

Clarus OSS

User Guide and Training Materials

(version 1.0)

by

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Introduction

The Western States One-Stop Shop for Rural Traveler Information - Research on Clarus System Data project seeks to develop a website displaying multi-state Clarus Environmental Sensor System (ESS) data, along with other information streams as available, such as DOT Intelligent Transportation System (ITS) field elements, CCTV, planned and active closures, incidents, weather sensor readings from non-DOT sources, National Weather Service forecast information, etc. The objective of this project is to integrate these real-time data streams together in a single web-based location and display in a user-friendly format.

This document includes a user guide and a quick start guide for the Clarus OSS system. These materials are intended for both training and reference in using the system.

Accessing the Clarus OSS Application

This User Guide describes the basic steps for setting up your Internet browser to access the Clarus OSS website. Microsoft Internet Explorer 7.0 or above or Mozilla Firefox 3.0 or above is required to view the website.

To access the Clarus OSS website, navigate to <http://clarusoss.weathershare.org/> in your web browser.

Clarus OSS Overview

Screen Layout

The Clarus OSS home page initially shows a map with the “Current Weather” -> “Air Temperature” information layer displayed for the four states (California, Nevada, Oregon, Washington) area covered by Clarus OSS. See Figure 1. A tool bar on the upper left of the map allows you to access drop down menus to change the information layer that is displayed. *Note: hover over each item to show the menu items for each layer then click the layer you wish to view.*

Current Weather is available for: Air Temperature, Relative Humidity, 1 Hour Precipitation, 24 Hour Precipitation, AHPS 24-hour Precipitation, Wind Speed, and Clarus Stations.

Forecast Weather information is available for: Air Temperature, Wind Speed, Wind Gust Speed, Humidity, Sky Cover, 12-Hour Chance of Precipitation, 6-Hour Amount of Precipitation, 6-Hour Forecast Amount of Snow, and Weather.

The Road/Travel Conditions tab can be used to view Chain Restrictions, Road Information (construction), Incidents, CMS (Changeable Message signs), and CCTV (closed circuit TV images).

The Other Traveler Info tab allows you to view locations of Rest Areas, Features of Interest, Truck Scales, and Summits.

The Link to Current View button will set the url for your current information layer, map center, and zoom level so that you can set a bookmark to this page with your current settings. Using the Google Map controls on the left side you can zoom in or out; pan right, left, up, or down. Note that you can also zoom in/out using the scroll wheel on your mouse or zoom in by double-clicking on the map. By using the Google control on the top right of the page you can choose from a Map view, a Satellite view, or a Terrain view.

The ? button allows you to view this User Guide or an About box for this application.

A legend is available in the bottom left of the map, and the legend can be expanded or collapsed to show or hide detail.

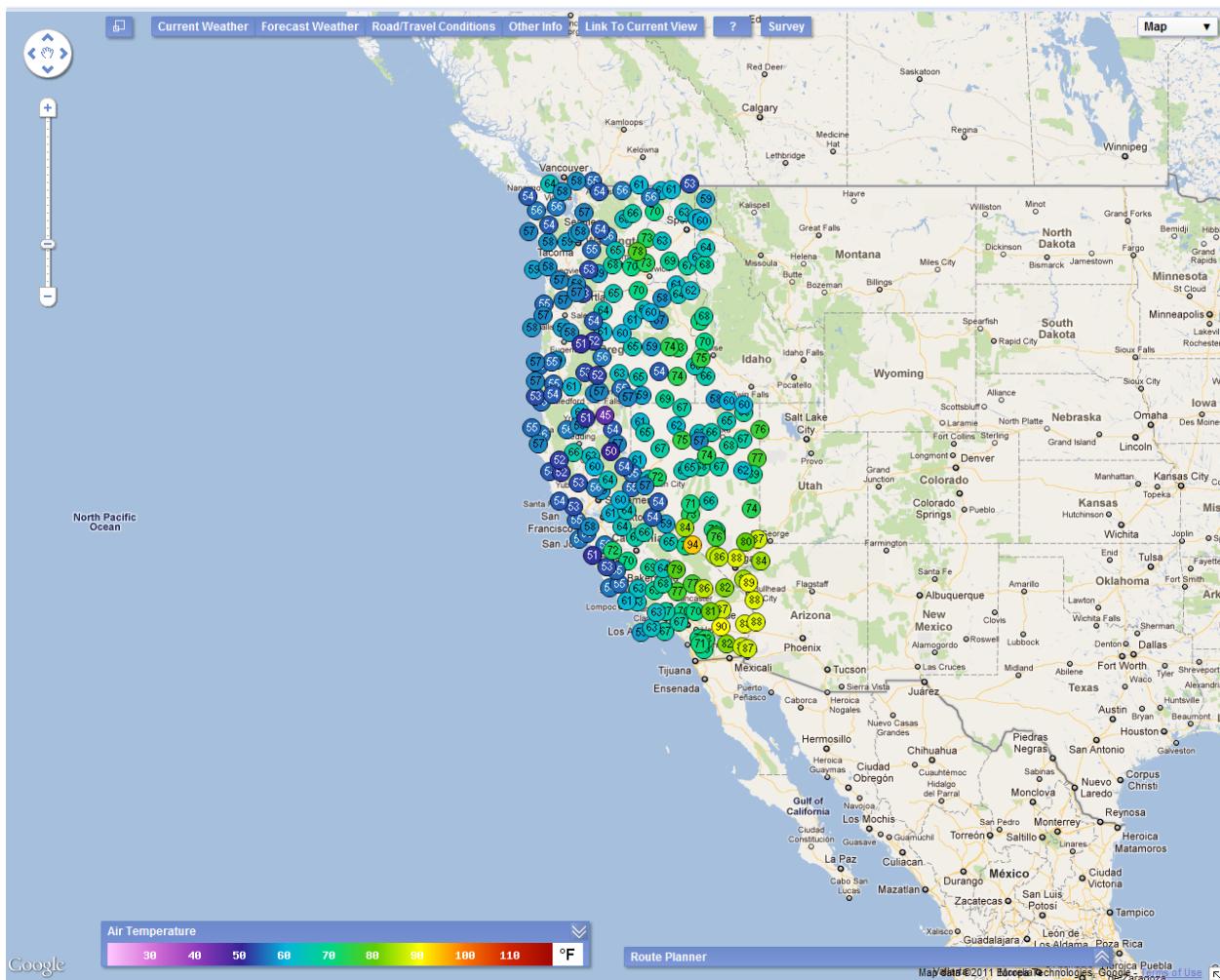


Figure 1: Clarus OSS Home Page

Information Display Formats

Air Temperatures

For Current Weather, air temperatures that have been reported are displayed, on the temperature map, as colored icons with the actual temperature inside the icon. See Figure 2. Temperatures are displayed in Fahrenheit degrees. You can click on a temperature icon to show an information bubble with additional information about the station reporting that temperature. For Forecasts, in addition to the colored icons, a colored raster image is superimposed on the map to represent the forecast air temperatures. See Figure 3. Air temperatures are represented by different colors. Forecast temperatures are available for the next 72 hours in 3 hour intervals. You may select a time from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. A scale indicating temperatures, in degrees Fahrenheit, and corresponding colors is shown in the legend on the bottom of the display. You can zoom in for further detail since not all sites are shown when viewing the entire four-state region.

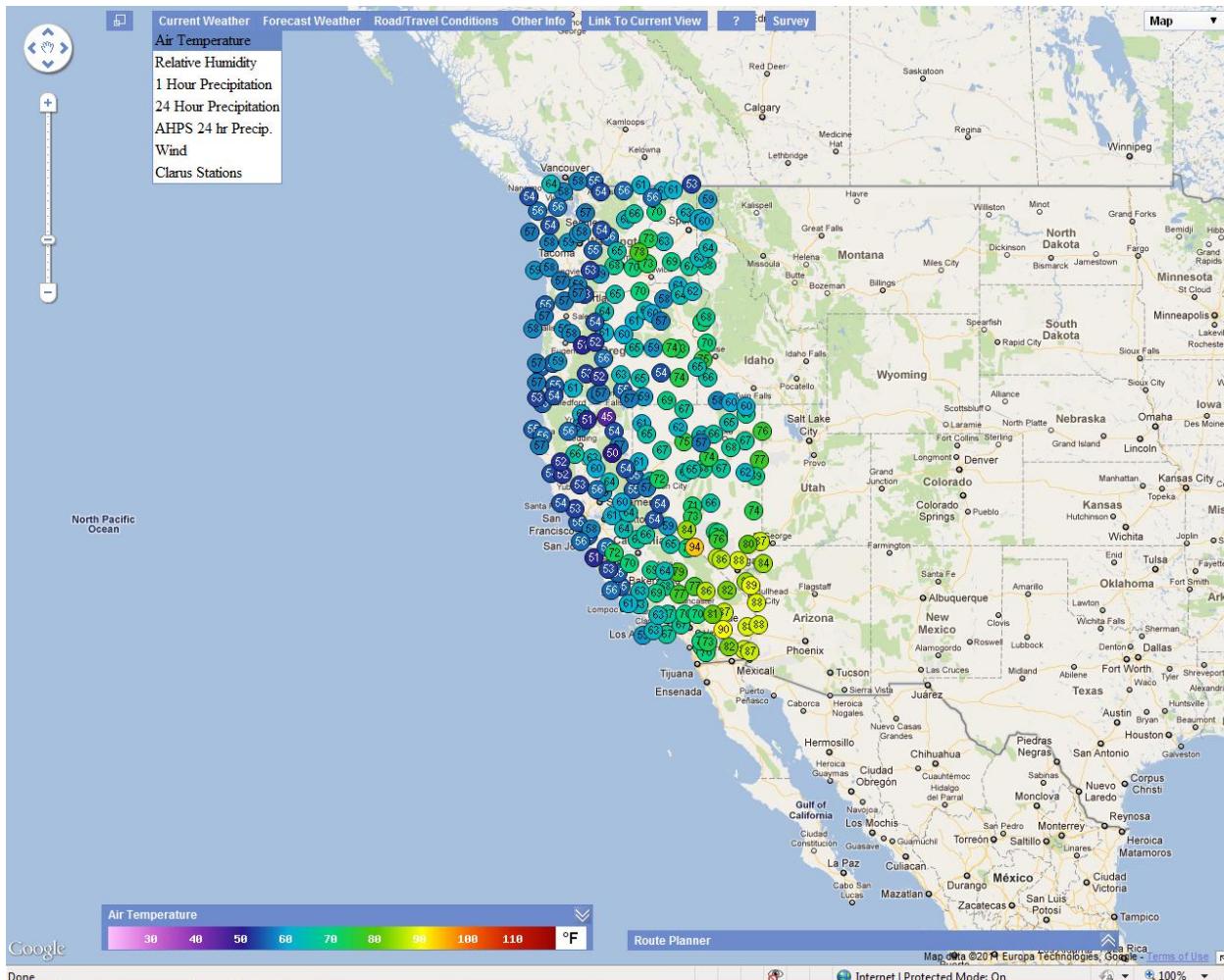


Figure 2: Clarus OSS Air Temperature Current Weather

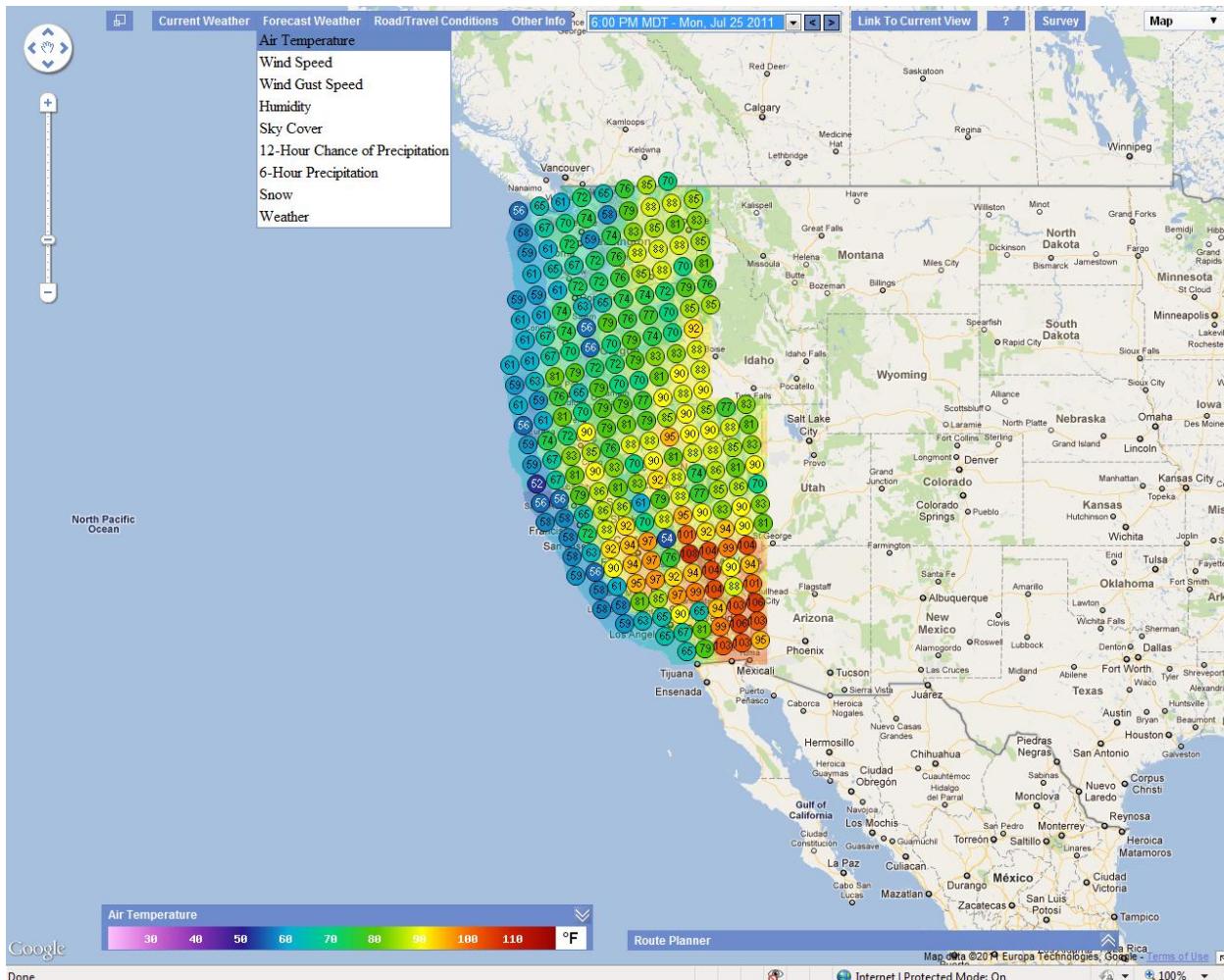


Figure 3: Clarus OSS Air Temperature Forecast

Wind Speeds/ Directions

For Current Weather, wind speeds and directions are indicated by colored and sized, directed arrows. See Figure 4. Larger arrows indicate higher wind speeds. Arrow direction indicates the compass direction toward which the wind is blowing. Clicking on a wind arrow will show an information bubble with additional information about the station. Wind speed readings are given in miles per hour. For Forecasts -> Wind Speed or Wind Gust Speed, , a colored raster image is superimposed on the map to represent the forecast wind speeds in addition to the arrows. See Figure 5. Forecast Wind Speed or Wind Gust Speed is available for the next 72 hours in 3 hour intervals. You may select a time from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. A scale of wind speeds in miles per hour and corresponding colors is shown in the legend on the bottom of the display.

