

## Weather Help - Wind & Temp Maps

### Wind & Temp Maps

Upper Level Wind & Temp maps are created for the following forecast periods for these geographic regions:

Region	Analysis	Forecast	Model
Regional U.S.	Every hour	6 & 12 Hr Fcst every hour	RUC & WRF
Full U.S.	Every hour	6,12,18,24,30,36,48,60,72 hr Fcst every 6 hrs	RUC/WRF/GFS
Europe & Greece Western Europe	N/A	6,12,18,24,30,36,48,60,72 hr Fcst every 6 hrs	WRF & GFS
All other areas	N/A	6,12,18,24,30,36,48,60,72 hr Fcst every 6 hrs	GFS

Graphics are generated at the following atmospheric levels:

**Altitude Pressure:** FL050 / 850 mb  
FL100 / 700 mb  
FL180 / 500 mb  
FL240 / 400 mb  
FL300 / 300 mb  
FL340 / 250 mb  
FL390 / 200 mb  
FL450 / 150 mb  
FL530 / 100 mb

All Wind & Temp maps depict wind direction and speed at each grid point using standard wind flag symbology. Wind direction is from the tail (where flags are) to the head (end of shaft). Wind speed is indicated by the addition of wind flags and barbs on the shaft. Each flag represents 50 kts of speed and each barb represents 10 kts of speed. Half barbs represent 5 kts of speed.

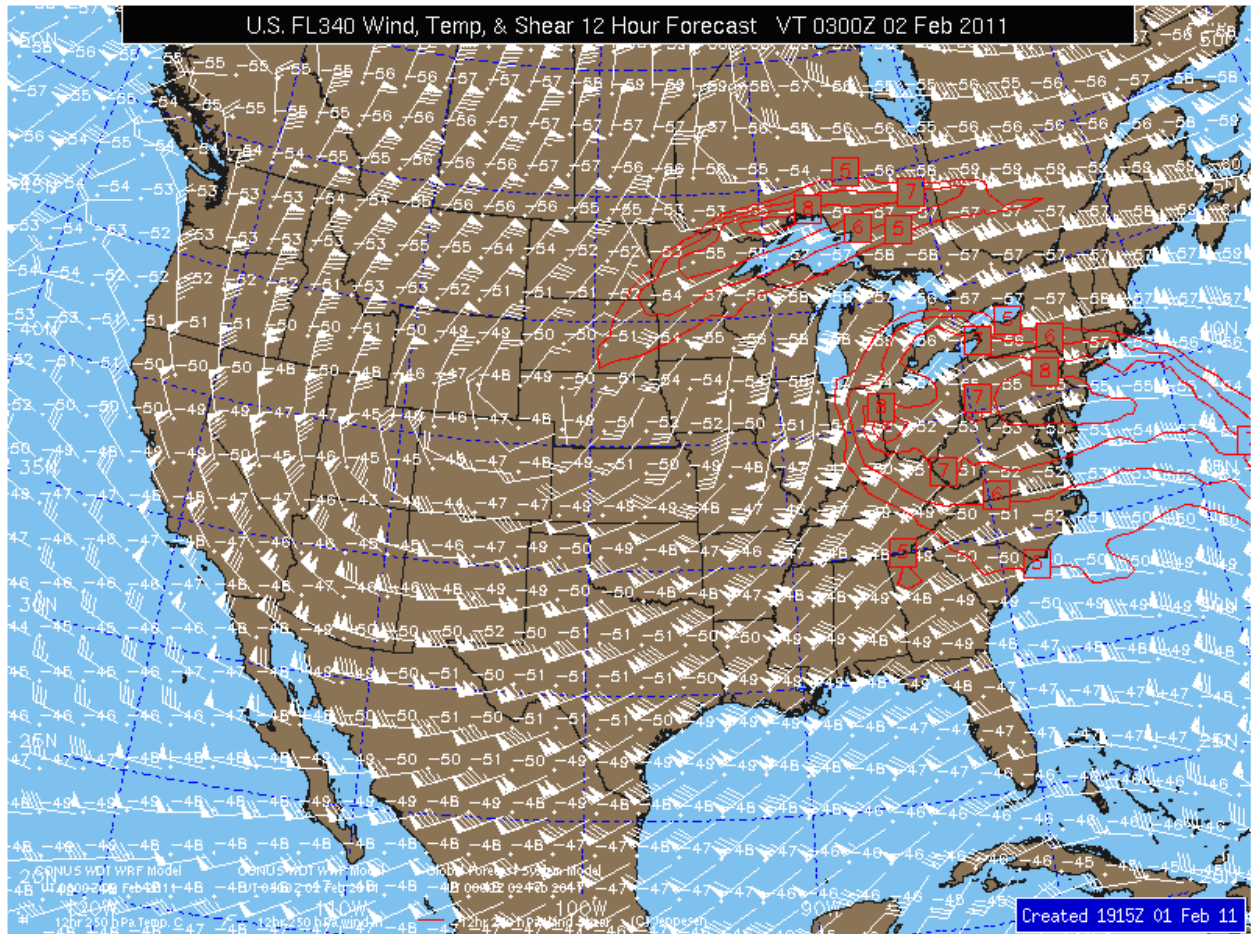
Temperature is depicted at selected grid points with the actual value in degrees Celsius. Negative temperatures have the minus sign ("-") preceding the number and positive temperatures have just the number.

