

## Research Notes

June 2014

Program Steering Committee (PSC): Modal

Title: Integration of AWOS with RWIS – Prepare System for Deployment

Task Number: 1768

Start Date: 04/20/2011

Completion Date: 03/31/2016

Product Category: New or improved tool or equipment

Task Manager:

Melissa Clark, Transportation Engineer (Electrical)

[melissa.clark@dot.ca.gov](mailto:melissa.clark@dot.ca.gov)

Principle Investigator:

Doug Galarus, Montana State University

[DGalarus@coe.montana.edu](mailto:DGalarus@coe.montana.edu)

---

### **TITLE:**

Integration of AWOS with RWIS – Phase 2

Integration of Aviation Automated Weather Observation Systems (AWOS) with Roadside Weather Information Systems (RWIS) – Prepare System for Deployment – Phase 2

---

### **WHAT IS THE NEED?**

AWOS (Automated Weather Observing Systems), ASOS (Automated Surface Observing Systems) and RWIS (Roadside Weather Information Systems) equipment provide similar meteorological information to support safe and efficient transportation across multiple modes, but are operated independently of each other. Continued deployment and operation of similar but independent systems in close proximity to each other may result in redundancy and increased costs. Linkage consolidation of such systems will provide system managers and users (airport managers, traffic controllers, pilots) more comprehensive and accurate meteorological data and may reduce cost. Aviation users need to be able to go to one location to assist them with trip planning. This is especially important in rural areas, smaller airports, and/or medical heliports that may not have the technology available to them that larger commercial airports have.

### **WHAT ARE WE DOING?**

The purpose of first phase of the project was to identify the specific data needs of aviation professionals, and to investigate whether data from existing sources can be integrated into a WeatherShare -type system to fulfill those needs. (WeatherShare is a separate Caltrans sponsored research system developed by the Western Transportation Institute (WTI) at Montana State University and is focused on weather information for surface

transportation.) A high-level user requirements analysis was conducted, a system concept was created, and a prototype system was developed.

The second phase of the project, which is being done in this research, is to develop a business case to help Caltrans to determine whether and how to proceed with full deployment. (This will include any information for documents to assist Division of Aeronautics with the Caltrans IT Process.) Conduct further system development, from the first research phase, to expand the coverage area; improve usability, effectiveness, reliability and scalability; and enhance the system with useful functionality. Promote system usage and awareness through on-going outreach, training and support to multi-agency disciplinary, including those involved with emergency management. Evaluate the system over multiple seasons and with a wider audience of prospective users, and upgrade/update system based upon test user recommendation.

### **WHAT IS OUR GOAL?**

The goal of this phase is to prepare the “Aviation WeatherShare” system for deployment, with additional enhancements provided by the end users through their evaluation feedback.

### **WHAT IS THE BENEFIT?**

Anticipated general benefits include improved safety and increase efficiency in Caltrans as well as other aviation agencies. Linkage of these systems will help aviators to make more informed decisions; enable more system/ airport managers to access meteorological conditions data in order to enhance operational safety, reliability and efficiency; allow residents and travelers to access weather information in greater areas. All information in one location will provide for better aviation related trip planning.

### **WHAT IS THE PROGRESS TO DATE?**

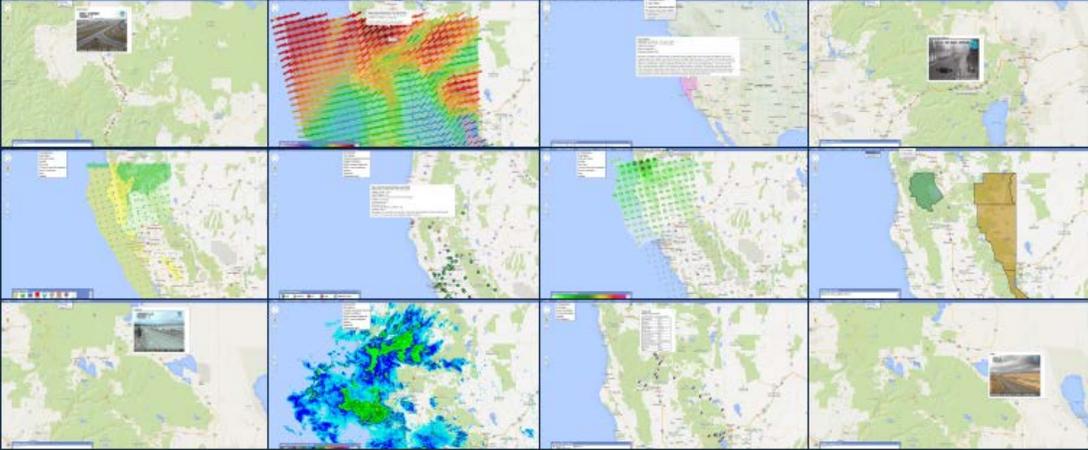
There was a significant lapse in time since Phase 1 of this project completed. Therefore researcher efforts have been focused on updating Phase 1 system to current technology, correcting web links, obtaining correct data, etc. The system is ready for demonstration/testing and can be used for broader stakeholder outreach. A quick guide and user video tutorial were created to enable test users how to use the web site. The researchers developed, finalized and posted an online survey for the system. WTI completed a demonstration of the research project at California Aviation Day, in the Division of Aeronautics booth held on April 23<sup>rd</sup> in Sacramento. In addition to a project fact sheet and a poster, they also prepared recurring loop video to show the content and operation of the system on Aviation Day and for future presentations.

# IMAGES



## Aviation Weathershare: [aviation.weathershare.org](http://aviation.weathershare.org)

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



**WESTERN TRANSPORTATION INSTITUTE**  
Road Research, Weather  
Innovation - Integration - Implementation  
WESTERNTANSPORTATIONINSTITUTE.ORG • (406) 994-6114

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

For further information please visit [www.westernstates.org/Projects/Aviation/](http://www.westernstates.org/Projects/Aviation/) or contact:

Douglas Salinas, WTI dsalinas@westernstates.org (406) 994-6114	Wesley Wain, WSDOT wain@wsdot.wa.gov (360) 524-5255	Terry Smith, Caltrans t.smith@caltrans.ca.gov (916) 654-4101	Michael Clark, Caltrans michael.clark@caltrans.ca.gov (916) 654-4101
--	---	--	--

