One Stop Shop (OSS) and WeatherShare Update – January 12th, 2011

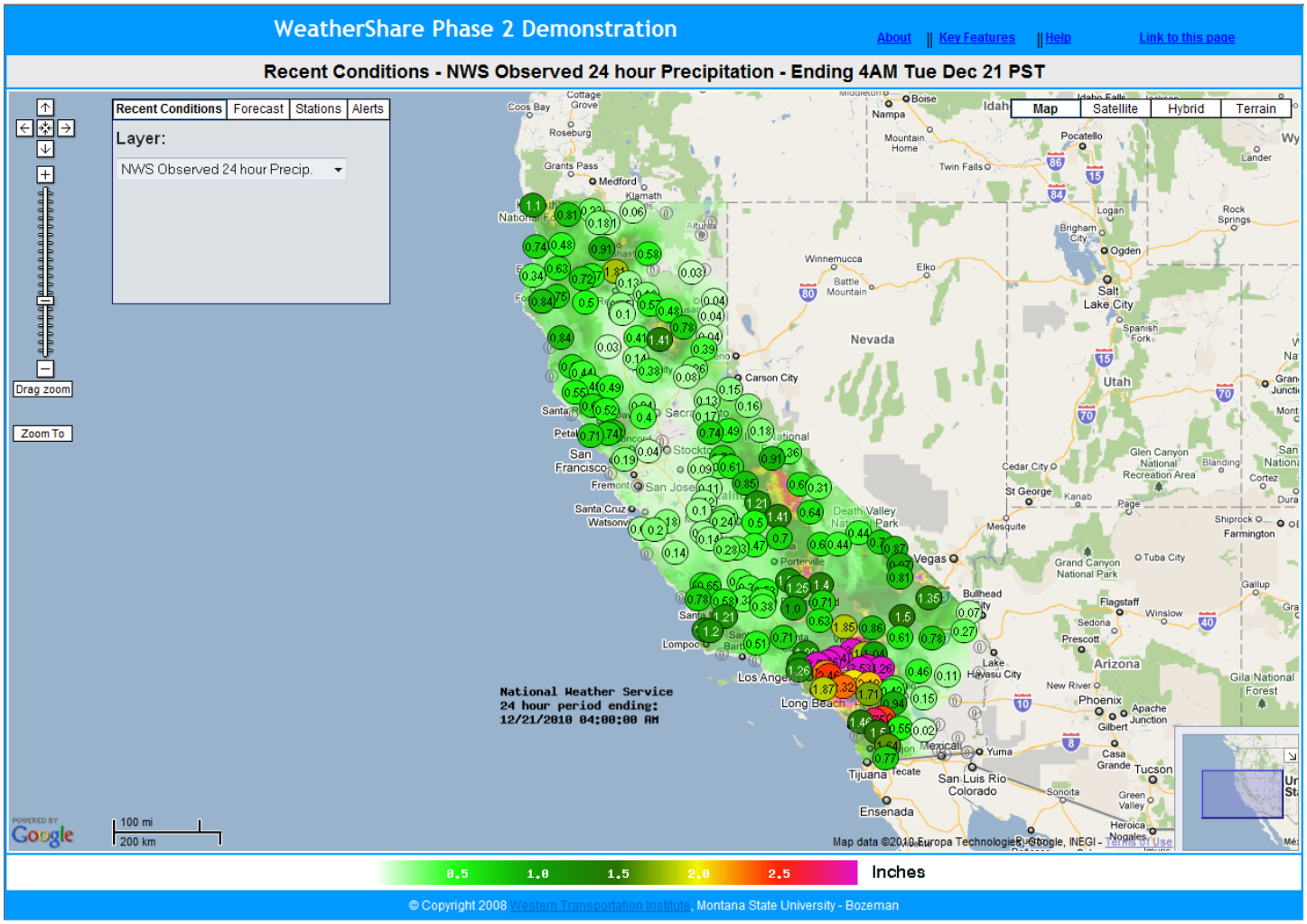
(expanded version)

One Stop Shop (OSS) and WeatherShare are overlapping, but complementary websites. While WeatherShare is geared towards weather information only, One Stop Shop adds information such as camera images and sign messages. And, OSS provides coverage for Oregon, although weather information is only shown for California. It's taken us a couple weeks to put this update together, but we wanted to show how these systems indicate severe weather and road conditions.

On December 21st and 22nd, there was a great deal of precipitation throughout California and Oregon. Here we've grabbed approximately 50 screenshots to show magnitude of the storm, and the wealth of information available in WeatherShare and OSS.

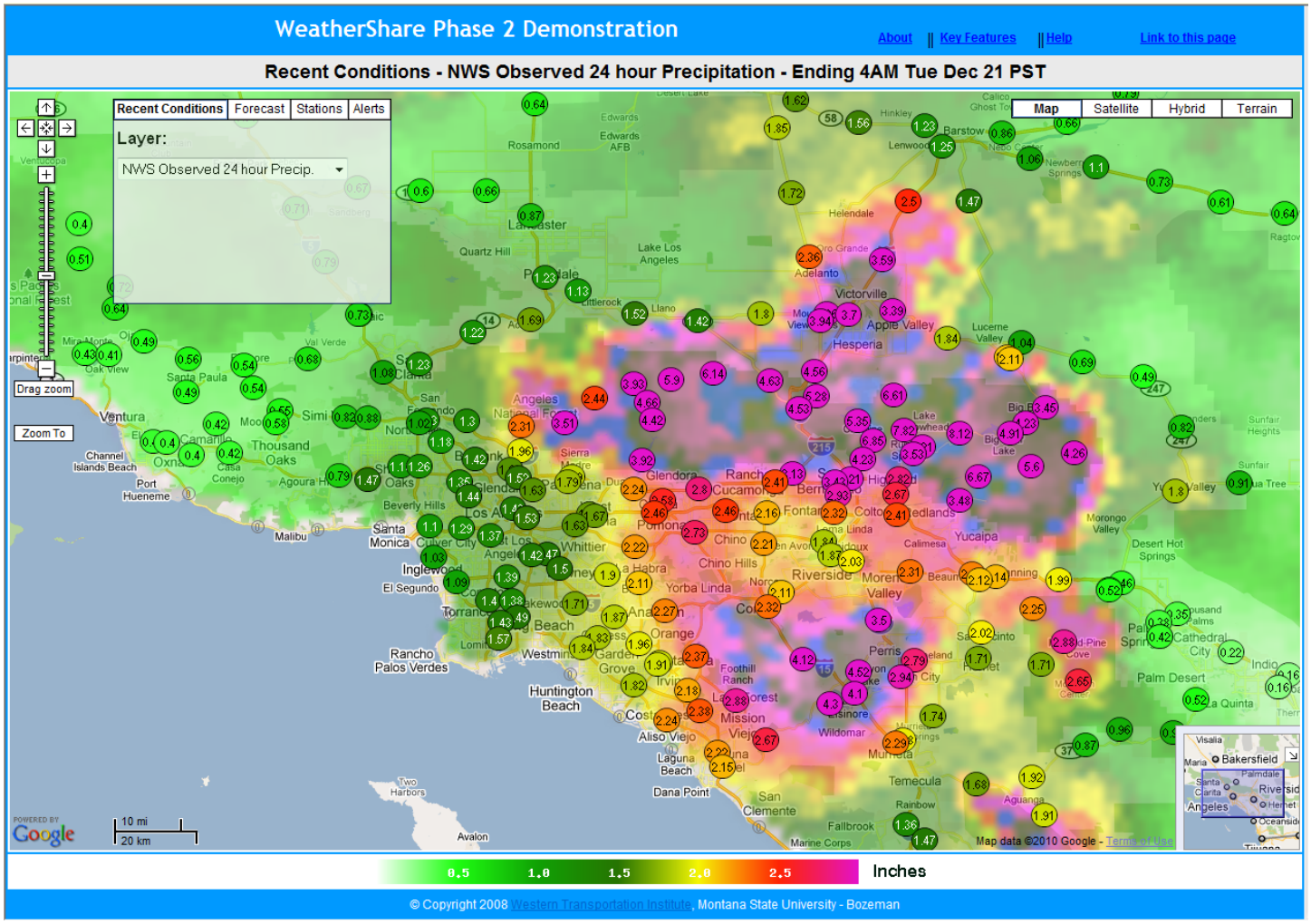
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

The NWS Observed 24 Hour Precipitation layer in WeatherShare (and OSS) shows estimated precipitation throughout California. Information from sensors and some complex models from the PRISM Group at Oregon State University are used to make these estimates. In the following image from WeatherShare, you'll see a large amount of precipitation throughout the state, including very heavy precipitation in the Los Angeles area:



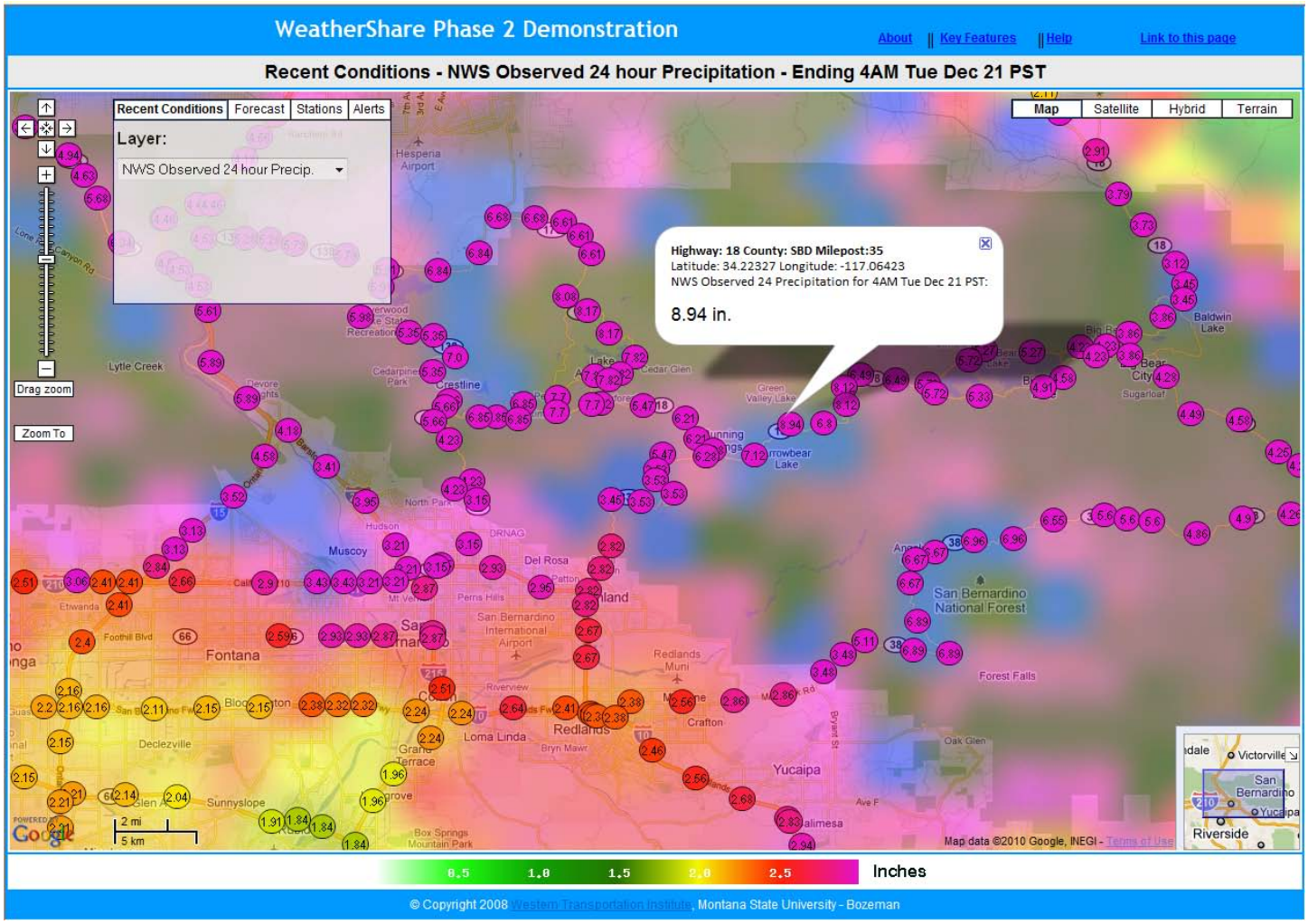
© 2010-2011 Montana State University. All rights reserved.

We zoom in on the Los Angeles area and find values of over 4 inches (and more) from the past 24 hours:



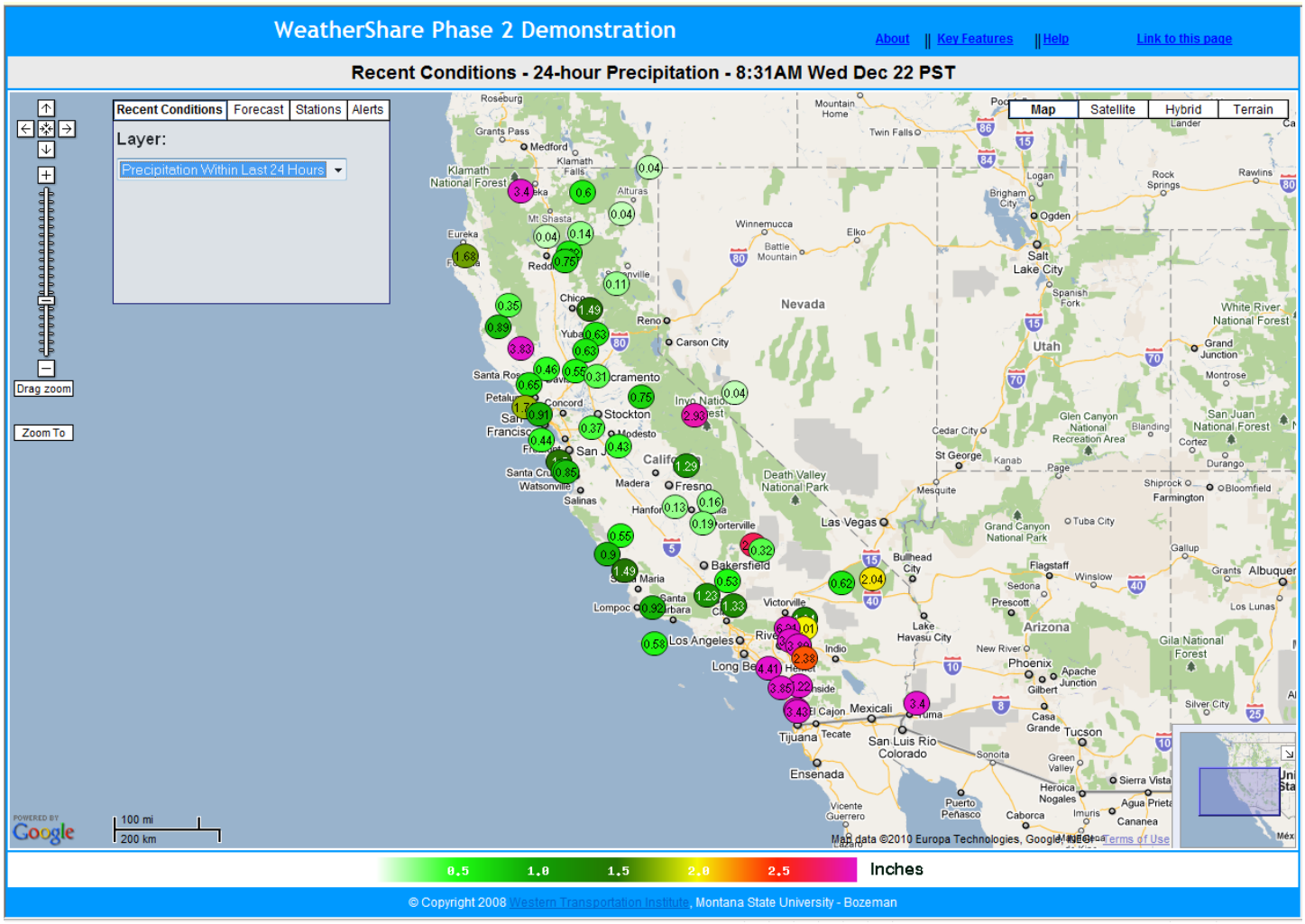
© 2010-2011 Montana State University. All rights reserved.

Here's one of the highest values we found – 8.94 inches along Highway 18:



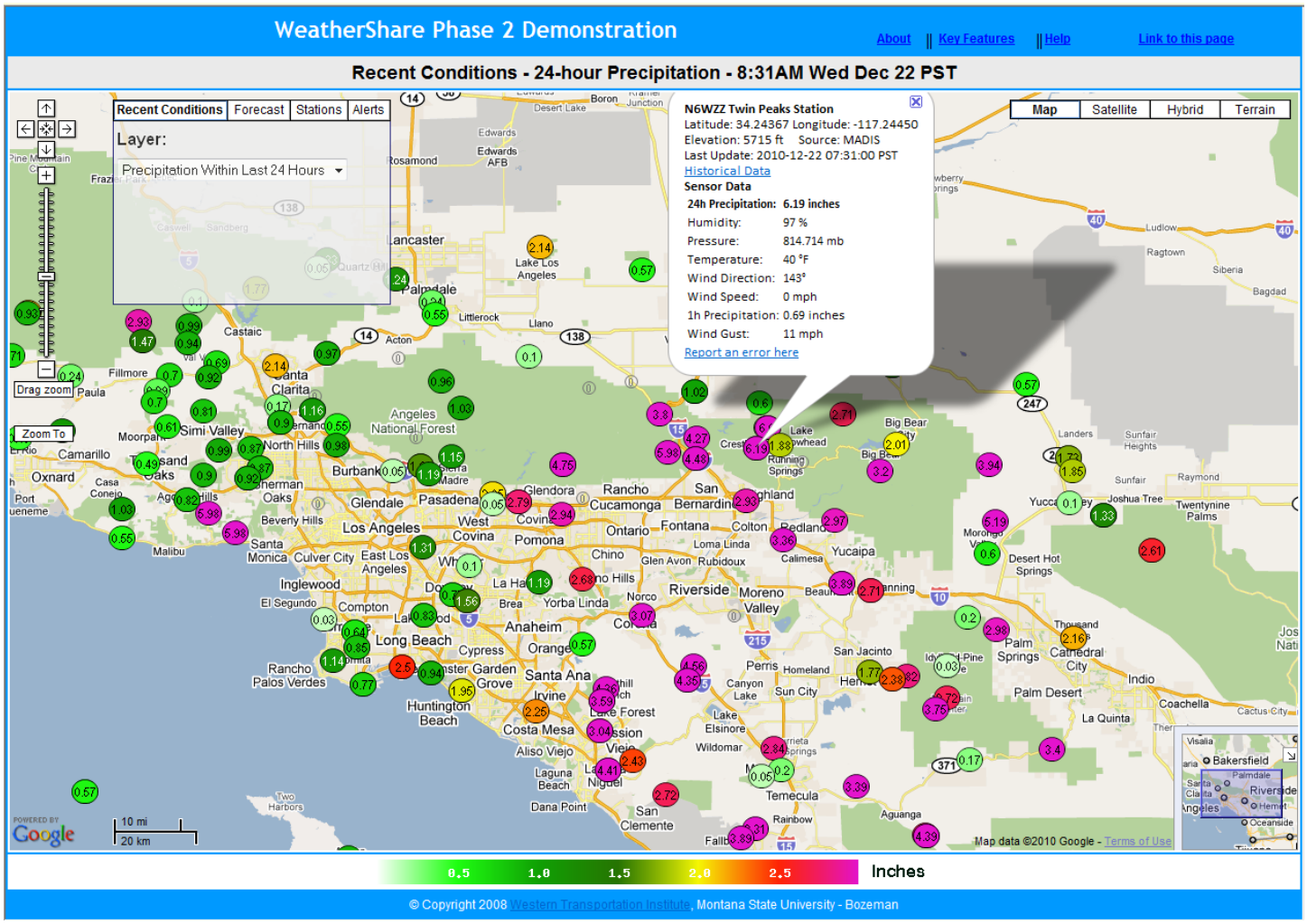
© 2010-2011 Montana State University. All rights reserved.

The Precipitation Within the Last 24 Hours layer shows readings from specific sensors. These readings show a lot of variability:



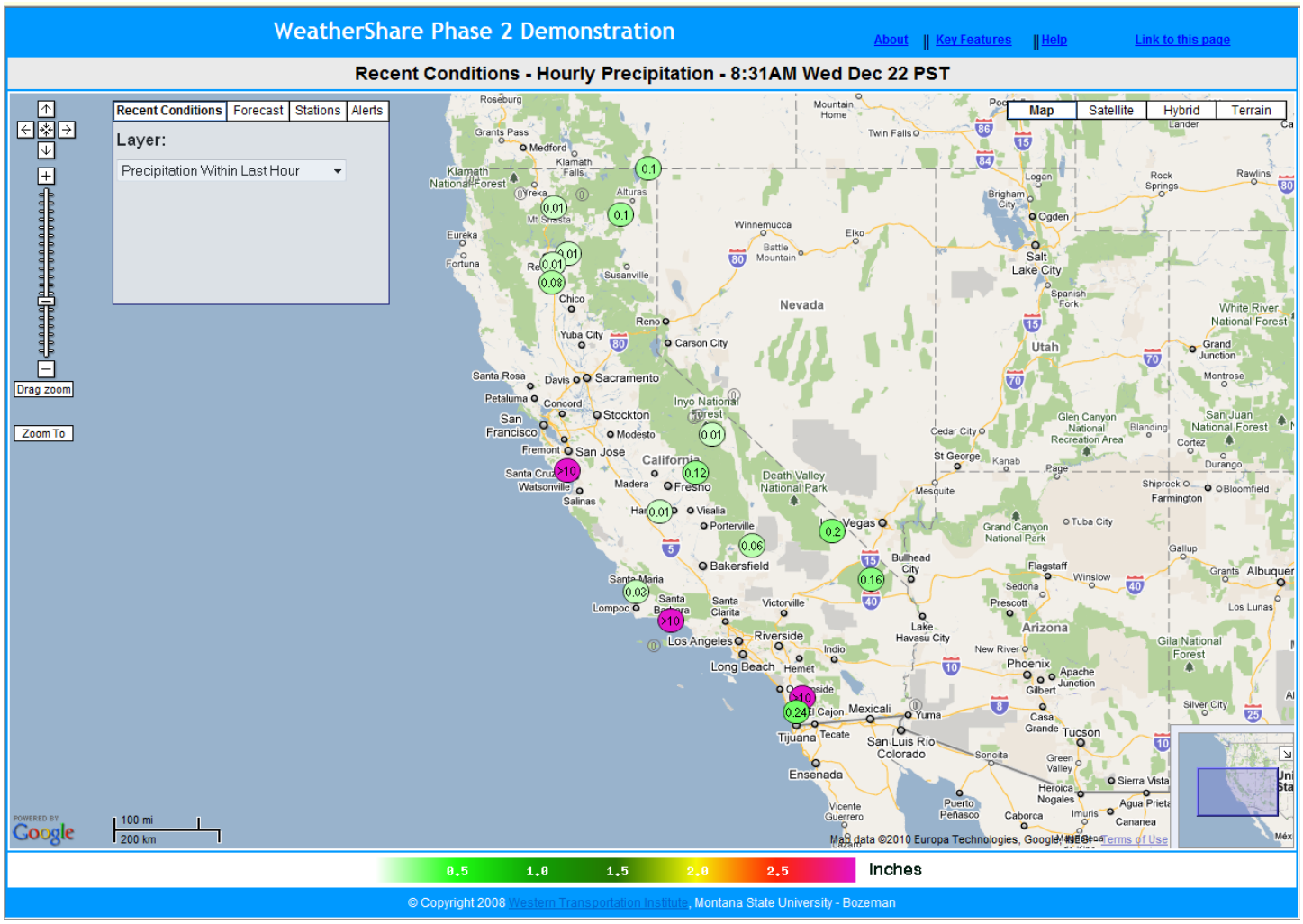
© 2010-2011 Montana State University. All rights reserved.