Vertical Wind Shear (VWS) is depicted for all FL240, FL300, FL340, FL390, FL450 and FL530 maps for values of 5 knots per thousand feet and greater. Vertical Wind Shear is depicted using contours in thin solid red lines on the map with contours at 1 knot per thousand feet intervals. Vertical Wind Shear is calculated by taking the vector difference between the wind velocity value 2000 feet above the indicated level and 2000 feet below the indicated level. The vector difference takes wind speed as well as wind direction into account. Vertical Wind Shear is useful in determining areas where clear air turbulence is more likely to be experienced. As the VWS value increases, the probability of encountering clear air turbulence (CAT) increases and as the severity of CAT experienced increases with increasing VWS values. Just because you have very strong wind speeds does not mean you will have strong VWS, contrarily VWS values are more likely in areas where you have a rapid increase or decreases of wind speed or a sharp change in wind direction with altitude. As VWS is a good indicator of CAT, it is not the only ingredient in CAT. CAT can be present in the complete absence of VWS, especially in Mountain Wave or Convective situations.

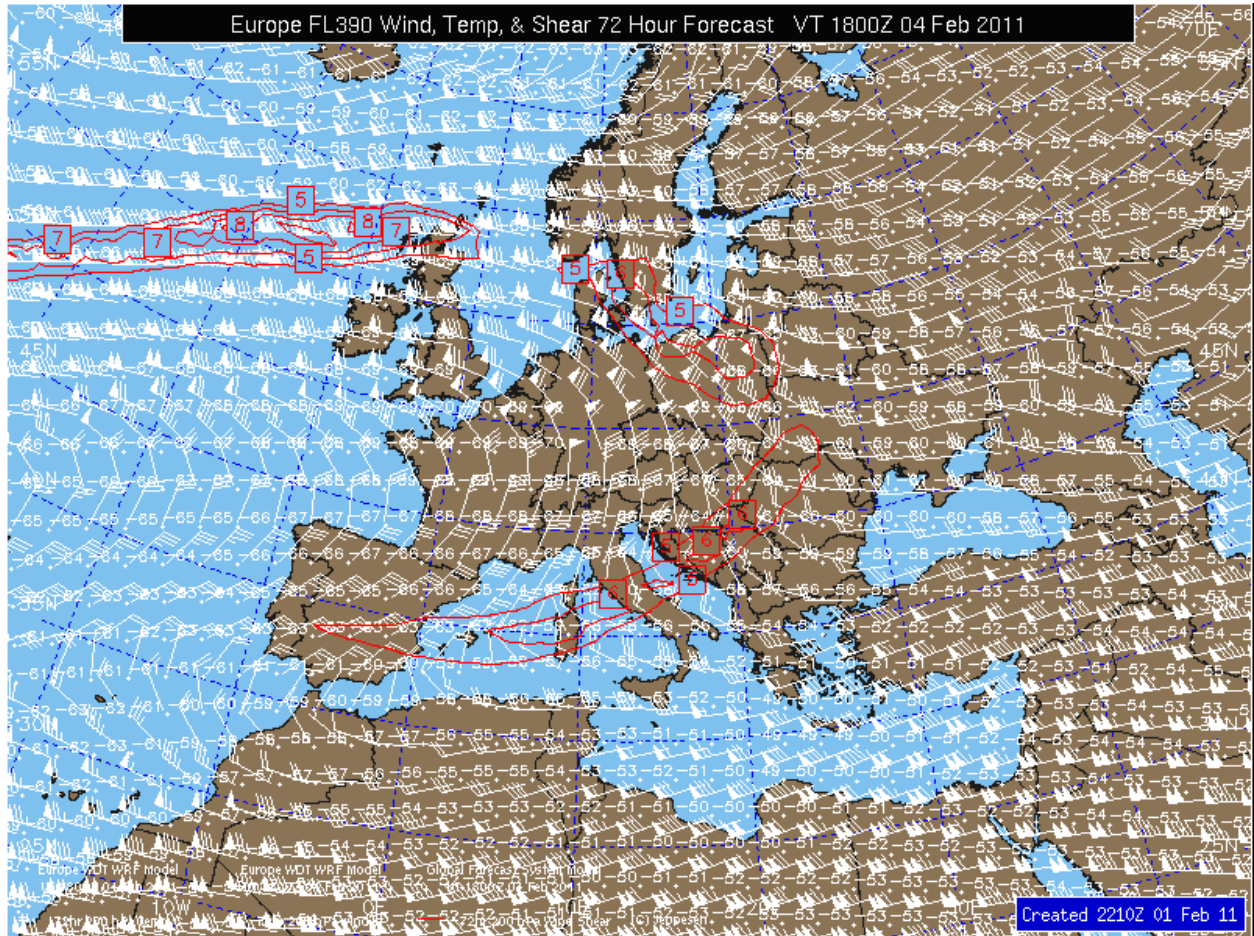
All FL050, FL100 and FL180 wind & temp maps also contain icing conditions that are depicted using solid fill colors. Trace to light icing is depicted in light blue, light to moderate