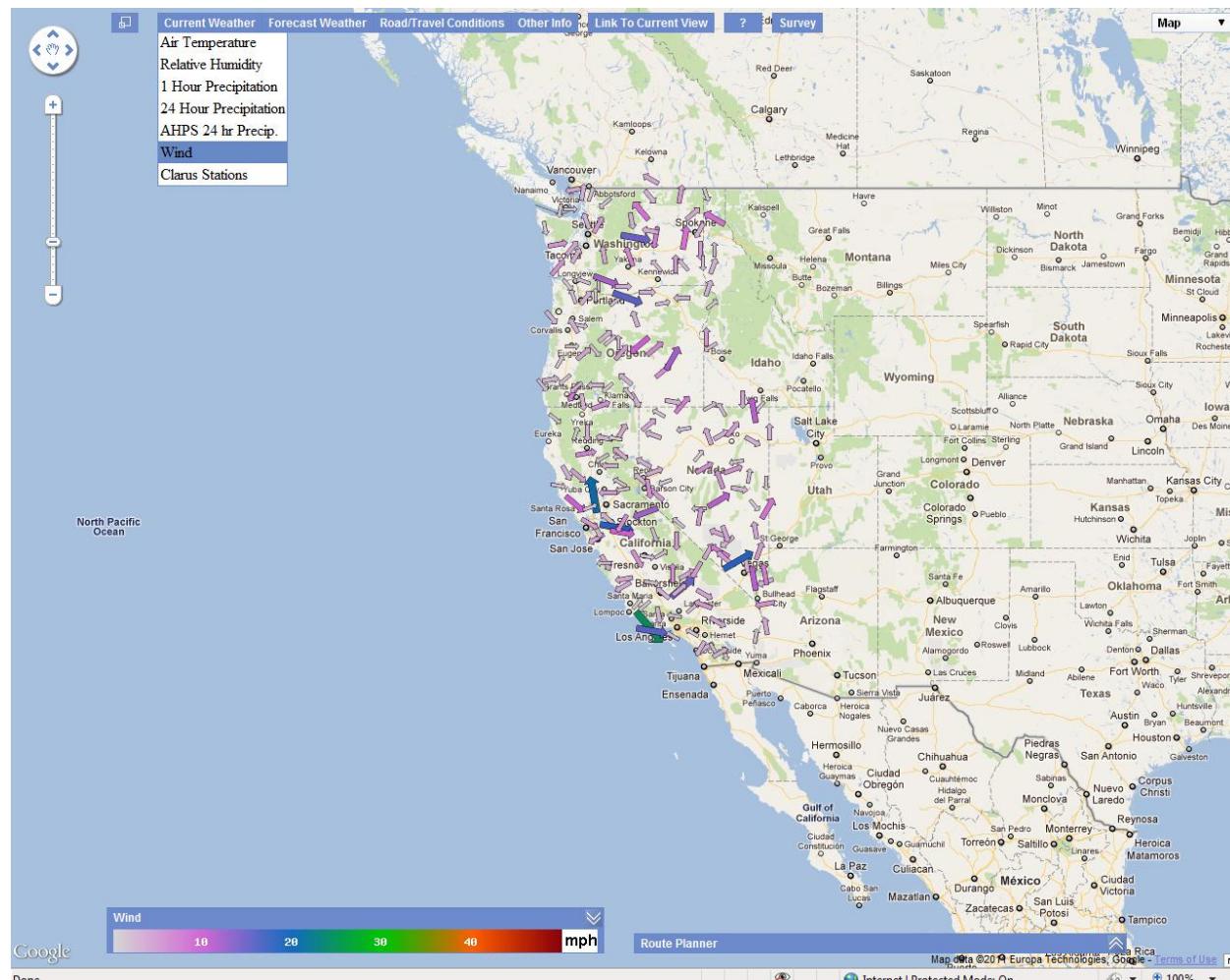


Figure 4: Clarus OSS Wind Speed Current Weather

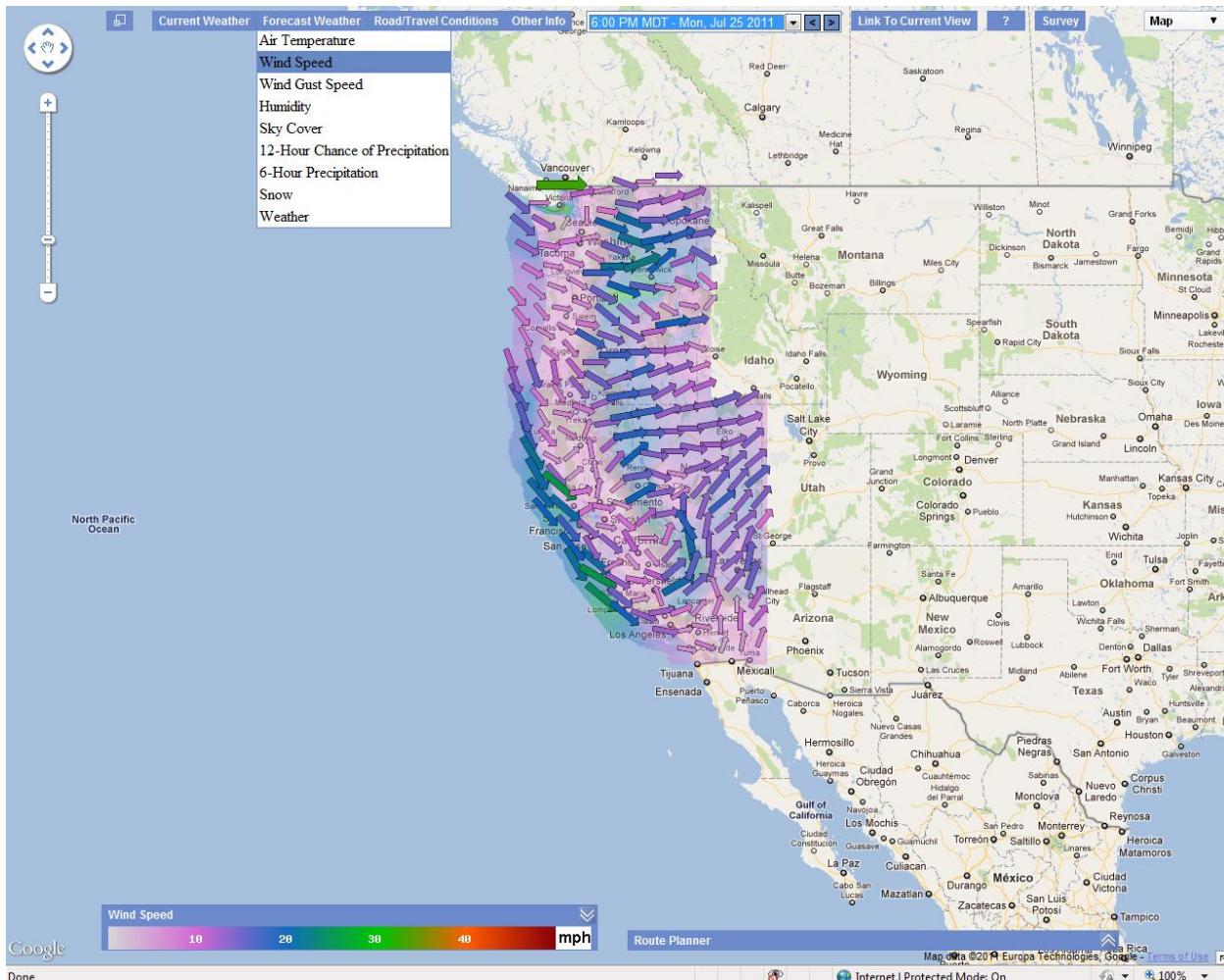


Figure 5: Clarus OSS Wind Forecast

Precipitation

For Current Weather, the precipitation amounts that have been reported within the past hour or 24 hours (depending on the information layer selected) are displayed on the map as colored icons with the actual precipitation amount inside the icon. Clicking on a precipitation icon will show an information bubble with additional information about the station. Precipitation amounts are given in inches of rainfall. See Figure 6. For Forecasts, a colored raster image is superimposed on the map to represent the 6 hour predicted precipitation amounts, in inches, or twelve hour forecast precipitation probabilities, in percent, (depending on the information layer selected). See Figure 7. Precipitation amounts or probabilities are represented by different colors shading the map. A scale indicating precipitation amounts (in inches) or probabilities (in percentage) and corresponding colors is shown in the legend on the bottom of the display.

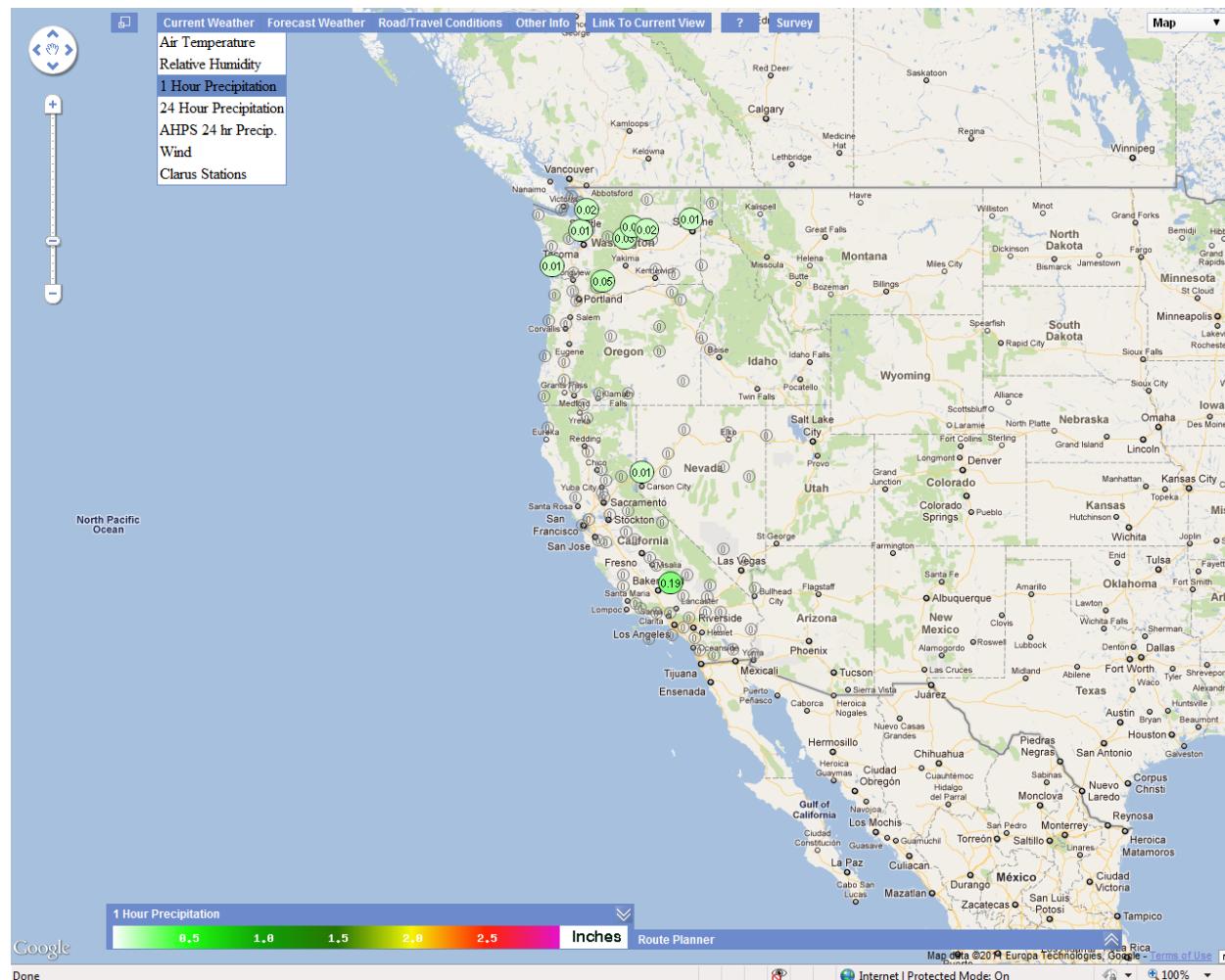


Figure 6: Clarus OSS Precipitation Information

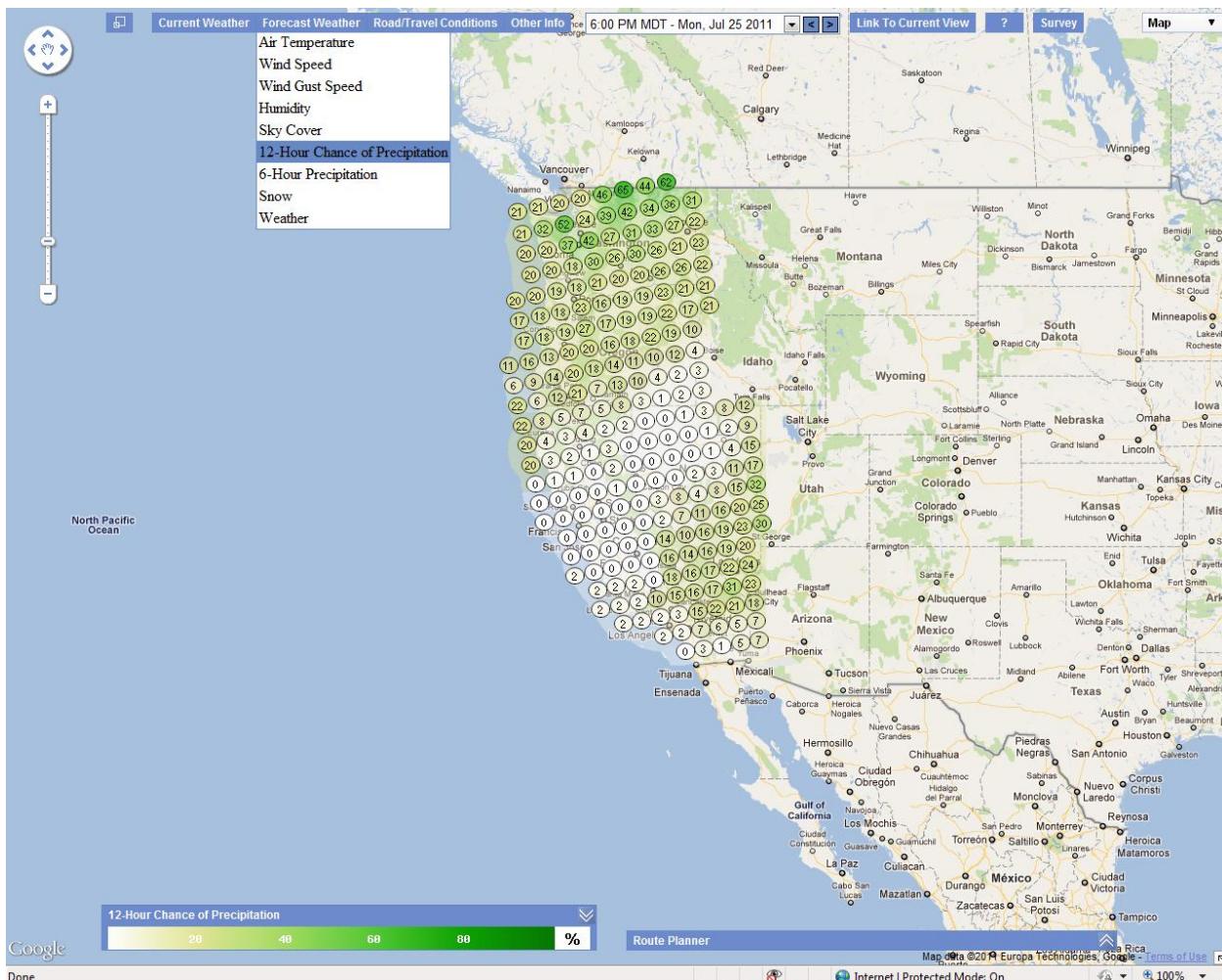


Figure 7: Clarus OSS 12-Hour Probability of Precipitation

AHPS 24-Hour Precipitation

The map is colored to show a representation of the National Weather Service AHPS (Advanced Hydrologic Prediction Service) 24-hour precipitation data. 24-hour precipitation amounts that have been reported within the 24 hours are used to estimate the values displayed on the precipitation map as colored icons with the estimated precipitation amount inside the icon. Precipitation amounts are also represented by a colored raster image superimposed on the map. A scale indicating precipitation amounts and corresponding colors is shown in the legend on the bottom of the display. This is an experimental data set that is part of the National Weather Service's Advanced Hydrologic Prediction Service. The data represents values estimated from observed precipitation amounts for a 24 hour period ending at 1200 GMT each day. The word "estimated" is used here because values are estimated for points on a grid based on real observations from stations in proximity to grid points. The result is a grid of estimated precipitation values covering the entire region, and the values shown should be considered estimates rather than actual readings.

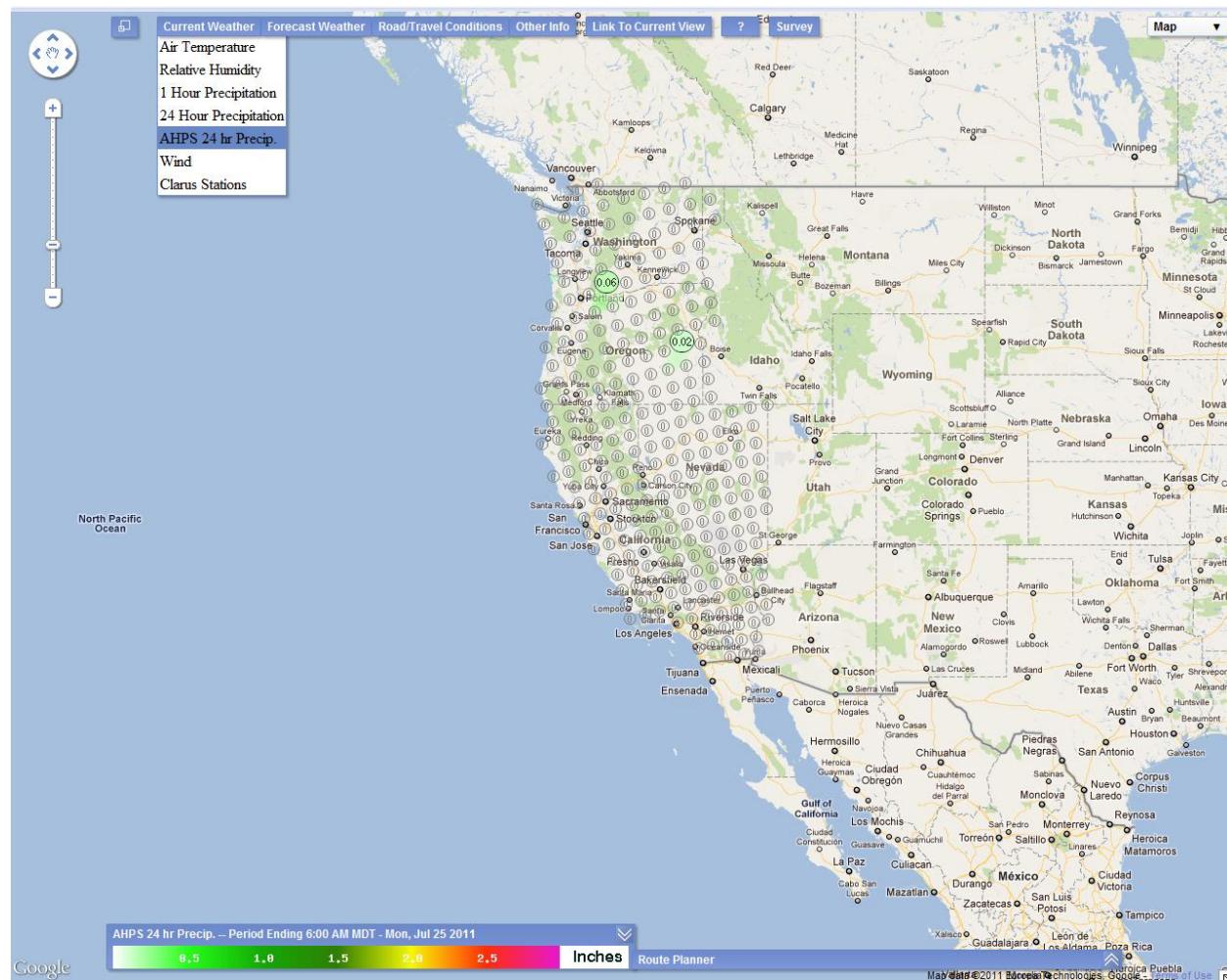


Figure 8: Clarus OSS NWS AHPS 24 Hour Precipitation

Humidity

For Current Weather, the relative humidity percentages that have been reported are displayed, on the humidity map, as colored icons with the actual humidity percentage inside the icon. See

Figure 9. You can click on a humidity icon to show an information bubble with additional information about the station. For Forecasts, a colored raster image is superimposed on the map to represent the relative humidity percentages. See

Figure 10. Forecast humidity is available for the next 72 hours in 3 hour intervals. You may select a time from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. Relative humidity percentages are represented by different colors shading the map. A scale indicating relative humidity percentages and corresponding colors is shown in the legend on the bottom of the display.

