

**Experimental WFO WRF_NMM Model Output
Product Description Document (PDD)
(Regional Optional)**

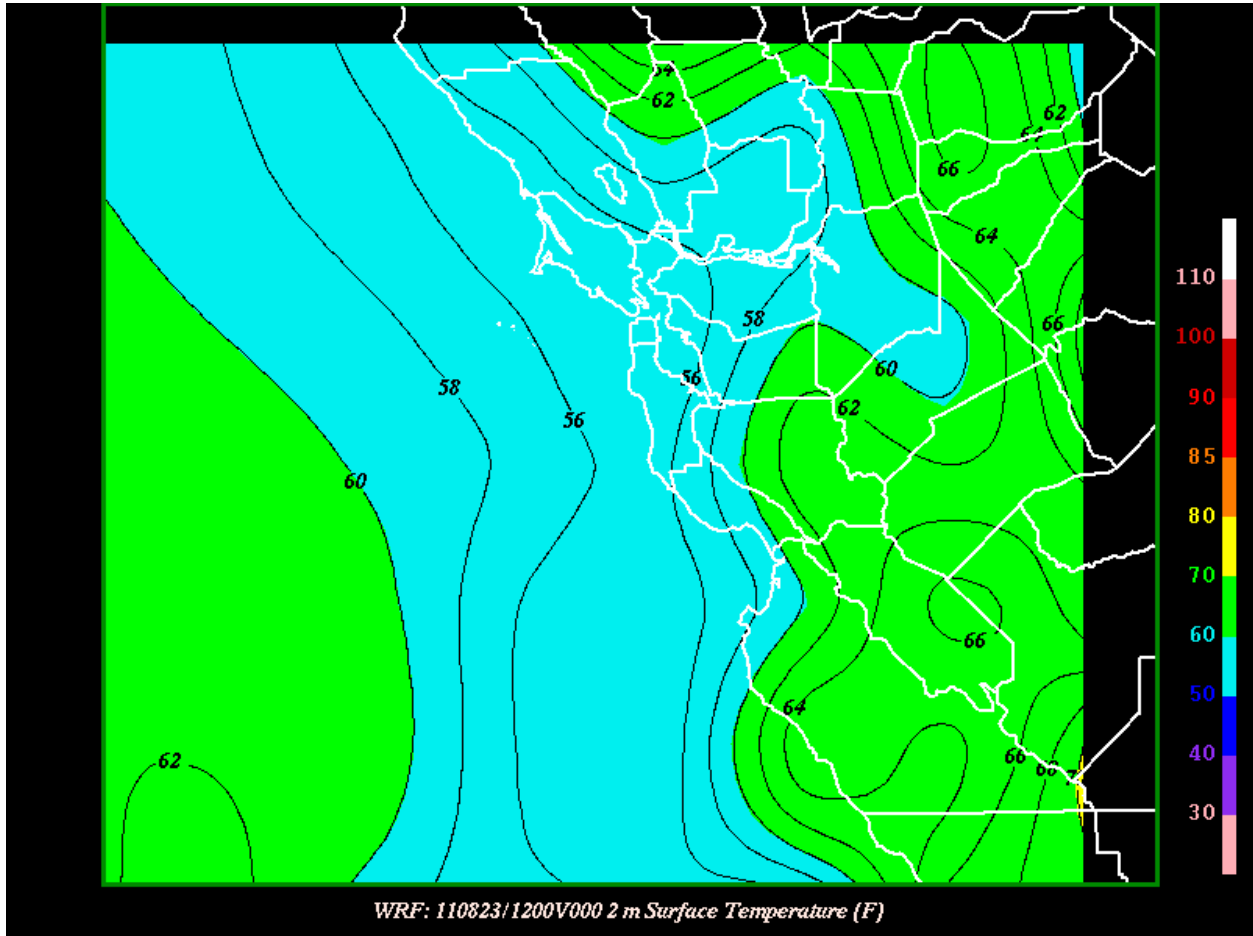
Part I – Mission Connection

- a. Product Description – The WFO WRF_NMM is run locally at the WFO. The model generates hourly output out to 36-48 hours. The high resolution model is used for operational forecasting and research at the local WFO. Model Output graphics, generated by GEMPAK software, are posted for 3 hourly forecast time steps to a WFO web page. The fields include geopotential heights, vorticity, temperatures, dew point, relative humidity, wind, vertical velocity, freezing level, precipitation amount and type, seal level pressure, thickness, clouds, precipitable water, convective available potential energy (CAPE), and convective inhibition (CIN).
- b. Purpose – The high resolution model output can be used for operational forecasting and research. WFOs expect to use the model qualitatively to help refine phenomena related to terrain such as temperature, winds and orographically forced precipitation. This model should give some clues about how complex terrain can affect local weather. The web page is a convenient way for local customers to view the same meteorological forecast data as the local forecaster.
- c. Audience – The main audience is the NWS Offices and other government agencies, such as EPA, Local Air Resource Boards and the US Forest Service. Other users may include local media, the general public and private weather forecasting companies and researchers.
- d. Presentation Format – The WFO WRF_NMM model output is displayable on a web page with static images in 3 hourly forecast time steps out to 36-48 hours.
- e. Feedback Method/Period – Most feedback comes from the Internet users through emails to local WFO web masters. The local WFO will compile the responses and provide them to the WRH MSD, who will then take the feedback and address any changes needed to the model parameters and/or the web page. Feedback may also be provided by mail or phone to:

Carl Gorski
National Weather Service
Western Region Headquarters, Meteorological Services Division
125 South State Street Room 1234
Salt Lake City, Utah 84138-1102
Phone: (801) 524-4000

For technical questions, the customer can email the local webmaster, who in turn will contact the local WRF model expert for a response.

f. Example – <http://www.wrh.noaa.gov/mtr/mtrwrf.php>



Part II – Technical Description

a. Format and Science Basis –

The WRF_NMM is controlled and run locally with WRF_EMS software at the WFO. The model has configurations that can be modified to the local WFO CWA. An example configuration can be found in <http://www.wrh.noaa.gov/mtr/mtrwrfdoc.pdf>. The technical limitations of this product are inherent in the parameterizations of the mesoscale model. GEMPAK is used to create readily accessible, useable, and understandable GIF images from the model output to display on the webpage at <http://www.wrh.noaa.gov/mtr/mtrwrf.php>. Currently any Internet browser that opens gif images is all that is required. Although in the future, when we add looping capability, java will be required to view the model data loops.

2 Availability: The model is run four times a day out to 48 hours. The latest web graphics are usually posted to the web page around 02Z, 08Z, 14Z, and 20Z.

3 Additional Information: Additional WRF_NMM Model Output information is available at: <http://www.wrh.noaa.gov/mtr/mtrwrfdoc.pdf>