icing is depicted in blue, and moderate to severe icing is depicted in dark blue. The type of icing is not depicted, only the intensity of expected icing conditions. Icing conditions are predicted using the WRF numerical model for U.S. and Europe areas, and the GFS numerical model for global areas. The icing forecast algorithm used is a blend of model super cooled liquid water with the NCAR/RAP and Stovepipe algorithms.

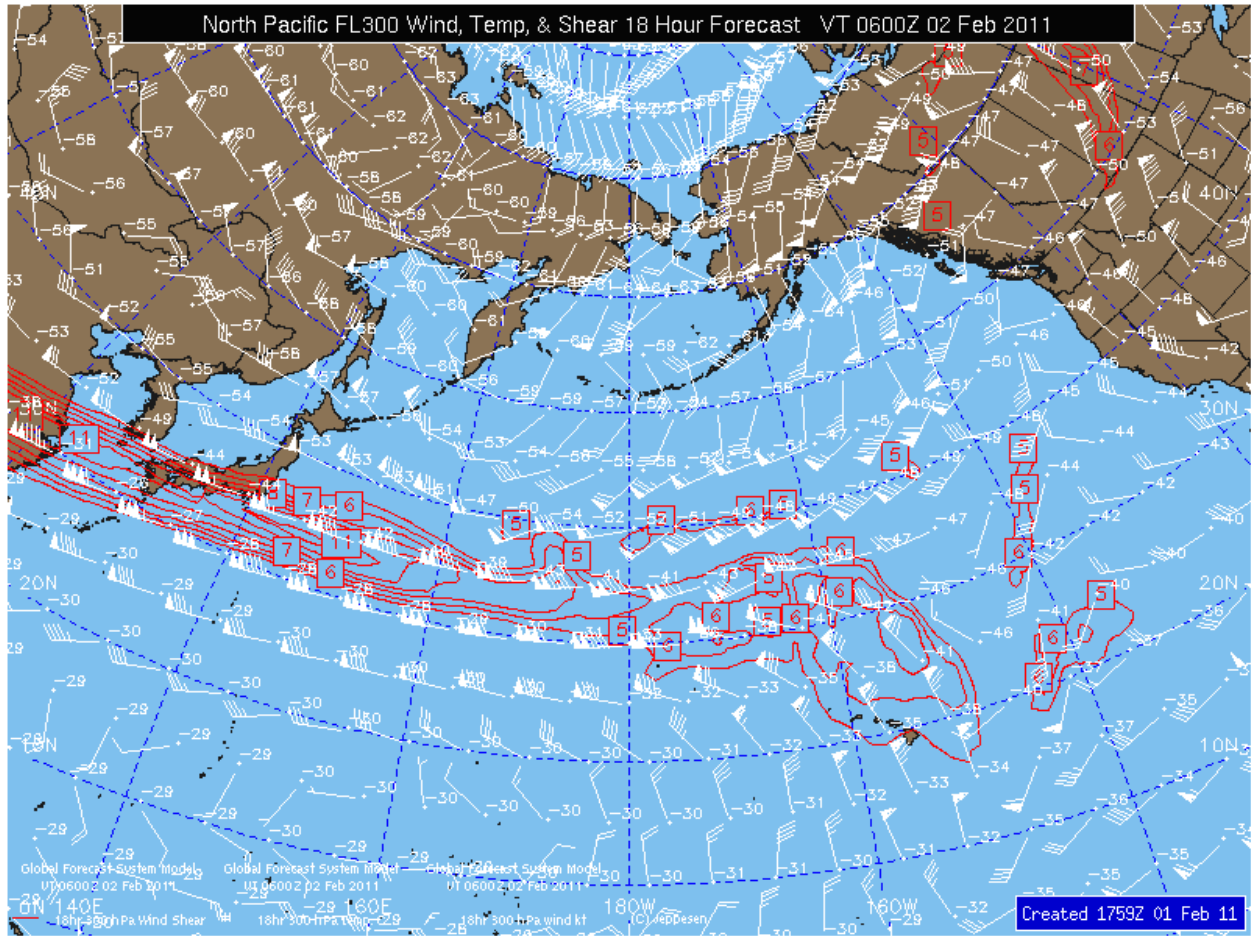
### FL340 Wind & Temp 12 Hour Forecast



# Europe FL390 Wind & Temp 72 Hour Forecast



# North Pacific FL300 Wind & Temp 18 Hour Forecast



# Greece FL100 Wind, Temp and Icing 42 Hour Forecast