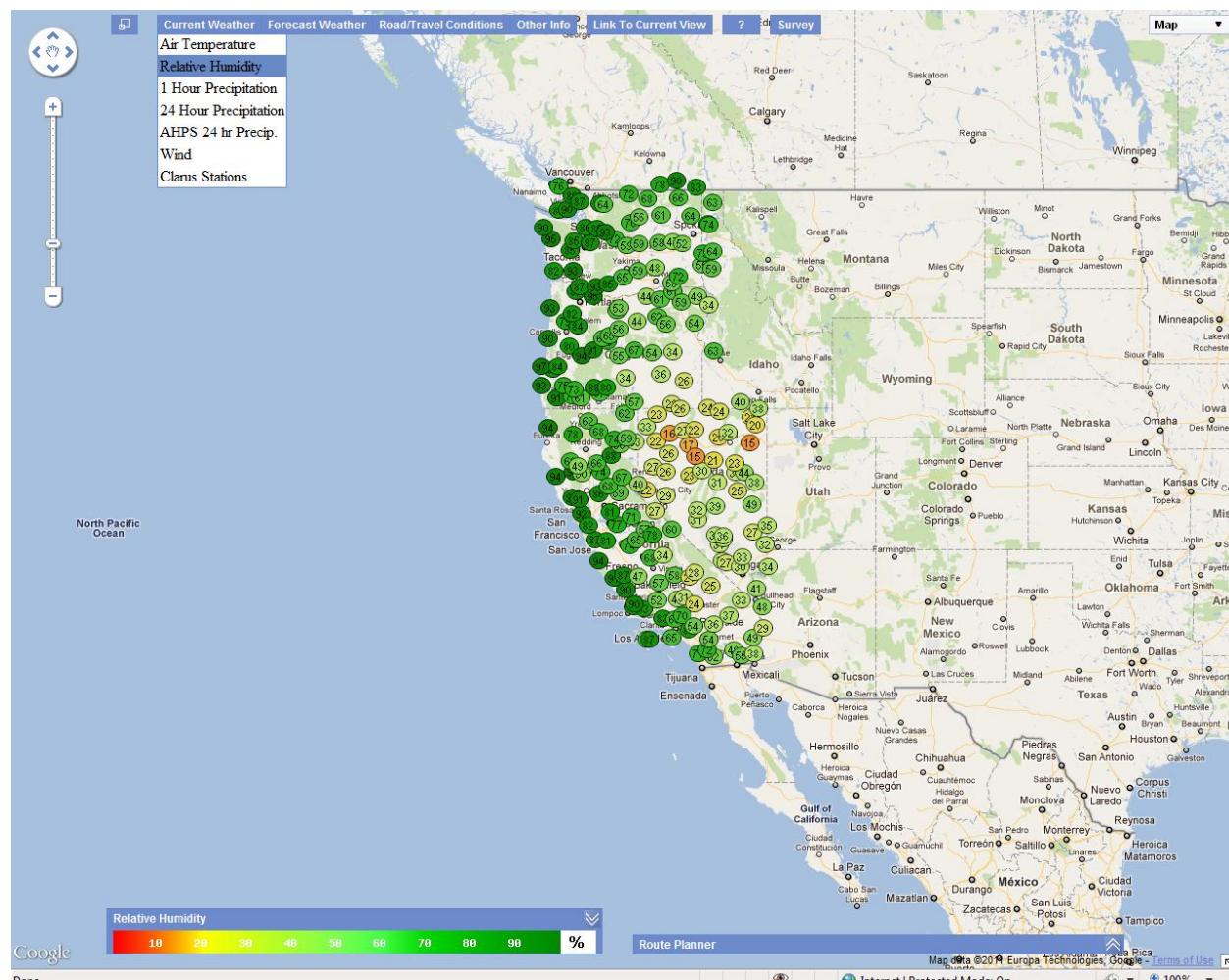


Figure 9: Clarus OSS Humidity Information

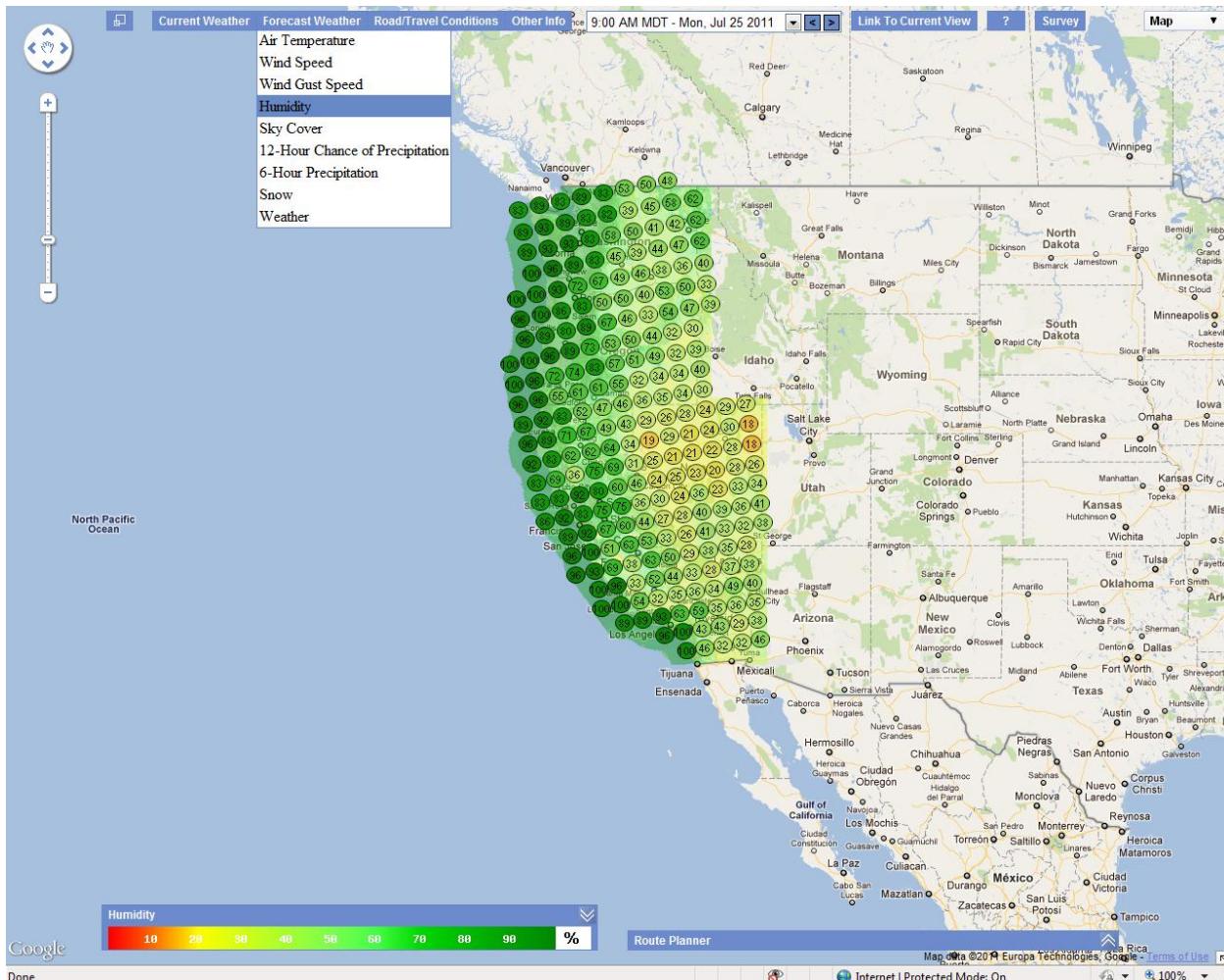


Figure 10: Clarus OSS Forecast Humidity

Sky Cover (Forecast)

For Forecasts, the sky cover display shows the expected amount of opaque clouds (in percent) covering the sky valid for the desired hour. See Figure 11. Forecast Sky Cover percentages are available for the next 72 hours in 3 hour intervals. You may select a time from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. Sky cover percentages are represented by different colors shading the map. A scale indicating percentages and corresponding colors is shown in the legend on the bottom of the display.

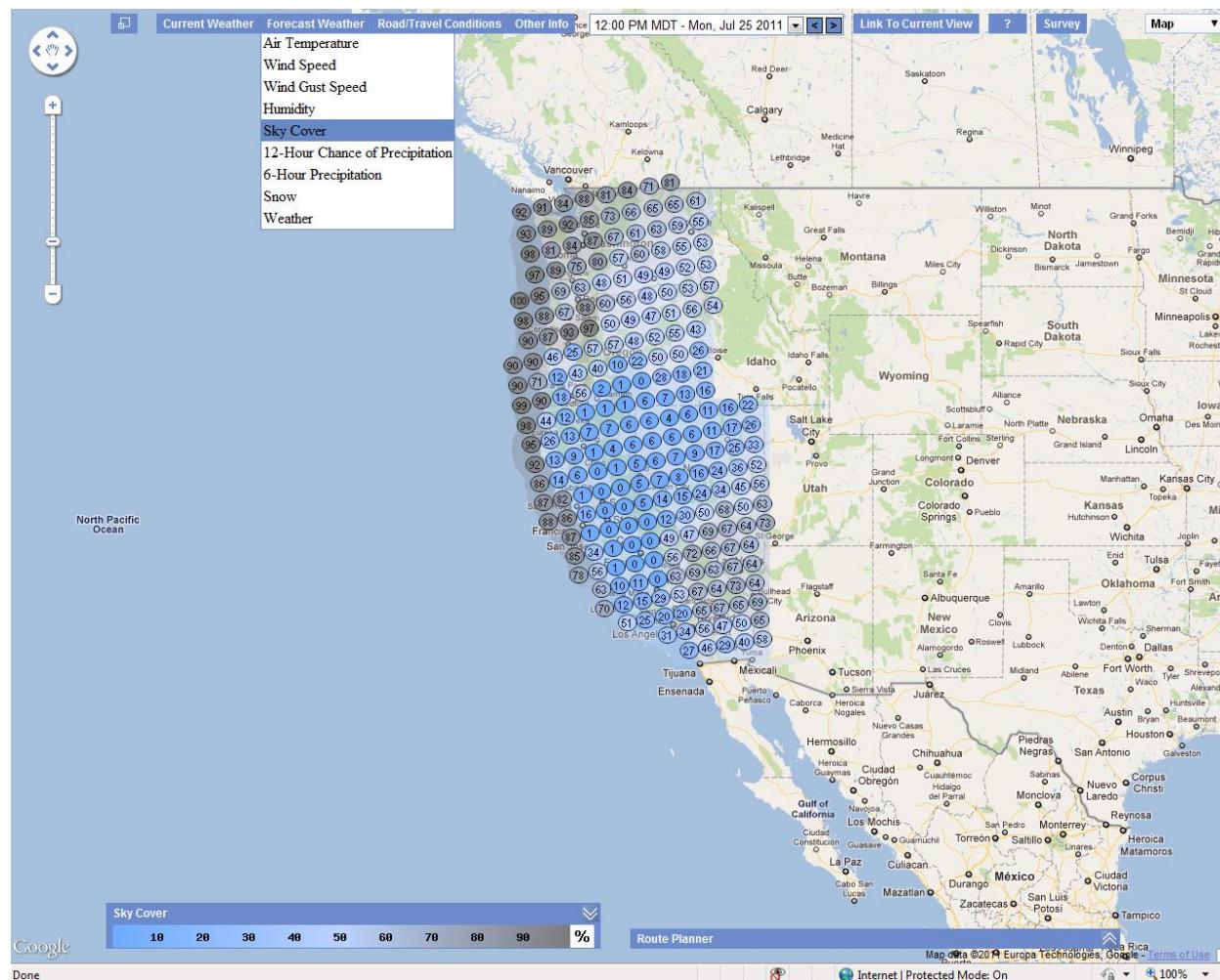


Figure 11: Clarus OSS Sky Cover Information

Weather (Forecast)

The Weather display in the Forecast layer shows the expected weather condition (Fog, Rain, Snow, Severe, Mix, Haze, Blowing, Ice) valid at the indicated hour. See Figure 12. The map is colored to show the predicted weather condition; darker colors indicate higher probabilities of the weather condition. Forecast Weather is available for the next 72 hours in 3 hour intervals. You may select a time from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. The types of weather related conditions shown are: Rain, Snow, Severe (thunderstorms), Ice. In addition, the following visibility related conditions are shown: Smoke, Haze, Blowing (snow or dust). Clicking one of the icons will bring up more detailed information about the intensity of the predicted weather.

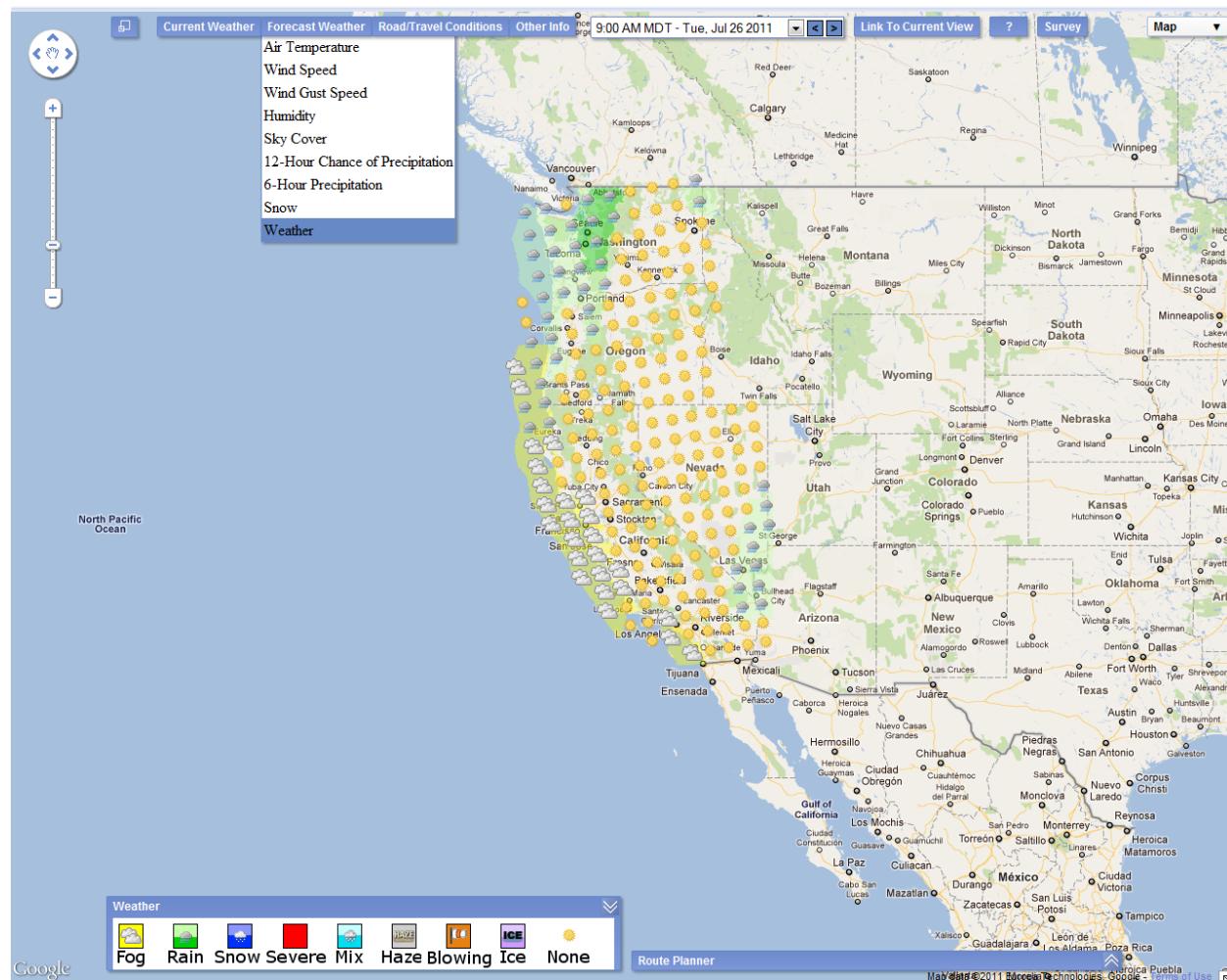


Figure 12: Clarus OSS Weather Information

Snow (Forecast)

The Snow display in the Forecast layer shows the 6 hour predicted snow amounts in inches. See Figure 13. Forecast Snow is available for the next 48 hours in 6 hour intervals. You may select a start time for a period from the Time dropdown box or hit the forward/backward arrows next to the Time dropdown box to scroll incrementally through the list. Snow amounts are represented by different colors shading the map and colored icons containing the forecast amounts. A scale indicating snow amounts (in inches) and corresponding colors is shown in the legend on the bottom of the display.

