

## **A Climatology of ECMWF Ensemble Hurricane Track Forecast Variability**

Travis Elless, Ryan Torn  
University at Albany, SUNY

Numerical model forecasts of Hurricane Sandy and Tropical Storm Debby presented a challenge for forecasters because ensemble forecasts exhibited a wide range of possible storm tracks, which in the case of Debby, included a 180 degree difference in the direction of motion. As a consequence, it is of interest to determine how often this type of large track variability exists and if there are preferred directions of track error growth. This project determines a climatology of tropical cyclone track variability within a global ensemble prediction system. A climatology is constructed of 2006-2012 global hurricane tracks in the 51 member European Center for Medium-Range Weather Forecasting (ECMWF) ensemble contained in the THORPEX Interactive Grand Global Ensemble (TIGGE) dataset. For each initialization time, the forecast track uncertainty is broken into an along and across track directions. The results will be broken down by basin and motion to determine times where track errors are more likely to be along and across track. In addition, we will also quantify the frequency of large track variance events, similar to Sandy or Debby.