You will see extreme values, though, in-line with those we saw in the NWS Observed Precipitation layer:



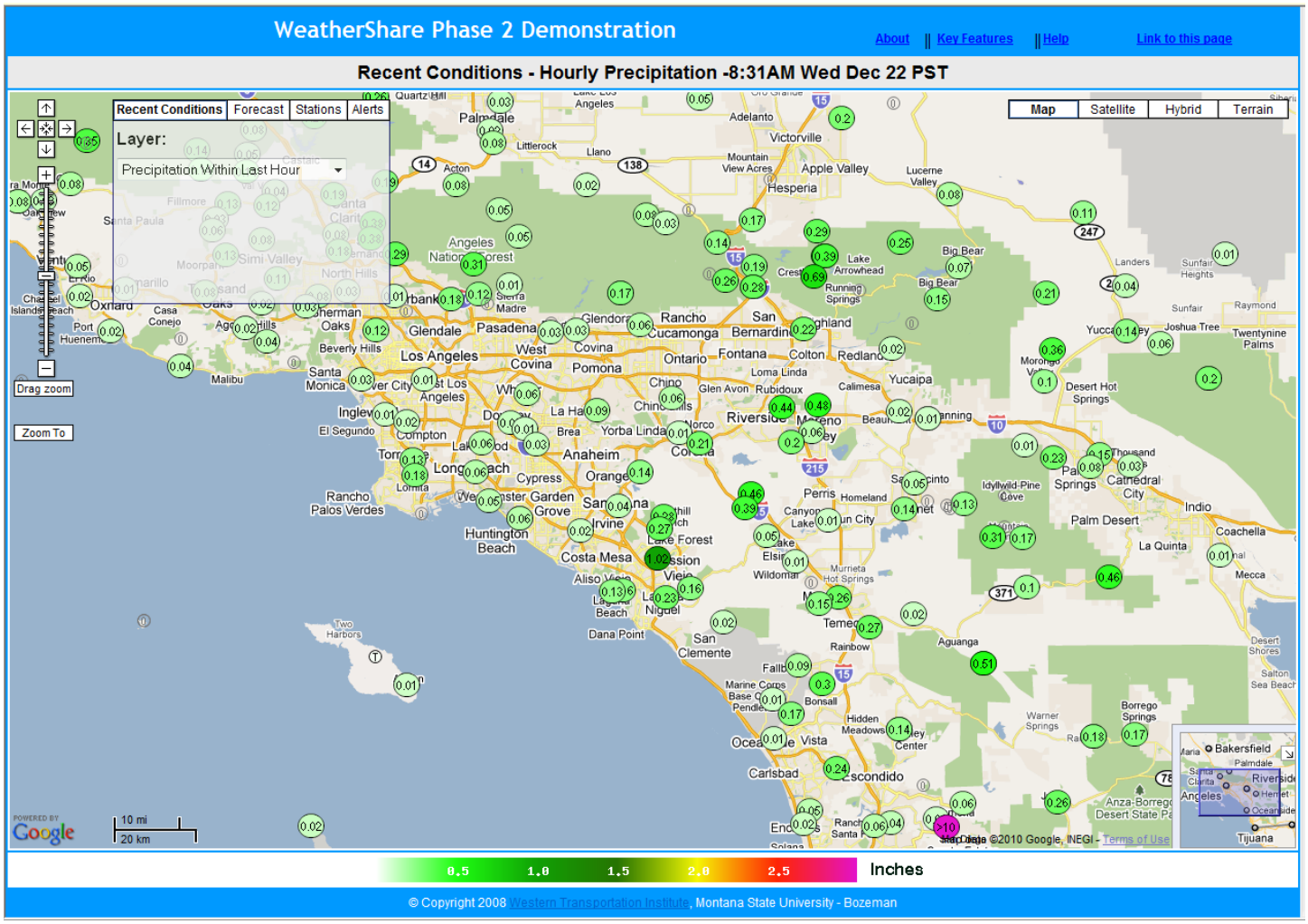
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

The Hourly Precipitation layer has even more variability, and you will encounter some readings that are obviously in error - >10 inches in the past hour – although perhaps some sensors approached such extremes:



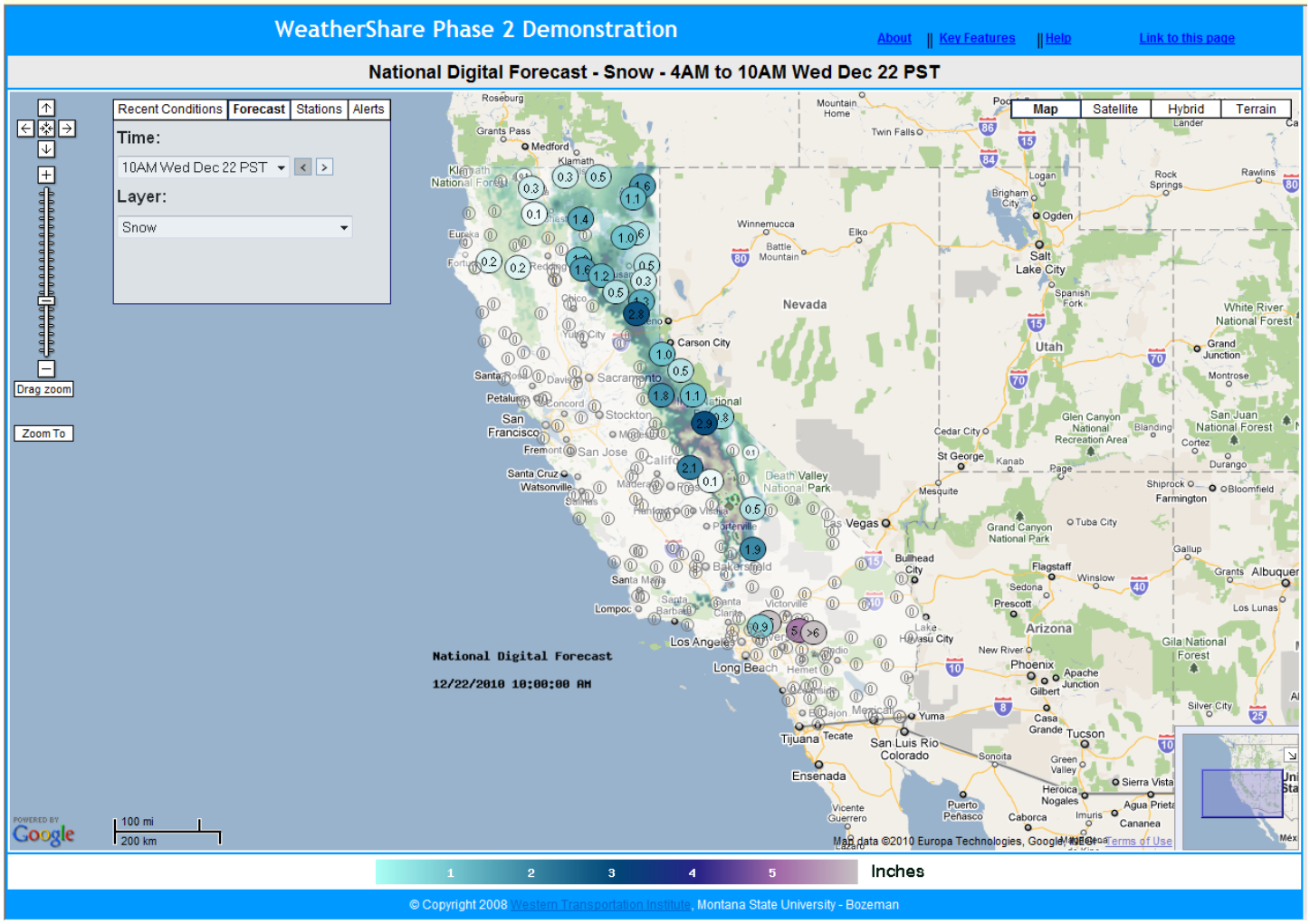
© 2010-2011 Montana State University. All rights reserved.

Here are hourly precipitation readings from sensors in the Los Angeles area:



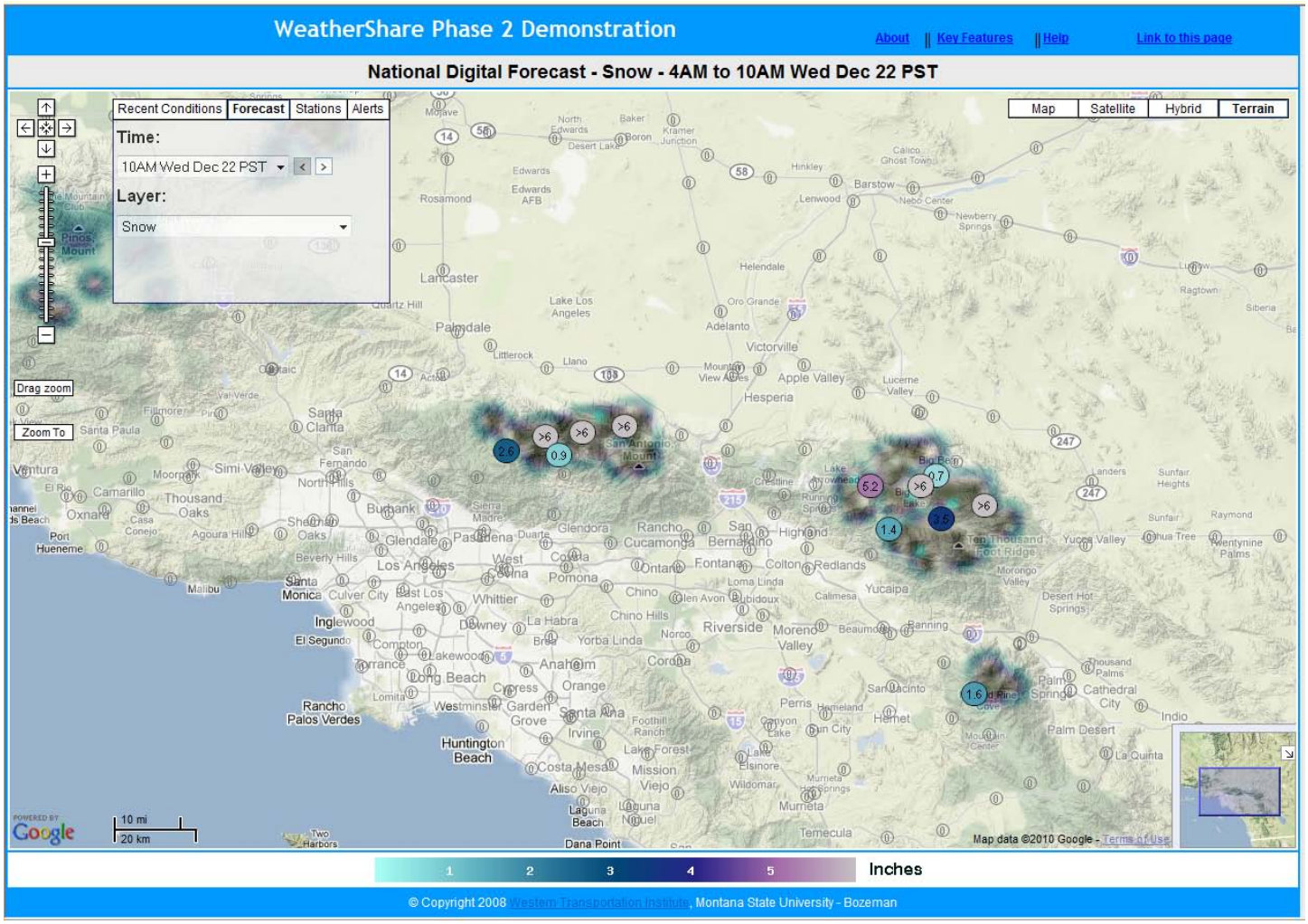
© 2010-2011 Montana State University. All rights reserved.

Not only are past and current weather information available in these systems, we also show forecasts using data from the National Weather Service's National Digital Forecast Database (NDFD). Here is forecasted cumulative snow for a six hour period:



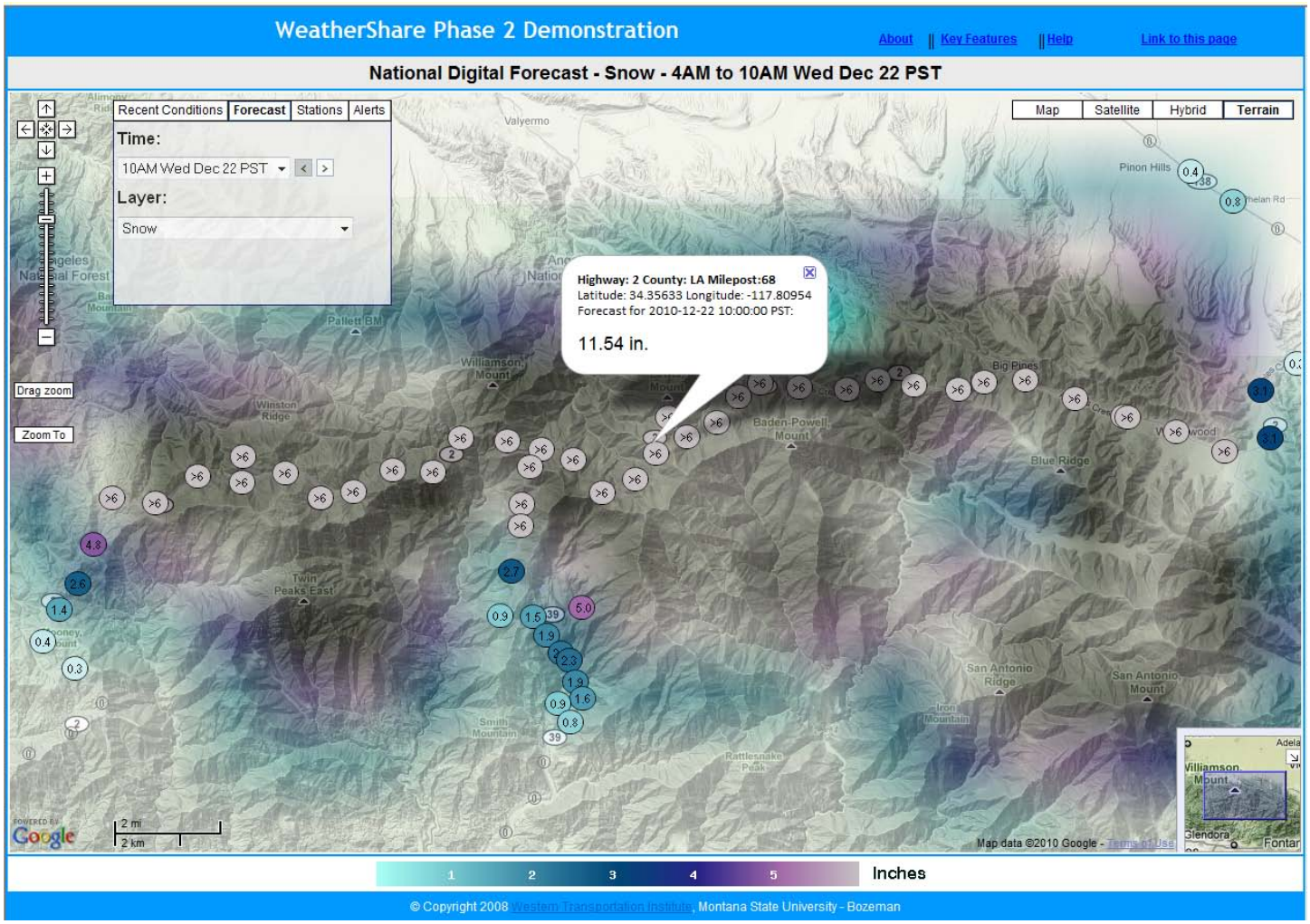
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

The forecast amounts of snow were high in the mountains near Los Angeles:



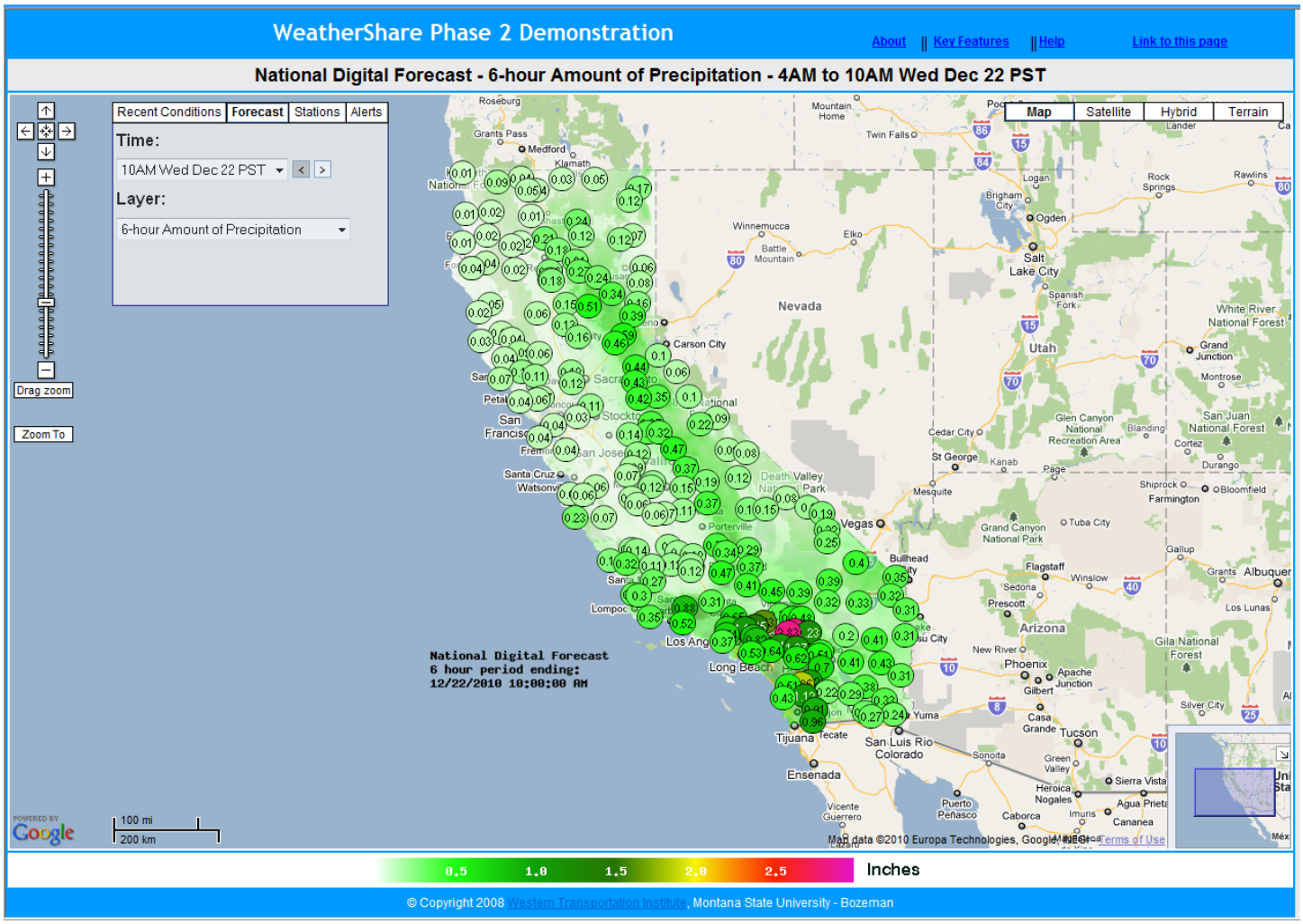
© 2010-2011 Montana State University. All rights reserved.

We zoom in for further detail and find the following location along Highway 2, which indicates over 11 inches of snow during this 6-hour period:



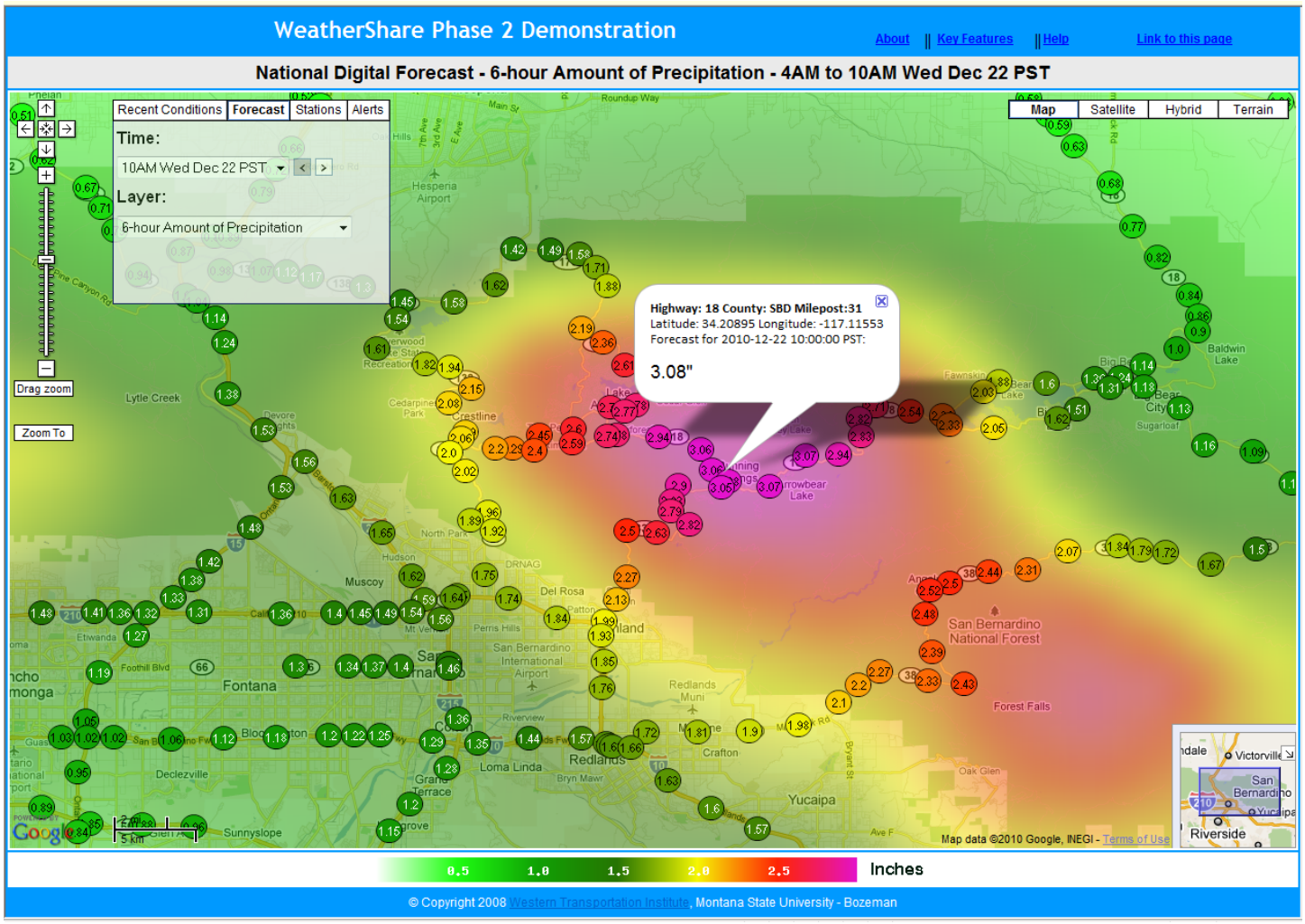
© 2010-2011 Montana State University. All rights reserved.

Similarly, the forecasted 6-hour amount of (liquid) precipitation can also be viewed:



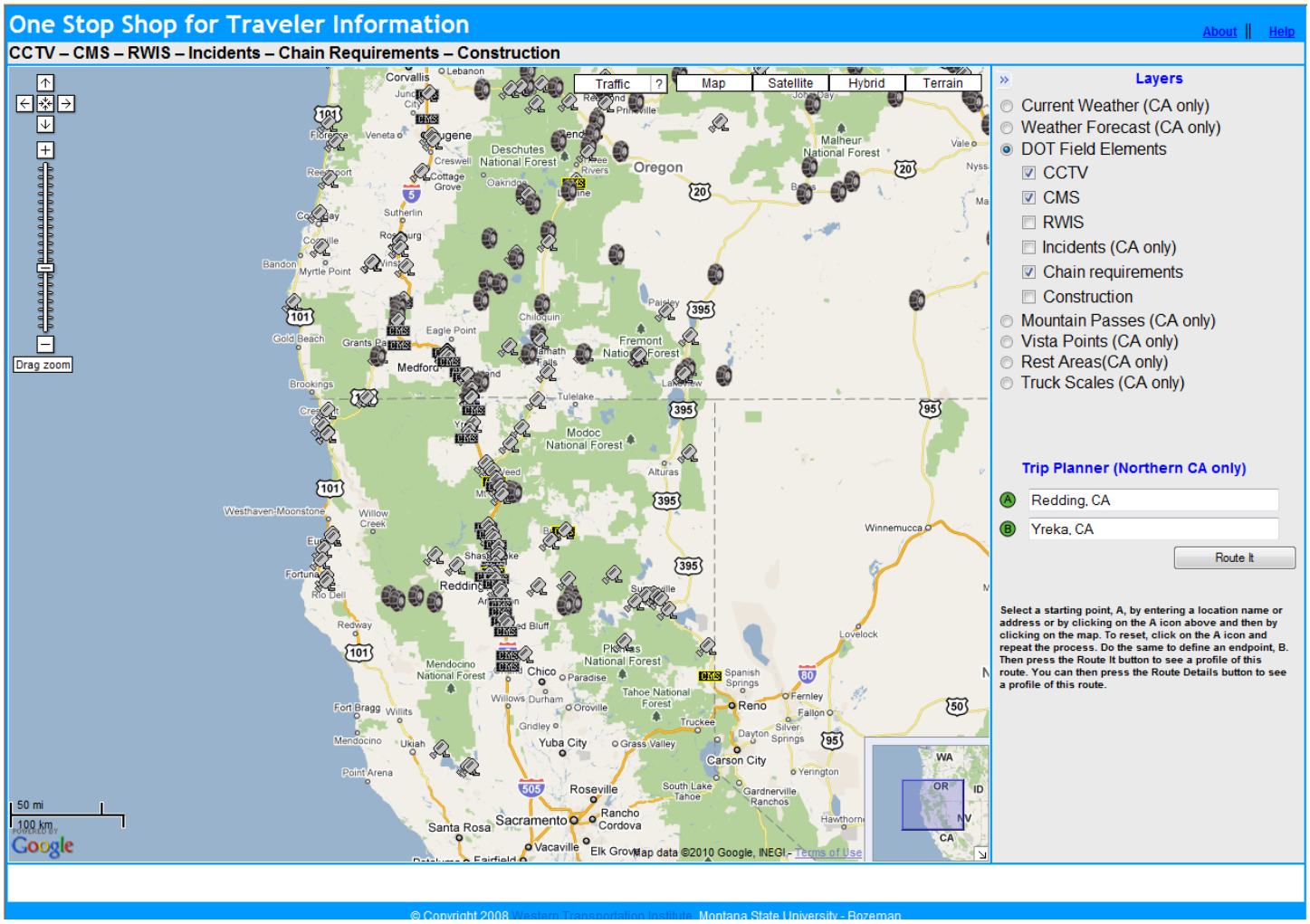
© 2010-2011 Montana State University. All rights reserved.