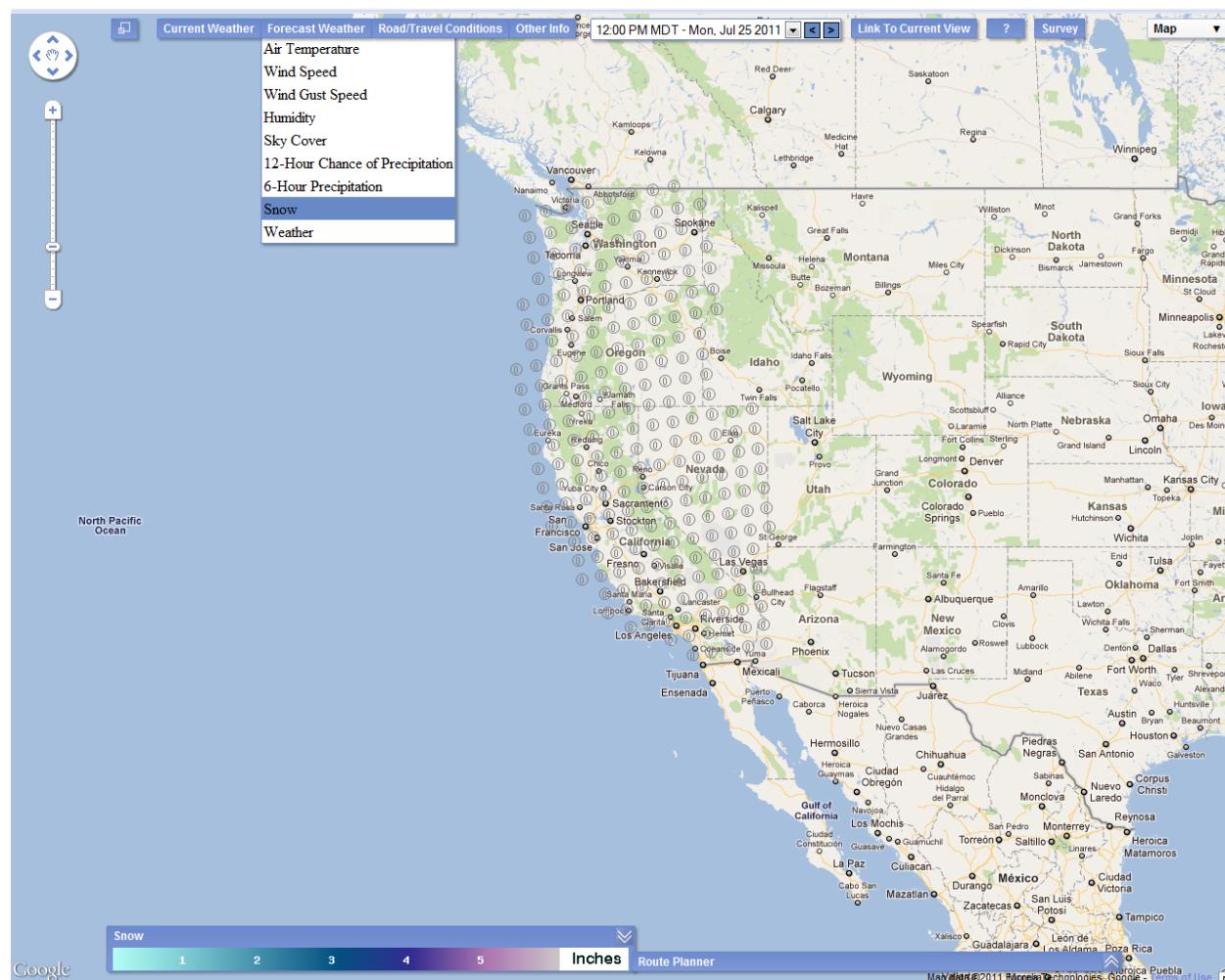


Figure 13: Clarus OSS Forecast Snow Information

Road/Travel Conditions

The Road/Travel Conditions tab can be used to view Chain Requirements, Road Information (construction), Incidents, CMS (Changeable Message signs), and CCTC (closed circuit tv images). Accessing each of these layers will display icons for the conditions or notifications that are currently active. Clicking the icon will bring up an information bubble with additional information for Chain requirements, Road Information, and Incidents; an image of what is currently on the Changeable Message Sign for CMS and the latest image from the CCTV for CCTV. See Figure 14, Figure 15, Figure 16, Figure 17 and Figure 18. Note that it may be necessary to zoom in to see all available information.

