

Product Description Document

Experimental 10% Probability of Exceedance Wind Gust Grid (G10)

NWS WFO – Elko, NV

Part 1 – Mission Connection

1. Product/Service Description:
 - a. The Experimental 10% Probability of Exceedance Grid (G10) reflects the upper end of the wind gust spectrum that can be expected for a 12-hour period.
 - b. In theory, there is a 10% chance that the highest wind gust for the period will exceed the grids' values.
2. Purpose/Intended Use:
 - a. This product is intended to give users an idea of the maximum wind gust possible during a 12-hour period.
3. Audience/Users:
 - a. Expected users are the fire weather community as well as the general public.
4. Presentation Format:
 - a. The product will be in an image format available on WFO Elko's internet page. <http://newweb.wrh.noaa.gov/lkn/windgustpot.php>
 - b. The units are in miles per hour (mph) and the grid valid times will be from 8 AM to 8 PM and 8 PM to 8 AM PST. An image is included below (Fig. 1).
5. Feedback Method:
 - a. Feedback will be solicited via a CFO new product user survey that will be posted on the website until September 30, 2008.
 - b. Customers will also be encouraged to provide feedback through e-mail to: ryan.knutsvig@noaa.gov

Part 2 – Technical Description

1. Format and Science Basis
 - a. This product is a 10% probability of exceedance grid. To be reliable, the maximum wind gust for the period will exceed the grid's values 10% of the time.
 - b. To populate these grids initially, forecasters will run a procedure that takes the maximum wind speed in the boundary layer for a model of choice. The forecasters' mixing height grids will be used to determine the depth of the boundary layer. As a check, the forecasters' official wind gust grids will be compared to this calculated grid to result in an objective starting point.

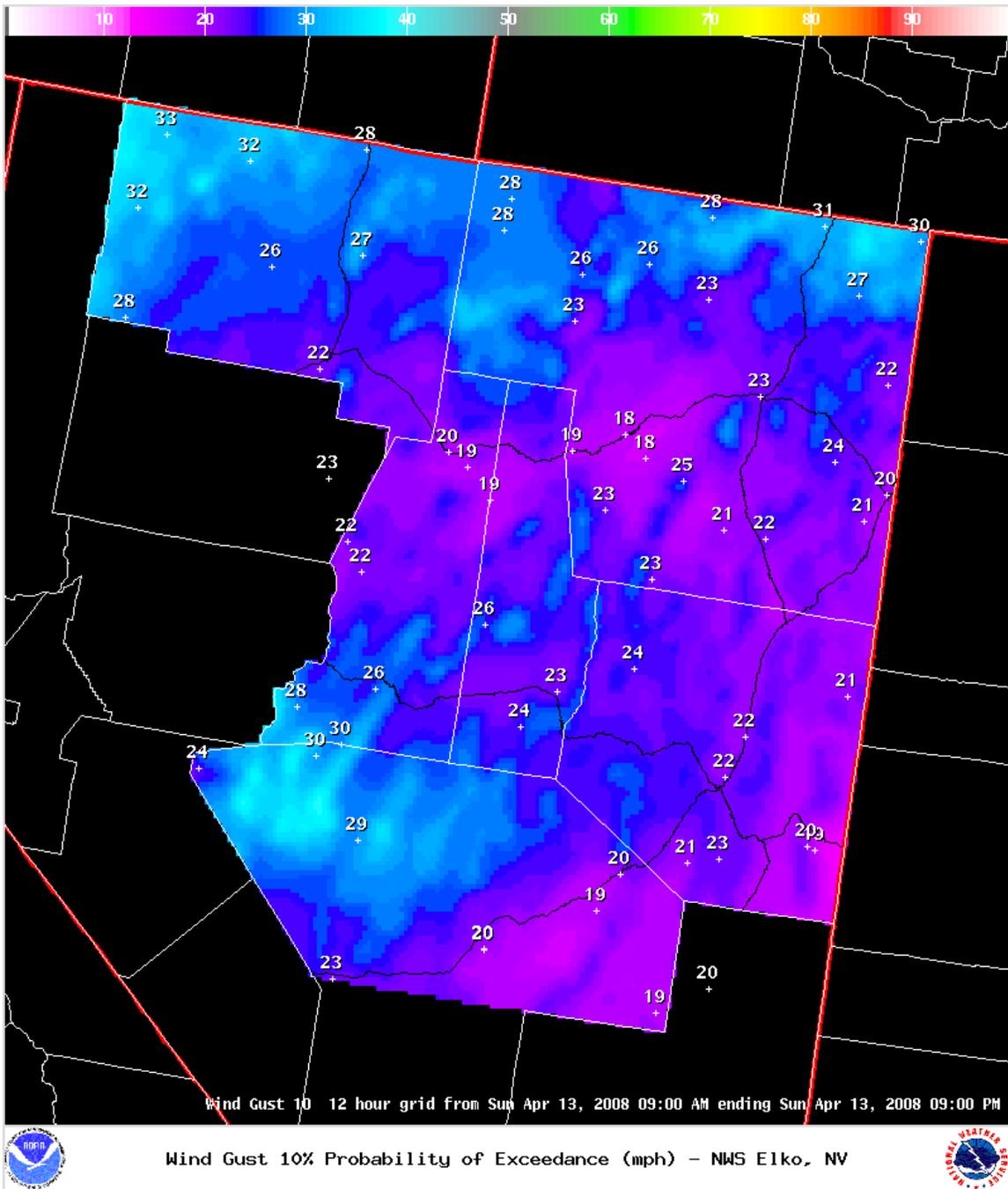


Figure 1: Example Experimental 10% Probability of Exceedance Image.

Forecasters will then modify the objective grid as needed to reflect influences from convection, downslope winds, etc.

2. Availability

- a. This product will be available on the internet at WFO Elko's website and will be produced twice per day (4 AM and 4 PM) during the fire weather and convective seasons.