

# **Operational Forecasting of Wind-Waves at the US-Canada Great Lakes for the US National Weather Service**

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The US National Weather Service (NWS) provides operational forecasts of wind waves to the US-Canada Great Lakes since 2004. In its initial implementation, the GLW ran on a regular spherical grid with approximately 4km spatial resolution. Recent upgrades to the GLW have increased the spatial resolution to 2.5km, also making it the first operational forecasting system in a major international operational center to use a curvilinear grid. The latter has allowed NCEP to generate wave forecasts in a Lambert conformal grid, attending the needs of NWS forecasters, and increasing the computational efficiency of the underlying WAVEWATCH III model. In addition to spatial grid changes, recent upgrades included new source-term packages, that have allowed the GLW system to improve dramatically its skill in predicting rapid wave growth in severe Great Lakes storms. As a consequence of improved Great Lakes wave forecasts, the GLW system has become one of the major sources of wave guidance used by NWS forecasters in the region. This presentation summarizes these recent accomplishments, and outlines future changes that will increase the usefulness of the GLW to local weather forecasting offices and to the general public.