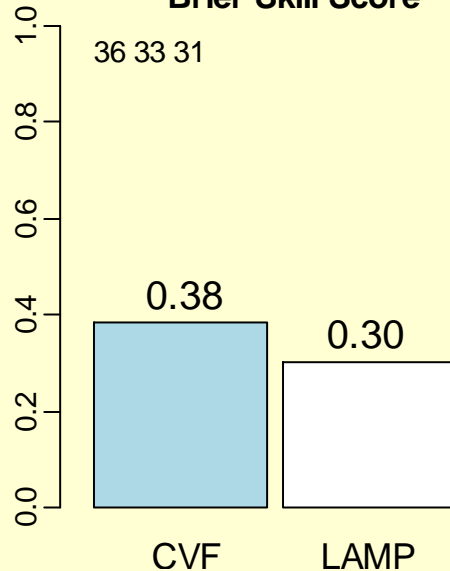


Probabilistic

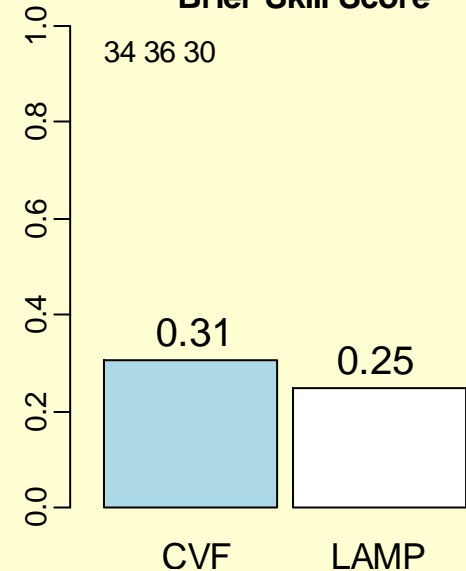
Brier Skill Score



Brier Skill Score



Brier Skill Score



C&V Wrap-up

Combining time-lag ensembles with other probabilistic methods.

- Time-lag complementary to LAMP & ObCast. $2 + 2 = 5$

CVF approach benefits as models improve.

- Expect CVF approach to improve on HRRR, true ensembles.

R&D Schedule.

- FY11 – informal NE US eval with Boston WFO + others.
- FY11 – algorithm refinement, gridding development, CONUS expansion.
- FY12 – CONUS-wide trial as input to QA evaluation.
- FY13 – Finalize research-to-operations eval and any mitigations.
- FY14 – Reach operational status.

Now a slide on in-flight icing.....

InFlight Icing: Progress toward minimizing weather impacts

- FIP-Severity met final approval – will appear on ADDS mid-January 2011
 - Will have forecasts of icing severity and probability available for vendors to distribute
- HIWC – High Ice Water Content program – moving forward after delays
 - End-state is cockpit display of hazardous regions
- Initial NextGen icing products on schedule for debut in 2013
 - Will be in the NextGen pipeline and available to all