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# NWAC Avalanche Weather Briefer

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<b>Available Products</b>	The <b>Avalanche Weather Briefer</b> has been formulated to aid in interpretation of the NWAC Mountain Weather Forecast Product, as well as understanding weather in general. If a picture is worth a thousand words, then these images should assist users in understanding and better utilizing the forecasts. The Briefer has been created with the cooperation of the National Weather Service, Seattle, and links to a variety of governmental and other weather web sites. A short summary and explanation of the various products in the briefer follows.
Click product to display	
Latest Weather Charts	
0-72 hour 500 mb hgts/vort	
Current Surface Pressure	
Loop of Forecast Surface Pressure & Precipitation	
1 km Visible Image	<b>Time conventions</b> -- When viewing either the images or forecast model charts, unless otherwise indicated, the times listed are in Universal Time (Greenwich Mean Time, UT, Z-time etc.). These times are 8 hours ahead of PST (Pacific standard) local time, or 7 hours ahead of PDT (daylight savings time). For example, 00Z Wednesday = 4 PM Tuesday, and 12Z Wednesday = 4 AM Wednesday, etc. The satellite (visible and IR) and radar images are scheduled to automatically update every hour, while the other products are scheduled to automatically update whenever new products arrive.
4 km Visible Loop	
4 km IR Image	
4 km IR Loop	
Fade Between VIS, IR & WV	
Seattle Radar Image	
Portland Radar Image	
Quillayute Sounding	
Salem Sounding	
850 mb Loop	
700 mb Loop	
6 to 10 Day Outlook Temperature / Precipitation	
30-90 Day Outlook	
I-90 Pass Information	
US-2 Pass Information	

## List of Briefer Products

### Descriptions of Available Products in this Avalanche/Weather Briefer

**Latest Weather Charts** -- Latest available analyses at a variety of atmospheric levels from the GFS forecast model—prepared by the National Center for Environmental Prediction (NCEP). The top-most map of six panels displays the latest available 500 mb pressure level height chart from the date indicated along with the vorticity (a measure of horizontal shear at the 500mb level). In general, positive vorticity produces upward vertical motion and enhances storm development, while negative vorticity produces downward motion and results in weakening storm activity or decreasing clouds.

This map is an excellent way to visualize general atmospheric circulations and relate them to wind flow at the 500 mb (about 18,000 feet or 5500 meters) level. This chart may be compared with the water vapor image shown below to help visualize both small and large scale circulations. Winds at this level blow approximately parallel to the contour pressure-height lines of the chart, with the lines showing height of the 500 mb pressure surface above mean sea level (in tens

of meter). Other current charts displayed include (from top to bottom): Sea level pressure and 1000-500mb thickness, 700 mb vertical velocity, 850 mb temperature, humidity and wind, 200 mb streamlines and isotachs, and convective available potential energy and precipitable water.

**0-72 hour 500 mb Heights and Vorticity** -- Latest available 3 day display of the GFS forecast model in 12-hour steps for forecasted 500 mb heights and vorticity. This model is output twice/day at 0Z and 12Z UT and is courtesy of [NCEP](#). Longer range displays of this model and other forecast models are available at the [NCEP Model Analyses and Forecast](#) web site.

**Current or Latest Surface Pressure** (from the MM5 model) -- shows the current surface pressure pattern over the Northwest from the 12km domain of the MM5 model, courtesy of the University of Washington and the MM5 consortium. In the absence of terrain, winds normally blow at an angle across lines of equal sea level pressure toward low pressure, the actual angle depending on frictional effects and other factors. However, when terrain is introduced, winds may blow directly across isobars--for example winds may be channeled either east or west through Cascade mountain passes, blowing from high pressure toward low pressure (like when the air is released from a balloon).

**Forecast Mean Sea Level Pressure and Precipitation**-- shows a 72 hour animation/time loop of mean sea level pressure overlaid with model output precipitation (12-hour values)--from the Global Forecast System (GFS) model, courtesy of the Twister web site at Ohio State University. Similar information (but with 1000-500mb thicknesses instead of precipitation) is also available as a series of charts arranged vertically. In the absence of terrain, winds normally blow at an angle across lines of equal sea level pressure toward low pressure, the actual angle depending on frictional effects and other factors. However, when terrain is introduced, winds may blow directly across isobars--for example winds may be channeled either east or west through Cascade mountain passes, blowing from high pressure toward low pressure (like when the air is released from a balloon). A 10-day sea level pressure and precipitation loop is also available.

**1km Visible Image** -- Latest available 1 kilometer resolution visible image of the atmosphere over the Northwest. View taken from the GOES-10 (Geostationary Operational Environmental Satellite).

**4 km Visible Loop** -- Latest 4 kilometer resolution visible image loop of the atmosphere over the Northwest. View taken from the GOES-10 (Geostationary Operational Environmental Satellite). Please be patient--may take a while to load.

**4 km IR Loop** -- Latest available enhanced infrared image loop for the region centered around the Pacific Northwest and just offshore. Please be patient--may take a while to load.

**4 km Visible Loop** -- Latest available enhanced infrared image loop for the region centered around the Pacific Northwest and just offshore. Please be patient--may take a while to load.

**Fade between VIS, IR and Wave** -- Latest available satellite imagery loop

centered on the NW that will fade between infrared, visible and water vapor images.

**Northwest Radar Image** -- Latest available composite NEXRAD Weather Radar image for the Northwest region (courtesy WSI).

**Seattle Radar Image** -- Latest available composite NEXRAD Weather Radar image for the Northwest (courtesy WSI).

**Soundings** -- Latest available vertical atmospheric temperature, moisture and wind soundings from Salem, Oregon and Forks (Quillayute) Washington.

**Time Loops of latest available 850mb & 700mb Heights** -- Time loops of weather forecast charts showing evolution of 850 mb (approximately 5000 ft/1500 meter) and 700 mb (~10,000 ft/3000 m) pressure level heights (in meters), temperature (850mb) or relative humidity (700mb) and wind barbs for the next 72 hours. Spacing of these isopleths (lines of constant height) correlates closely to strength of winds while orientation of the lines indicates approximate wind direction (winds blow along or approximately parallel to these lines except where the pressure levels intersect higher terrain). In these displays from the Aviation Forecast Model, the 850 mb heights are also displayed with Temperature and Winds and the 700 mb heights are displayed along with Relative Humidity and Winds. (Data courtesy of the Twister web site at Ohio State University).

**6-10 Day Outlook for Temperature & Precipitation** -- Latest available forecast charts showing statistical probabilities of precipitation and temperature for the 6-10 day forecast period indicated, as compared to climatological normals

**30-90 day Outlook** -- Latest available forecast charts showing statistical probabilities of precipitation and temperature for the 30 and 90 day periods indicated, as compared to climatological normals