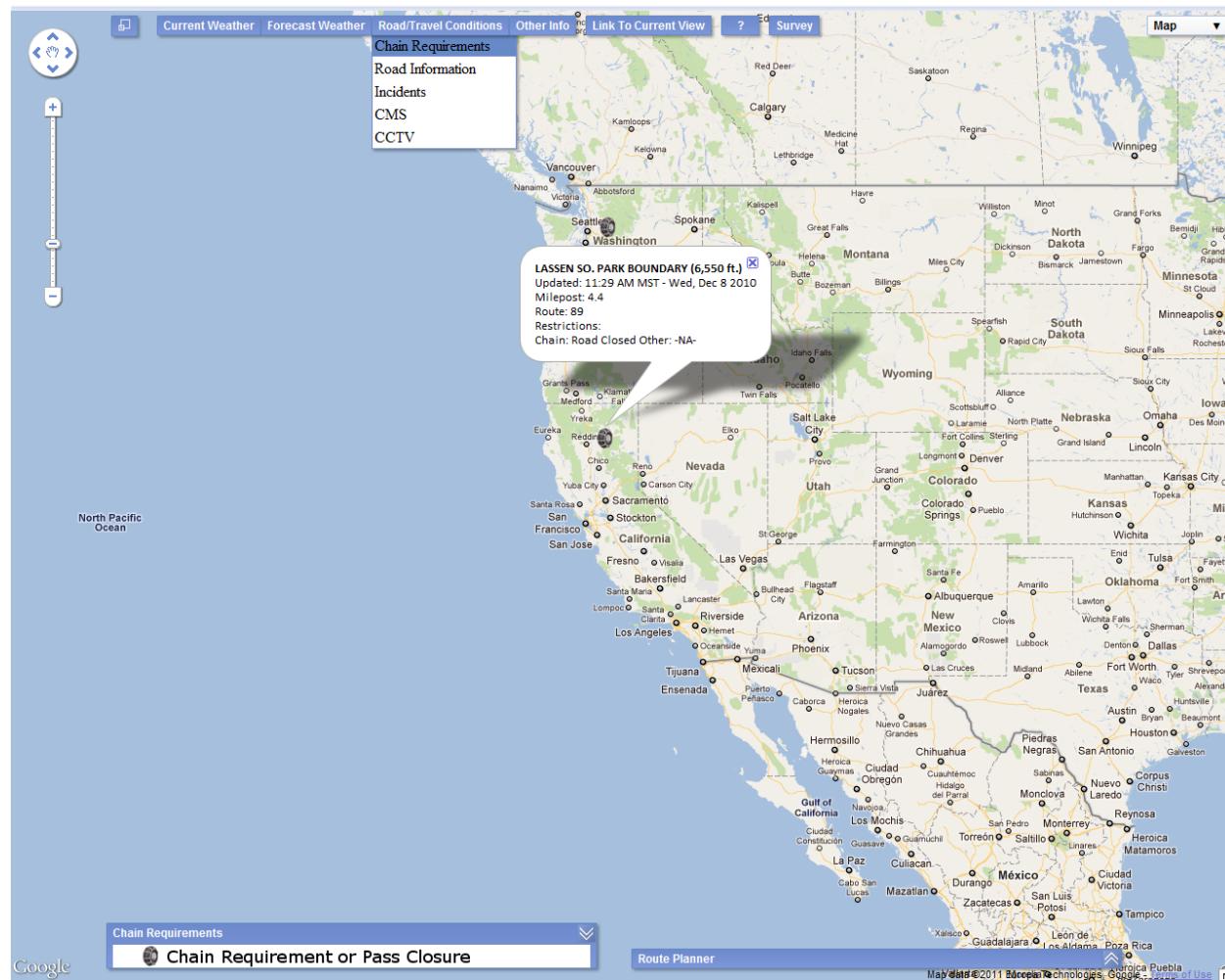


Figure 14: Clarus OSS Road/Travel Conditions - Chain Control Display

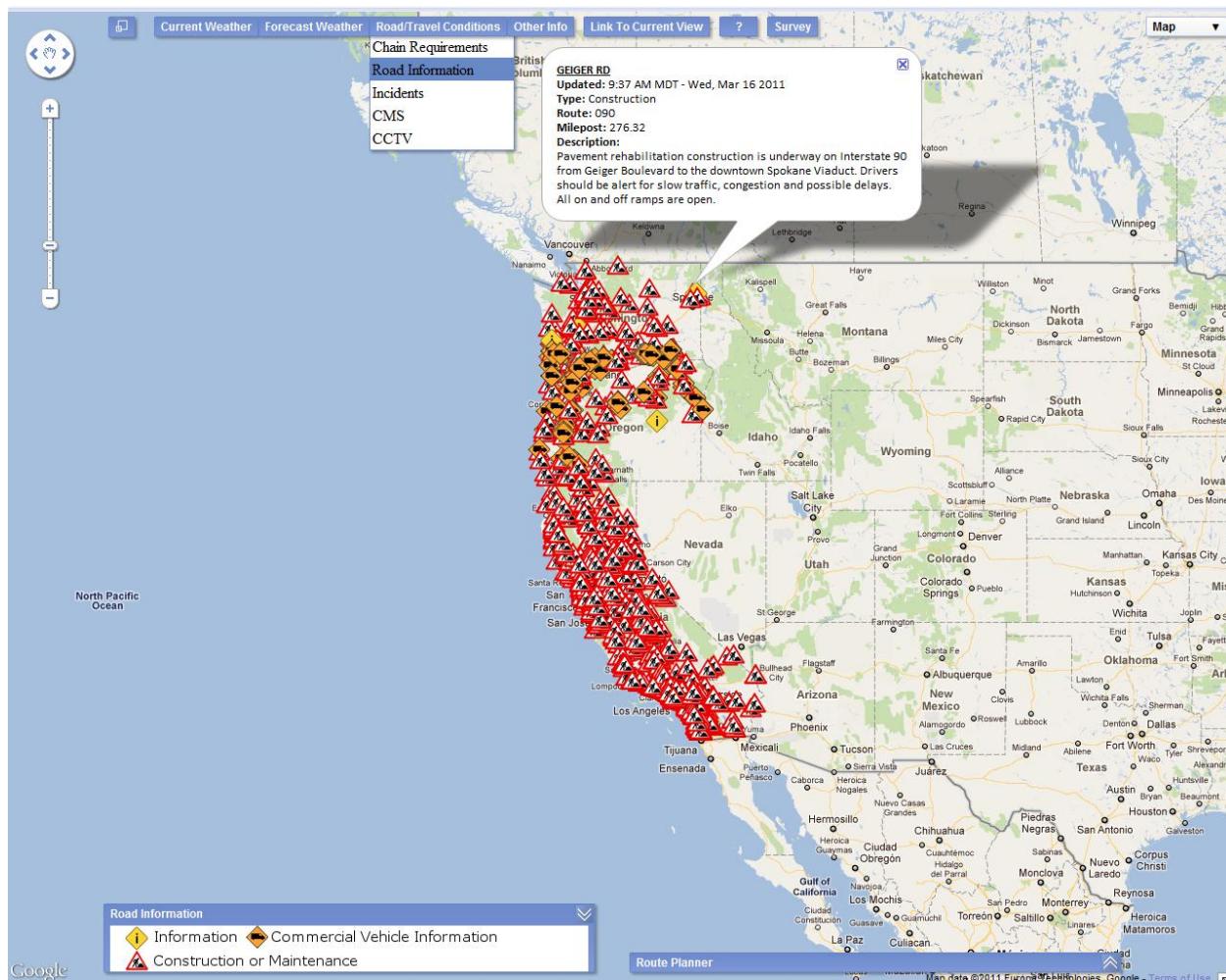


Figure 15: Clarus OSS Road/travel Conditions - Road Information Display

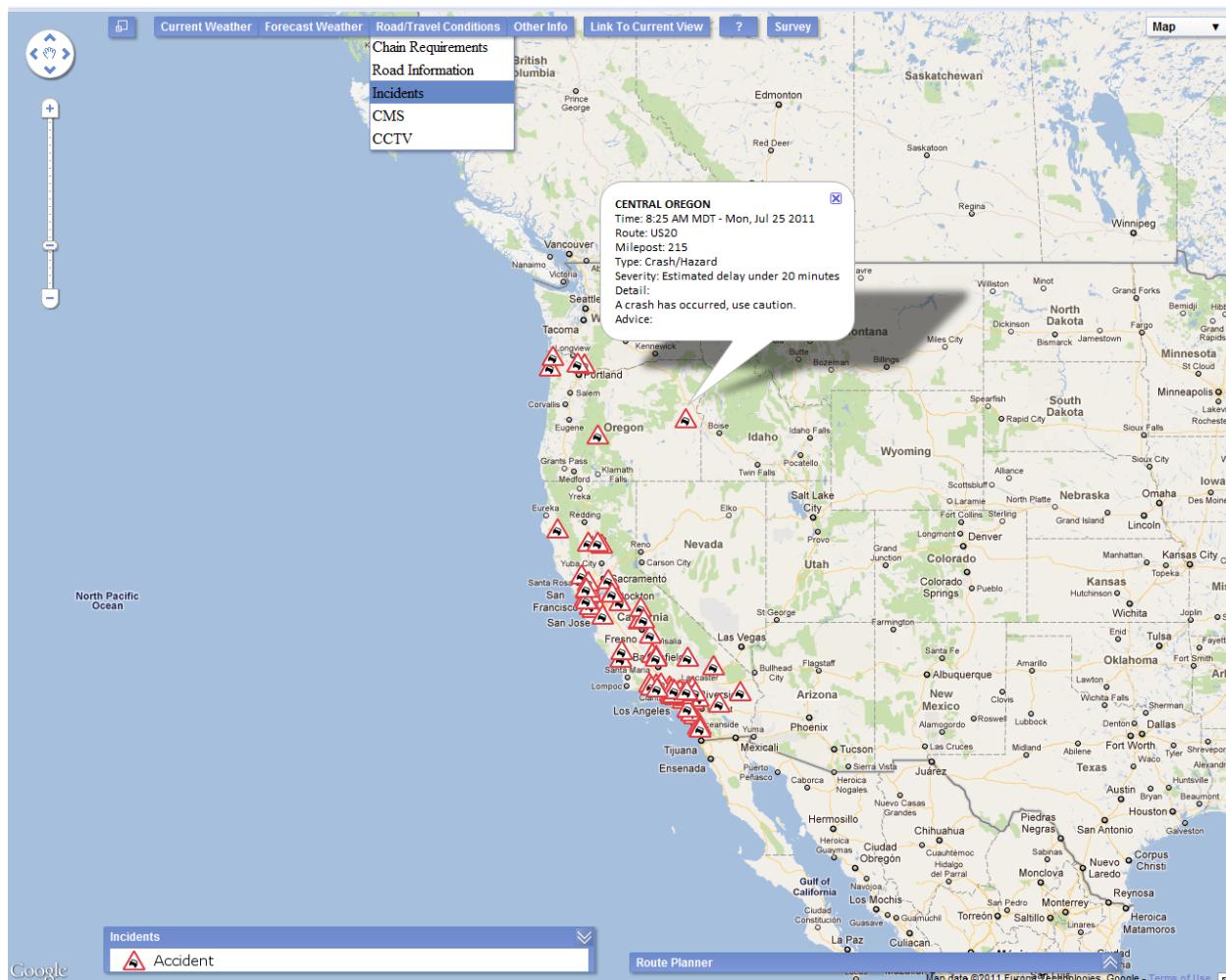


Figure 16: Clarus OSS Road/travel Conditions - Incidents Display

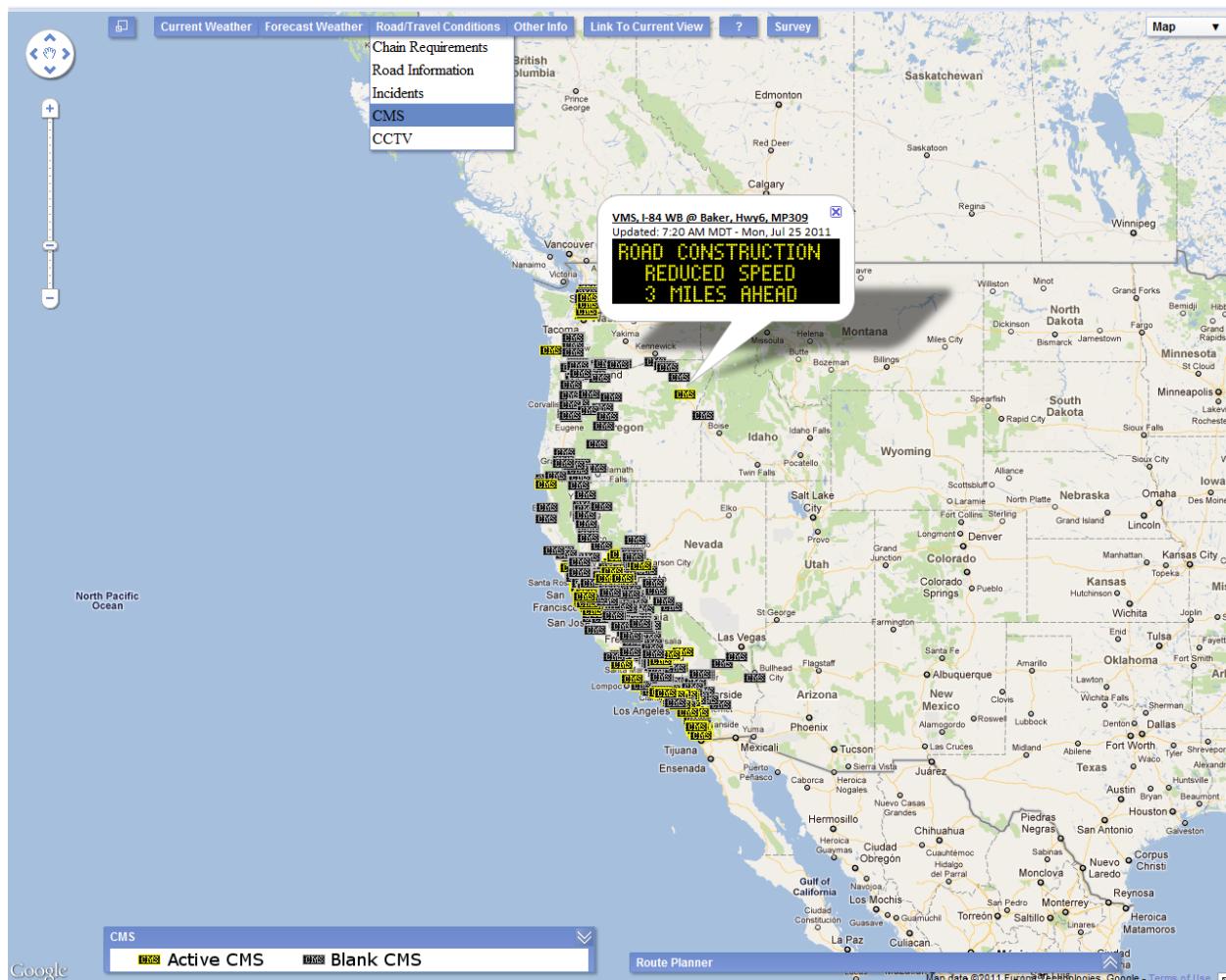


Figure 17: Clarus OSS Road/travel Conditions - CMS Display

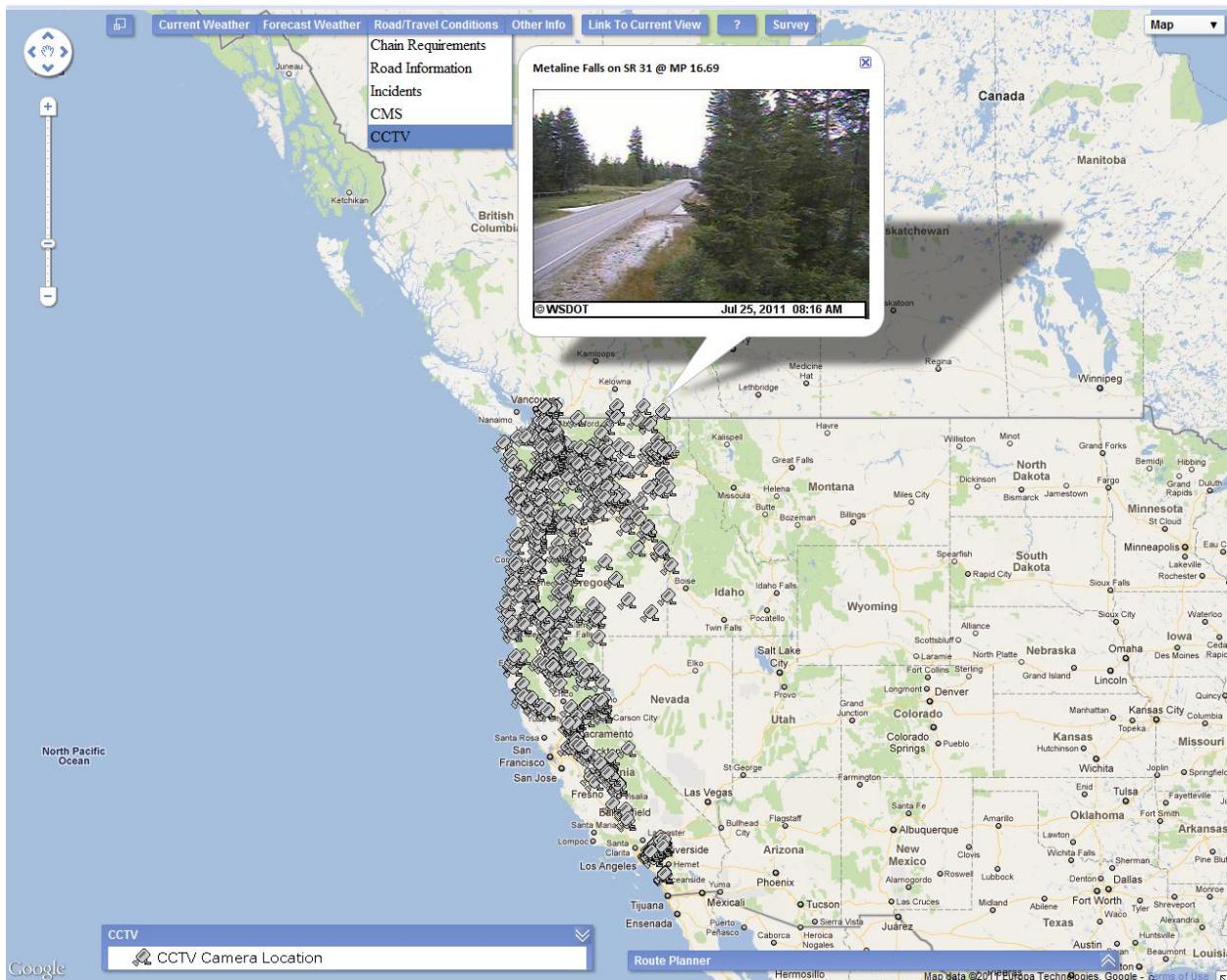


Figure 18: Clarus OSS Road/travel Conditions - CCTV display

Other Info

Under the “Other Info” option you can access data layers that show relatively static data items. These include Rest Areas, Features of Interest, Truck Scales, and Summit Locations. Clicking the icon will bring up an information bubble with additional information where available. See Figure 19, Figure 20, Figure 21 and Figure 22.

