

# An Overview of the AMS Chapter Iowa Forecast Contest (AFC)

Jon Hobbs

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<http://www.meteor.iastate.edu/~jonhobbs/AFC>



# AMS Iowa Forecast Contest

- 2009-10 will be seventh year
- Contest designed to resemble NWS/private sector operational forecasting
  - Forecast both public (temperature, precipitation) and aviation (wind, ceiling, visibility) elements
  - Forecast for a variety of “horizons”, Day 1 to Day 7
- Competitors include local students and faculty, National Weather Service and MOS.



# Forecast Calendar

- Contest consists of 20 periods from September 2009 to July 2010.
- Periods are either one or two weeks long.
- A three-week final tournament is scheduled for August 2010.
- Forecasts are made Monday-Thursday each week.
  - Must forecast 75% of days in a period to have scores count.
- Complete 12 periods to be eligible for tournament. Only top 15 periods count in overall score.



# Forecast Elements

- Each period will either be
  1. **Public:** Temperature, Probability of Precipitation, Quantitative Precipitation (Usually), Quantitative Snowfall (Sometimes)
  2. **Aviation:** Highest Sustained Wind, Lowest Ceiling, Lowest Visibility
- All elements are categorized, except temperature (°F)
- See handout or website (rules page) for categories



# Forecast Horizon

- The forecast **horizon** is for which future day we are forecasting.
- A horizon of Day 1 means forecasts for tonight and tomorrow.
- A horizon of Day 2 means forecasts for tomorrow night and the day after tomorrow.
- What does 4/3/2/1 mean?
- All Aviation forecasts will be for Day 1



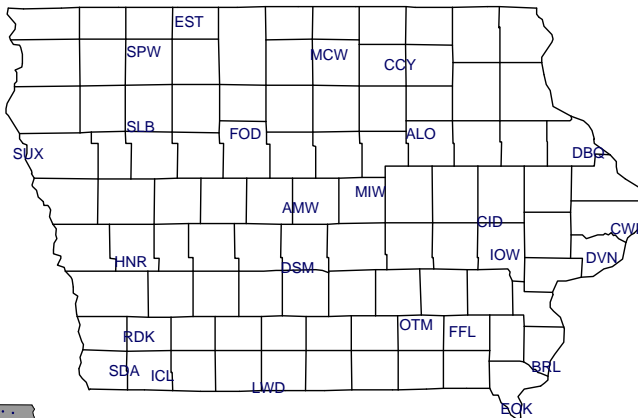
# Forecast Interval

- The forecast **interval** is for which part of the day we are forecasting.
- Aviation forecasts will have a single interval (03Z-18Z).
- Public forecasts will have a night (00Z-12Z) and day interval (12Z-00Z).
  - Forecast minimum temperature, 00Z-12Z POP/QPF/QSF for night interval
  - Forecast maximum temperature, 12Z-00Z POP/QPF/QSF for day interval



# Forecast Sites

## Iowa Forecast Contest Sites



# Submitting Forecasts

- Forecasts are due at 2330Z each day.
- Submit on website or by email.

<http://www.meteor.iastate.edu/~jonhobbs/AFC/login.html>

- Grace period for email submission
- Assigned Consensus MOS if absent



# Verification

- Temperatures and liquid precipitation verified by automated station (ASOS/AWOS).
- Snowfall may be augmented by nearby COOP observations.
- POP verifies as Cat 0 or Cat 10
- Aviation elements are extremes reported at automated station (highest *sustained* wind speed)



# Scoring

- Raw score is squared error.
- Normalize raw scores against Average for each element/interval combination

$$Z = \frac{X - Avg}{s}$$

- No rescaling of scores to have similarity to WxChallenge
- Average normalized scores for overall period score
- See last year's scores for examples



# Competitors

- Anyone at ISU who chooses to participate
- Model Output Statistics
  - Short-term: NAM, GFS
  - Extended: GFS Extended, GFS Ensemble
  - Consensus MOS
- National Weather Service point forecast matrix



# Register

- Registration link on contest home page
- Direct link

`www.meteor.iastate.edu/~jonhobbs/AFC/register.html`

- Questions?

`jonhobbs@iastate.edu`

