



A record storm over Baltic Sea on 2 January 2019

Nina Karusto

Finnish Meteorological Institute, Safety Weather Service, Helsinki, Finland (nina.karusto@fmi.fi)

Abel storm (in Finnish Aapeli) was a record storm in Baltic Sea over Finnish waters on 2 January 2019. A new 10-minute mean wind speed record was made over Northern Baltic, 32.5 m/s. Additionally significant wave height reached 7.9 meters over Sea of Bothnia, also a new record. The storm caused wind damage in western Finland but it was especially severe in Åland Island where power outages lasted for many days. In Finland total of 120 000 households had power outage.

The storm's timing and overall occurrence was well forecasted almost a week ahead. Still, the weather models had problems forecasting the details of the storm even several hours before the damage occurred. Despite these challenges the situation was communicated successfully through warnings to the public already four days beforehand. Emergency officials were informed six days ahead through LUOVA-tracking.

Weather outlook from the 1 January forecast: A deep low pressure moving slowly to southeast over Finland. After passage northerly winds increase to storm force over Bay of Bothnia and Northern Baltic. Wind gusts of at least 21 m/s are forecasted over land areas, in Åland gusts can reach up to 30 m/s. Heavy snowfall of 10 to 25 cm is forecasted in wide areas. Sea level can decrease almost two meters in northern sea areas. Significant wave height is expected to rise over eight meters over Sea of Bothnia.

In the presentation the storm Abel is presented with actual observations and with the numerical weather prediction (NWP) models. The warning system in Finland is also introduced for example public warnings and LUOVA-tracking.