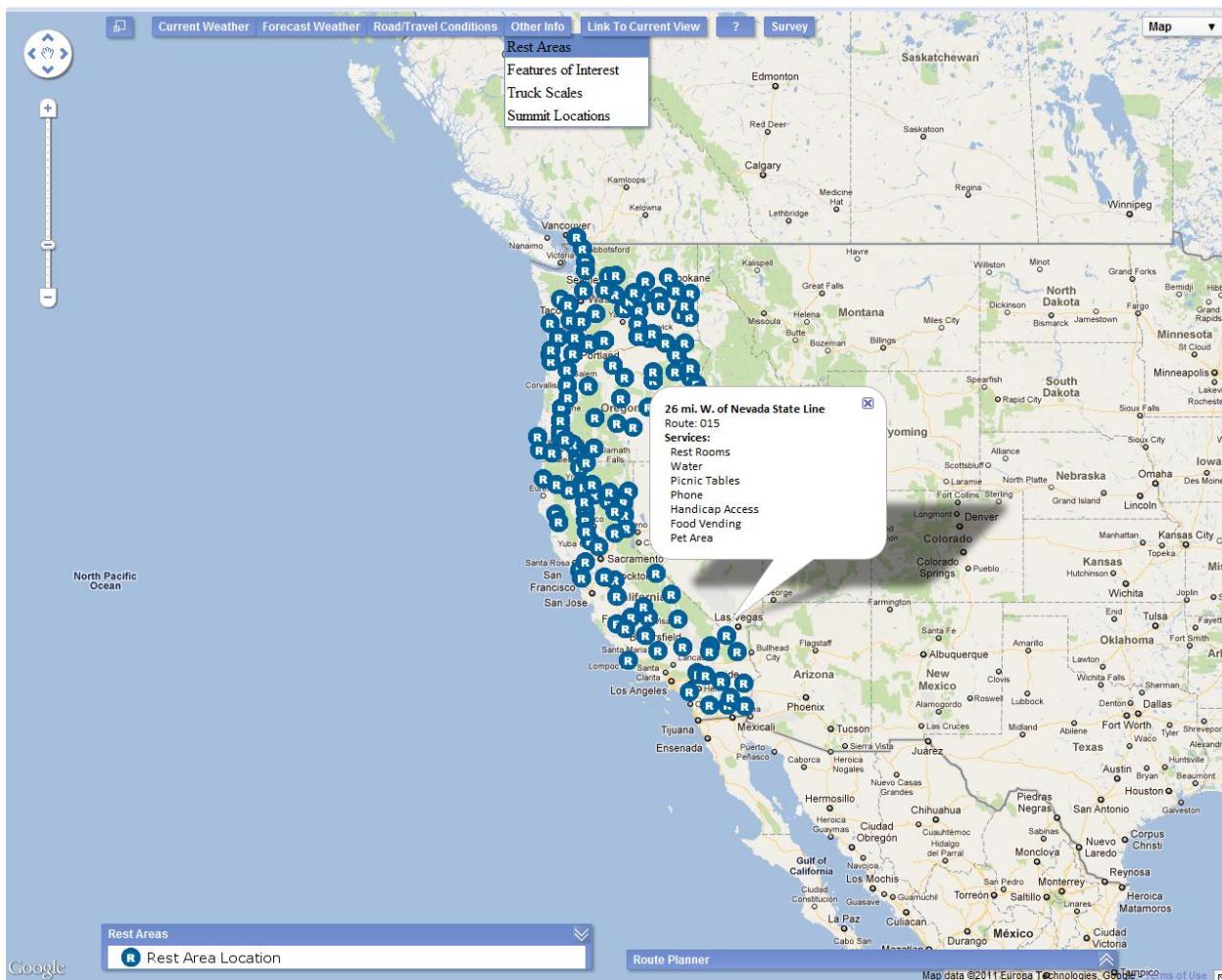


Figure 19: Clarus OSS Other traveler Info - Rest Areas

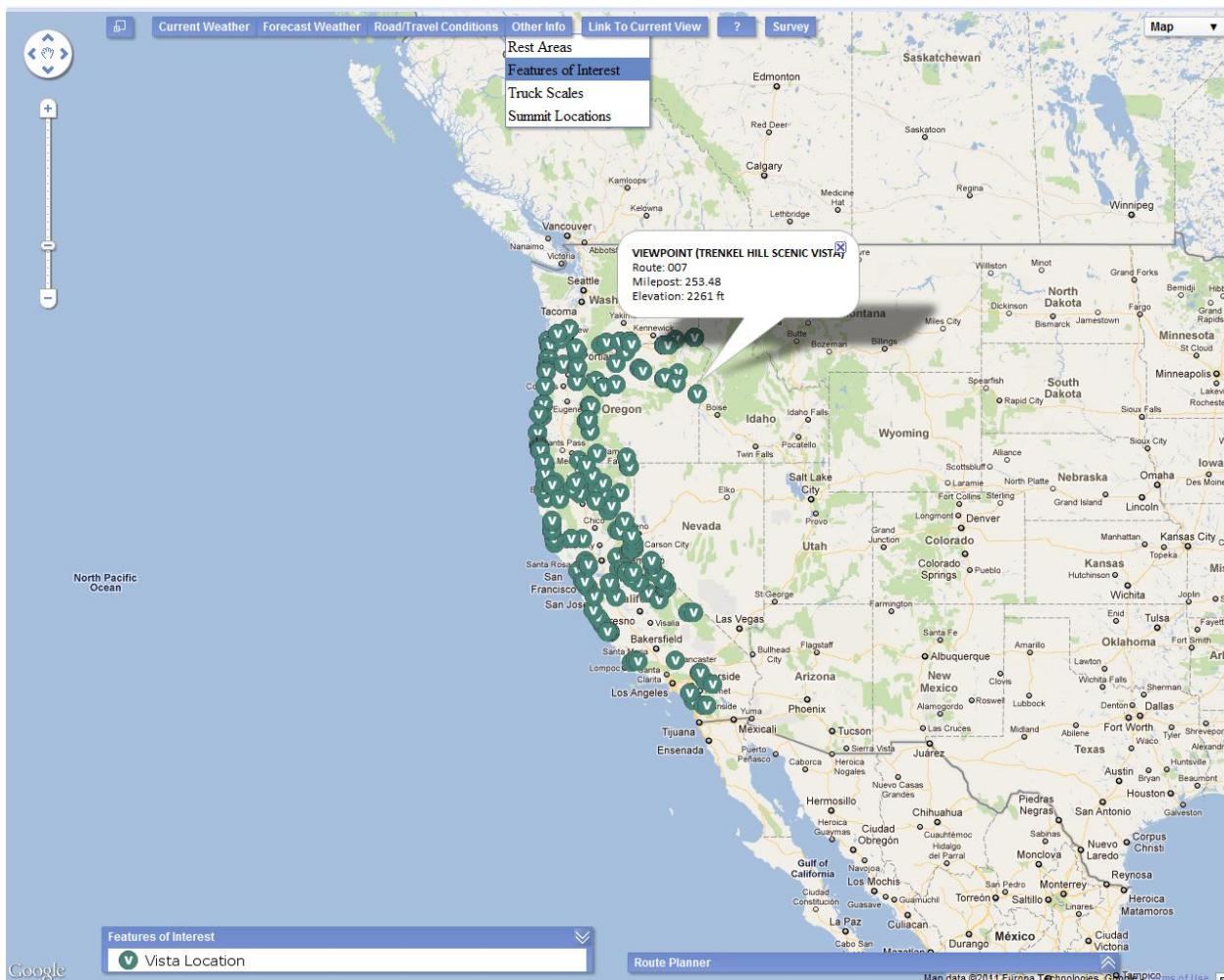


Figure 20: Clarus OSS Other Traveler Info - Features of Interest Display

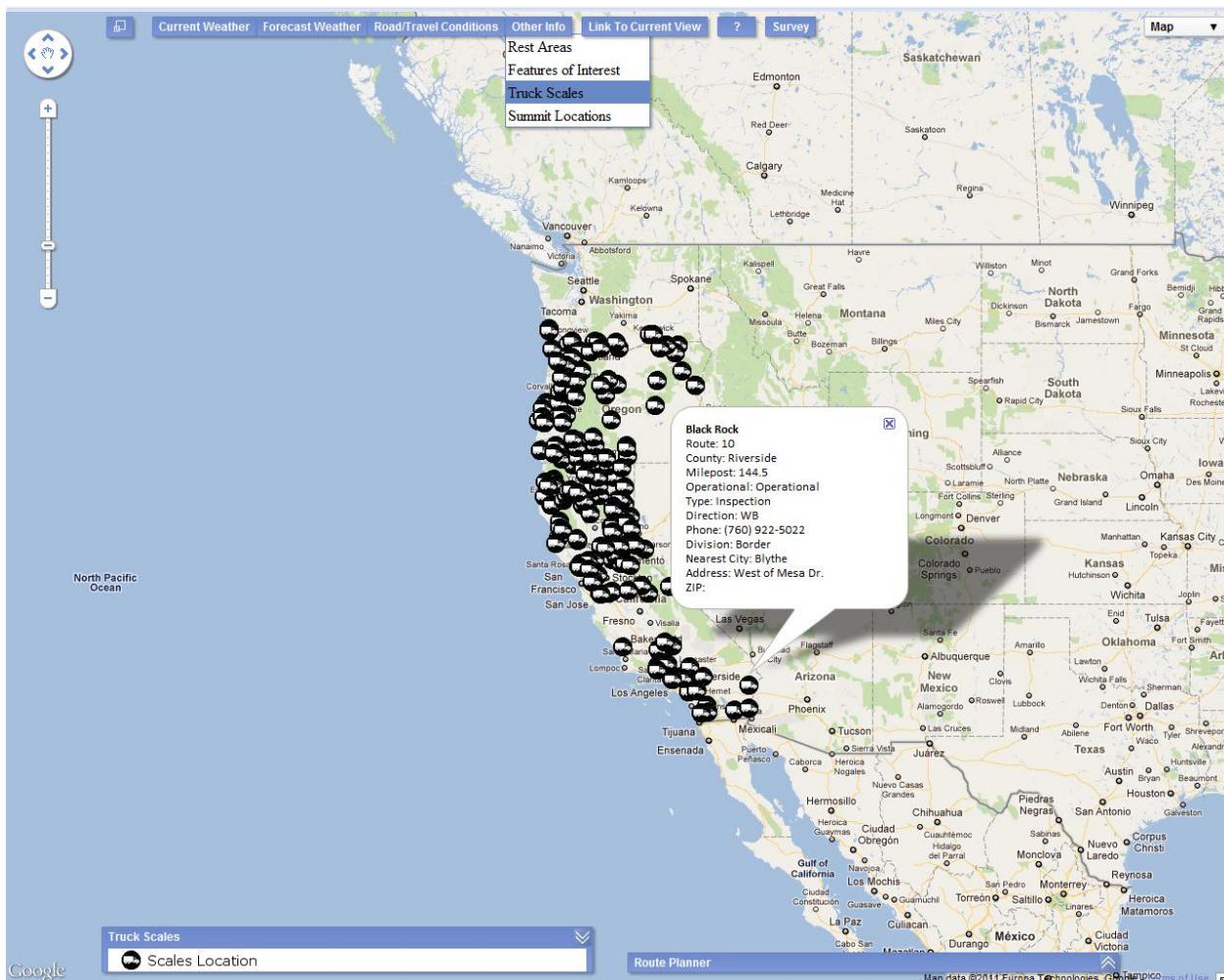


Figure 21: Clarus OSS Other Traveler Info - Truck Scales Display

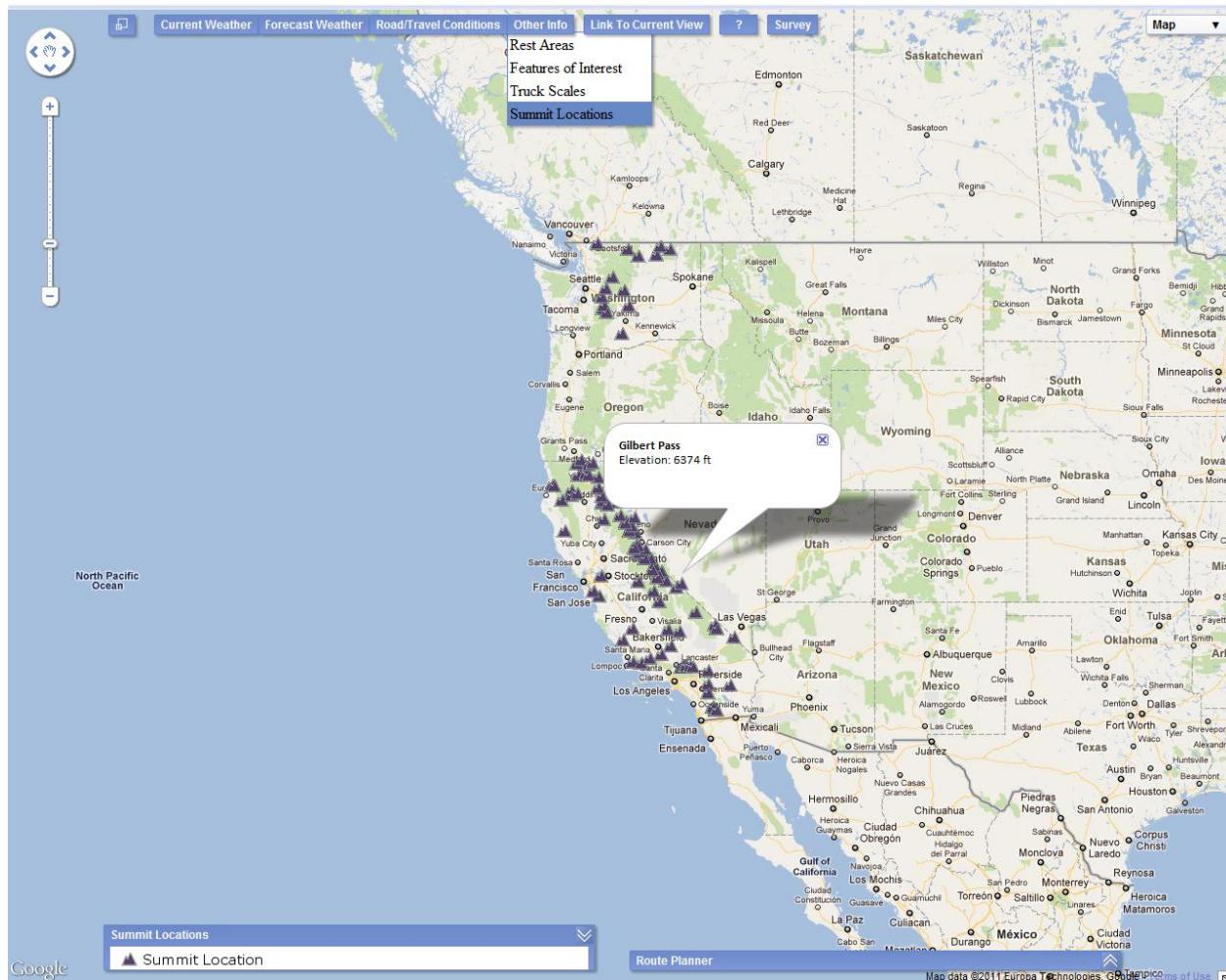


Figure 22: Clarus OSS Other Traveler Info - Summit Locations Display

Using Clarus OSS

Zooming the Map

There are a few options for zooming the maps. Double clicking, with the left mouse button, on a spot other than on a station icon (the mouse pointer will be an open hand) within the map will cause the map to zoom in and center on that location. Double clicking, with the right mouse button, on a spot other than on a station icon within the map will cause the map to zoom out and center on that location.

The zoom and pan control at the top, left of the center pane (Figure 23) can be used to zoom in or zoom out, using the or icons or dragging the slider up or down. To return to the full view, click the icon to the right of the pan/zoom control.

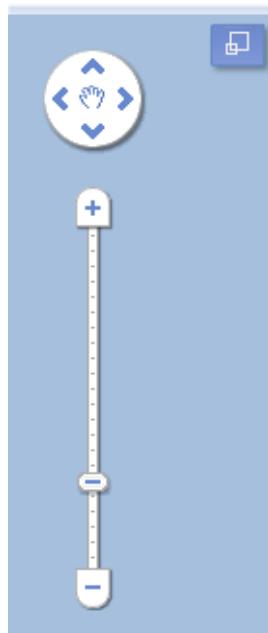


Figure 23: Pan/Zoom Control

Panning the Map

Single clicking and holding down the left mouse button over a spot other than a station icon (the mouse pointer will change from an open hand to a closed hand) will allow you to pan, or drag, the map display right, left, up or down. To return to full view, click the  icon in the center of the pan/zoom control on the center pane.

You can also use the pan control,  to pan up, down, right, or left. To return to full view, click the  icon to the right of the pan/zoom control.

Displaying Detailed Station Data

If you wish to view detailed station data for a particular station, hover the mouse over the desired station, the mouse pointer should change to a hand with raised index finger. A dialog box with the summary of the station will pop up; clicking on the station will bring up a dialog bubble with full, detailed station data. See Figure 24. To remove this bubble click the on the top right of the bubble or select another station.

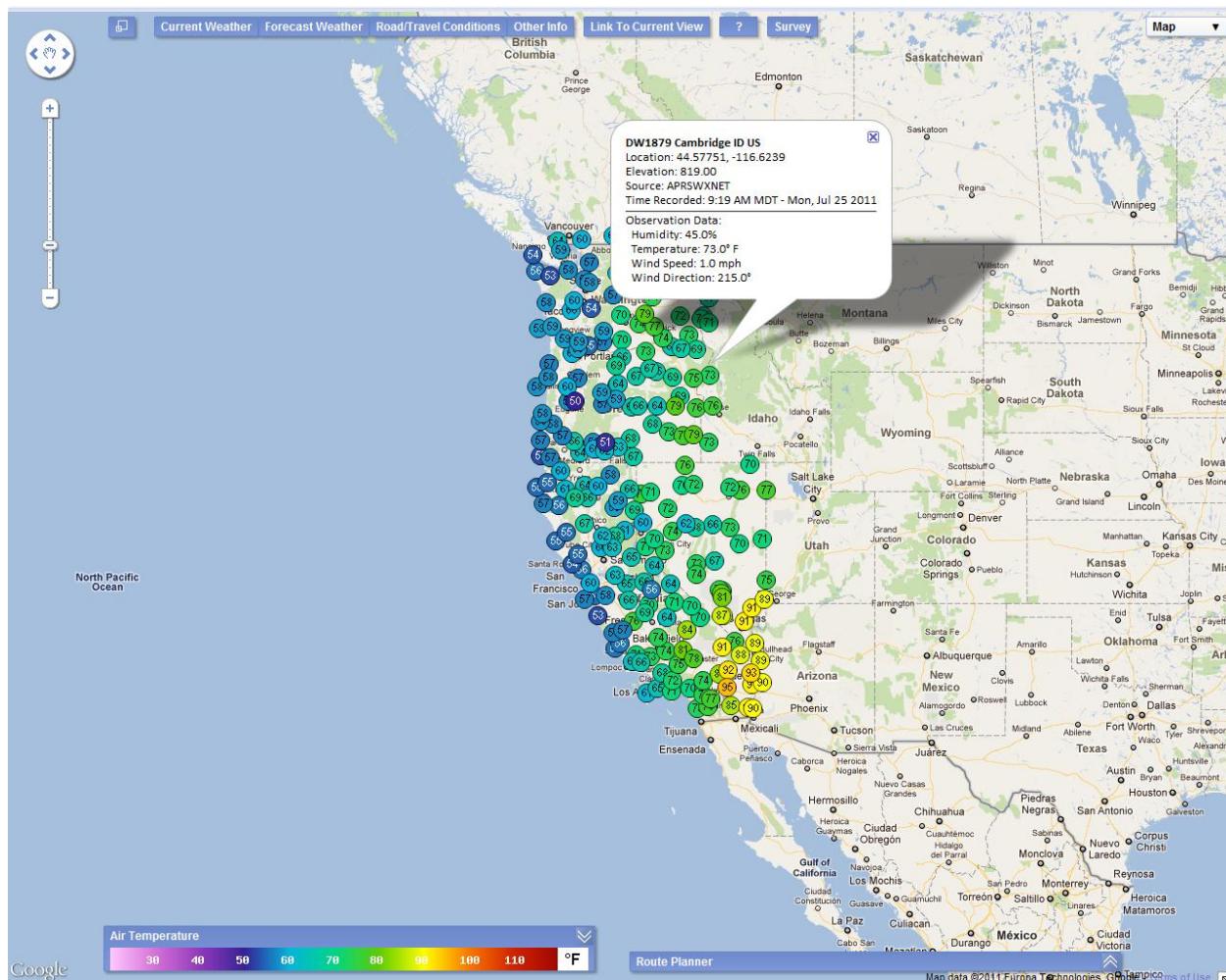


Figure 24: Clarus OSS Detailed Station Data

Displaying Current Weather

Hover over the **Current Weather** tab on the menu bar to display the menu, and then click on the layer you wish to display.

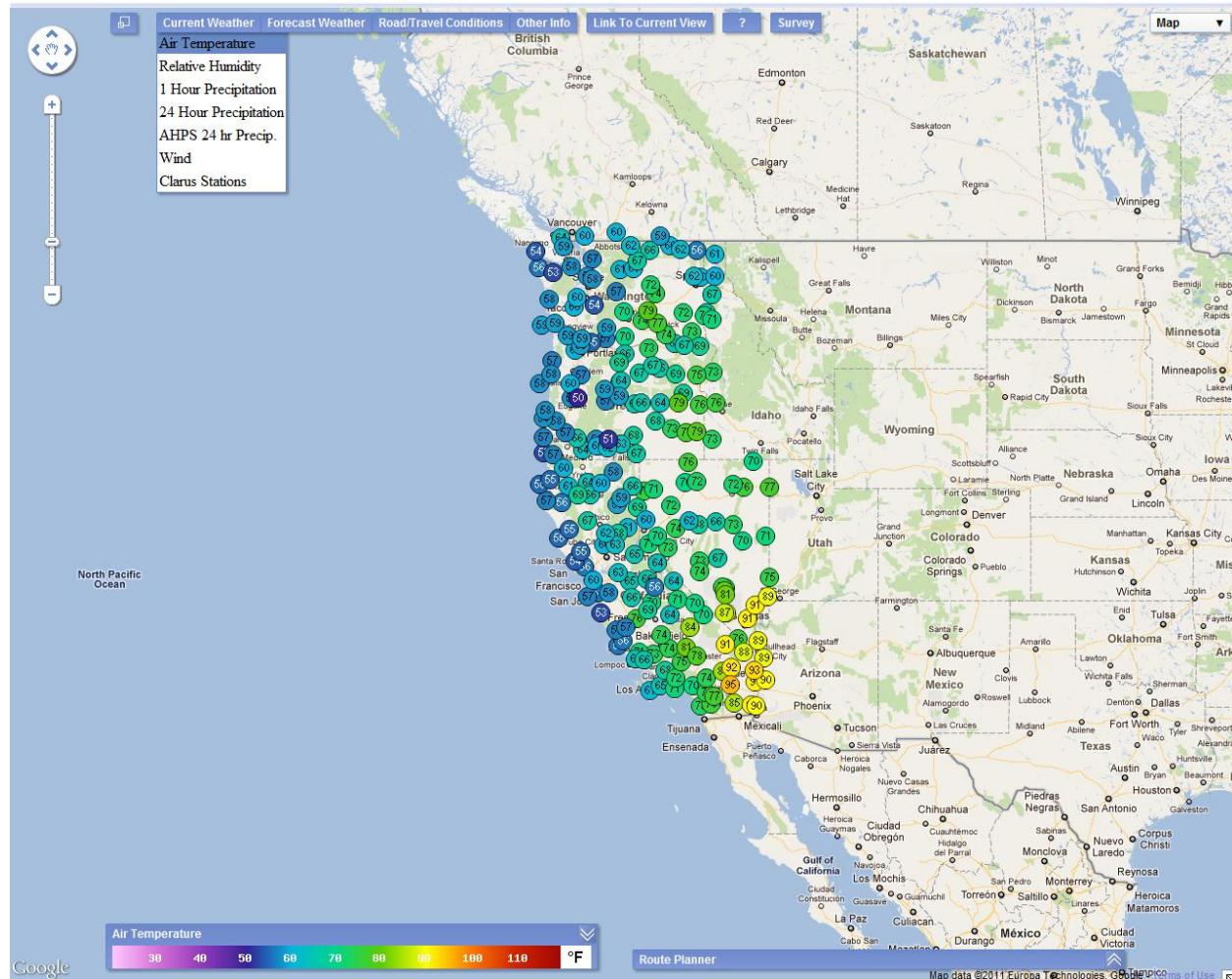


Figure 25: Clarus OSS Current Weather display options

Displaying Forecast Data

Hover over the **Forecast Weather** menu bar to display the menu, and then click on the layer you wish to display. Using the **Time:** drop-down box you can select a future date/time for the forecast data or use the forward/backward arrows next to the **Time:** drop-down box to scroll incrementally through the available forecasts.

