

## **Web-based Learning: Interpreting and Communicating Probabilistic Tropical Cyclone Guidance**

Two years ago, the COMET Program came together with a group of NWS meteorologists recognized for having significant hurricane operations experience. The purpose was to create the Tropical Professional Development Series (PDS). In it, specific tasks were identified which forecasters need to perform in order to meet the needs of emergency managers and other decision-makers whenever tropical cyclones threaten coastal areas. The PDS served as a foundation to develop several online, interactive, and self-paced lessons about the two main tropical cyclone hazards - wind and storm surge.

The storm surge hazard series introduces forecasters and emergency managers to basic concepts about storms surge and tide, datums, probabilistic forecasts, and the appropriate way to use and communicate their guidance for decision support. The wind hazard series introduces them to probabilistic guidance for determining the onset of tropical storm and/or hurricane force winds for a particular location, the likely period of peak winds, as well as total risk. As they work through the lessons, learners also appreciate the uncertainty inherent in tropical cyclone hazard forecasts and learn how to properly use related guidance.

Each lesson asks the learners to solve different real-life problems that arise during hurricane operations. After a brief introduction to the situation and the products that could be useful, the learners use the knowledge and skills identified in the Professional Development Series to address the problem. As the learners select possible solutions, the lessons offer feedback about each one and address common misconceptions concerning either interpreting probabilistic guidance or communicating it correctly.

Three of the storm surge lessons have been available for six months. Each lesson has been viewed in 1000 to 1400 individual sessions. Between 85% and 89% of survey respondents (n ranging from 98 to 159) indicated that the lessons increased their understanding of the topic.