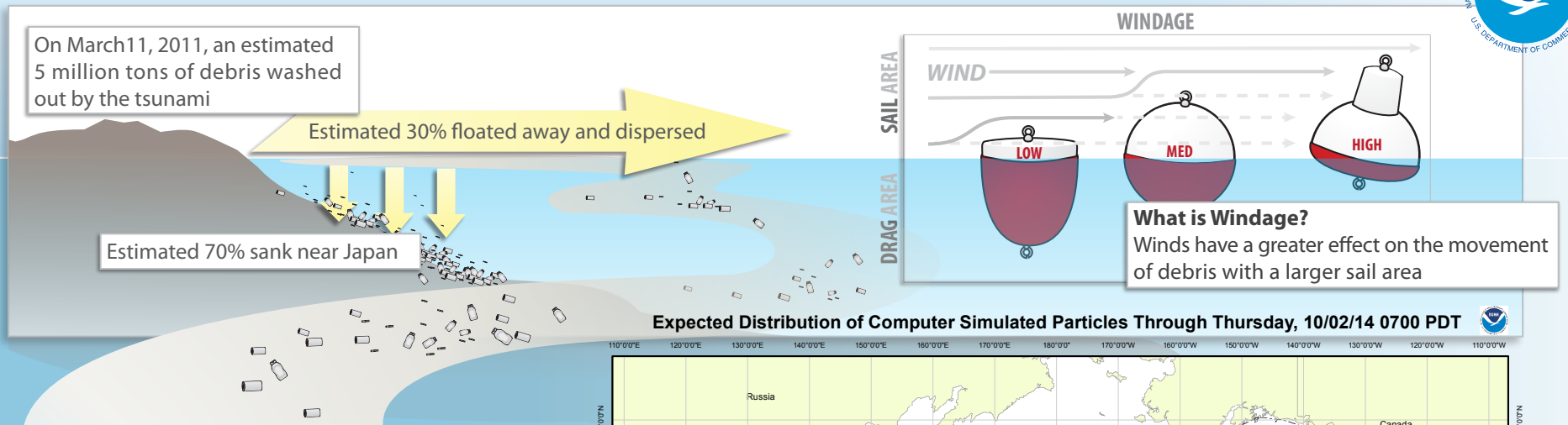
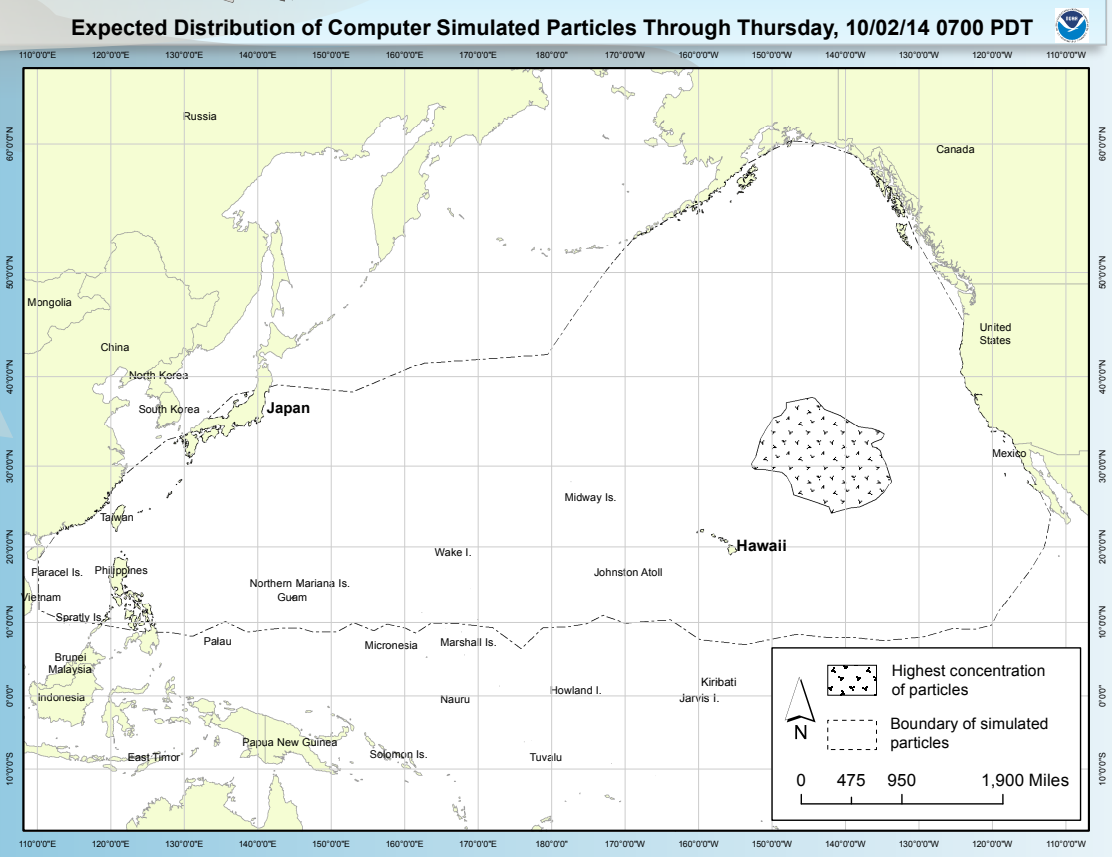
Modeled Movement of the Marine Debris Generated by the March 2011 Japan Tsunami



- **High windage items, such as foam pieces and plastics, first reached the Pacific Northwest coast during the winter of 2011-2012 and Hawaii in the summer of 2012.**
- **Model Results: A majority of computer simulated low windage particles are dispersed across a wide area north and east of the Hawaiian Islands. The crosshatched portion in the center of the graphic does not represent a mass; rather, it shows the area where a higher number of low windage particles may be located.**
- **NOAA expects widely scattered tsunami debris to continue washing up along Pacific shorelines intermittently over the coming years, mixed in with non-tsunami marine debris.**



NOAA used a computer model to simulate the movement of tsunami debris from March 11, 2011, to the present day. This GNOME model (General NOAA Operational Modeling Environment) simulation is based on ocean surface currents from the US Navy (the Hybrid Coordinate Ocean Model) and winds from NOAA (the NOAA blended wind product). The computer model simultaneously released 1,000 simulated particles from each of 8 locations on the Japan coastline where tsunami wave heights were 3.5 meters or greater. Particles were randomly assigned windage values from 1-5%, meaning that they were moved not only by ocean currents, but were also moved by 1-5% of wind speed in the down-wind direction. The dotted black line contains 95% of all simulated particles. The cross-hatched area indicates the region of the highest concentration of simulated debris with 1% windage at the end of the simulation. For more details on this model, please visit **marinedebris.noaa.gov**. Have you seen tsunami debris? Report it to: **DisasterDebris@noaa.gov**