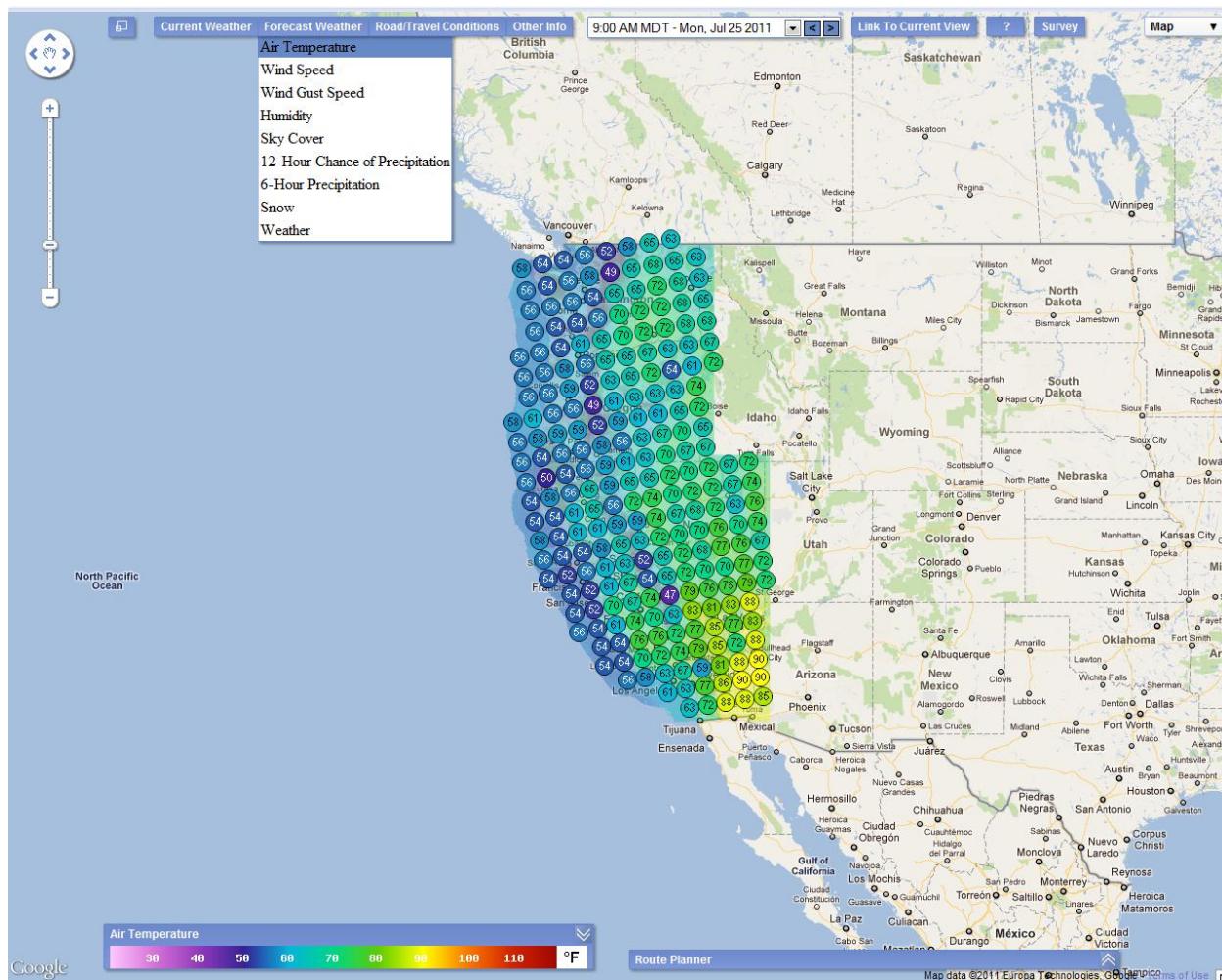


Figure 26: Clarus OSS Forecast Display Options

Displaying Road/Travel Conditions

Hover over the **Road/Travel Conditions** menu bar to display the menu, and then click on the layer you wish to display.

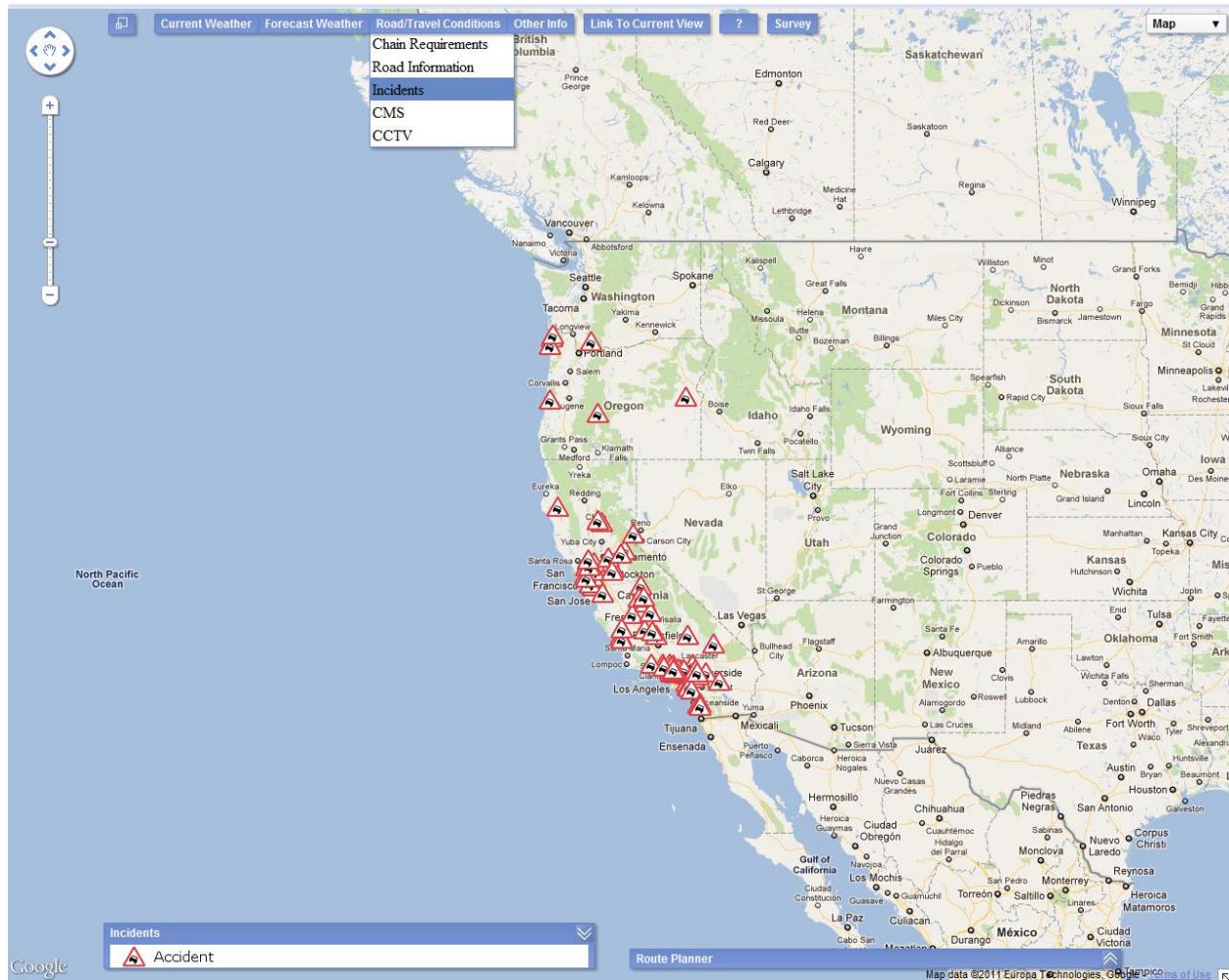


Figure 27: Clarus OSS Road/Travel Conditions Options

Displaying Other Info

Hover over the **Other Info** menu bar to display the menu options, and then click on the layer you wish to display.

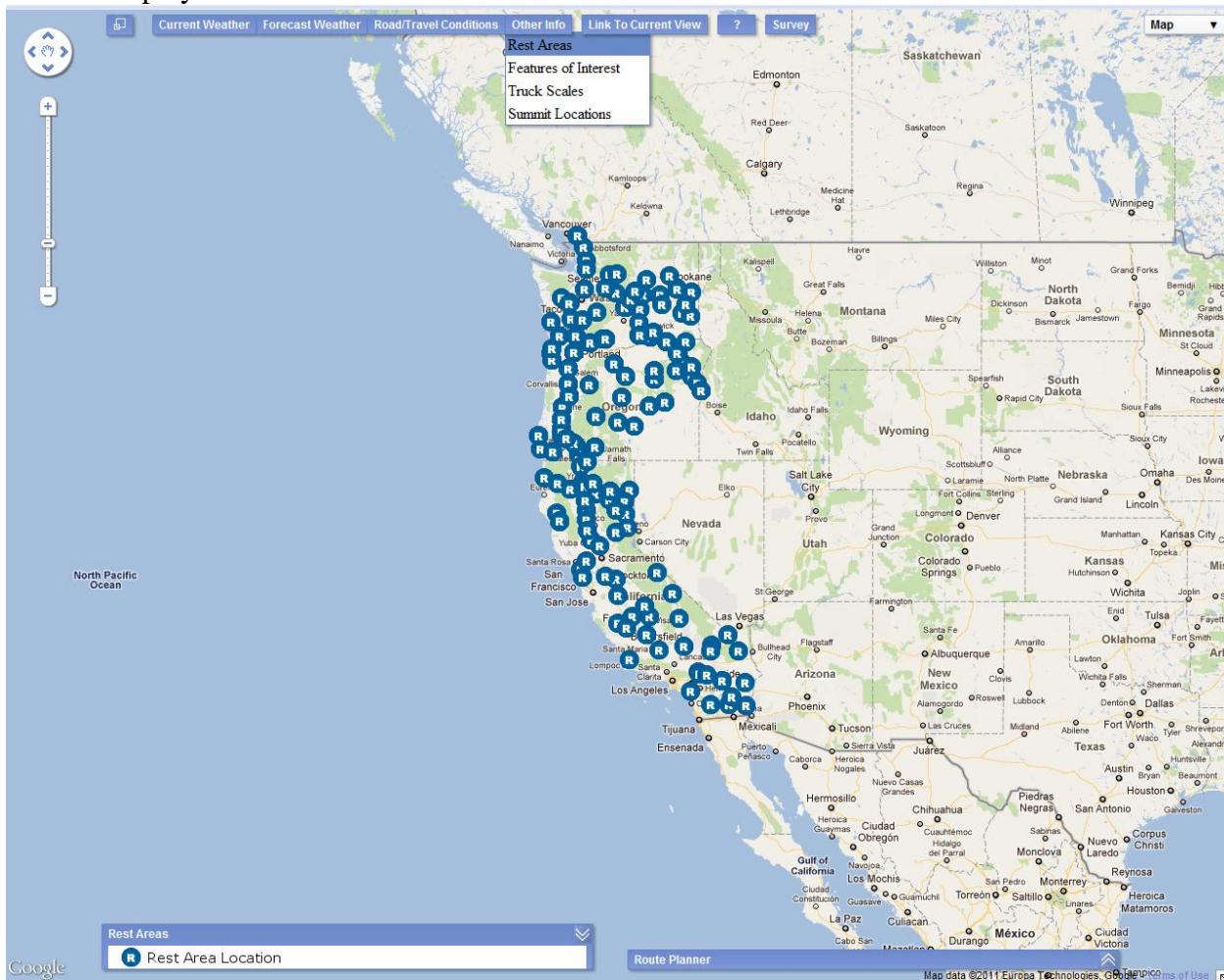


Figure 28: Clarus OSS Other Traveler Info Options

Saving and Restoring the Current View

You can use the **Link To Current View** button to save your current settings as a bookmark and return to this view when desired. After navigating to the data layer, zoom level, and geographic area you are interested in, click the **Link To Current View** button. Parameters for the current view will be added to the URL in the browsers address bar and a message will be displayed stating “You may now bookmark this site or copy the URL from the URL Bar to save the current view”. You can now use your browsers Bookmark or Favorites function to save these settings. To restore the saved view, call up the bookmark from your browsers bookmark or favorites menu.

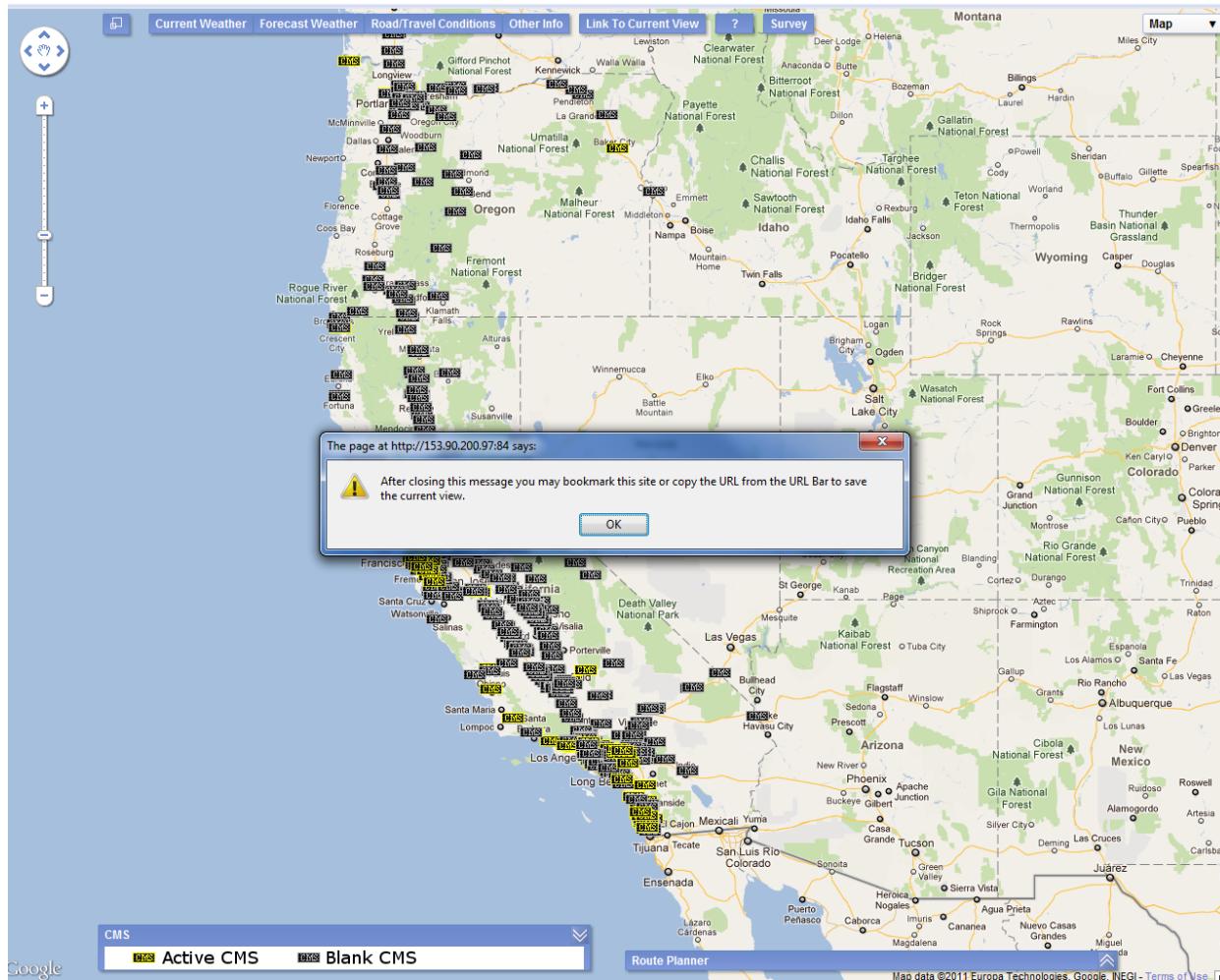


Figure 29: Clarus OSS Link To Current View Message

Changing the Map View

You can use the **Map** drop down menu on the top right of the screen to display the data on different map views. You can select from a street map (Map), a Terrain map (Map with Terrain checked), a Satellite view (Satellite) and a hybrid view (Satellite with Labels checked). See Figure 30 and Figure 31.

