Western States
Rural Transportation
Consortium

MONTANA STATE UNIVERSITY
Western Transportation Institute

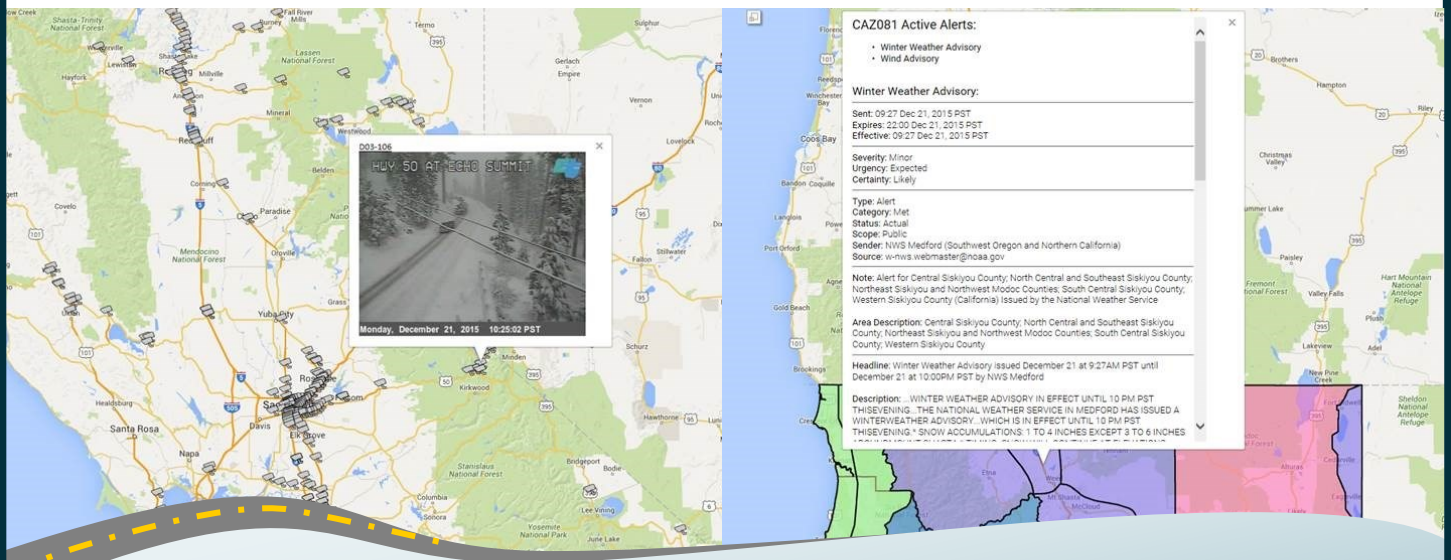
SYSTEMS ENGINEERING DEVELOPMENT AND INTEGRATION PROGRAM

WeatherShare

An All-Encompassing, Critical Roadway Weather Information Source for Caltrans

WeatherShare, a Caltrans (California Department of Transportation) funded project, aims to streamline and integrate essential road weather information from Caltrans Road Weather Information System (RWIS) sites. This data is combined with weather data from other sources, such as MADIS and MesoWest, as well as with National Weather Service forecasts, into one unified source. This information is displayed on an interactive map as well as detailed tabular and graph displays, allowing maintenance personnel and incident responders to quickly and easily visualize road conditions for an entire region or a specific location. The system will allow Caltrans personnel to make a more informed and efficient assessment of current road weather conditions in the region for a variety of purposes, including incident management and highway maintenance.

The WeatherShare prototype system was developed with an emphasis on ease of use and usability. In its first phase, a proof-of-concept was developed showcasing the system's applicability to incident management, highway maintenance and emergency medical services in Northern California. By the completion of the second phase, WeatherShare provided data covering the entire state of California and utilized Google Maps for displaying spatially accurate data.



Caltrans®

WESTERN TRANSPORTATION INSTITUTE

Rural Research Matters

Innovation - Integration - Implementation

WESTERNTRANSPORTATIONINSTITUTE.ORG • (406) 994 6114

RWIS Timestamp: 04/01/2014 06:40:03 AM

Temperature

Air	30.20 °F
Wet Bulb	28.94 °F
Dewpoint	26.96 °F
24-hr Max	41.36 °F
24-hr Min	30.02 °F

Wind

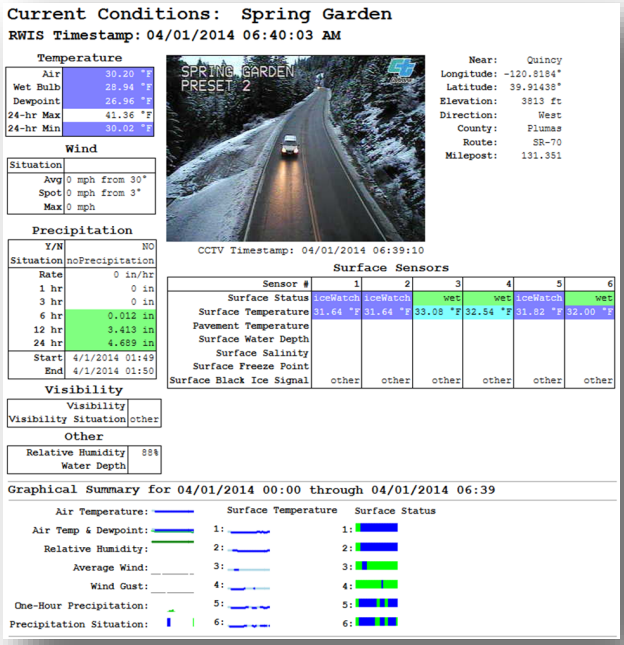
Situation	
Avg	0 mph from 30°
Spot	0 mph from 3°
Max	0 mph

CCTV Timestamp: 04/01/2014 06:39:10

Near:	Quincy
Longitude:	-120.8184°
Latitude:	39.91438°
Elevation:	3813 ft
Direction:	West
County:	Plumas
Route:	SR-70
Milepost:	131.351

Project Goals

Currently in its fourth phase, the project is focused on transitioning WeatherShare to become the central repository for Caltrans RWIS data and weather information. Mission-critical roadway data, such as surface temperature and condition (dry, wet, icy, etc.), are sourced from over 150 Road Weather Information Stations (RWIS). Additional weather data is retrieved from approximately 2,000 third-party weather stations. Caltrans maintenance and operations personnel will have access to real-time and historical weather information that will help them better manage roadways, apply treatments and handle weather-related incidents. This platform of weather observations and forecasts with near real-time road sensor data will allow Caltrans crews to make the best-possible decisions both for maintenance operations and incident response.



WeatherShare Features

- Repository for current and historical RWIS data.
- Leveraged resources (more than 2,000 weather stations in addition to 150 Caltrans RWIS stations).
- Integrated alert capability.
- Scalable, interactive elements for map, tabular and graph display.
- An easy-to-maintain, cost-effective product powered by an open-source platform.

For further information, please visit www.westernstates.org/Projects/Weathershare/ or contact:

Steve Hancock, P.E.
Caltrans
steve.hancock@dot.ca.gov
(916) 654-6007

Sean Campbell, P.E.
Caltrans
sean_campbell@dot.ca.gov
(916) 654-8868

David Frame
Caltrans
david.w.frame@dot.ca.gov
(916) 657-4911

Douglas Galarus
WTI
dgalarus@montana.edu
(406) 994-5268