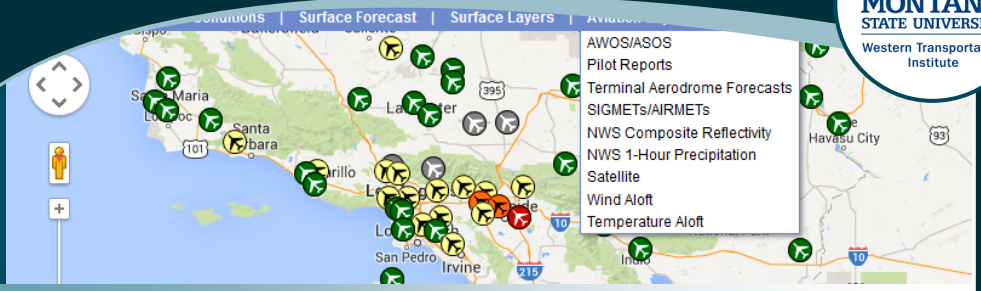


SYSTEMS ENGINEERING DEVELOPMENT AND INTEGRATION PROGRAM

Integration of Aviation Automated Weather Observation Systems (AWOS) with Roadside Weather Information Systems (RWIS), Phase II - (Aviation Weathershare)

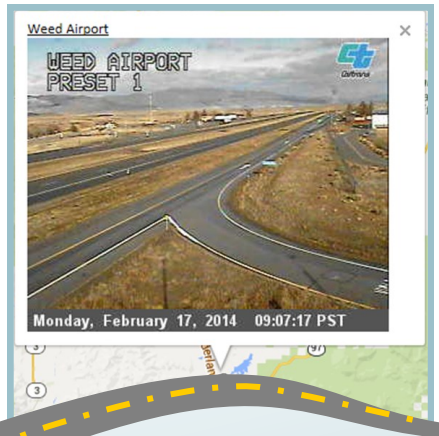
The Problem

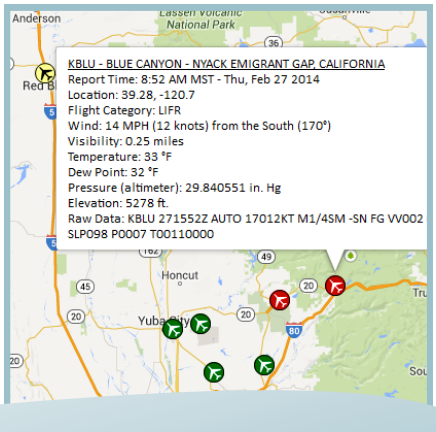
Weather information and forecasts are critical for the safety of air and surface transportation users as well as the efficiency of transportation system operations. Some underserved, rural airfields and heliports in California may not have access to comprehensive and accurate local meteorological data.

General aviation aircraft and airports are not always equipped with weather monitoring equipment such as Automated Weather Observing System (AWOS) or Automated Surface Observing System (ASOS) stations like larger, commercial aircraft and airports have on-site. The accuracy of weather information is a problem for airports without an AWOS/ASOS station because the nearest AWOS/ASOS station might be too far away to reflect the real situation at their airfields.

Road Weather Information Systems (RWIS) provide real-time weather and road conditions to help with winter maintenance and snow removal operations. The implementation of RWIS requires a large capital investment and dedicated resources for procurement, maintenance, effective coordination, and data dissemination. Due to the cost, and limited funds available to state DOTs, the deployment of RWIS has been limited with deployments prioritized to trouble spots with significant winter conditions.

Weather data is available from multiple sources in a variety of formats. Having relevant, near real time weather conditions and forecast information for an intended route, all in one easy to access location, is of benefit to pilots, emergency responders, road maintenance crews, and highway users.





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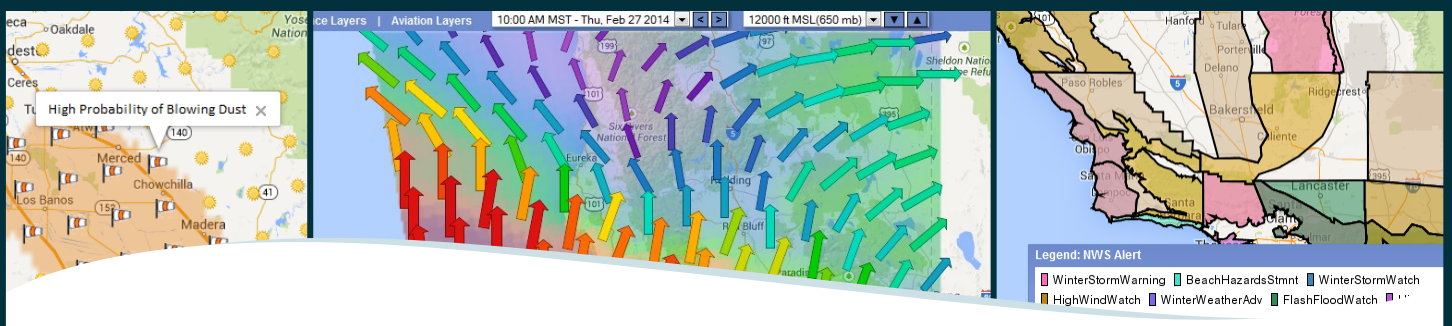
Integration of Aviation Automated Weather Observation Systems (AWOS) with Roadside Weather Information Systems (RWIS), Phase II - (Aviation Weathershare)



The Solution

The Aviation WeatherShare application is an easy-to-use web-based tool that aggregates surface weather information from AWOS, ASOS, RWIS, California Department of Transportation (Caltrans) closed-circuit television (CCTV), National Weather Service (NWS) radar, winds aloft forecasts and other aviation-related weather data. This unique weather site provides pilots, airports, heliports, ground crews, emergency responders, and others with local, timely weather conditions and forecast information. The system combines reports from approximately 2000 weather stations to provide relevant weather observations and forecasts for a particular airport/heliport, region, or route.

This research is being conducted by the Western Transportation Institute, with assistance from the Mineta Transportation Institute at San Jose State University, and sponsorship from the Caltrans. It builds on the successful platform of the WeatherShare project developed by WTI and Caltrans.

Expected Benefits

The goal of the Integration of AWOS with RWIS project is to provide small, underserved rural airfields and heliports comprehensive and accurate meteorological data by integrating data from existing weather stations. The System is expected to improve safety and increase efficiency.

Expected benefits of the Aviation WeatherShare System are:

- *Enhanced pilot knowledge and safety through provision of additional relevant weather information closer to the airport of operation and along a flight path.*
- *An integrated picture of current and forecast weather conditions which can improve surface transportation winter maintenance operations.*
- *Increased coverage by aggregating data from multiple sources.*
- *Economies of scale through shared costs and responsibilities, and shared information as a result of aviation and surface transportation partnerships.*

To access and use the Aviation WeatherShare tool, please visit
http://aviation.weathershare.org/

For further information please visit www.westernstates.org/Projects/Aviation/ or contact

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