Here, along Highway 18 near Los Angeles, over 3 inches of liquid precipitation is predicted:



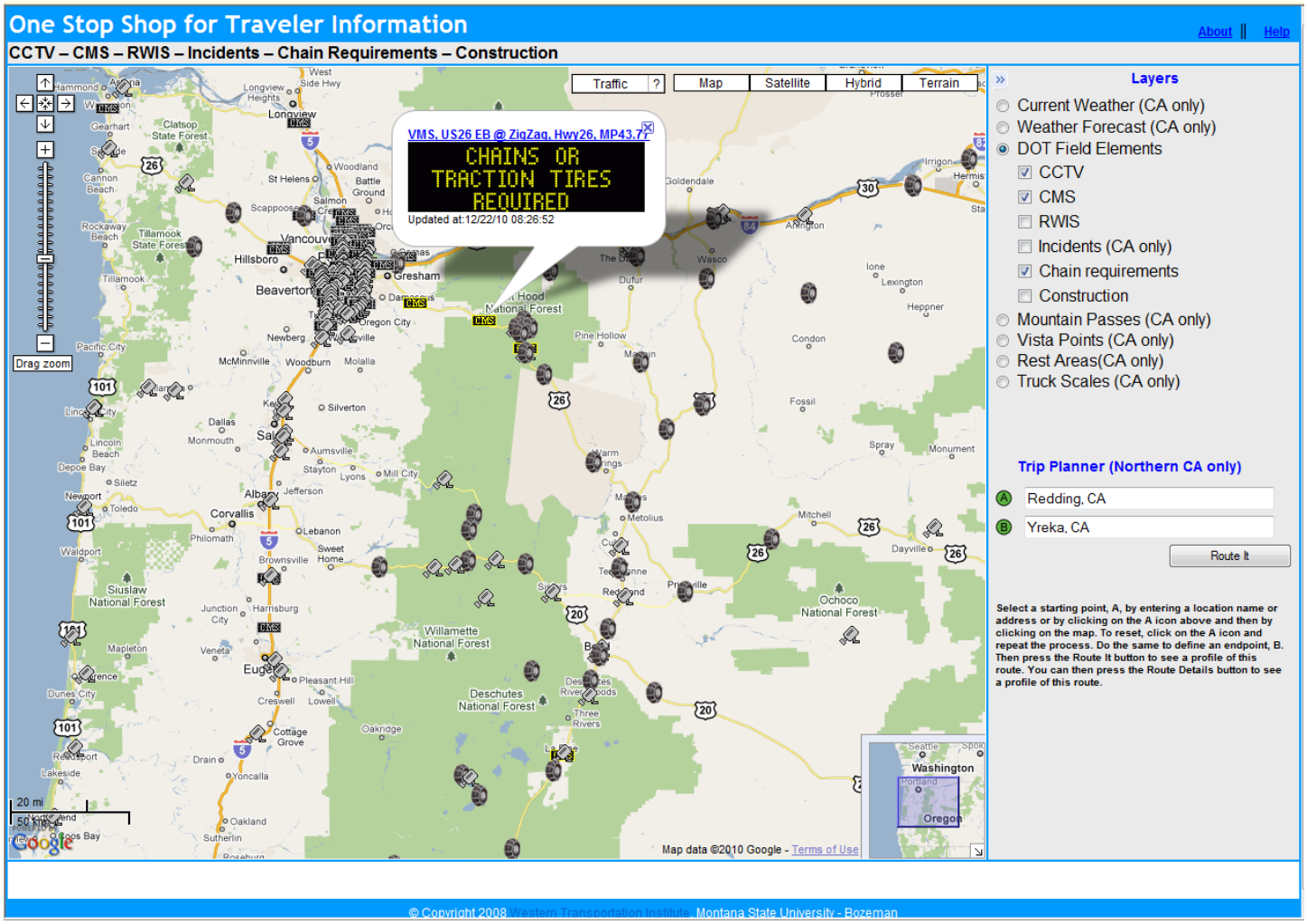
© 2010-2011 Montana State University. All rights reserved.

Now, let's look at OSS. In the screenshot below from December 22nd, 2010, we're looking at the DOT Field Elements layer and the CCTV, CMS and Chain Requirements sub-layers:



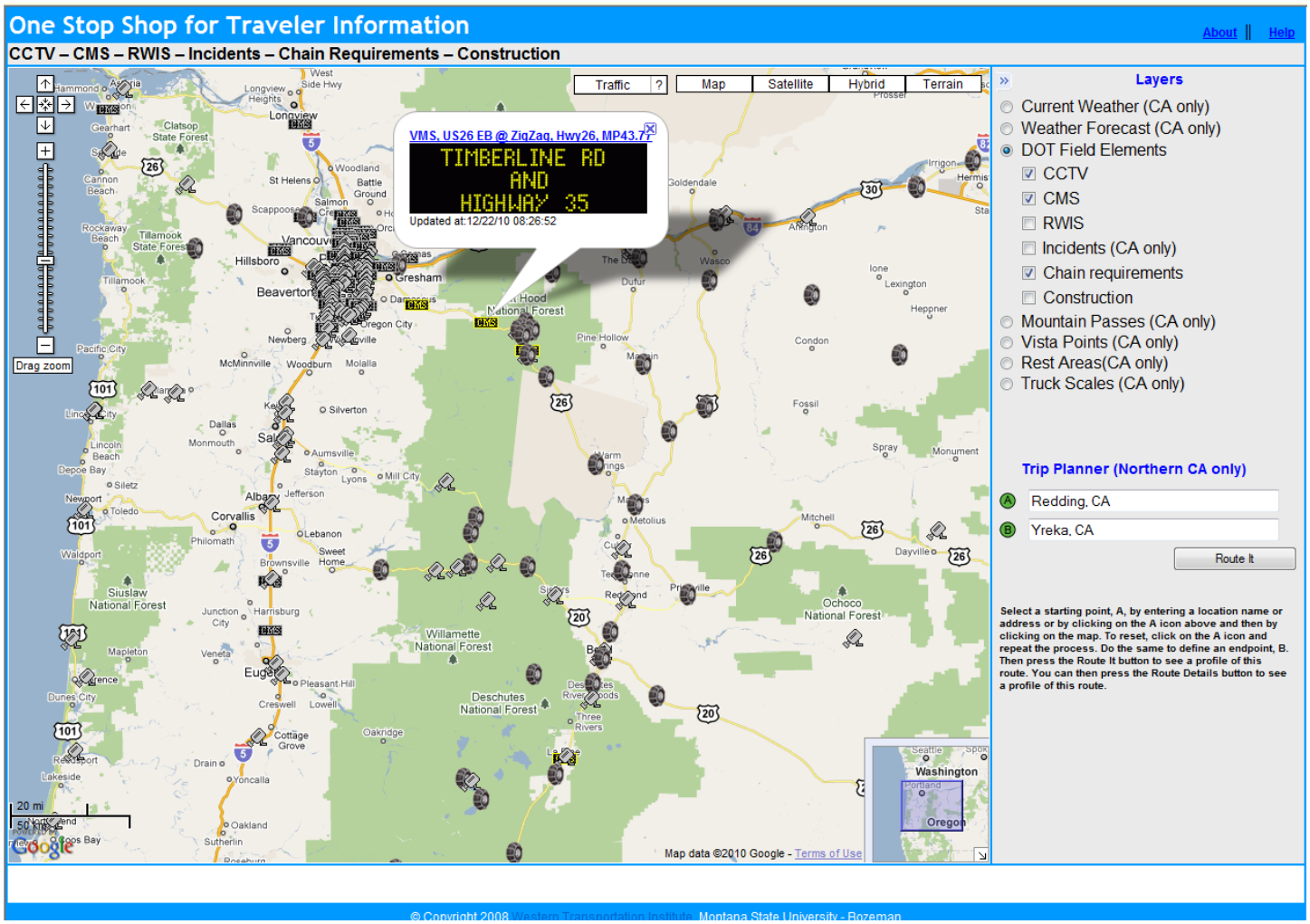
© 2010-2011 Montana State University. All rights reserved.

CMS were indicating chain and traction tire requirements in Oregon:



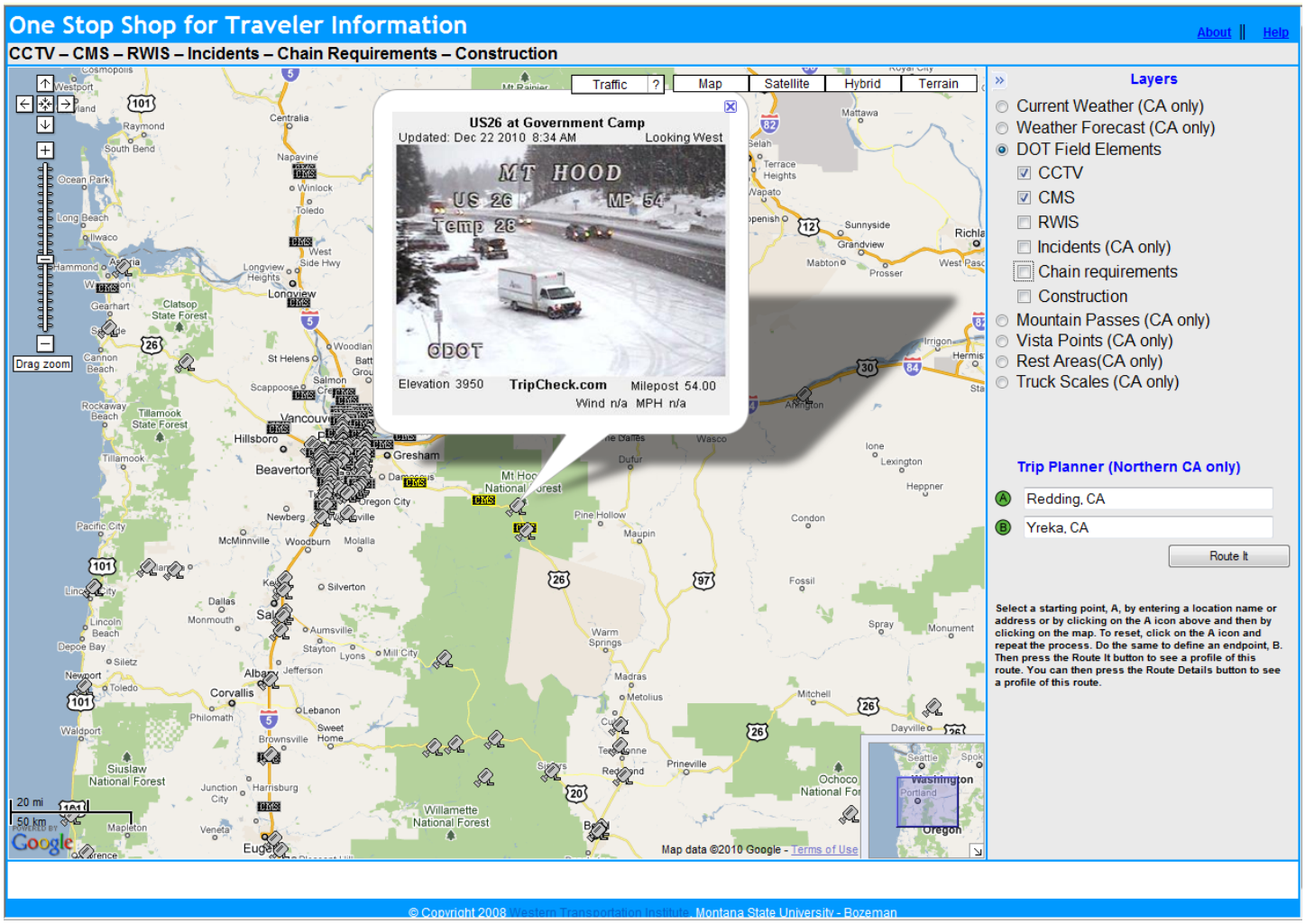
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

This particular message included two screens of information – here's the second screen:



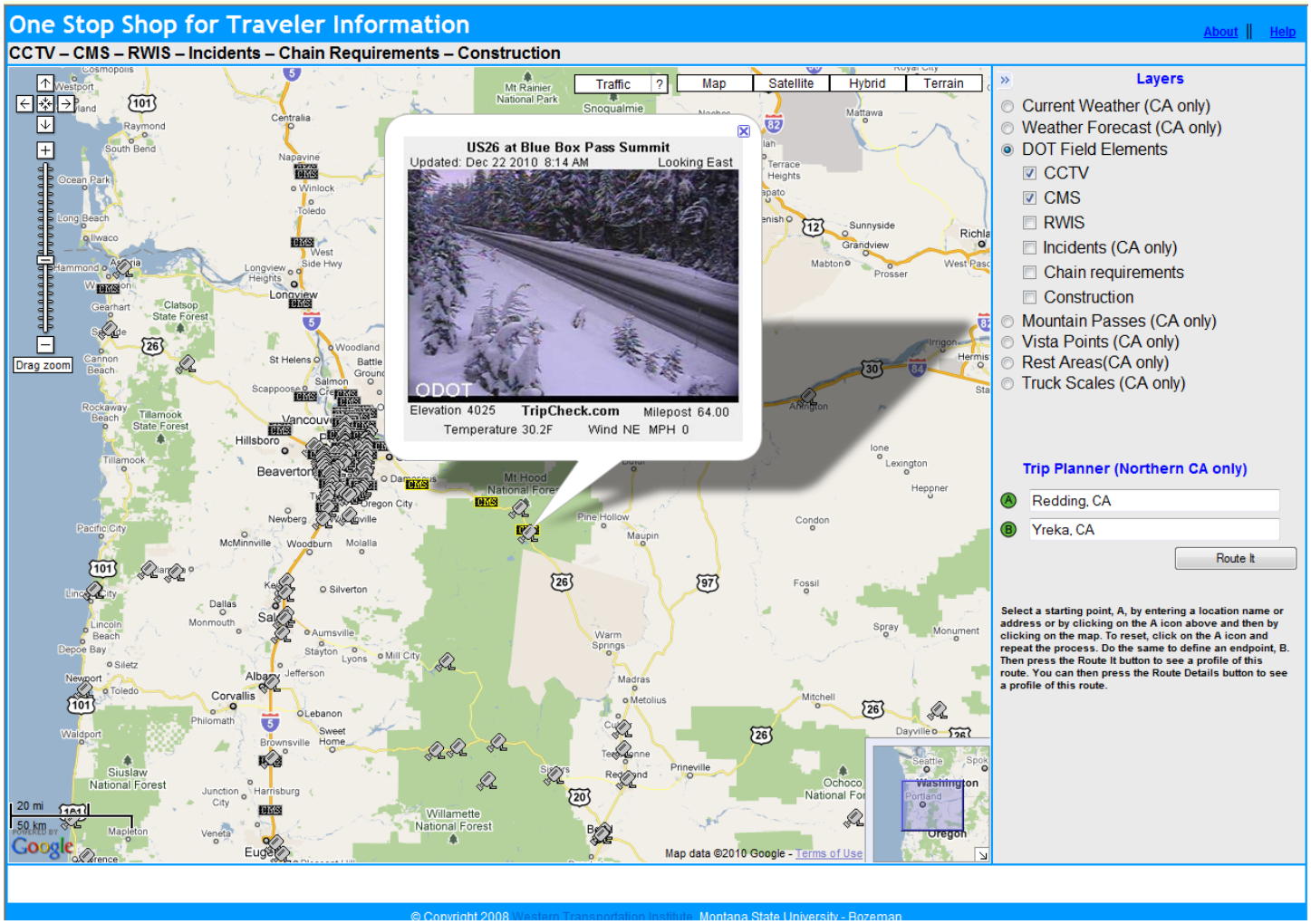
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

This CCTV image showed why:



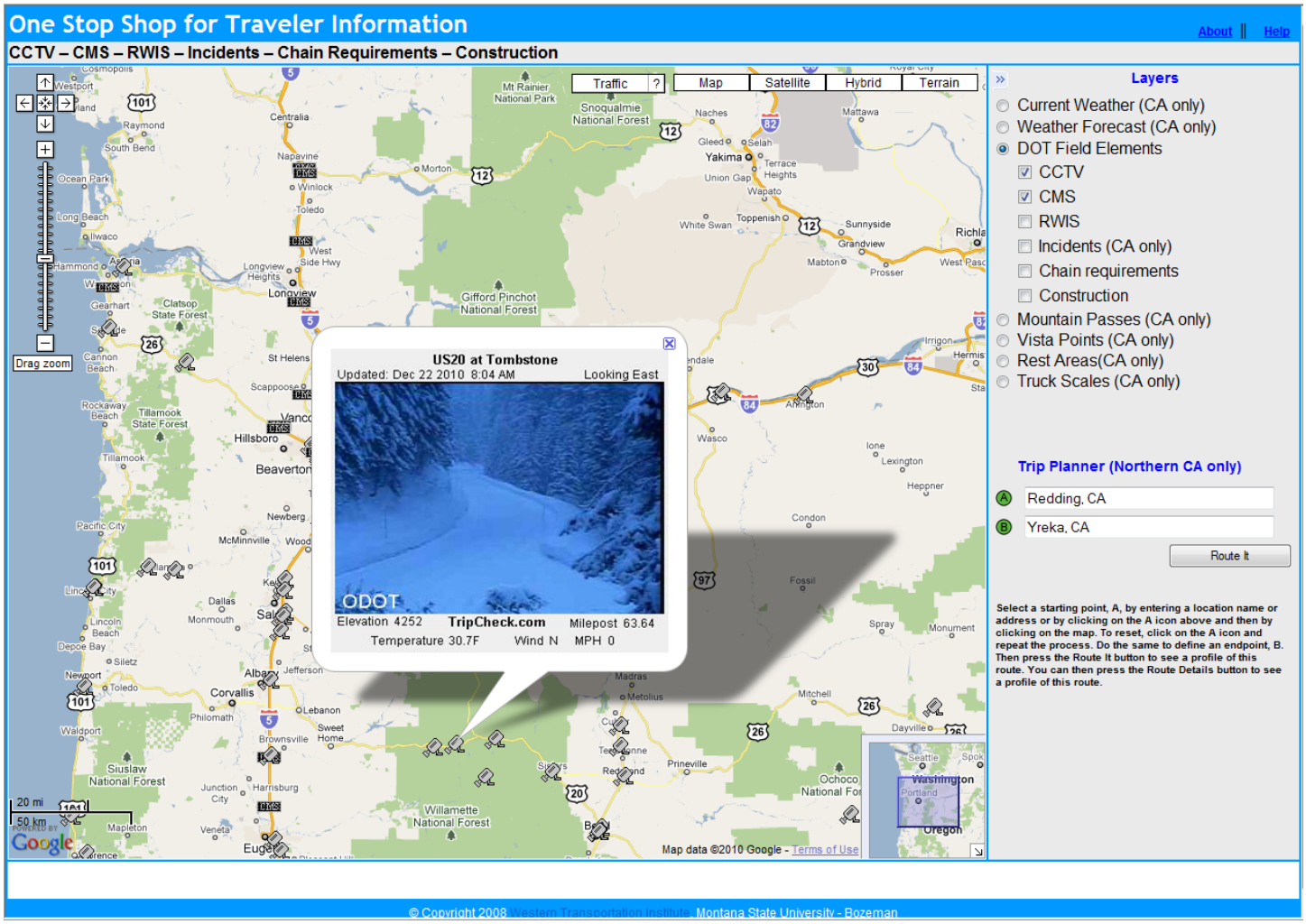
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

And there were plenty of similar images across Oregon and California at this time:



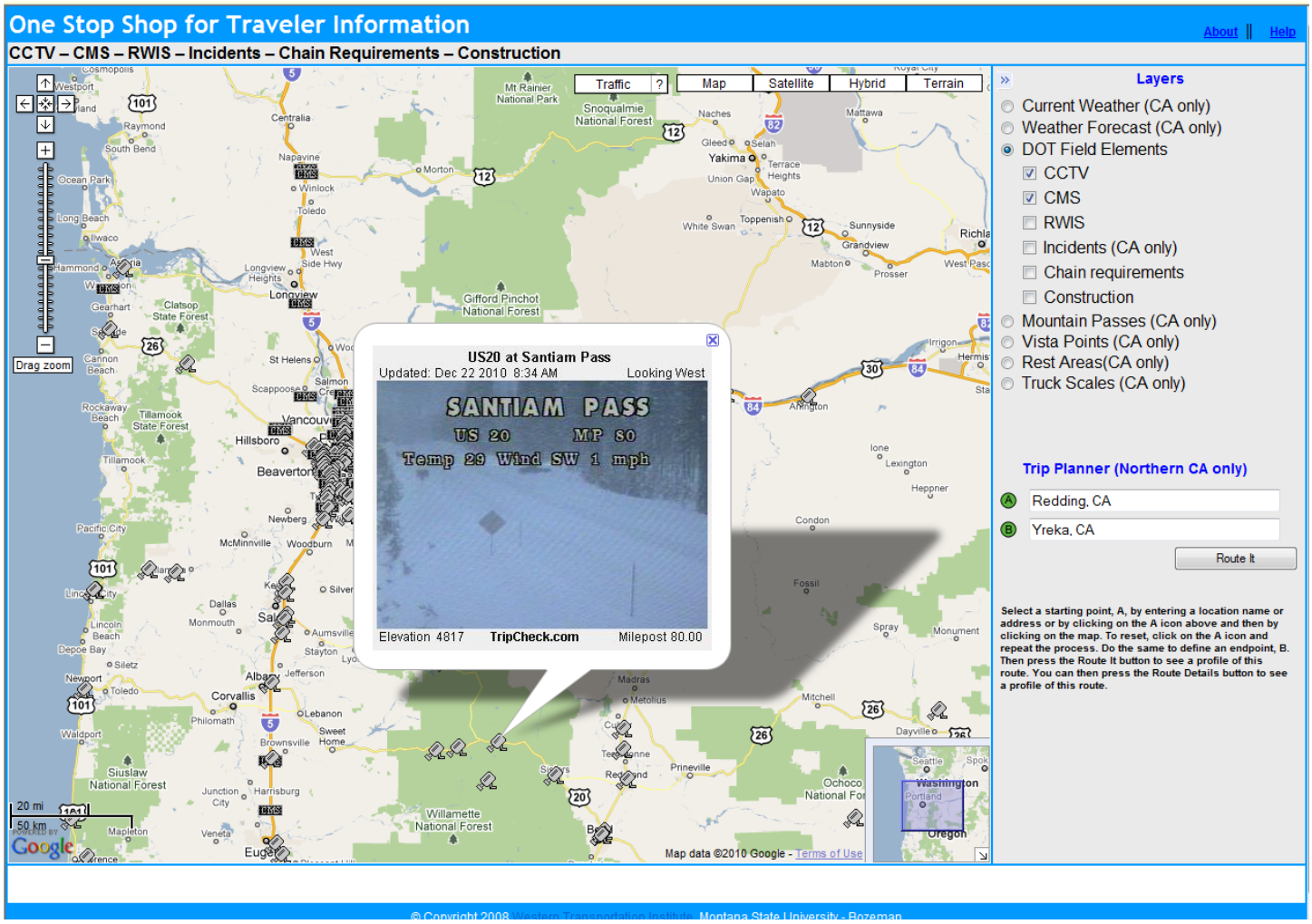
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Here's US 20 at Tombstone in Oregon:



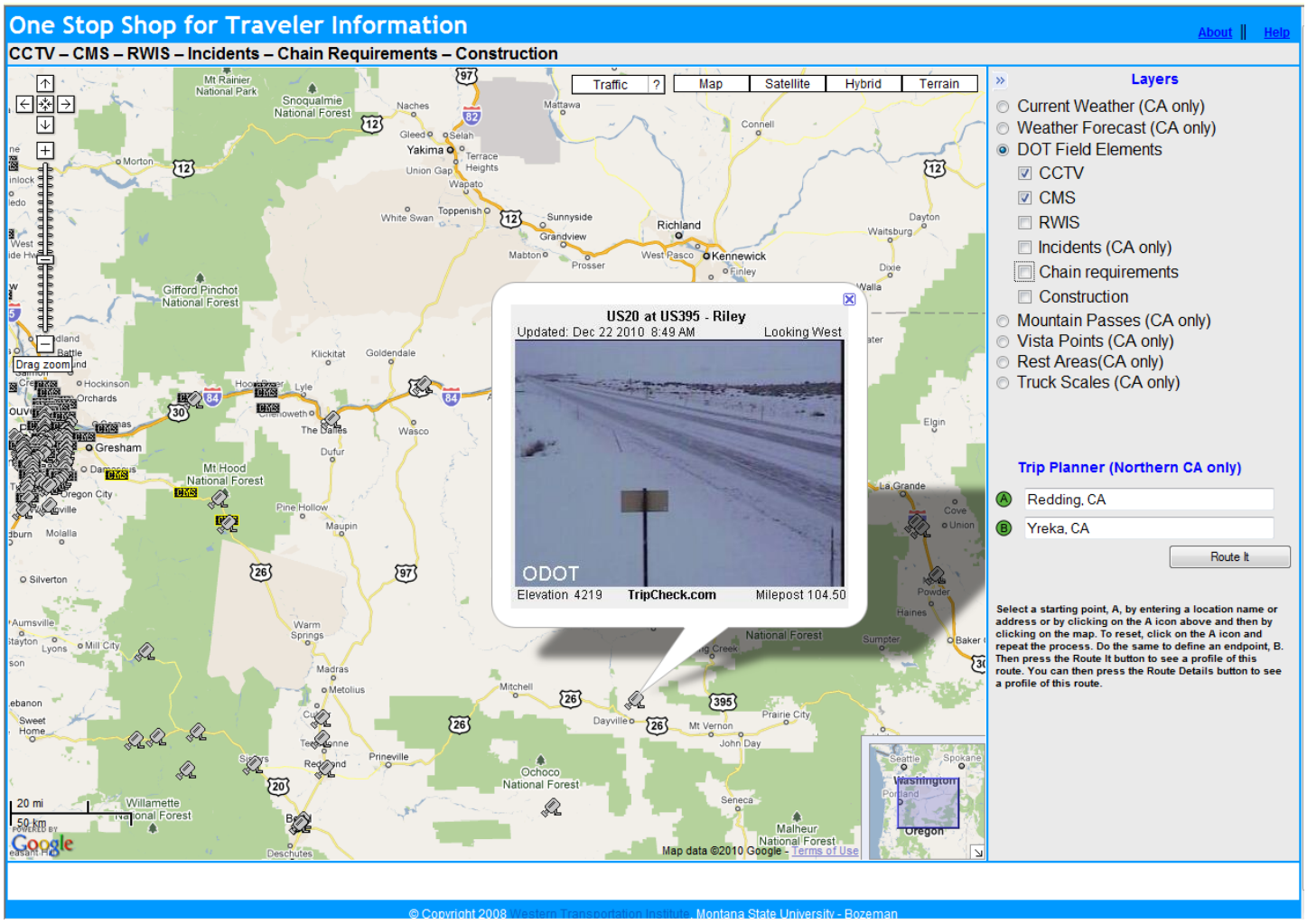
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Here's Santiam Pass on US 20 in Oregon:



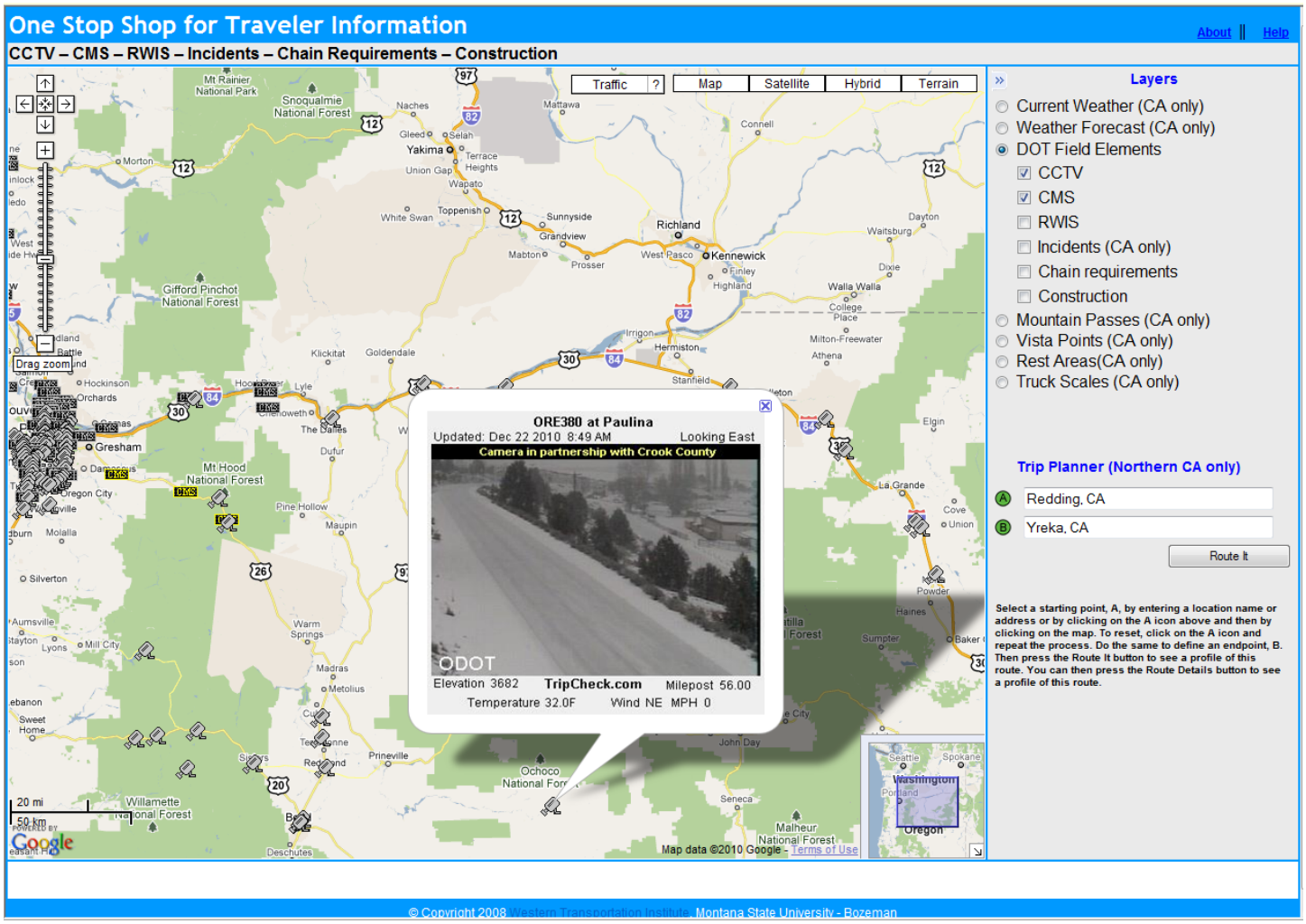
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

And here's US 20 at US 395 in Eastern Oregon:



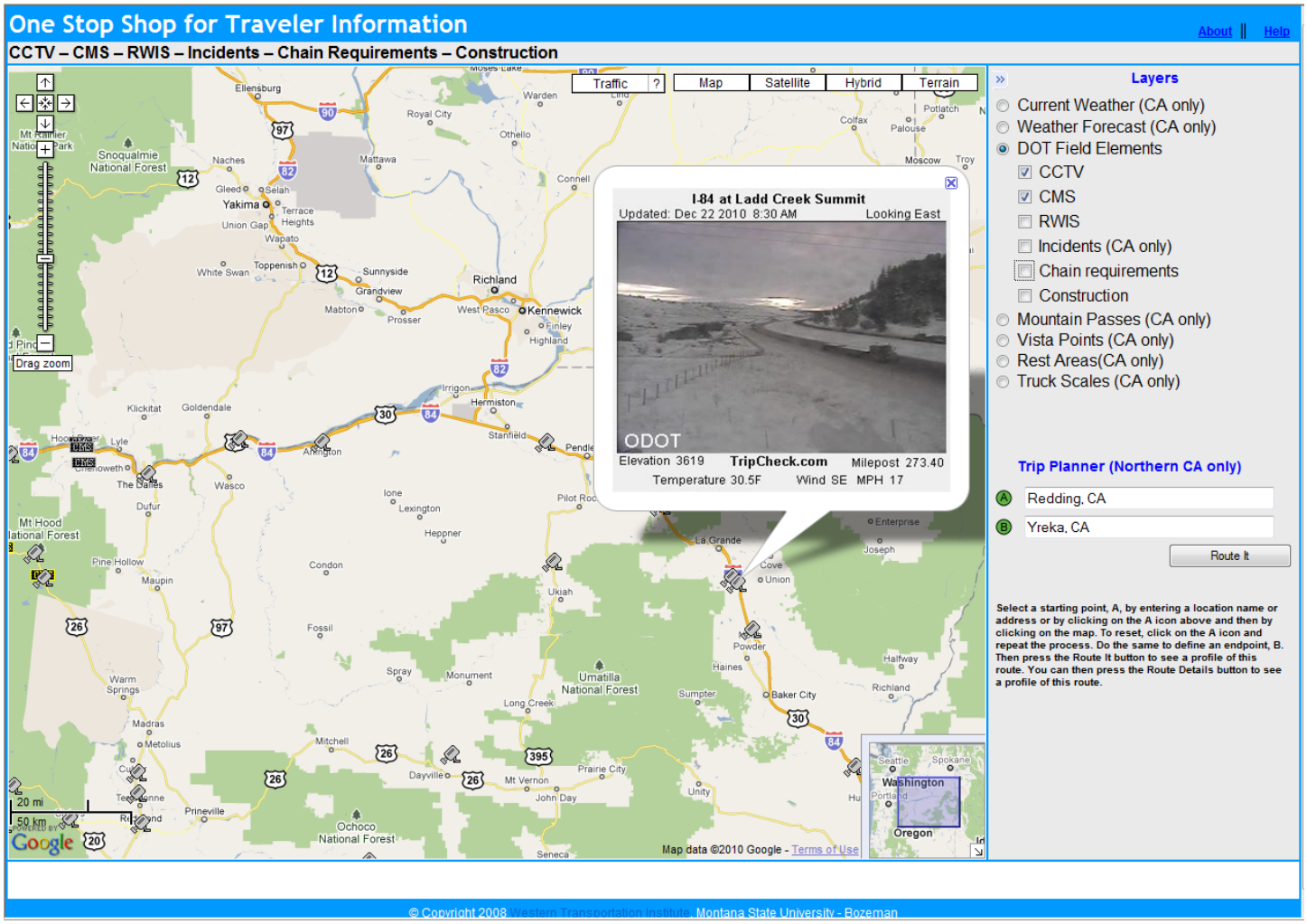
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Oregon 380 at Paulina:



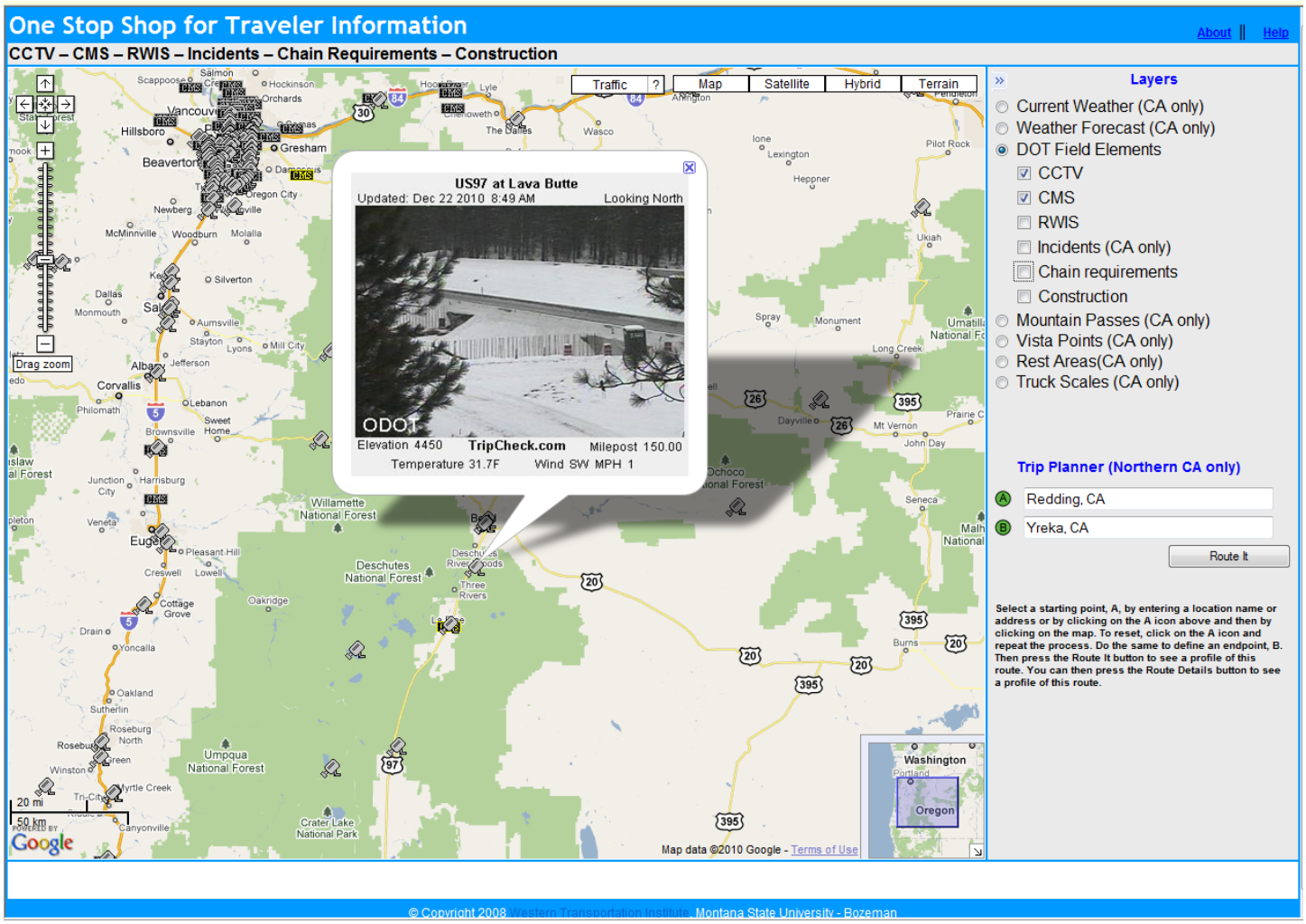
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-84 at Ladd Creek Summit east of Pendleton:



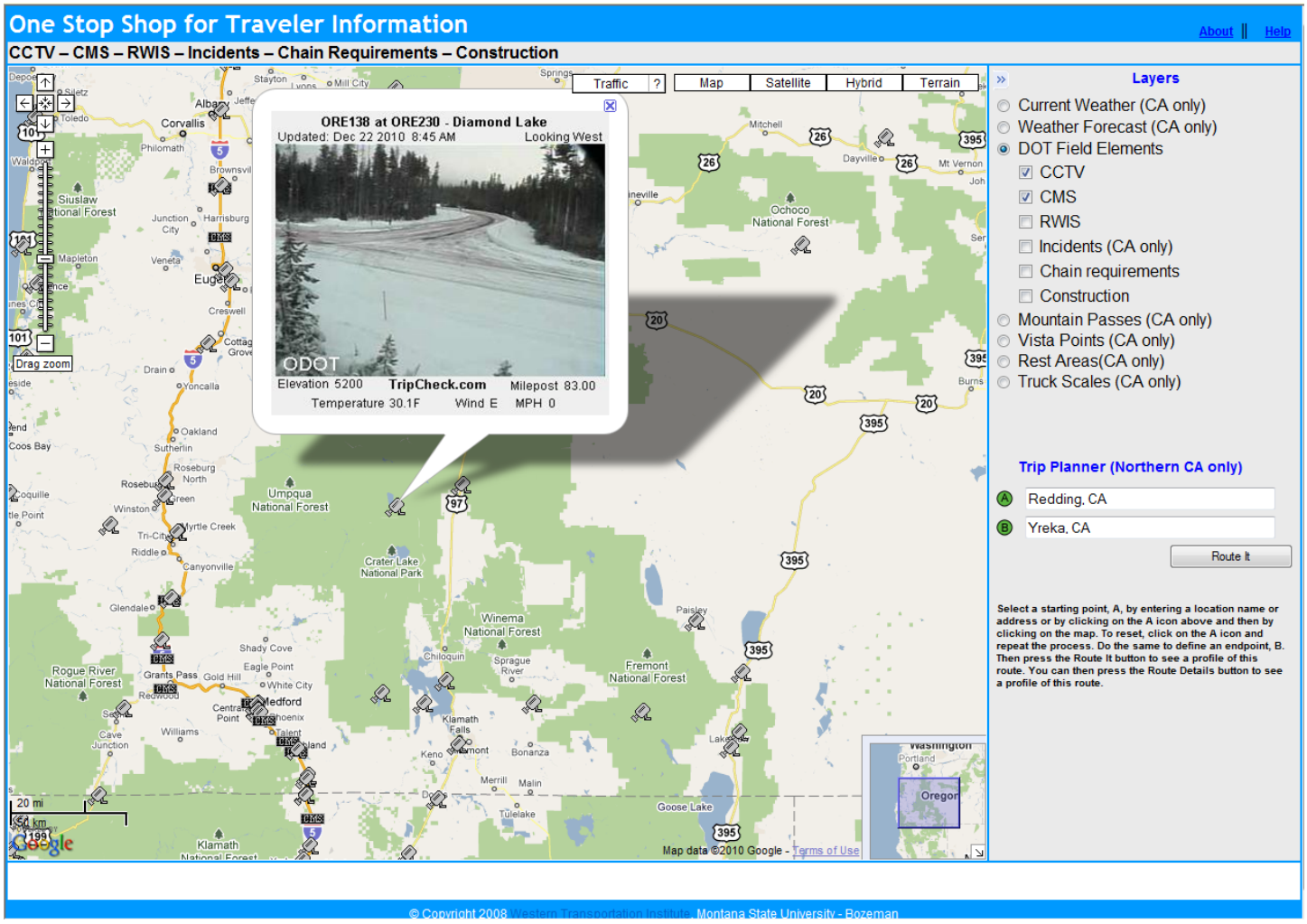
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

US 97 at Lava Butte:



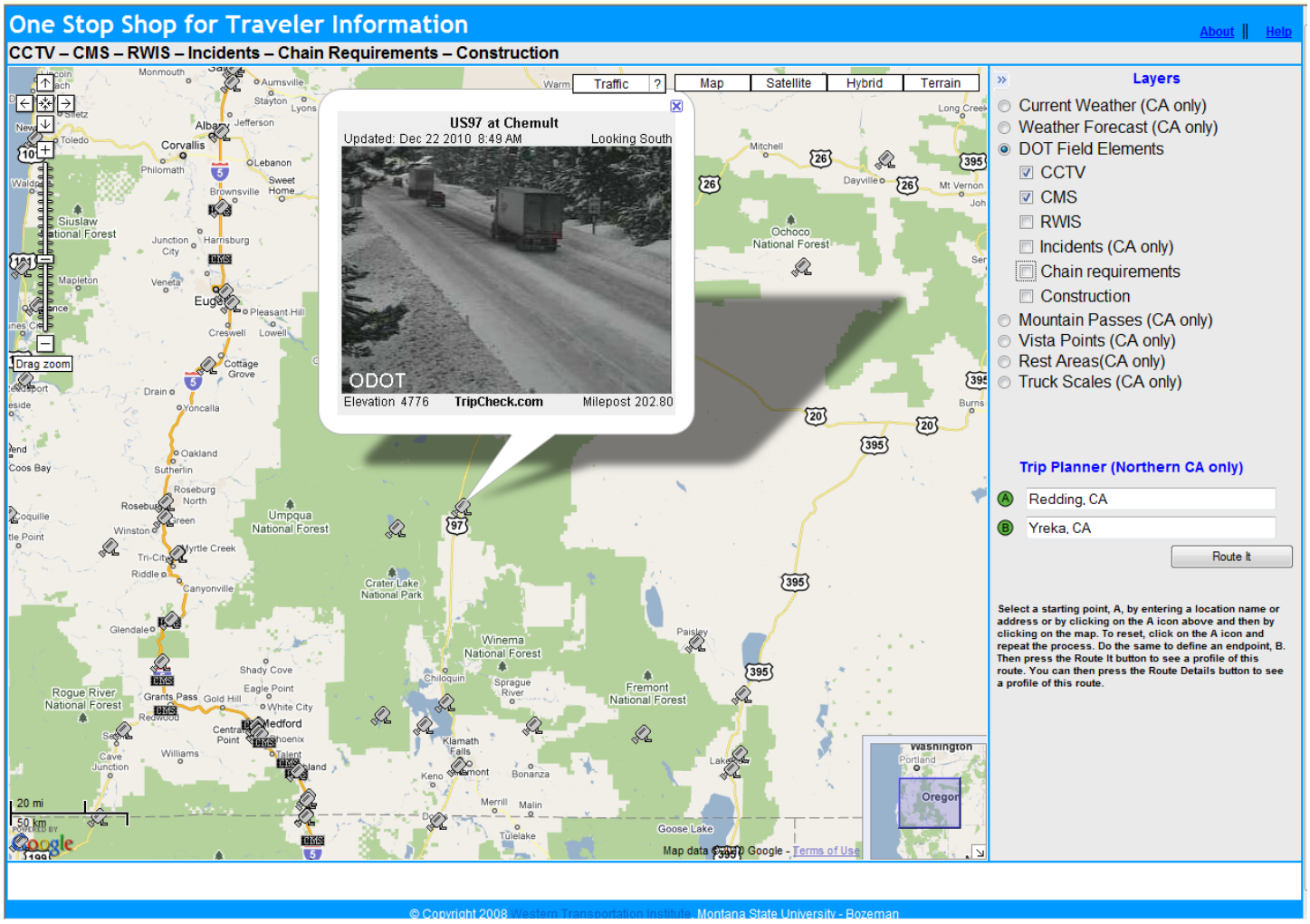
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Oregon 138 at Oregon 230 near Diamond Lake:



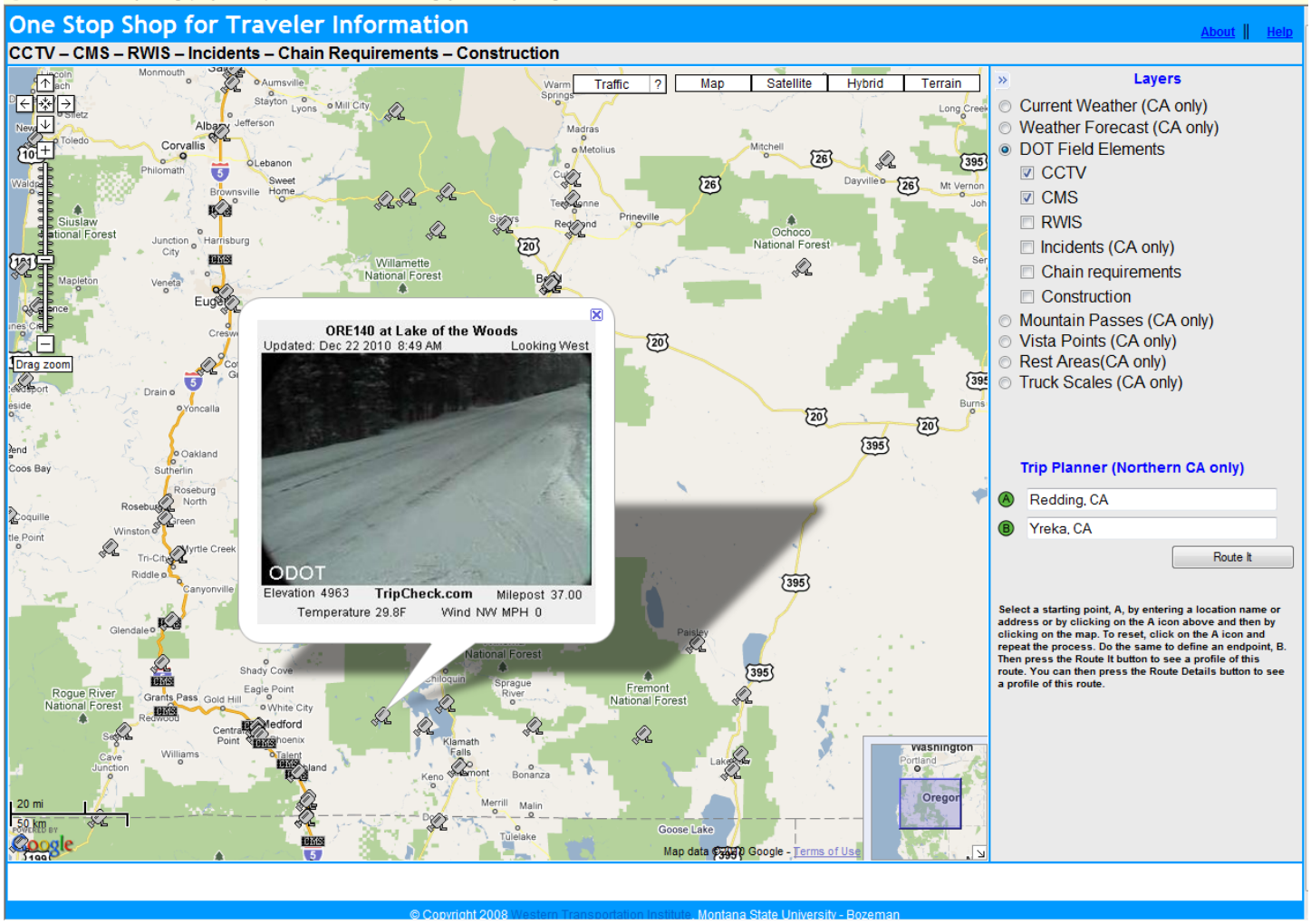
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

US 97 at Chemult:



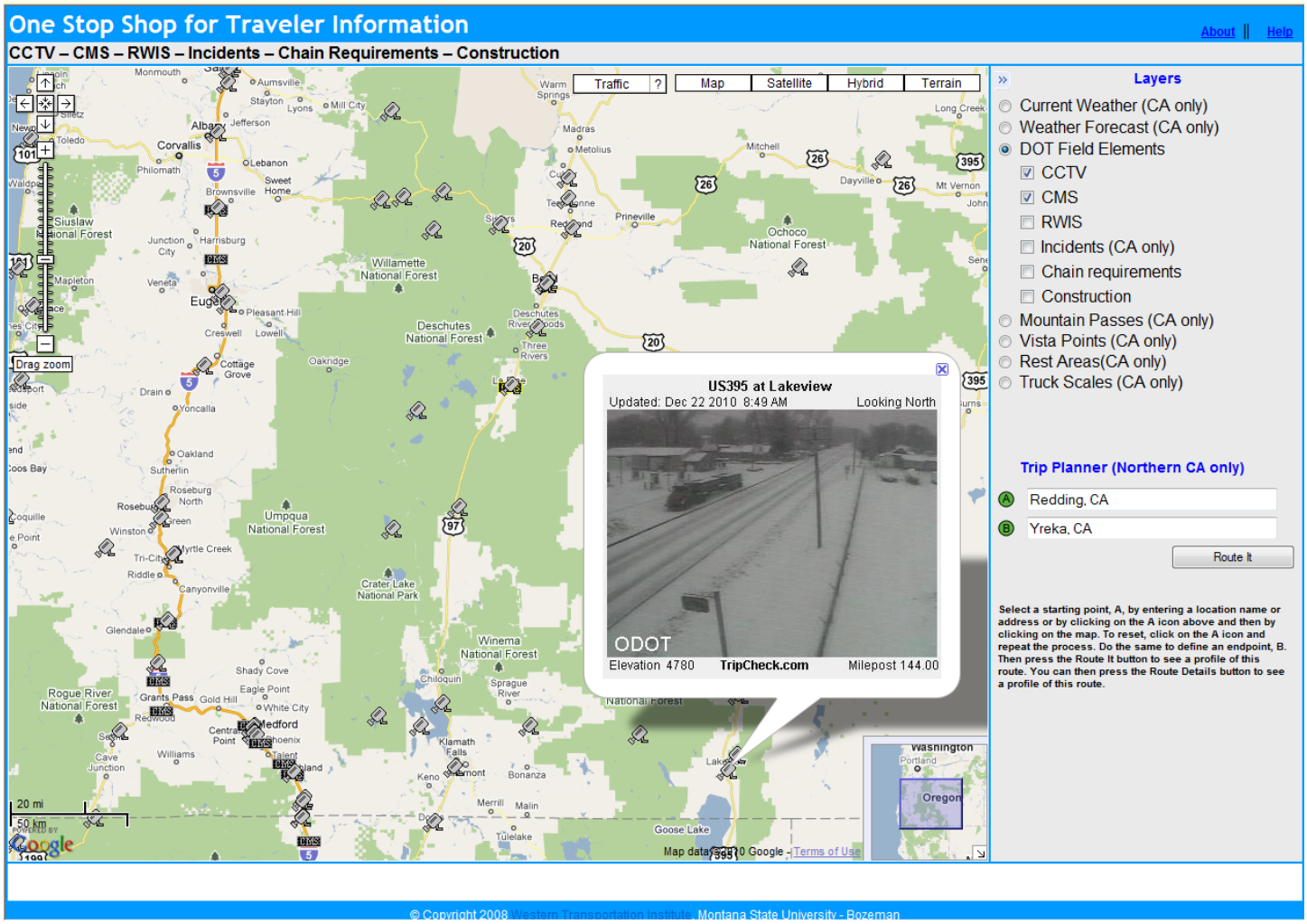
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Oregon 140 at Lake of the Woods:



