



## 2017 FIRE CONGRESS Research Highlight



# Reinforcing wildfire Predictive Services with timely weather information

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## MAIN QUESTIONS OR ISSUES THAT YOU ADDRESSED

To improve wildfire responses by making and implementing safe, effective and efficient management decision, predictive services has been created to better preparing and responding to wildfires. Recently, efforts had been made to strengthen the capabilities on collecting and integrating timely weather information for improving the predictive services products. Previously, the weather information source for generating fire danger risk adjective by the National Fire Danger Rating System (NFDRS) model were from Remote Automated Weather Stations (RAWS) observation network. Recently, a cost-effective method has been addressed proposed by analyzing integrating the Automated Surface Observing System (ASOS) timely observation into the weather information data source, as a result, GIS programs have been developed by feeding the National Fire Danger Rating System through the Weather Information Management System (WIMS) alternative gateway automatically with the ASOS weather stations. As a result, the map accuracy has been improved for the predictive service map products. Adopting the advanced technology from geographic information systems and information technologies, daily updated fire dangers maps for the predictive services has been greatly enhanced thus better positioned wildfire managers and firefighters towards wildfires risks.

## LOCATION AND ECOSYSTEM INVESTIGATED

Automated Surface Observing System (ASOS)

Weather Information Management System (WIMS) alternative gateway

National Fire Danger Rating System (NFDRS).

## KEY FINDINGS OF YOUR RESEARCH

Enhance the current fire danger products by introducing ASOS timely observation in a cost-effective way.

## HOW DID YOU ANSWER THE MAIN QUESTIONS OR INFORM THE ISSUES?

A workflow for improving the wildfire predictive services by implementing ASOS were created through a GIS program. This program automated the process of retrieving the weather data, analyzing the real time data as well as historical data, transforming the weather observations from the METAR format to fire weather format,

feeding information into National Fire Danger Rating System, and producing the enhanced predictive service products

## HOW MIGHT/WILL IT INFLUENCE FIRE MANAGEMENT DECISIONS OR PRACTICES?

Adopting the advanced technology from geographic information systems and information technologies, daily updated fire dangers maps for the predictive services has been greatly enhanced thus better positioned wildfire managers and firefighters towards wildfires risks.

## WHO IS THE MAIN END-USER OF YOUR RESEARCH?

Fire Weather Analysts

Wildfire Managers

Wildfire Emergency Responding Staff

## CONGRESS SESSION

GIS and Remote Sensing