Probabilistic Forecasting - common threads from discussion groups

1. How do you use probabilistic forecast products? What makes them useful?

- Contextualizing deterministic forecasts; where does the deterministic instance fall in the ensemble envelope?
- Estimating forecast confidence using ensemble spread as a proxy
- Longer-term forecasting
- Providing range of options and outcomes to customers
- Grouping potential forecast outcomes via statistical or objective methods
- Assessing model sensitivity and estimating level of predictability
- Evaluating the likelihood of extreme events

2. What would make probabilistic products more useful?

- Aviation-specific products and fields
- Convective parameters other than SB/MLCAPE, and convective-scale output in general
- Training and a better understanding on the part of the forecaster to more effectively use existing tools
- A knowledgeable customer who can ask probabilistic questions and can ultimately act on probabilistic information
- An estimate of the likelihood of events outside the model climatology; how often is the model underdispersive in the long-term?
- Need to balance utility with statistical "correctness"; Are wide possible ranges useful to customers? How can we refine services to provide more actionable answers while not losing the inherent value of model spread?