Probabilistic Guidance for Decision Making

Weather Information Panel Session

Presented to: FPAW

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Federal Aviation Administration

Introduction

- **FAA Aviation Weather Division (AWD)**
- **Lead for the Aviation Weather Demonstration and Evaluation Services (AWDE) Team**
- **AWDE Goals:**
  - Improve the delivery of capabilities developed within the Aviation Weather Division.
  - Conduct demonstration and evaluation services for aviation weather technologies throughout the division, for the FFRDC's, and other external organizations developing weather technologies.

Probabilistic Displays

- **Provides user's a range of possible solutions.**
- **Provides information on how a forecast changes over time.**
- **Displays all or a majority of the data including outliers.**

Probabilistic Display Challenges

- Workload may increase based on the need to factor the uncertainty in the information.
- Providing a range of data is difficult for users to interpret.
- Displaying the data in a way to allow users to understand the information.
- Visual crowding may occur and data is not easily differentiated.
- If the mean is provided users tend to focus on the mean and disregard the other data.

The Questions Are…..

- **How do users interpret probabilistic forecasts?**
- **How do users consider the entire range of outcomes?**
- **How do users interpret uncertainties?**
- **What is the optimal visual display for probabilistic forecasts?**