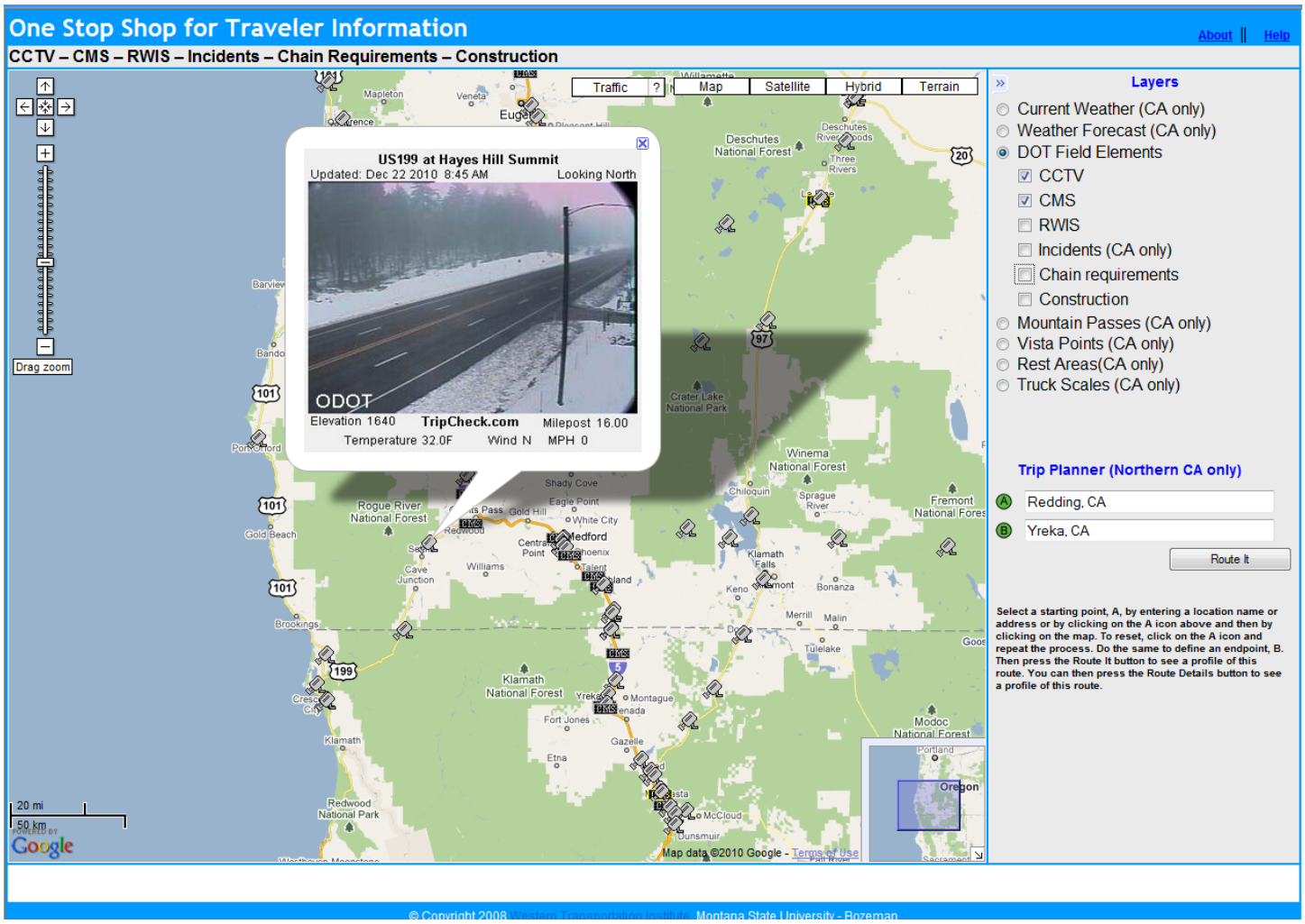
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

US 395 at Lakeview:



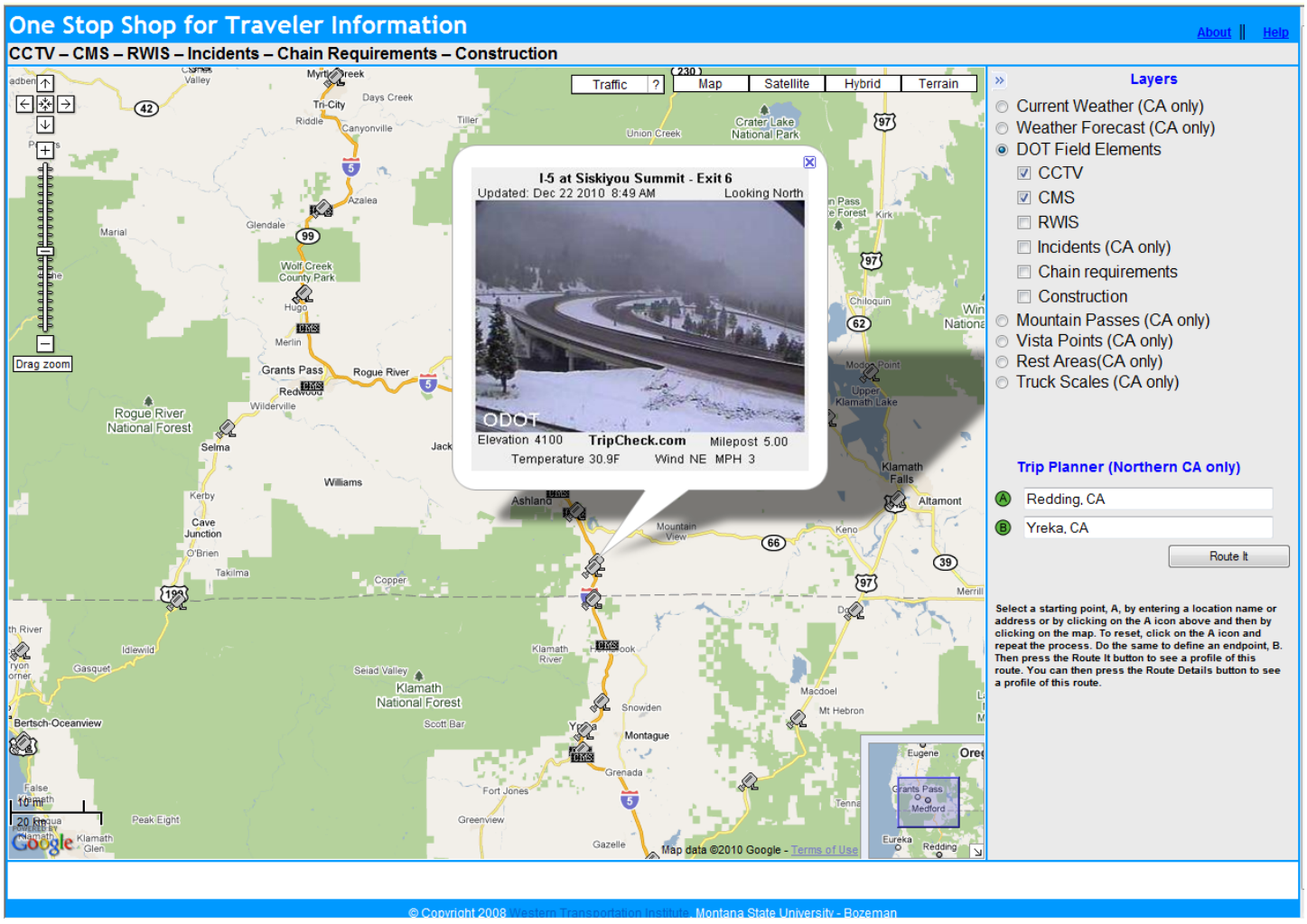
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

US 199 at Hayes Hill Summit in Southwestern Oregon:



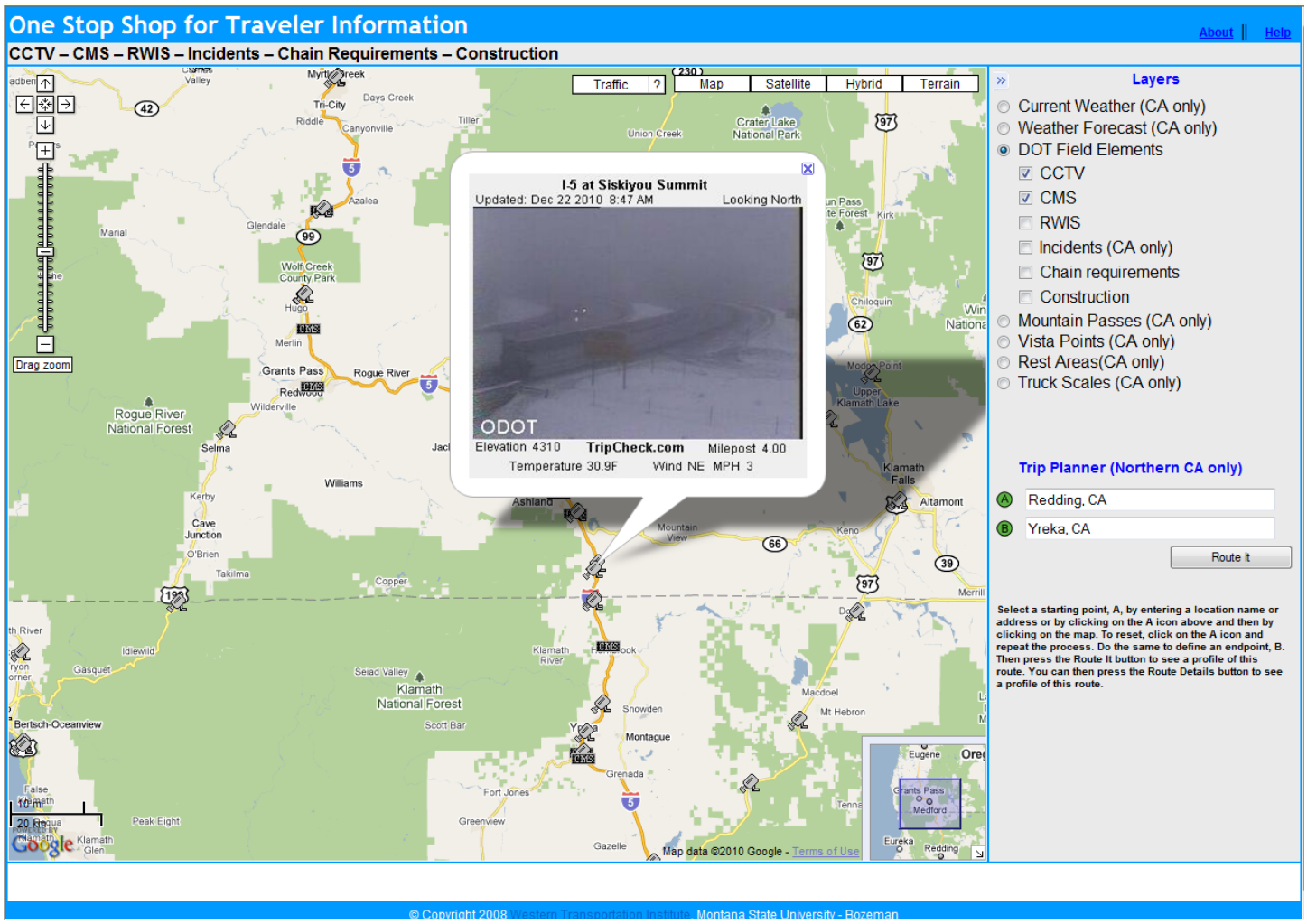
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-5 at Siskiyou Summit:



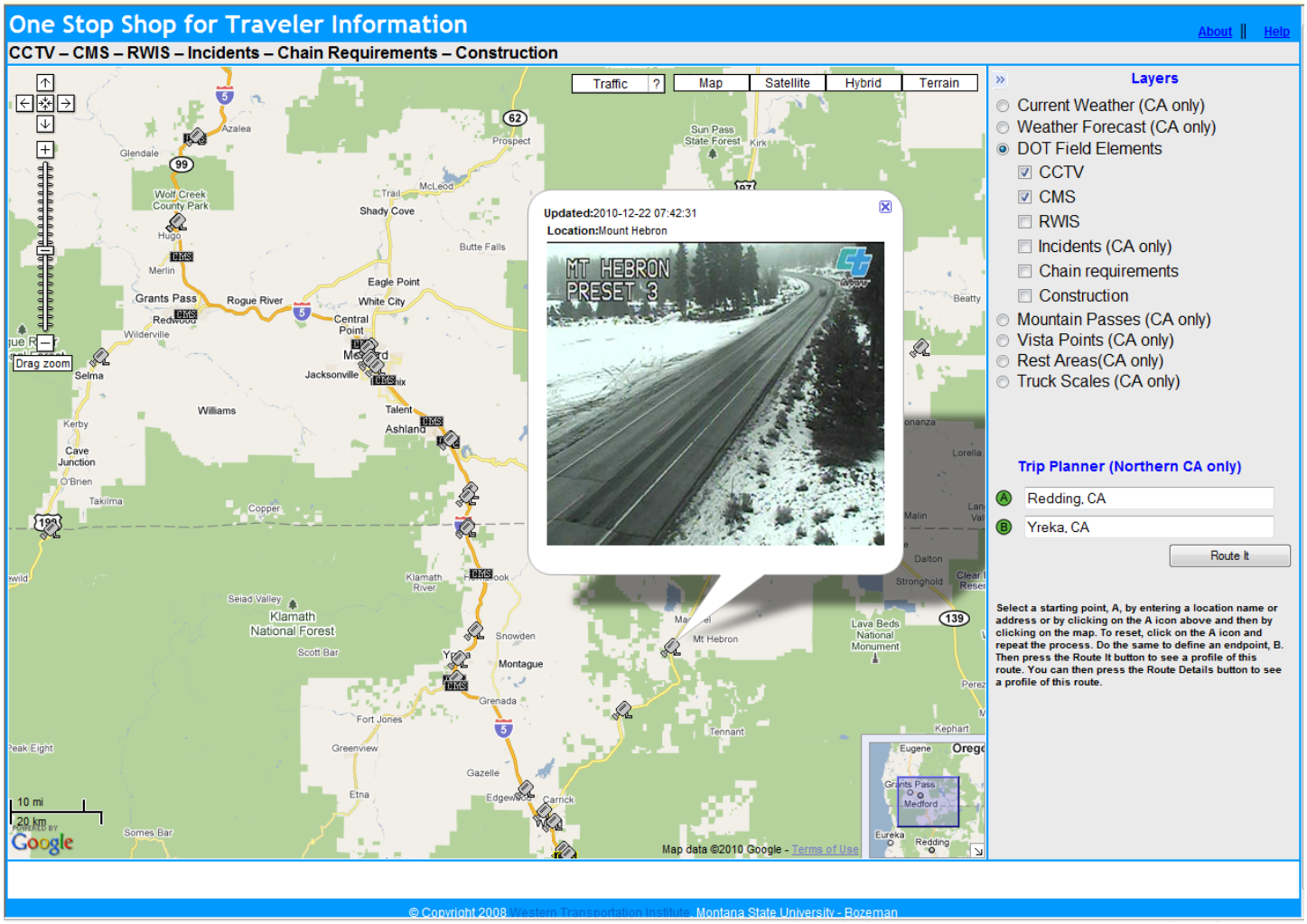
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-5 at Siskiyou Summit:



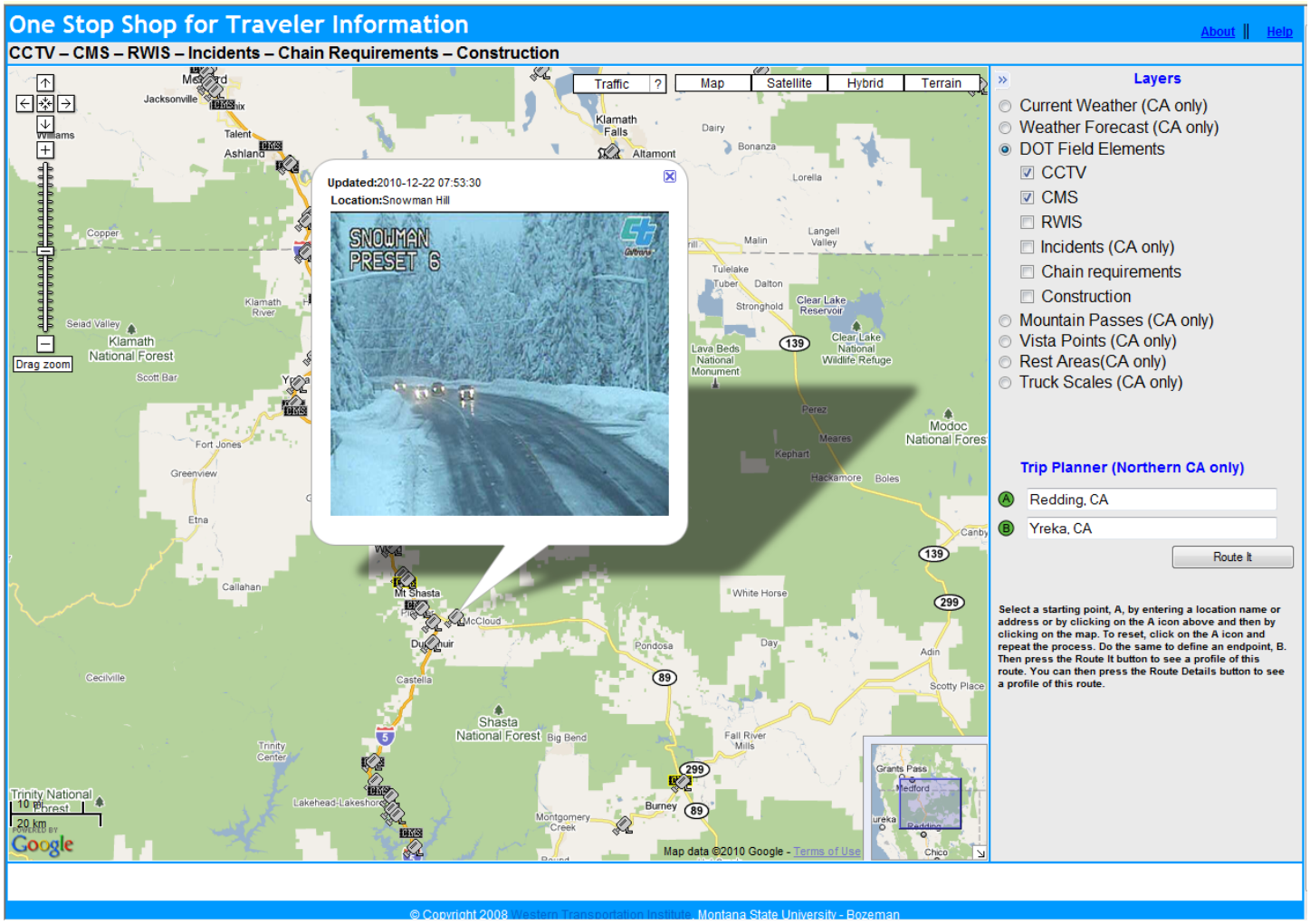
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Mt. Hebron on US 97 in California:



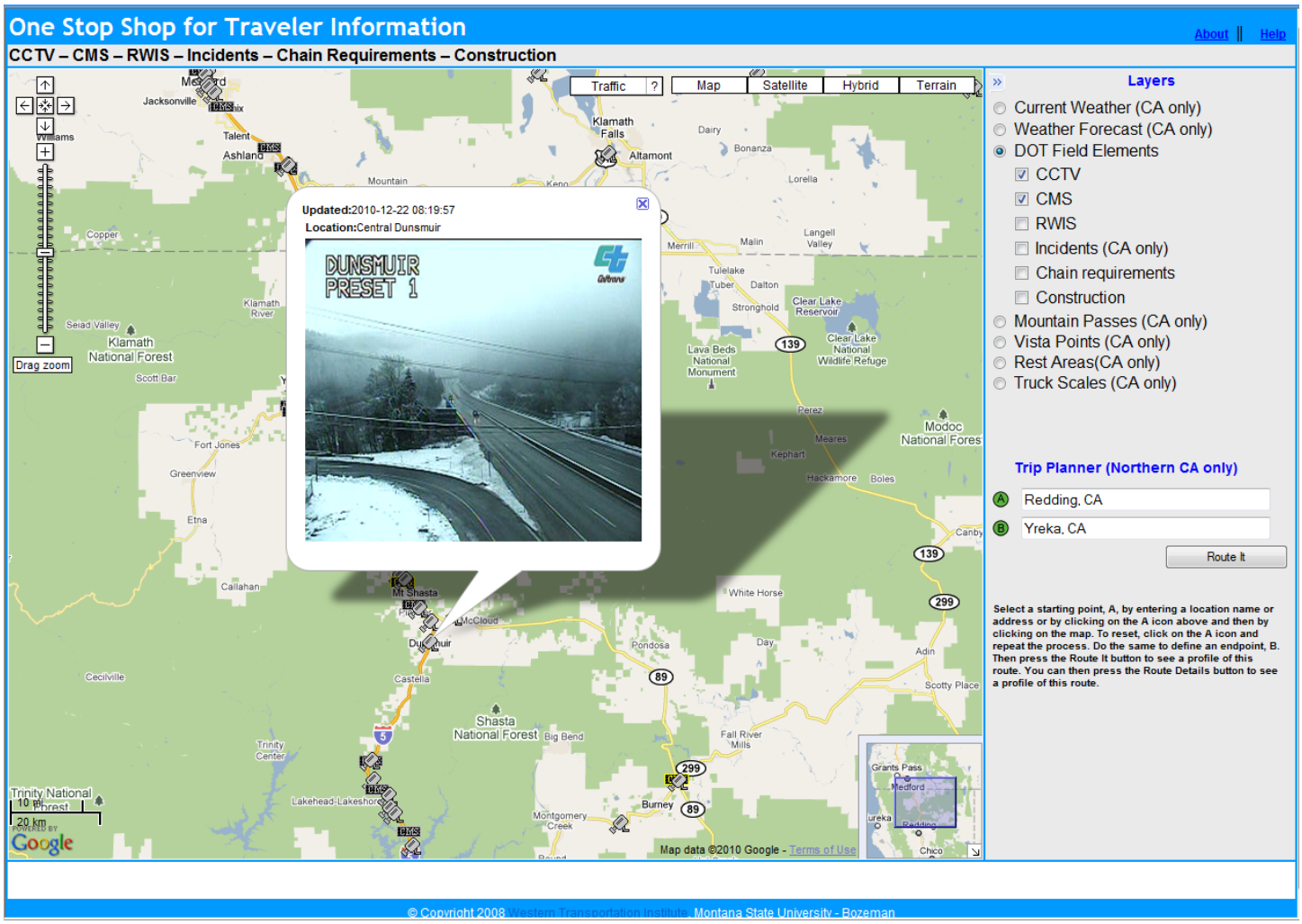
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Snowman summit on SR-89 near Mt. Shasta:



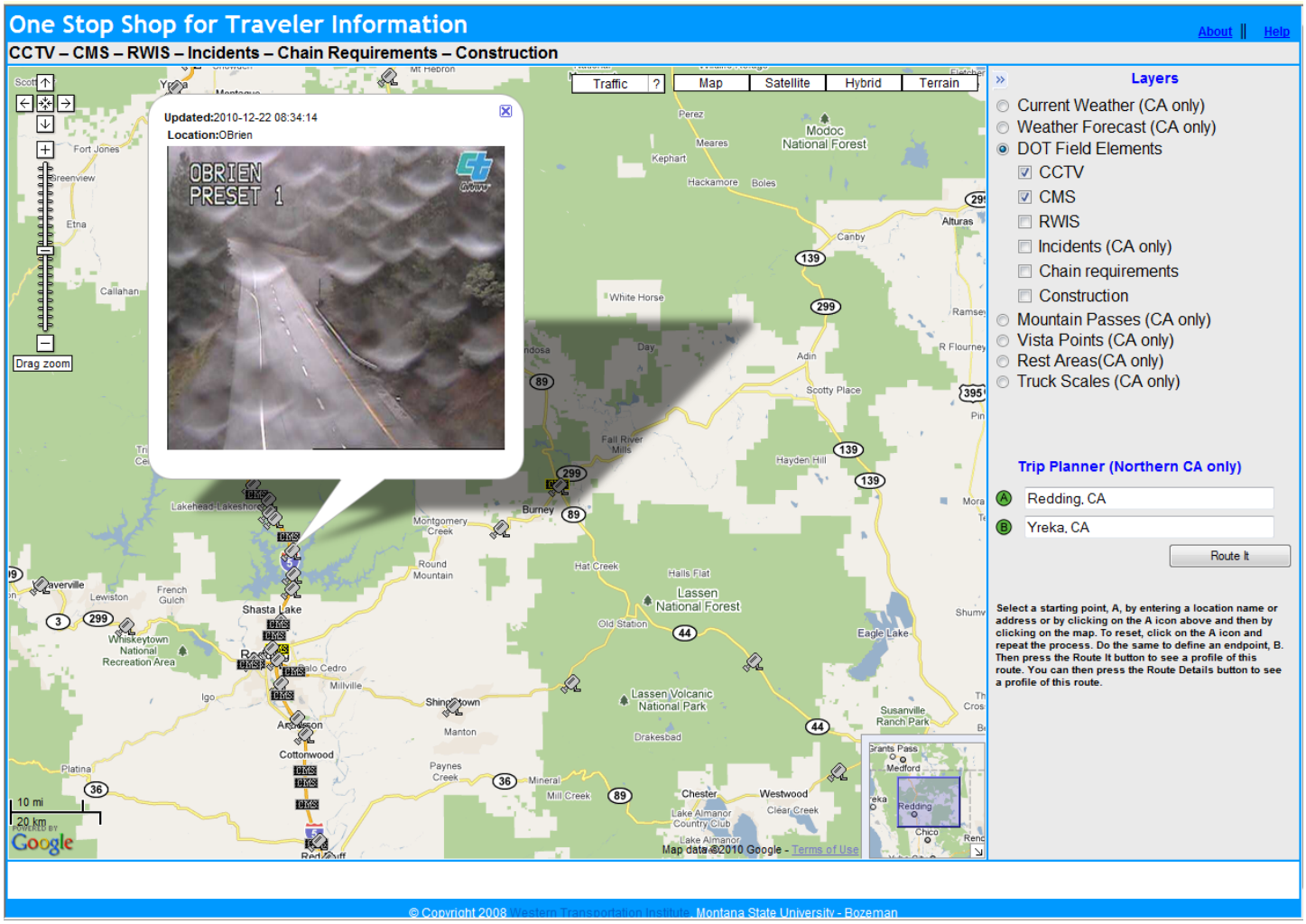
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-5 near Dunsmuir:



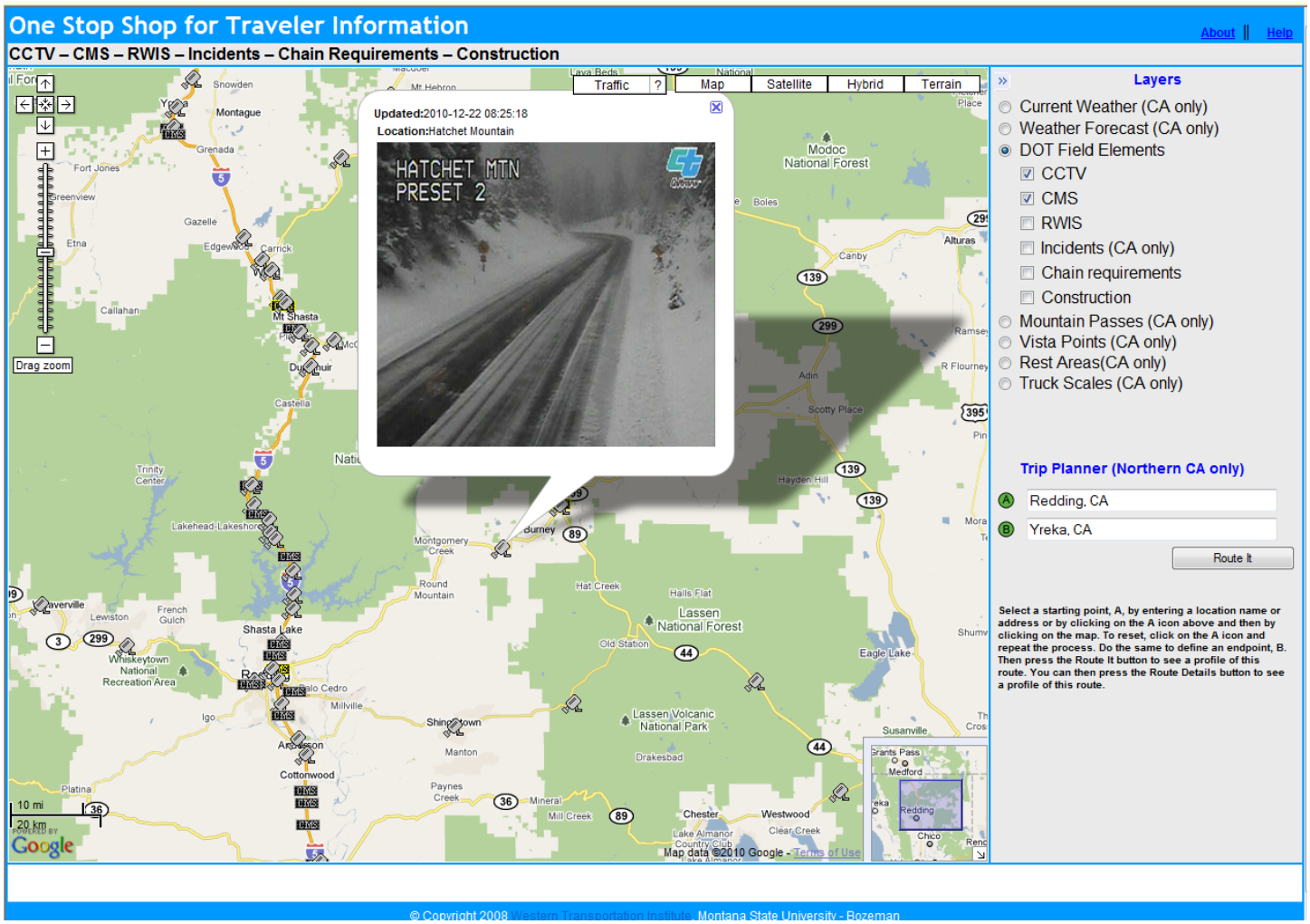
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Obrien near Mt. Shasta shows rain rather than snow:



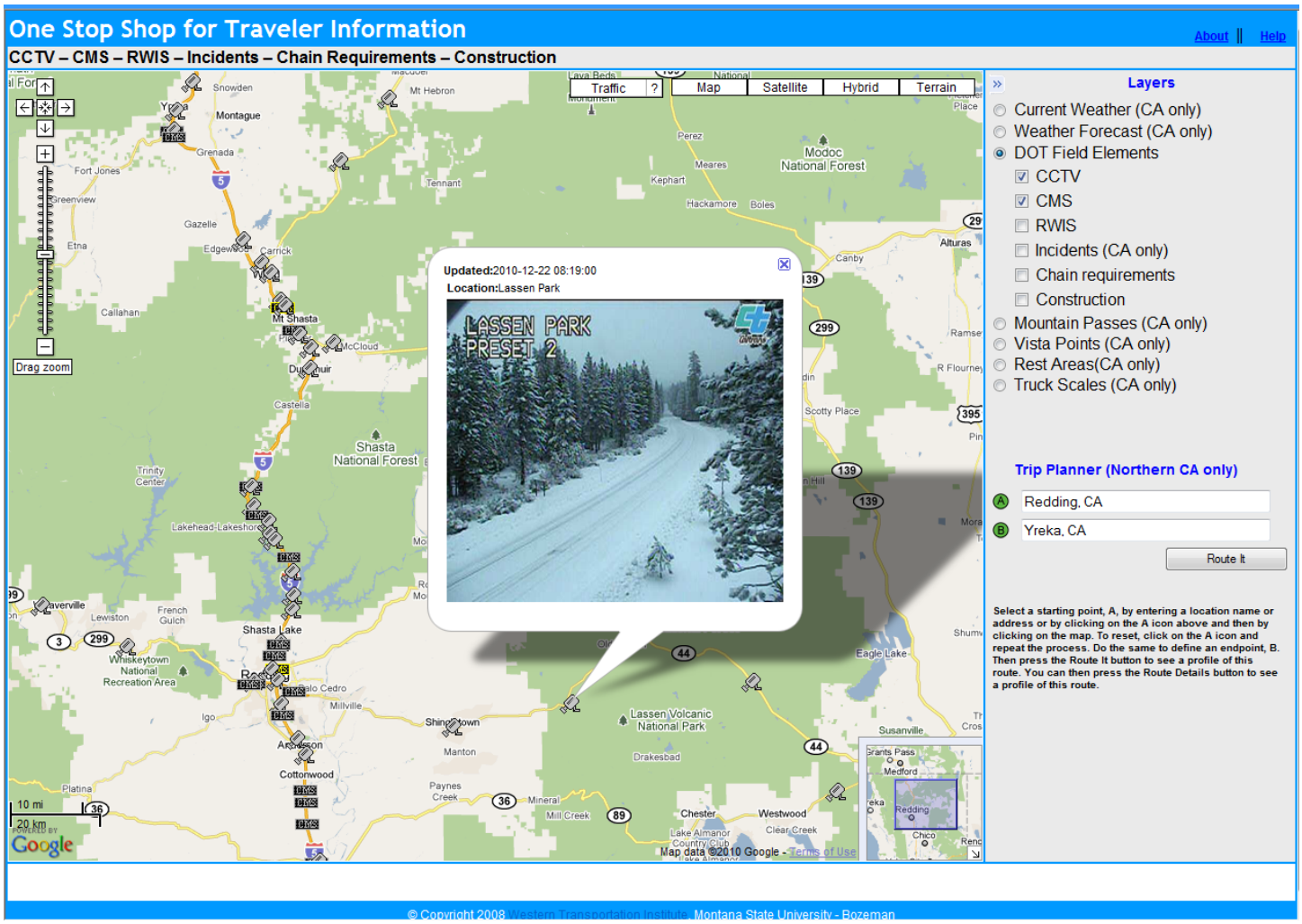
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Hatchet Mountain on SR-299 near Burney:



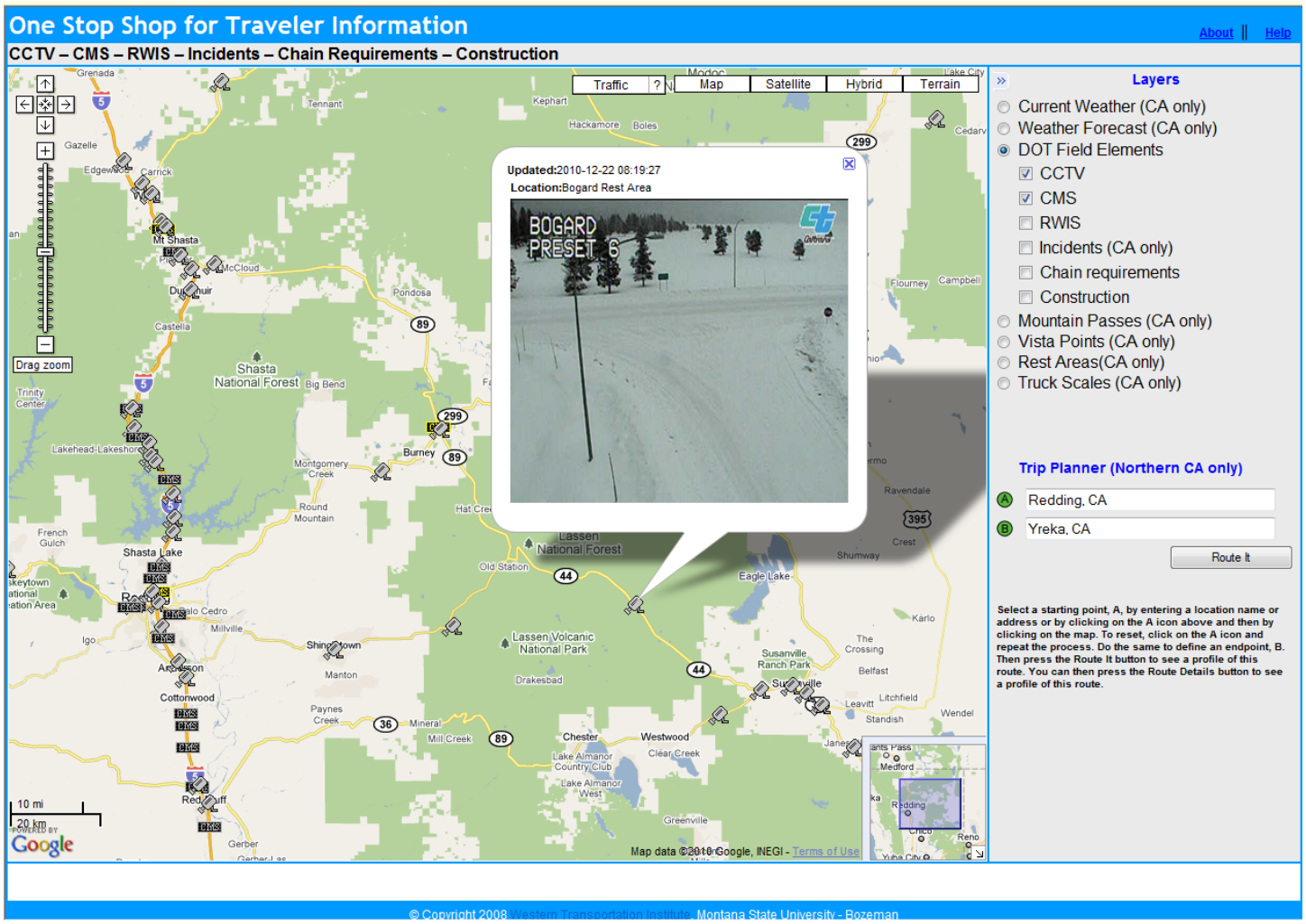
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

SR-44 in Lassen Park:



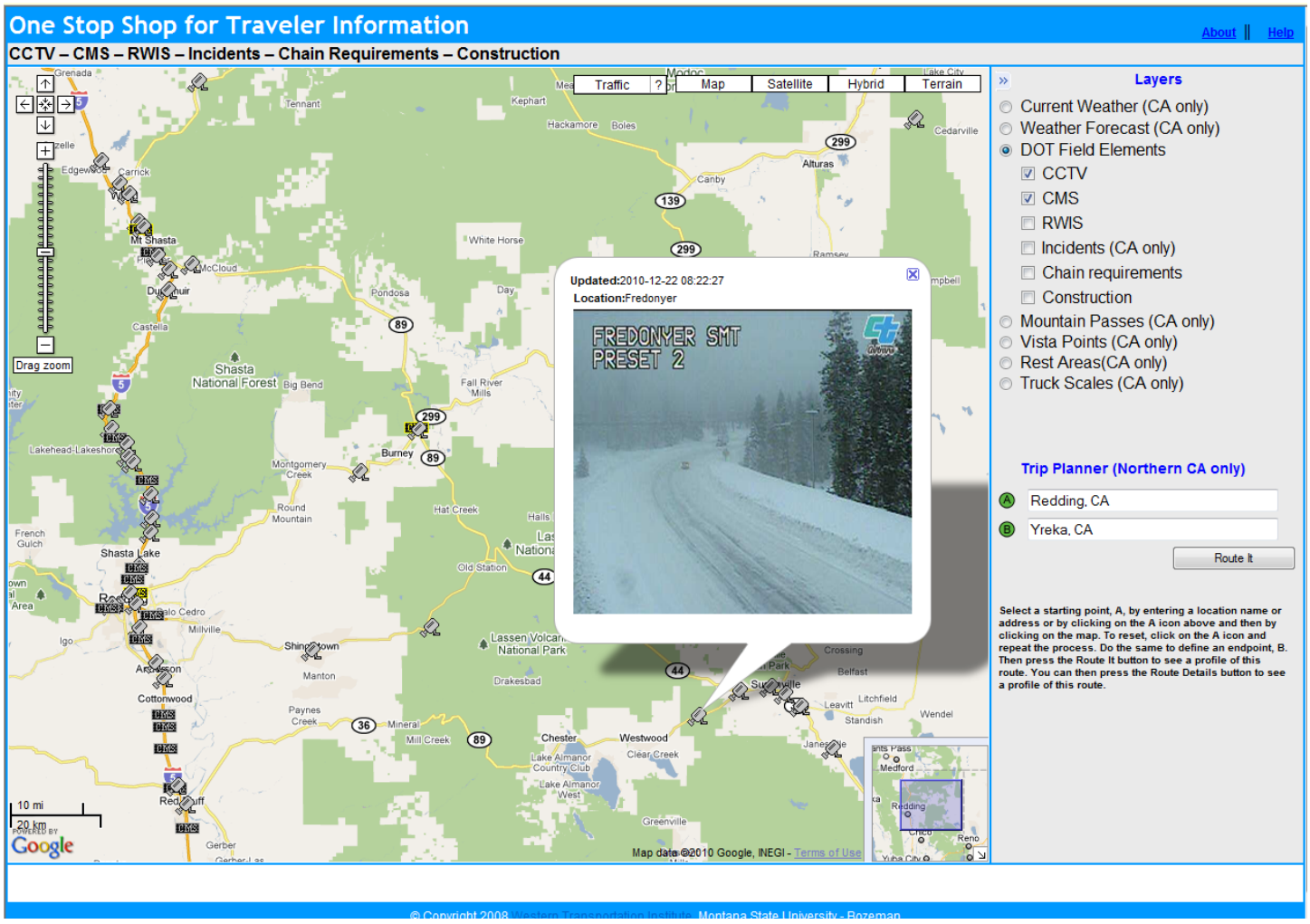
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Bogard Rest Area:



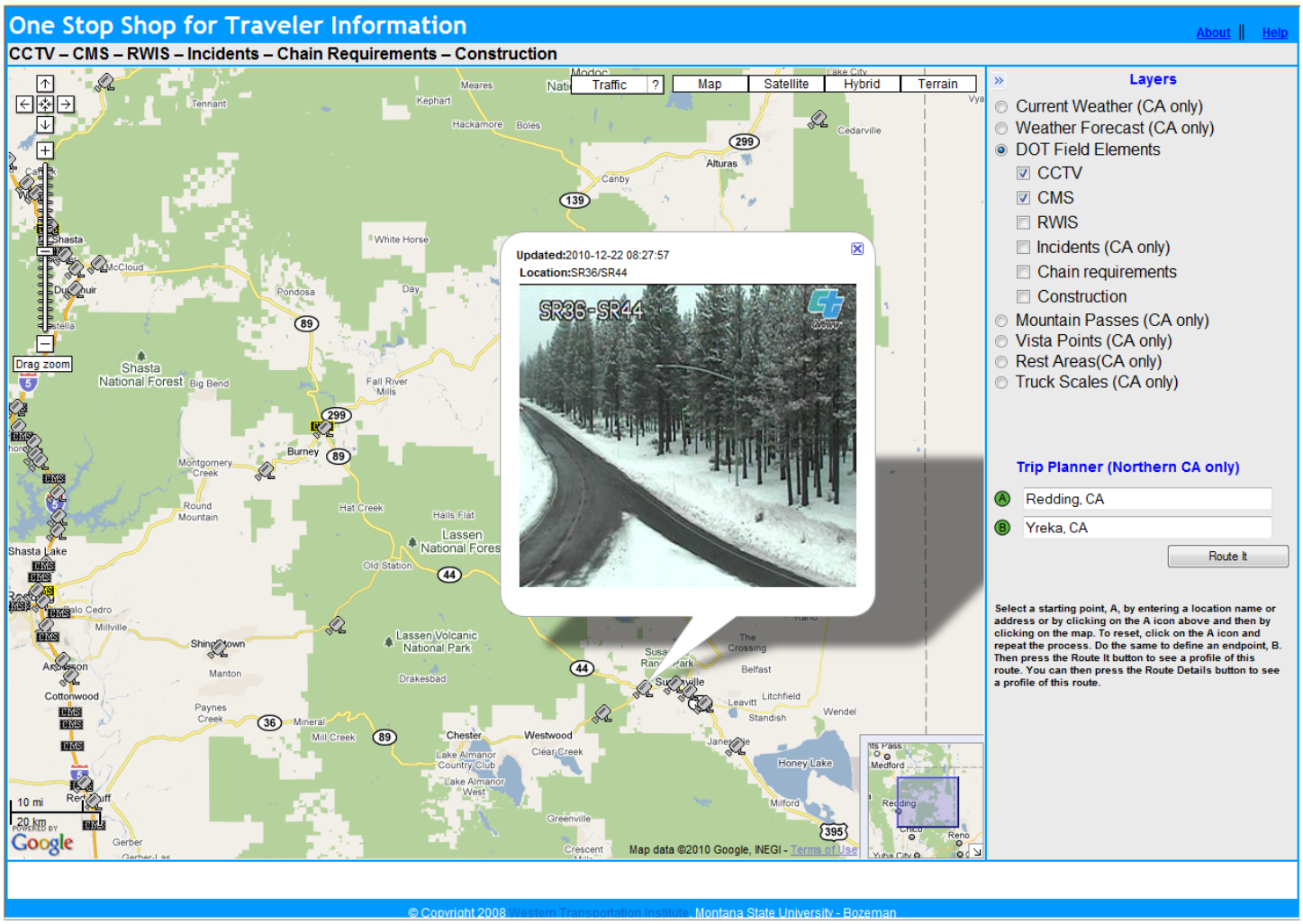
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Fredonyer Summit west of Susanville:



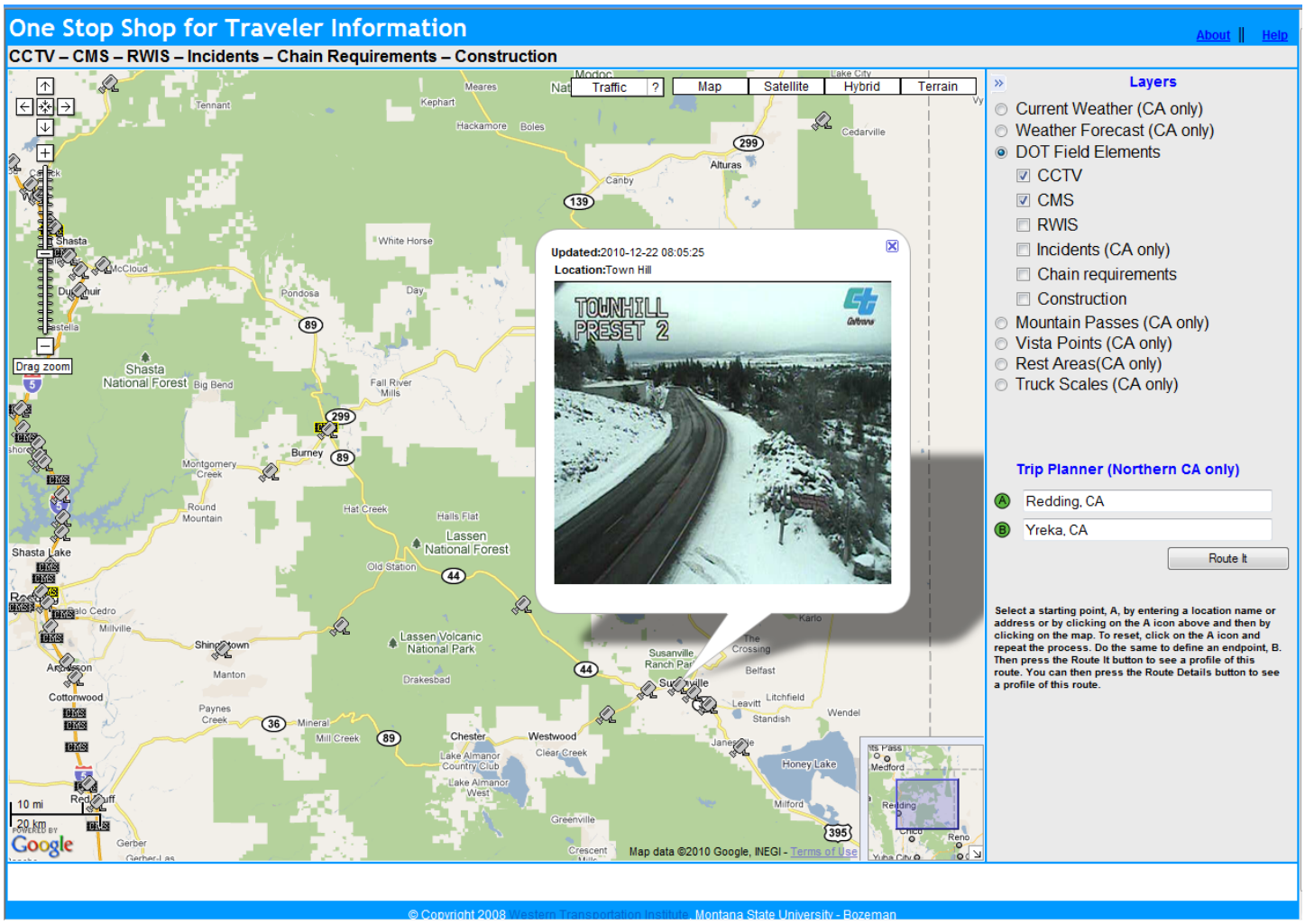
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

SR-36 and SR-44 near Susanville:



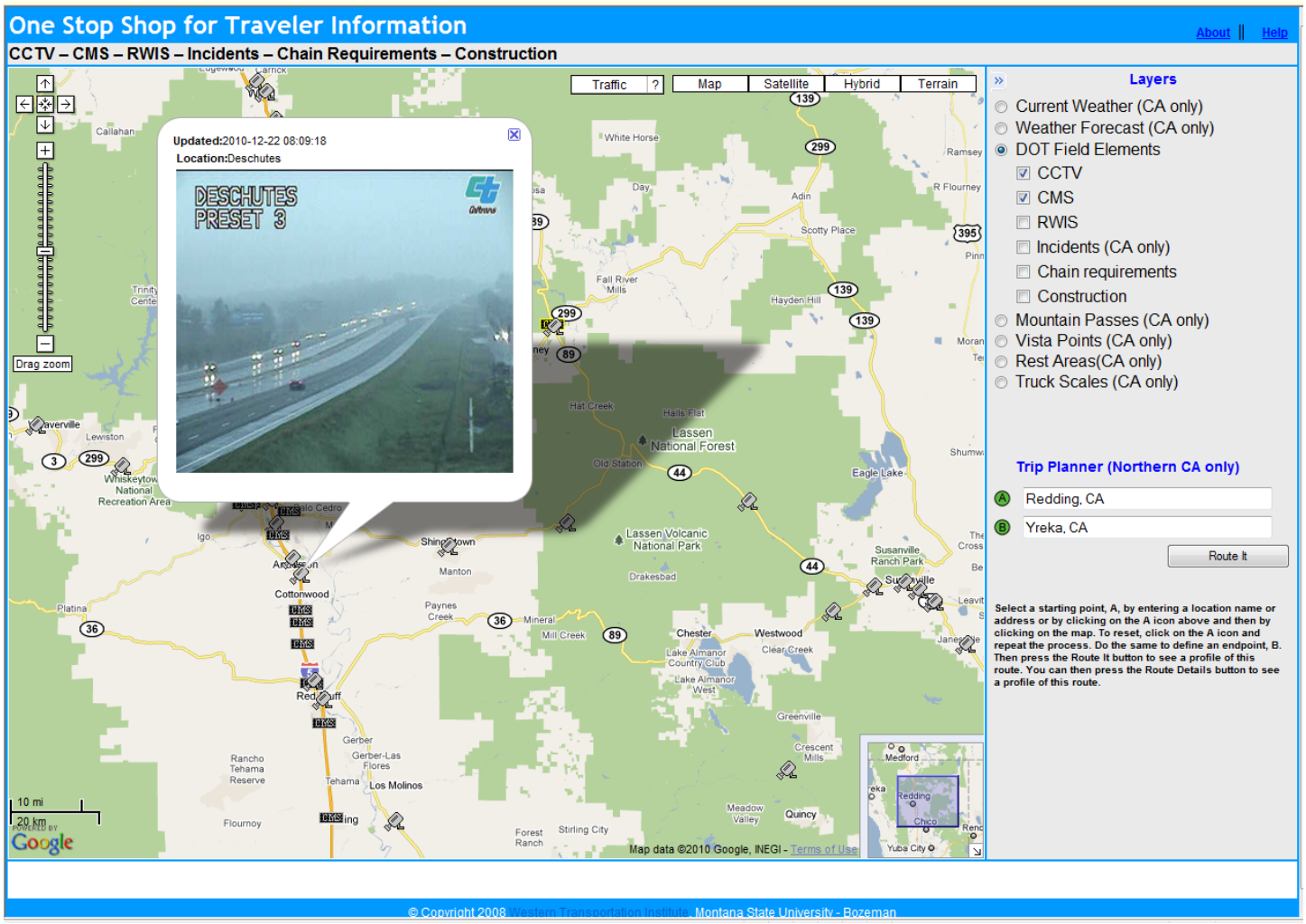
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Townhill near Susanville:



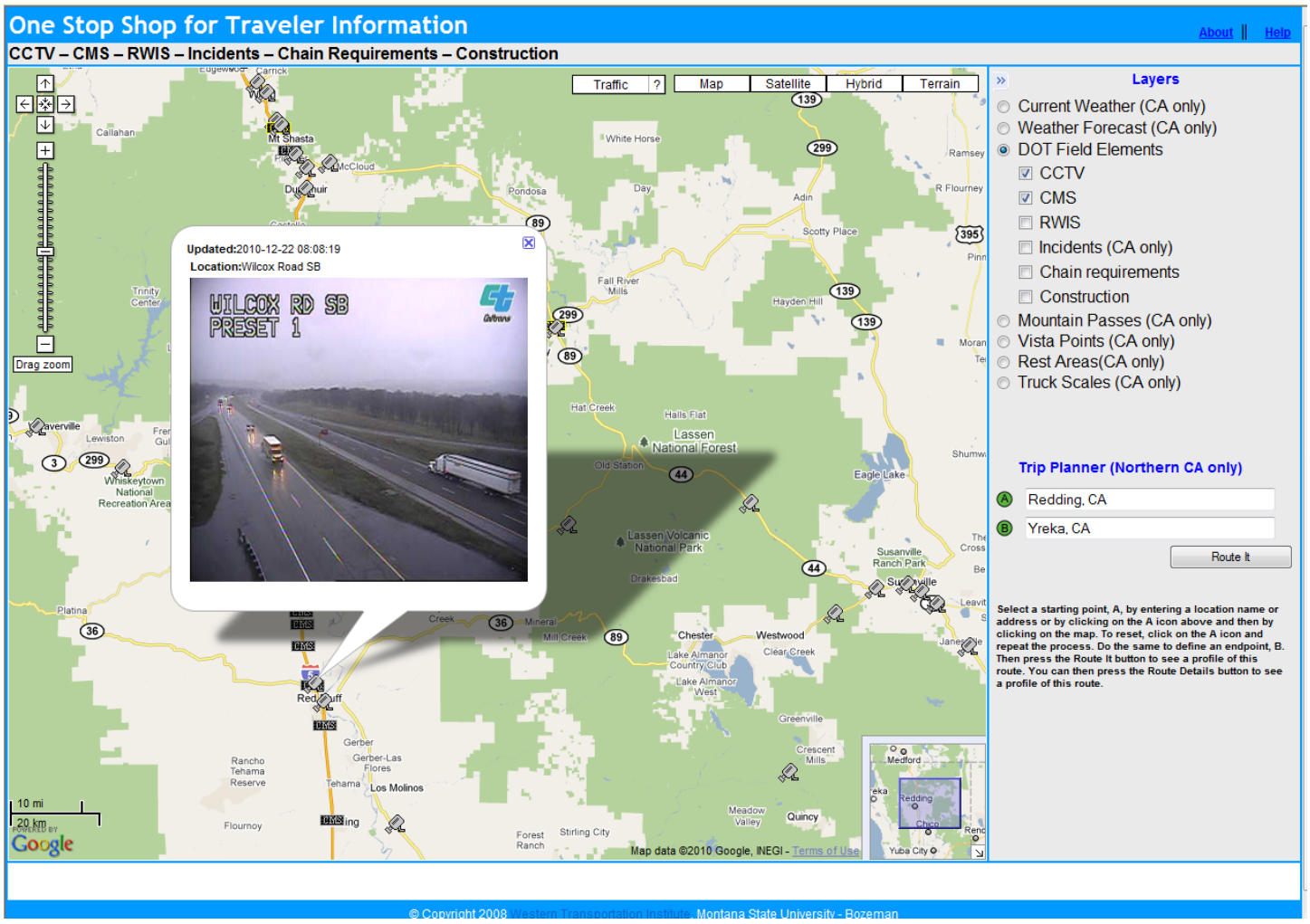
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

Here's more rain along I-5 south of Redding:



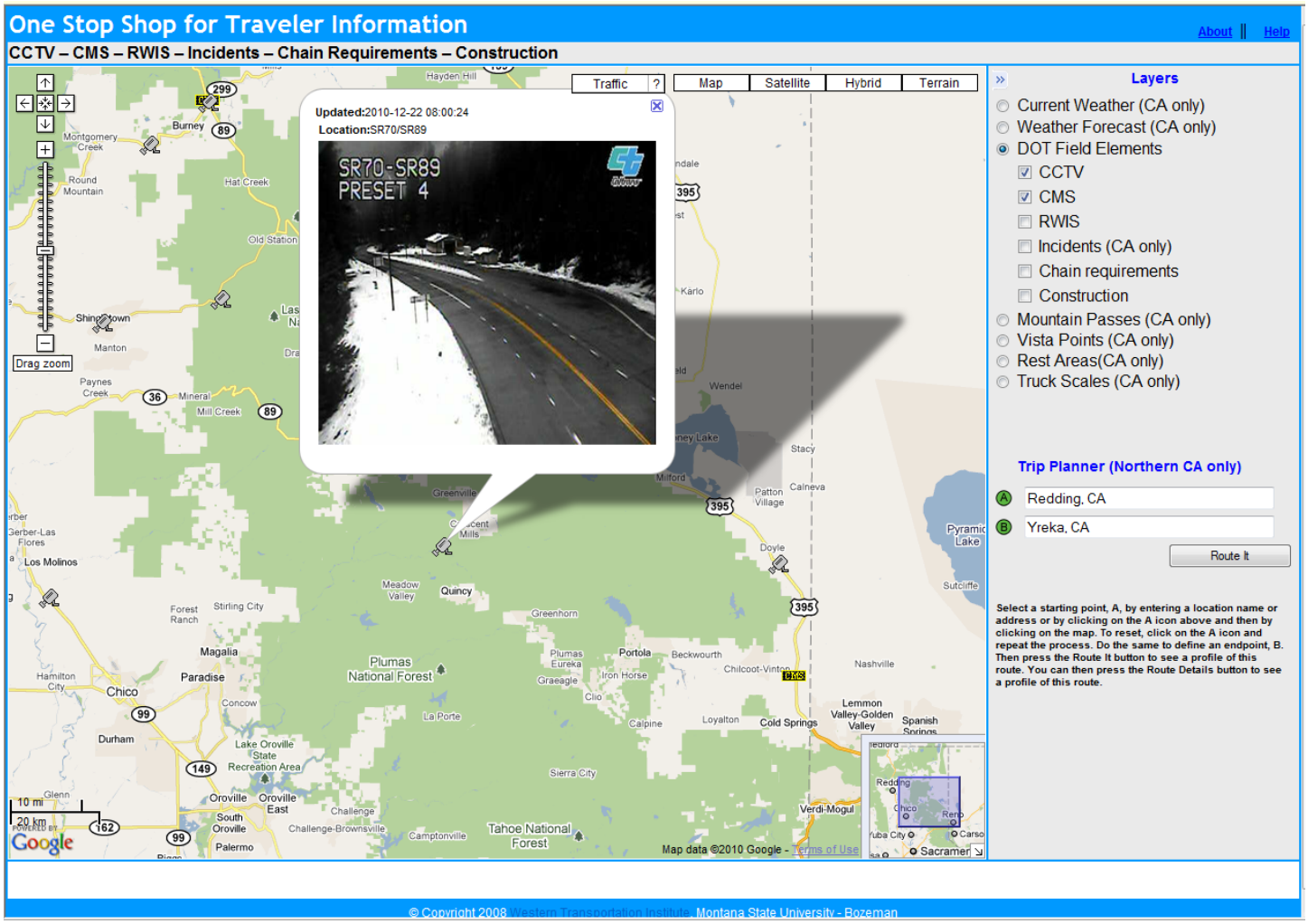
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-5 Near Red Bluff:



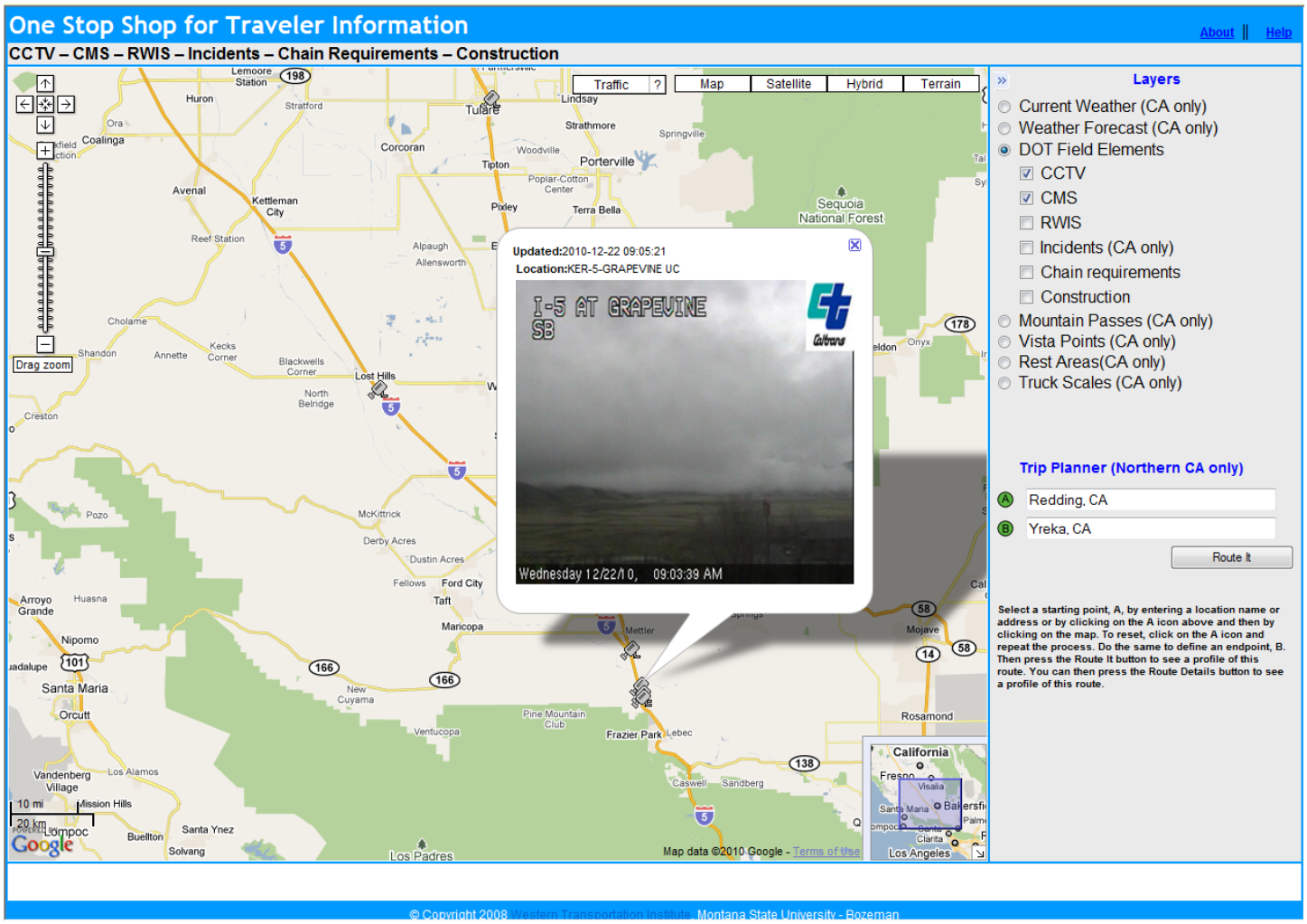
© 2010-2011 Montana State University. All rights reserved.

SR-70 and SR-89 near Quincy:



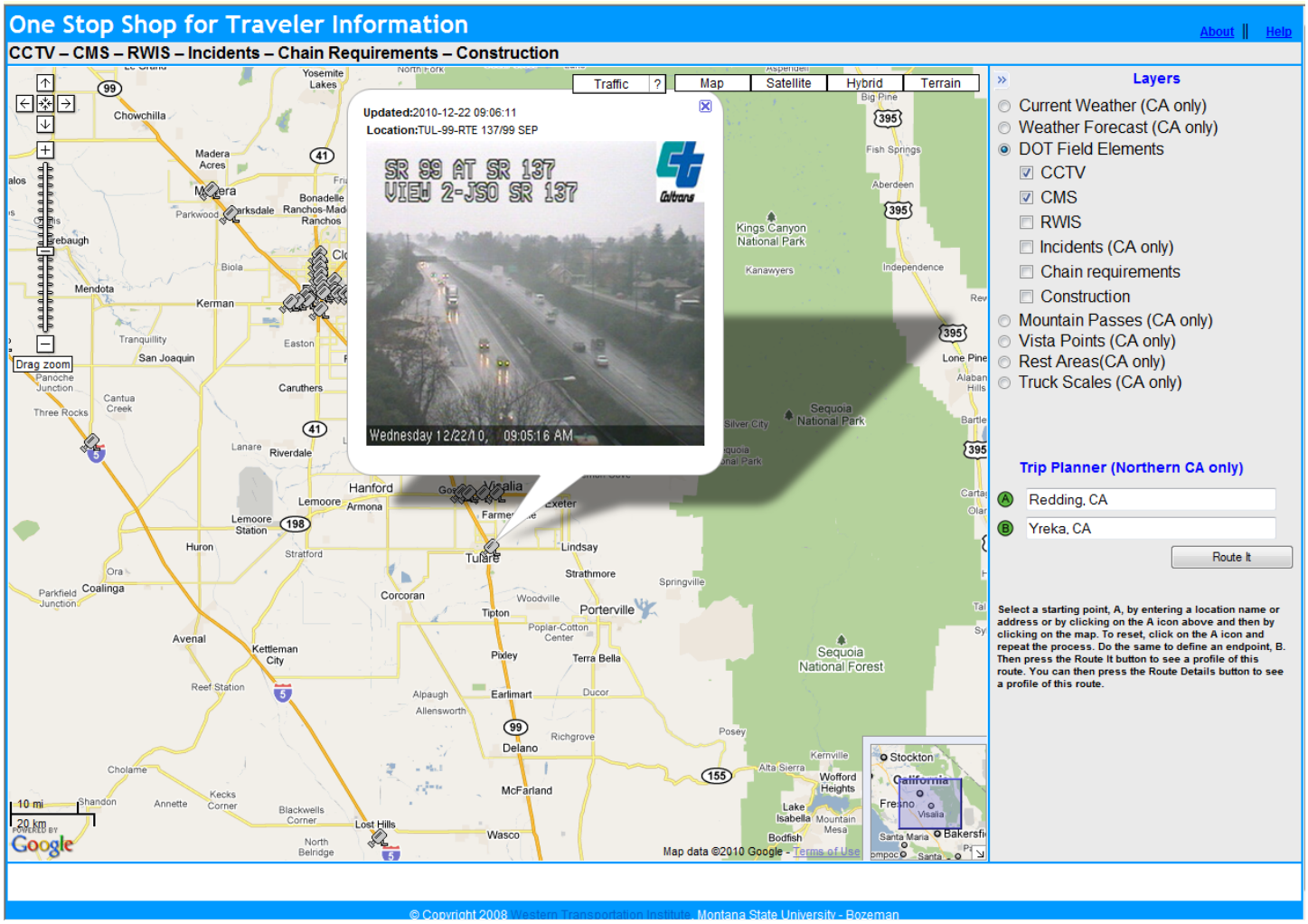
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

I-5 at Grapevine north of Los Angeles:



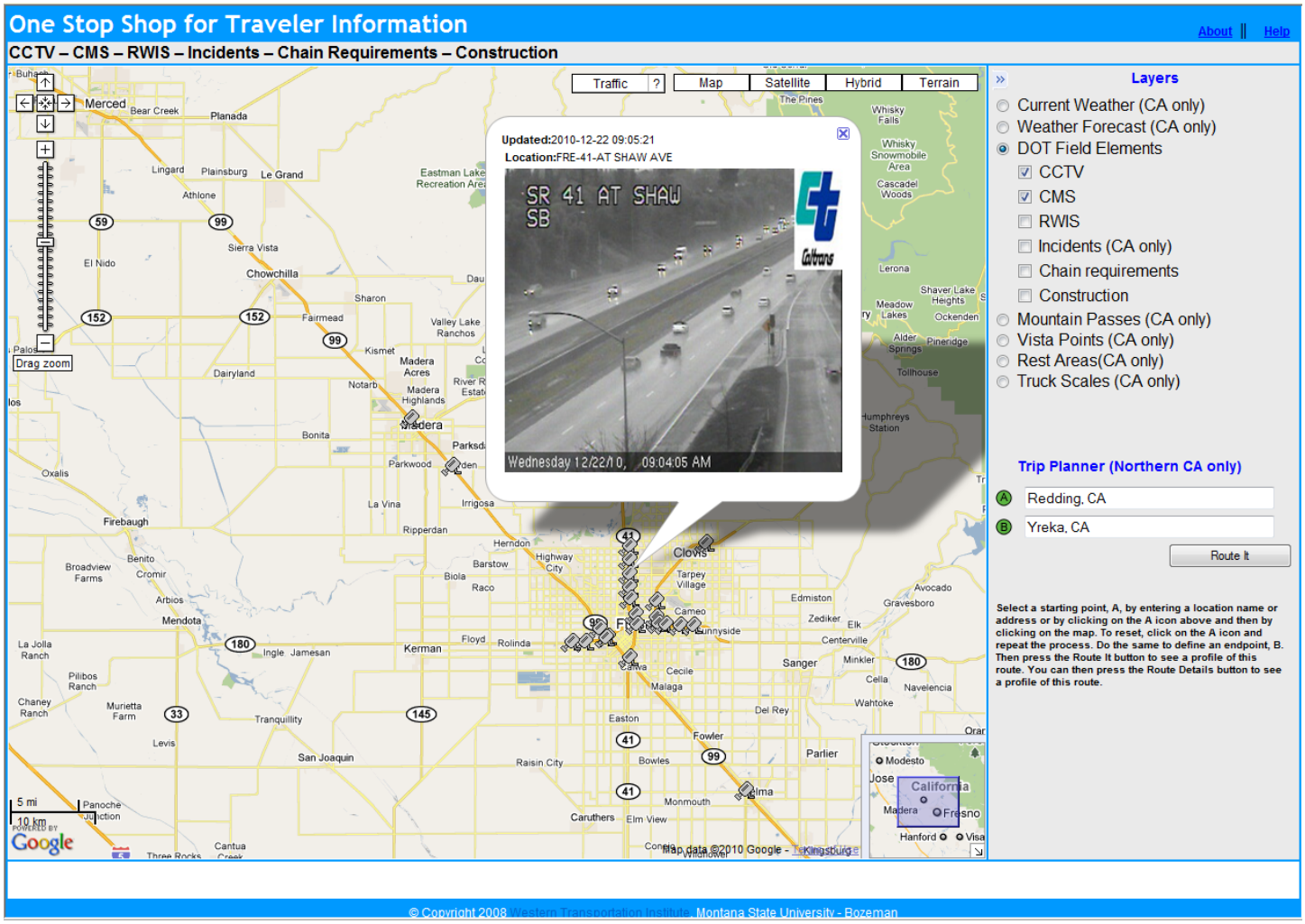
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

SR-99 near Fresno:



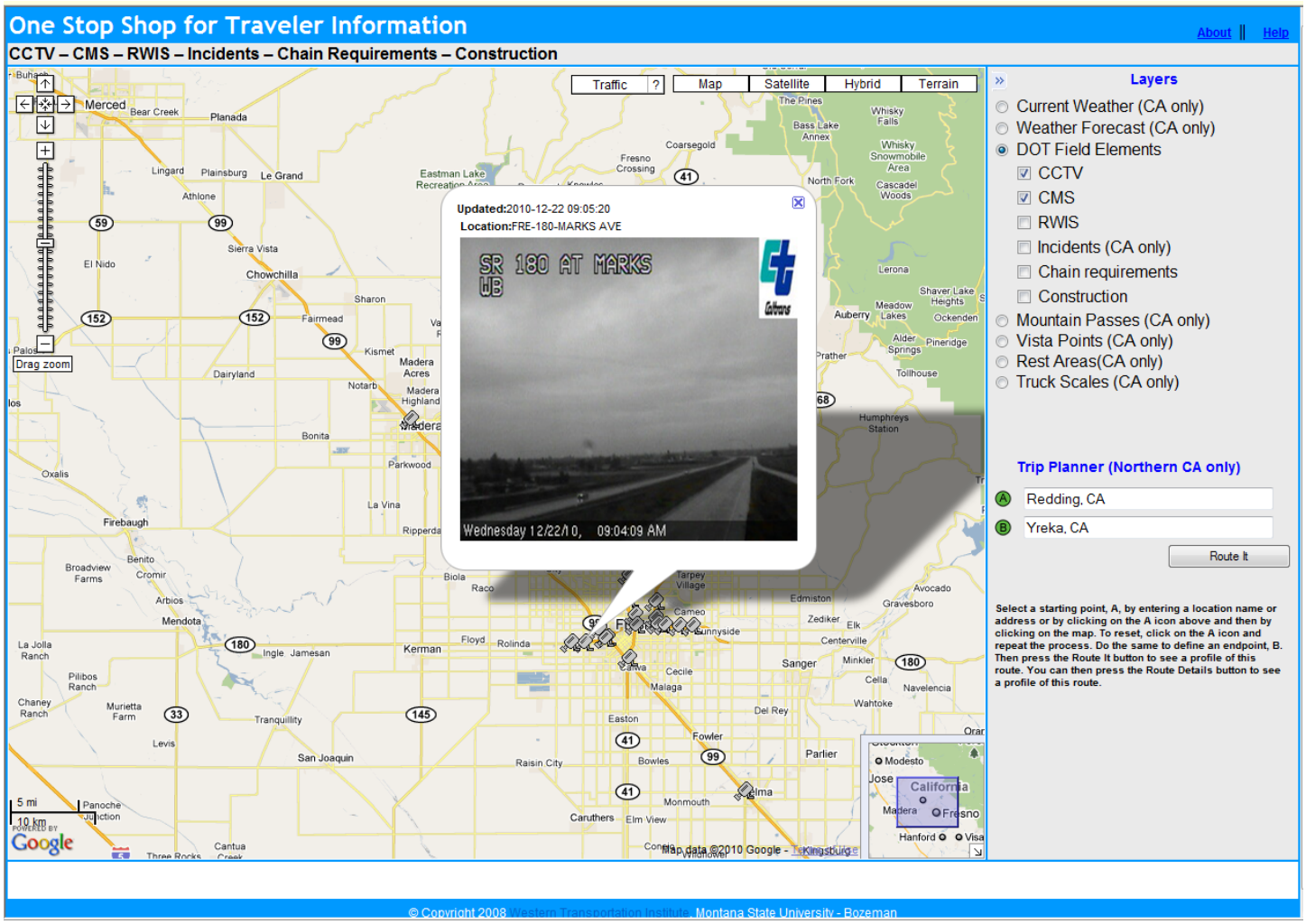
Montana State University College of Engineering PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

SR-41 in Fresno:



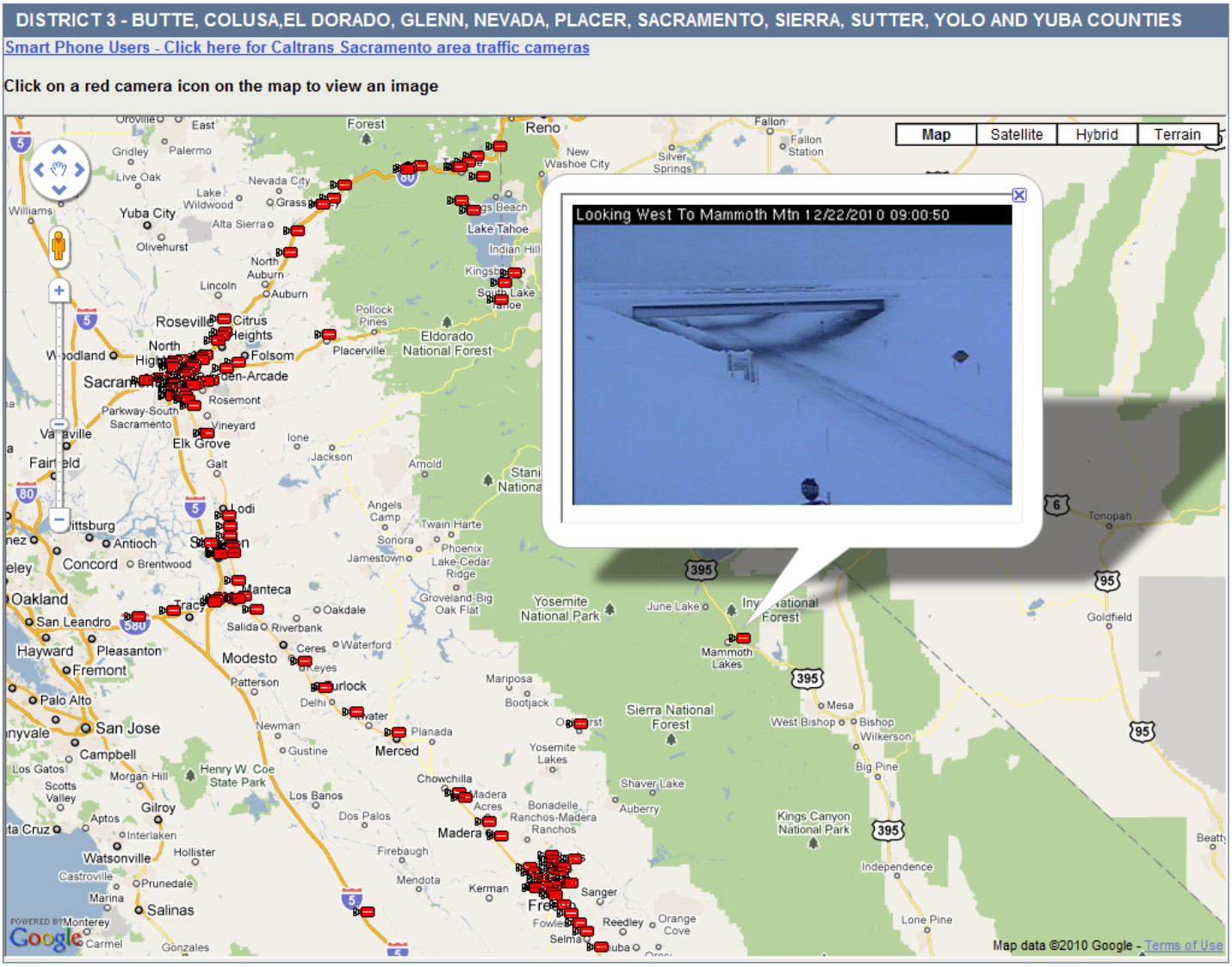
© 2010-2011 Montana State University. All rights reserved.