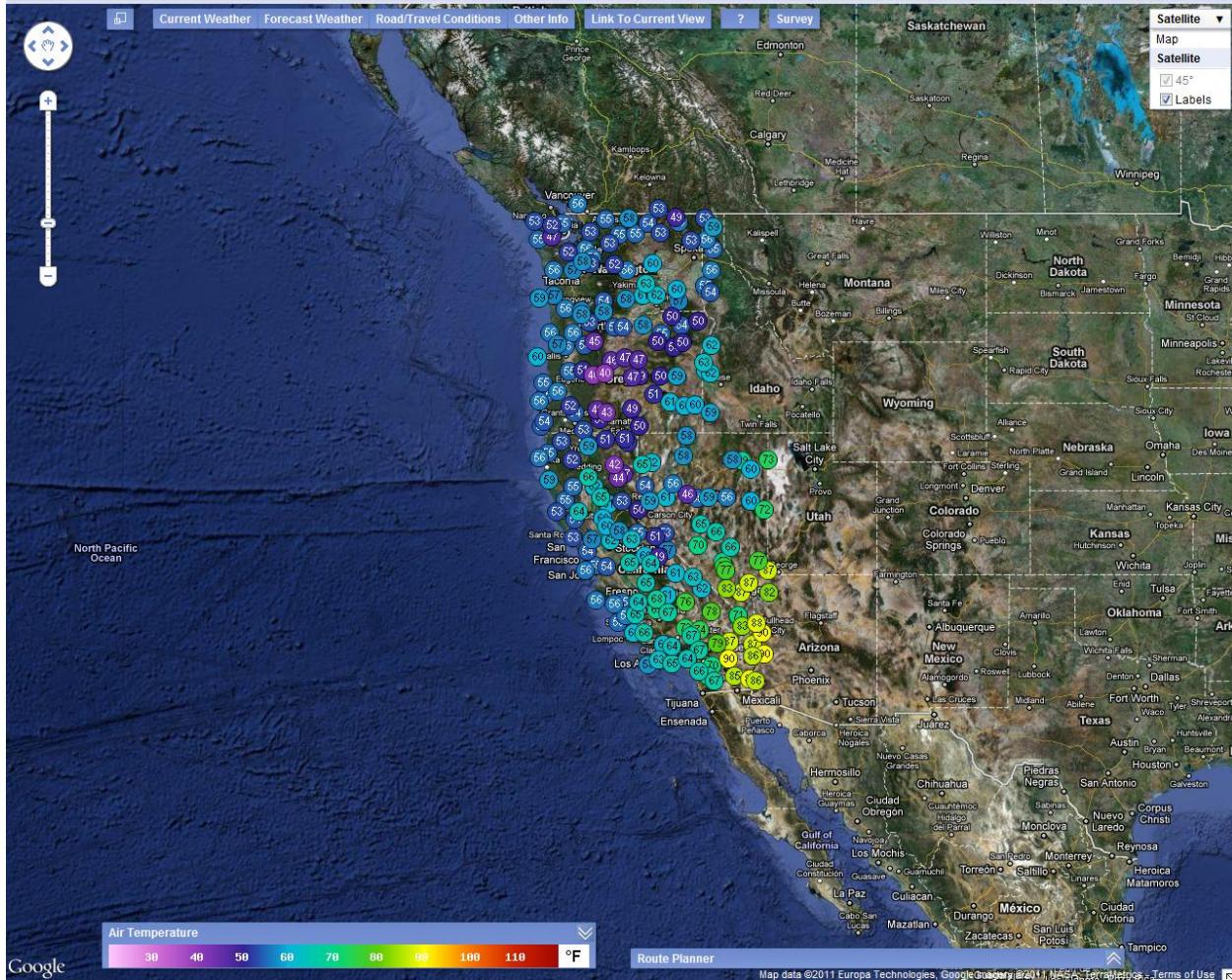


Figure 30: Clarus OSS Satellite View

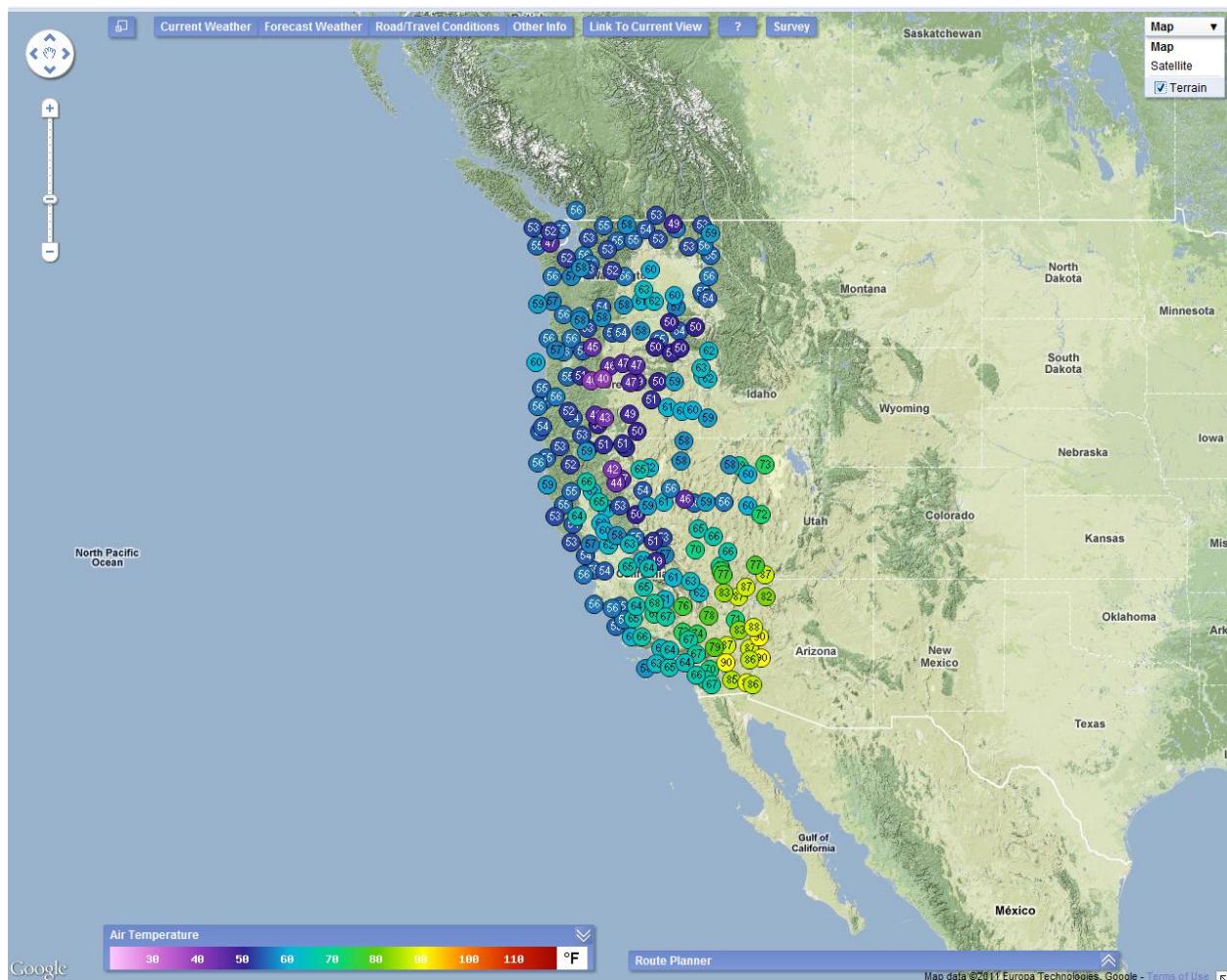


Figure 31: Clarus OSS Terrain View

Showing and Hiding the Legend

By default a legend is displayed on the bottom of the page for all layers. The Legend can be minimized by clicking the down arrows  on the right side of the Legend. To show the legend, click the up arrows  on the right side of the collapsed legend bar.

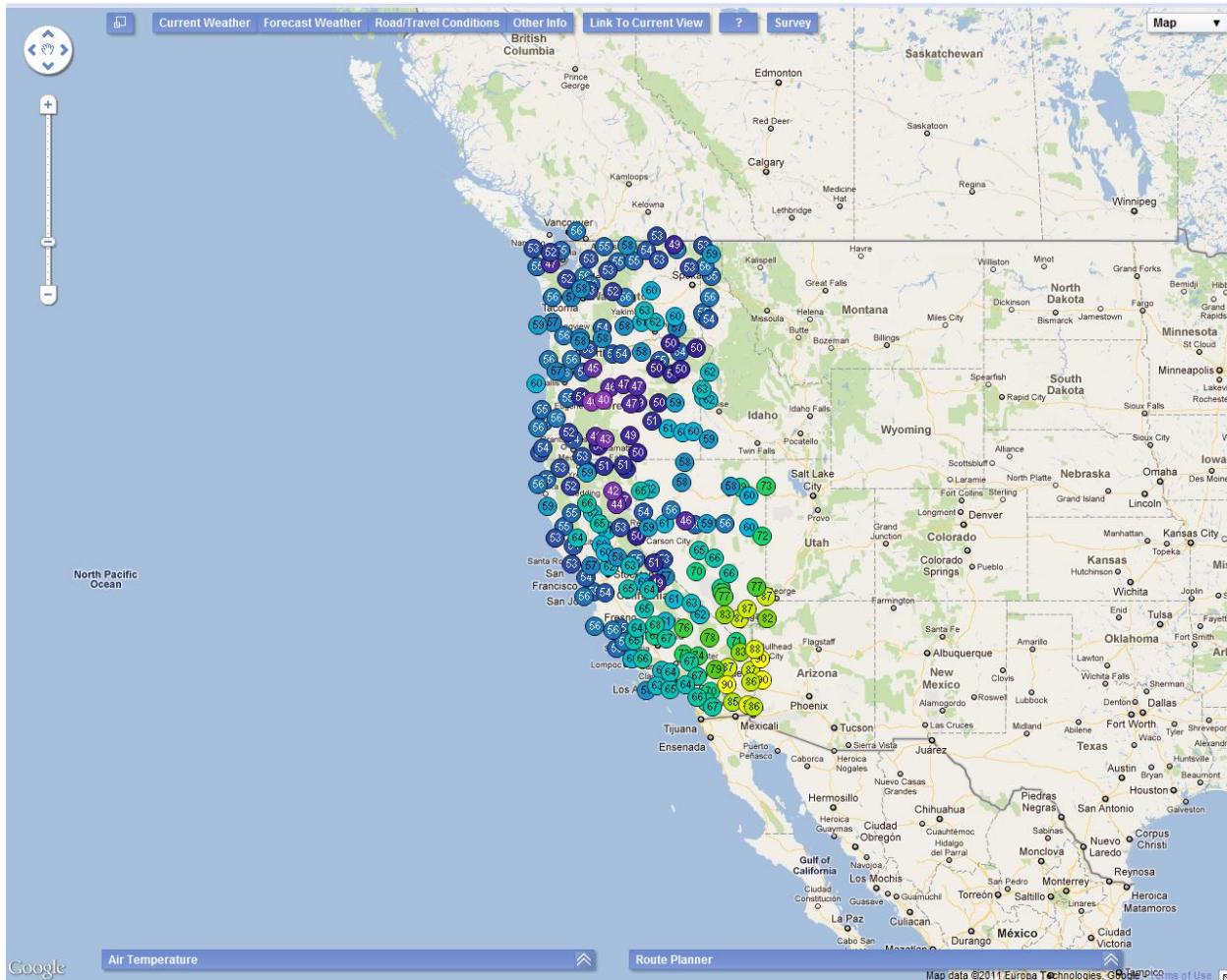


Figure 32: Clarus OSS Minimized Legend

Using the Route Planner

The Route Planner can be used to display a route between two locations of your choice. By default the Route Planner dialog is minimized. To display the Route Planner click the up arrows  on the right side of the collapsed Route Planner bar. Type the start and end locations in the appropriate boxes (note that the boxes are initially populated with sample locations) then click the “Plan Route” button. The map then will display the route between the two locations. An elevation profile will be displayed on the bottom of the Route Planner dialog box and reference points will be displayed on both the elevation profile and the map. The reference points can be hidden on the main map by unchecking the “Show Reference Points on Map” box. Hovering the mouse pointer over one of the reference points will display the approximate distance into the route of that point. The route can be cleared from the map by clicking the “Clear Route” button. The Route Planner can be minimized by clicking the down arrows  on the right side of the Route Planner. You may switch between map layers to view current or forecast conditions along the route and the route will continue to be displayed until the Clear Route button is selected. For instance, you might view precipitation reports along the route and then switch to the CCTV layer to see if rain or snow is visible.

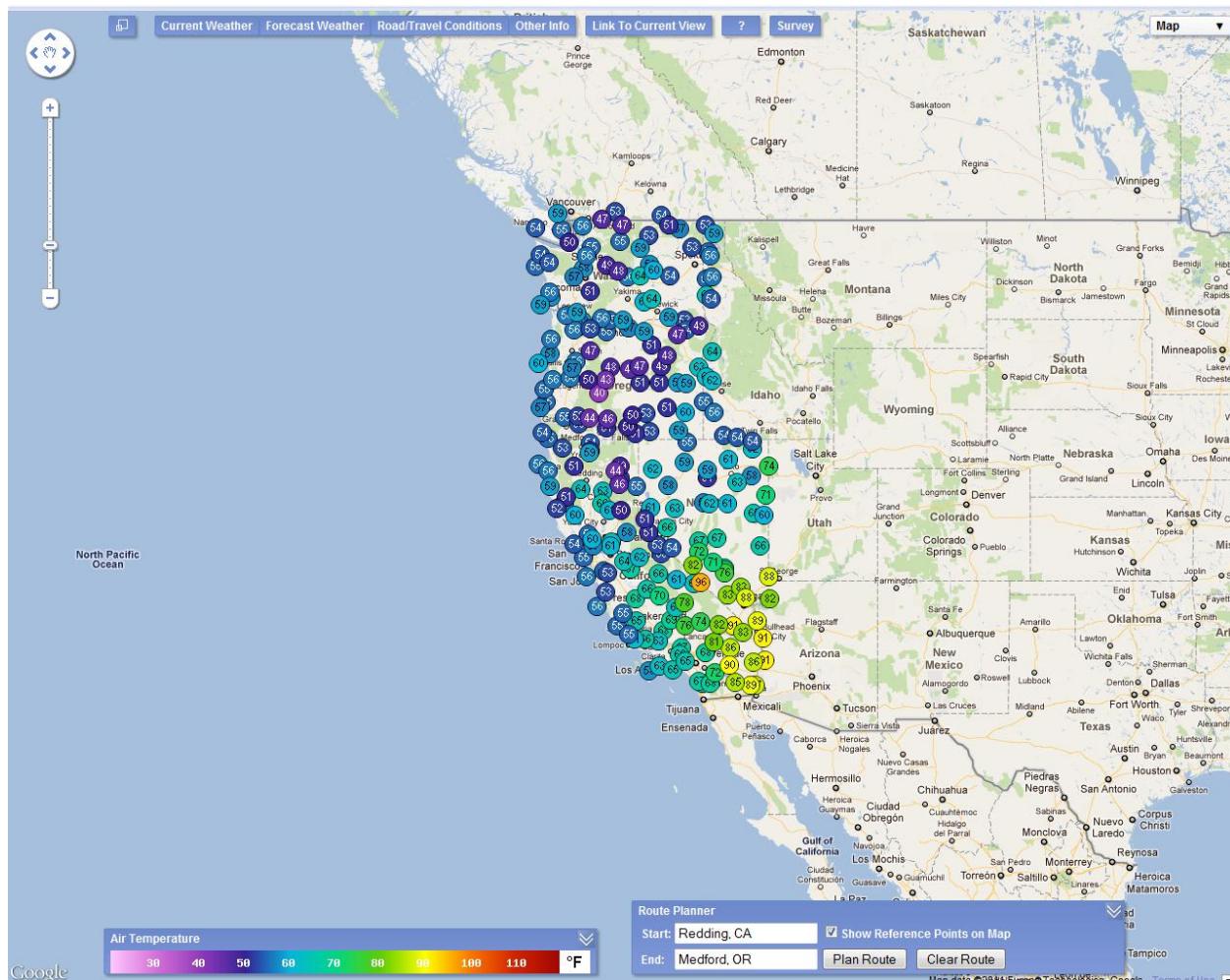


Figure 33: Clarus OSS Route Planner initial display

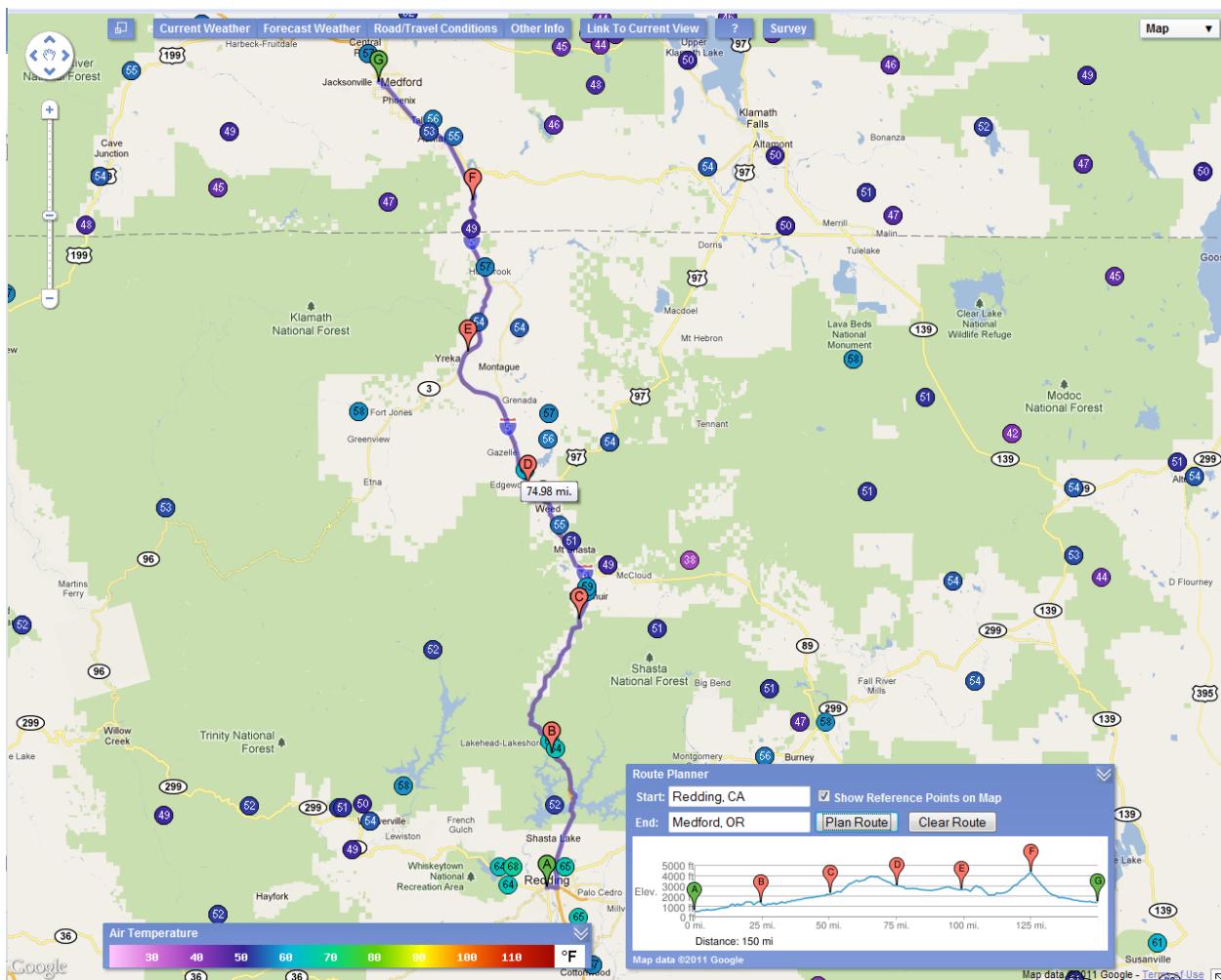


Figure 34: Clarus OSS Route Planner with route displayed