



Rural

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Project Title:
WeatherShare – Phase V:
Caltrans Enterprise Implementation

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WeatherShare – Phase V: Caltrans Enterprise Implementation

Caltrans is deploying a user tool for Roadside Weather Information System Data.

WHAT IS THE NEED?

California Department of Transportation (Caltrans) currently uses proprietary commercial-off-the-shelf applications to aggregate and present weather information from Road Weather Information System (RWIS) sites, and provide services such as weather-based alert to maintenance and operations personnel. Unfortunately, these applications have been designated a shelf life by their creators and will no longer be supported.

The WeatherShare system is developed as an open-source project which can be utilized by other state transportation departments. WeatherShare will streamline and integrate essential road weather information from Caltrans RWIS sites. This data is combined with weather data from other sources, such as Meteorological Assimilation Data Ingest System, MesoWest, and National Weather Service forecasts, into one unified source.

This information is displayed on an interactive map and detailed tabular and graph displays, allowing maintenance personnel and incident responders to quickly and easily visualize road conditions of an entire region or a specific location. The system will allow Caltrans personnel to make a more informed and efficient assessment of current weather conditions in the region for different purposes, such as incident management and highway maintenance.

This phase is a continuation of the research and development conducted previously, the research team will prepare the system and help Caltrans to implement it internally.



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WHAT ARE WE DOING?

Primary development on WeatherShare is now completed, the system needs to be migrated from an external hosted server to a Caltrans server to be maintained and supported internally. This research includes the following tasks:

- Providing consulting services, including knowledge transfer to Caltrans Information Technology (IT) staff who will be responsible for ongoing support and maintenance of the WeatherShare system so that IT can successfully install, run, and maintain the site.
- Ensuring that Caltrans has the final code, images and files necessary to generate the layers used in the WeatherShare system.
- Ensuring that Caltrans has the scripts necessary to retrieve and process data, and generate the files used on the WeatherShare system.
- Preparing complete documentation detailing system implementation procedures.

WHAT IS OUR GOAL?

WeatherShare is to become the central repository for Caltrans RWIS data and weather information. Caltrans maintenance and operations personnel will have access to real-time and historical weather information that will help them manage roadways, apply treatments, and handle weather-related incidents more effectively.

WHAT IS THE BENEFIT?

This platform of weather observations and forecasts with near real-time road sensor data will allow Caltrans crews to make the best-possible decisions for both maintenance operations and incident response.

WHAT IS THE PROGRESS TO DATE?

WeatherShare code and system development has been completed, tested, and evaluated. Caltrans desires to deploy and support WeatherShare internally. Previously, WeatherShare has had multiple tasks and projects including:

- WeatherShare Phase I : Concept and Development
- WeatherShare Phase II : Enhancements
- WeatherShare Phase III : Visualization Tools
- WeatherShare Phase IV : Inclement Weather Testing
- Integration of Automated Weather Observing System (AWOS) / Automated Surface Observing System (ASOS) and RWIS Phase I: Concept and Development
- Integration of AWOS / ASOS and RWIS Phase II : Prepare System for Deployment
- Aviation Weather Information – Web Portal Implementation
- Rural Traveler Information Needs Assessment and Pilot Study Phase I: COATS Region Coverage
- Rural Traveler Information Needs Assessment and Pilot Study Phase II: Enhancements and East Expansion
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- Rural Traveler Information Needs Assessment and Pilot Study Phase III : Bordering States Rural Coverage TPF 5(241)

IMAGE



WatherShare System