SR-180 in Fresno:



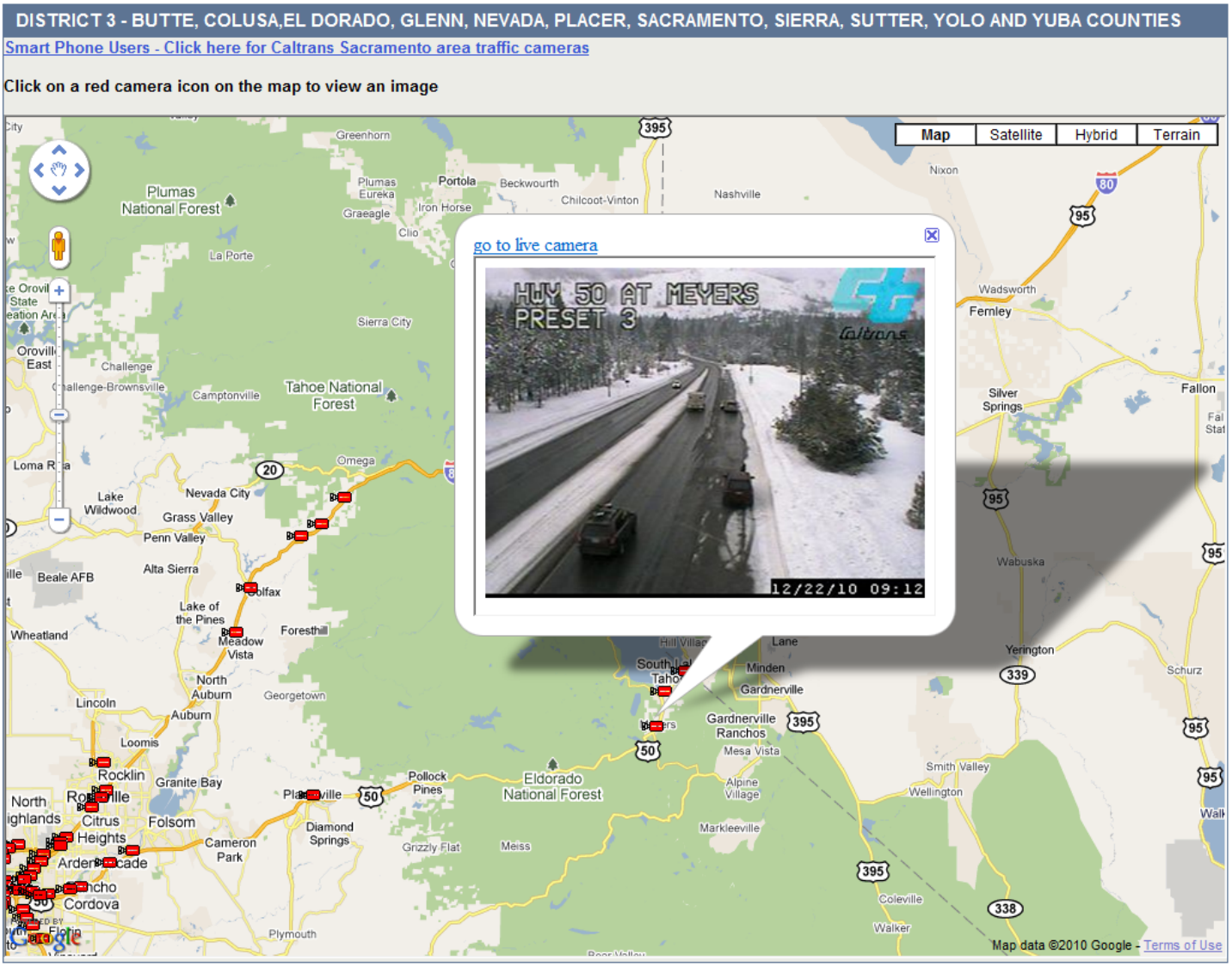
© 2010-2011 Montana State University. All rights reserved.

We currently don't have CCTV images from all of California in OSS, but we plan to add more soon. Here are some images from Caltrans. This one is from US 395 near Mammoth. There was very heavy snow here at the time:



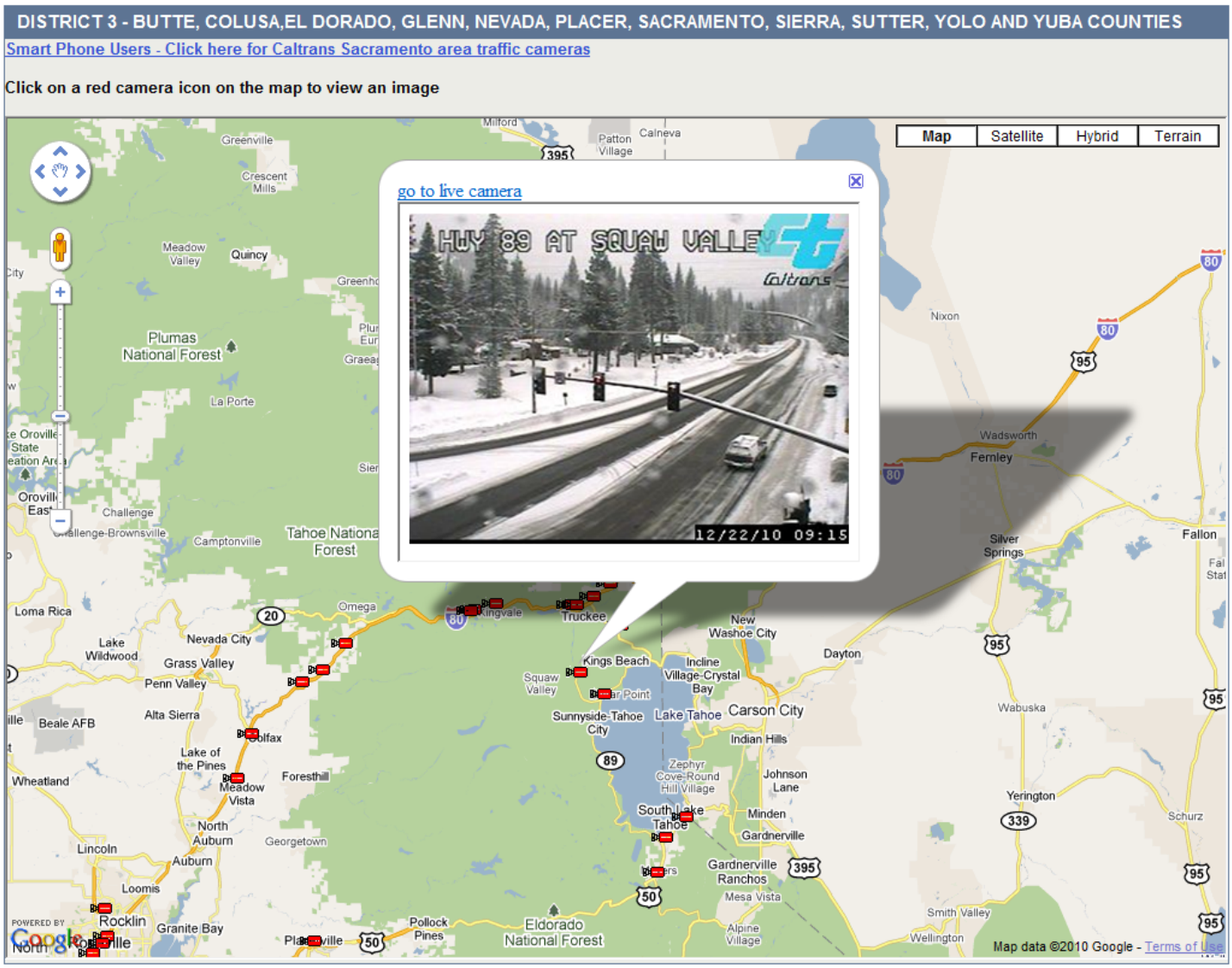
© 2010-2011 Montana State University. All rights reserved.

US 50 south of Lake Tahoe:



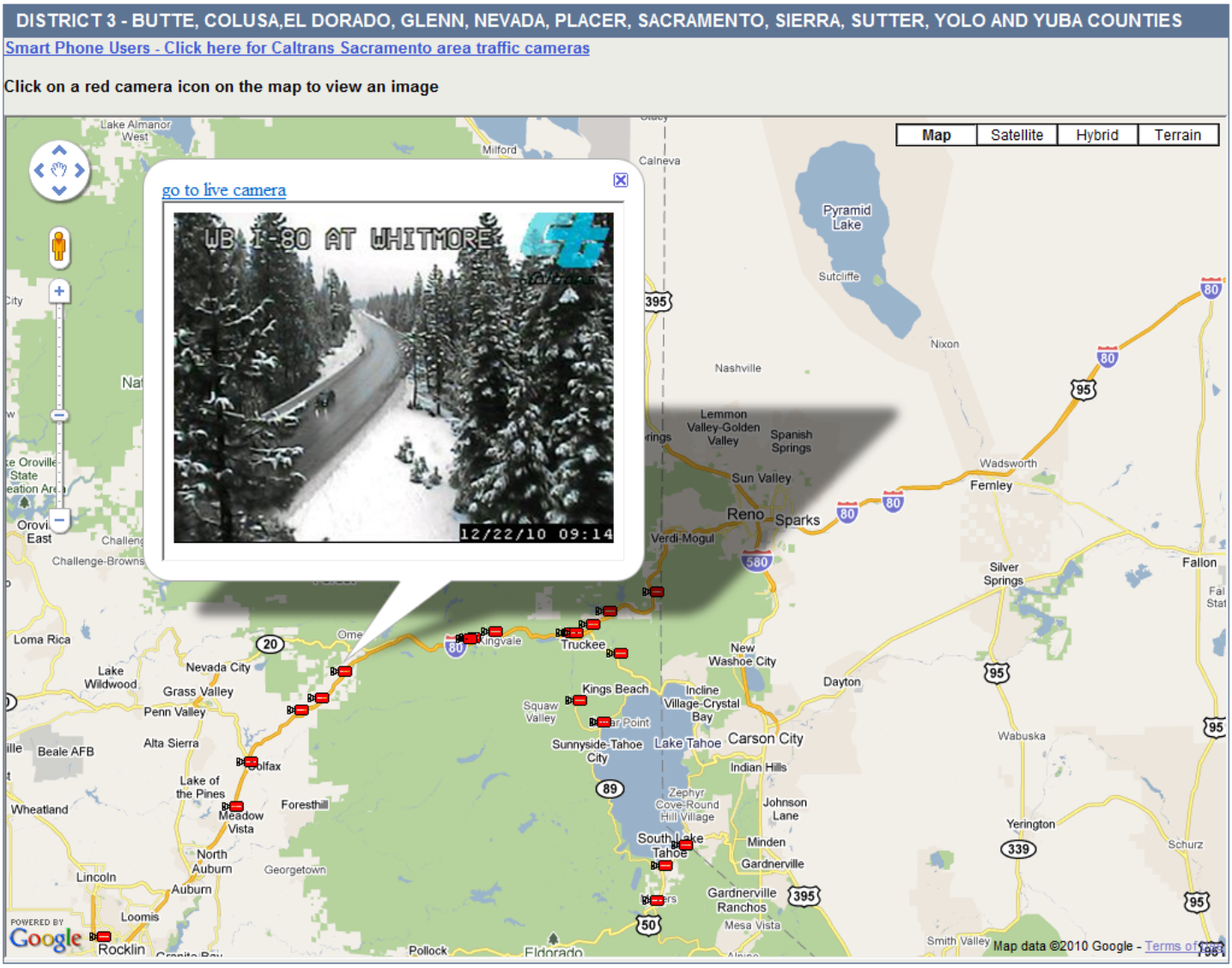
[Montana State University College of Engineering] PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.

SR-89 north of Lake Tahoe:



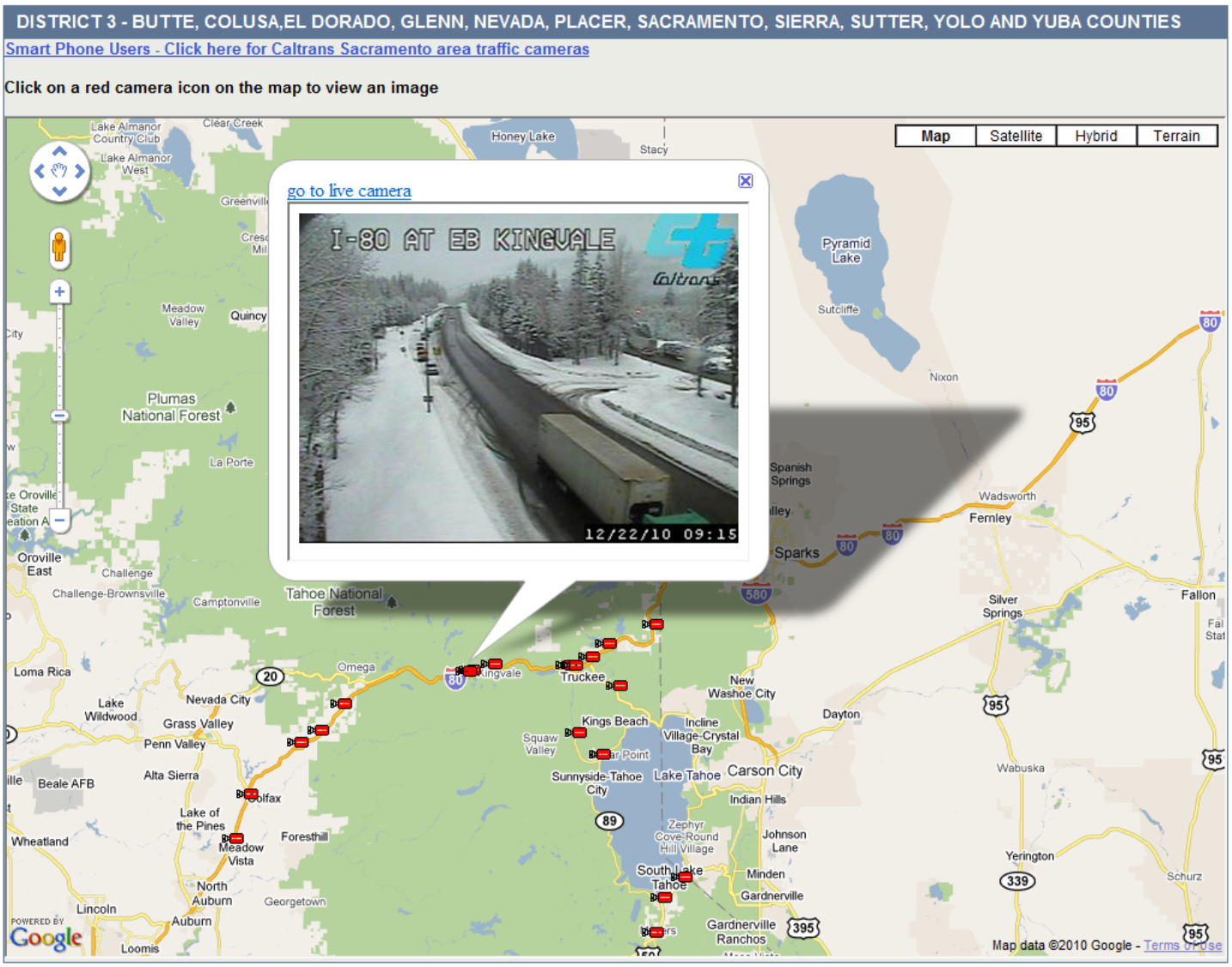
© 2010-2011 Montana State University. All rights reserved.

I-80 east of Auburn:



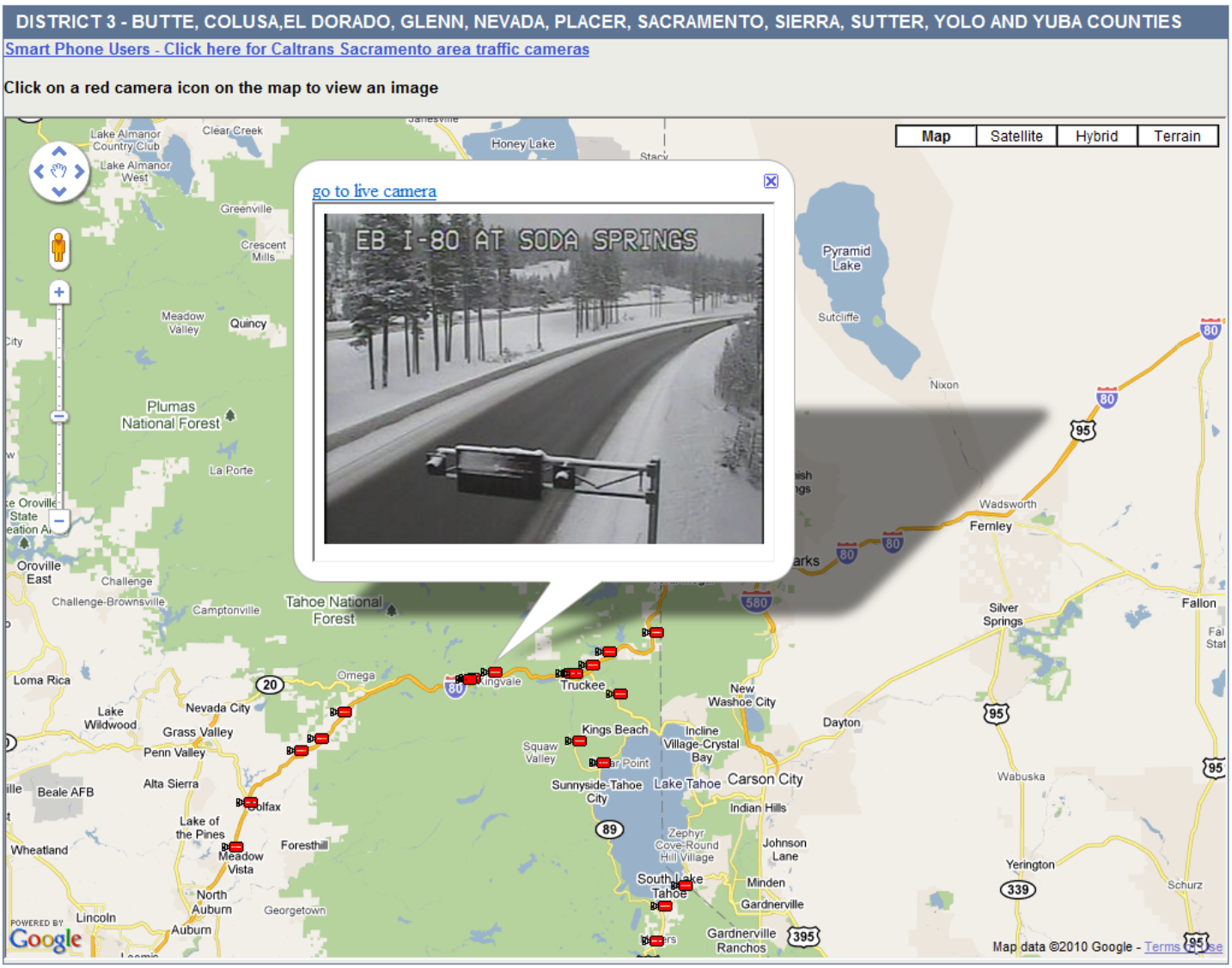
© 2010-2011 Montana State University. All rights reserved.

I-80 west of Truckee:



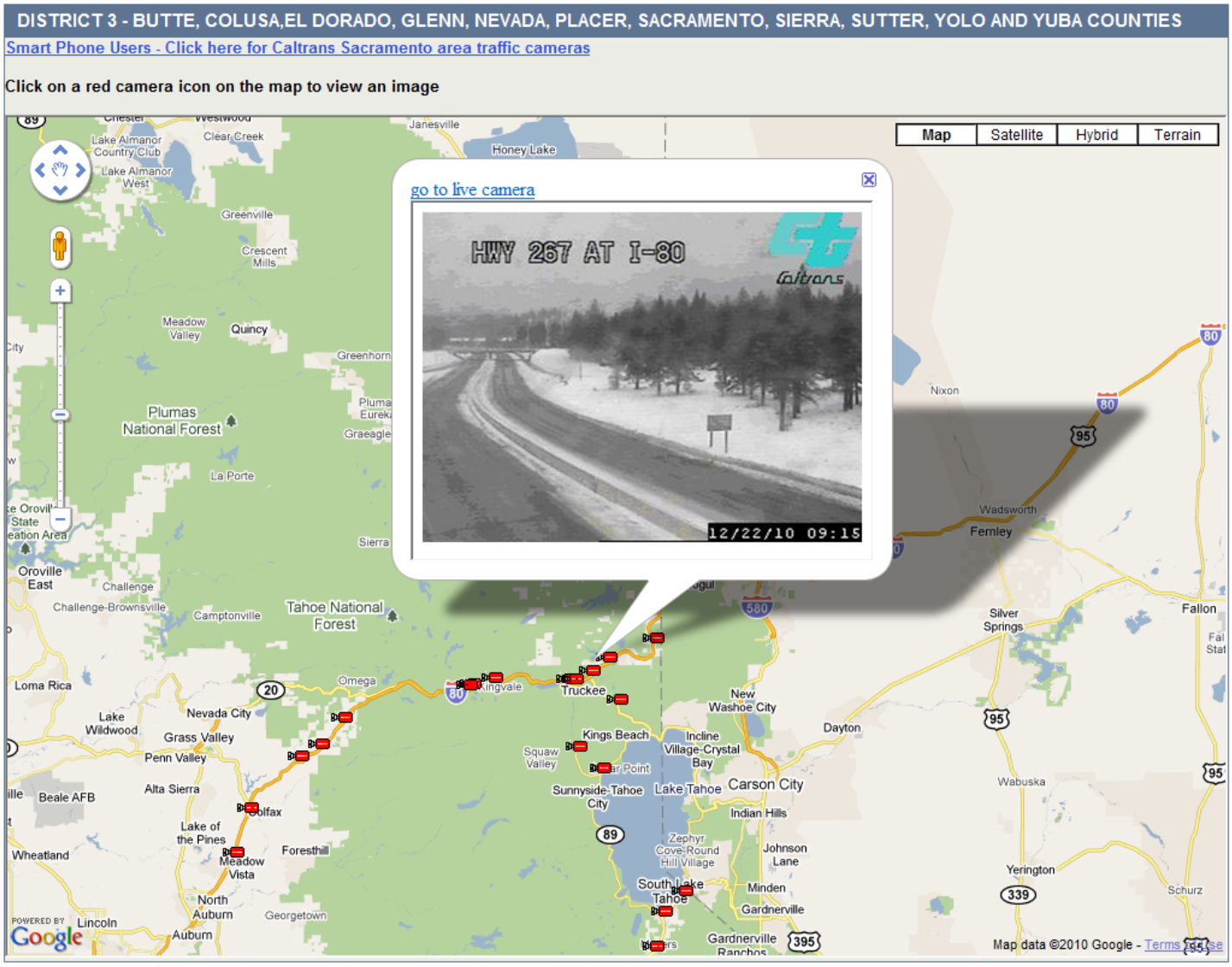
© 2010-2011 Montana State University. All rights reserved.

Also along I-80 near Truckee:



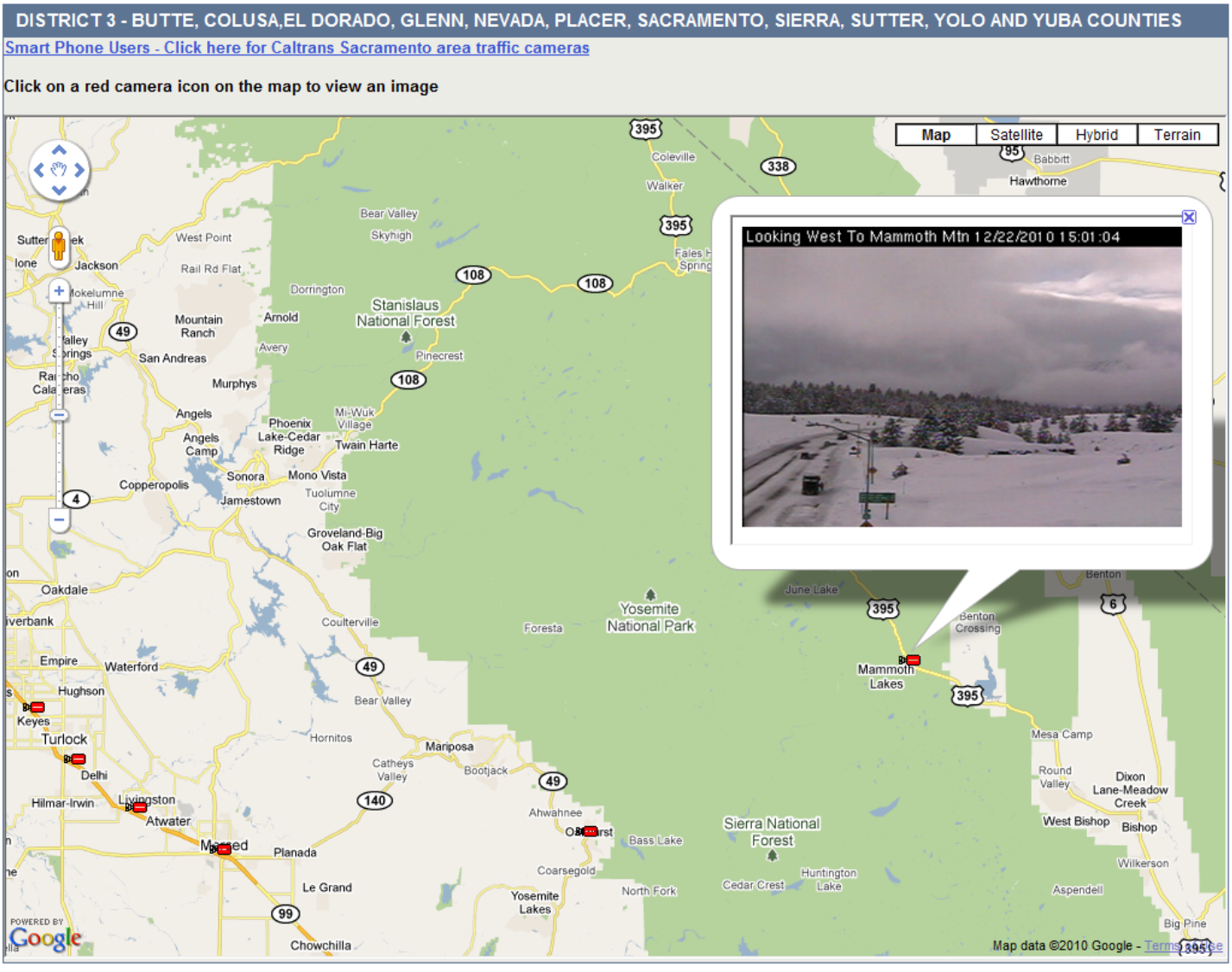
© 2010-2011 Montana State University. All rights reserved.

SR-287 near Truckee:



© 2010-2011 Montana State University. All rights reserved.

Here's another view near Mammoth from later in the day:



As you can see, these were eventful days in terms of weather. Keep an eye on the conditions using OSS and WeatherShare.

[Montana State University College of Engineering] PO Box 174250, Bozeman, MT 59717-4250 Tel: (406) 994-6114 Fax:(406) 994-1697
© 2010-2011 Montana State University. All rights reserved.