Begun in 2005, the THORPEX Interactive Grand Global Ensemble (TIGGE) is a major research project to improve ensemble prediction and its use in mitigating high-impact weather. TIGGE supports research on ensemble prediction, including methods for combining ensembles from different sources and correcting systematic errors. Equally important is research to support probabilistic forecast methods to improve forecasts of high-impact weather events.

The THORPEX implementation plan envisages the establishment of a future Global Interactive Forecast System (GIFS) that would lead to improved forecasts of high-impact weather on the 1- to 14-day time-scale. GIFS will entail the real-time generation of products to highlight high-impact weather, based on ensemble forecasts from global and regional NWP centres. To justify the investment in GIFS, the benefits of international cooperation in ensemble prediction need to be clearly demonstrated, for improving the prediction of high-impact weather for all nations.

For the initial development of GIFS, several products have been developed to support of probabilistic tropical cyclone warning services, using ensemble cyclone forecasts from several TIGGE data providers. The benefits of GIFS products in specific regions will be evaluated in conjunction with the WMO Severe Weather Forecast Demonstration Project (SWFDP) and other regional pilot projects. In the future, the GIFS development will be extended to cover the development and evaluation of products based on TIGGE predictions of precipitation and surface wind.