

Sierra Wildland Fire Reporting System (SWFRS)

Rocky Mountain Geographic Science Center & Southern Sierra Fire Management Officers

Wildfire Management

The fire management community in the southern Sierra Nevada faces complex issues both in responding to wildfires and completing prescribed fire projects. The Sierra Nevada has highly fragmented ownership patterns and substantial and increasing human encroachment on native, fire dependent ecosystems. Increased fuel loadings after nearly 100 years of fire suppression has increased the potential for catastrophic fires and the need for prescribed fire programs to reduce fuel loadings and protect human and ecological values. Additionally, severe air quality and smoke emission issues in the San Joaquin Valley require that the federal agencies maintain an integrated dataset of current fire activity to negotiate with the California Air Quality Board. Collaboration with the Rocky Mountain Geographic Science Center (RMGSC) is meeting this need.

Wildfire Mapping & Collaboration

In 2000, the USGS began collaborating with the Southern Sierra Geographic Information Cooperative (SSGIC) to develop an ArcIMS enabled website administered by the RMGSC. The success of this project and established infrastructure and relationships made expanding from the SSGIC group to the Southern Sierra Fire Management Officers (SSFMO) group in 2004. The member agencies of the SSFMO include four national forests (Inyo, Stanislaus, Sequoia and Sierra), two national parks (Sequoia & Kings Canyon and Yosemite), and the Bakersfield field office of the Bureau of Land Management (Fig. 1). The project area encompasses nearly 7.4 million acres of the southern Sierra Nevada.

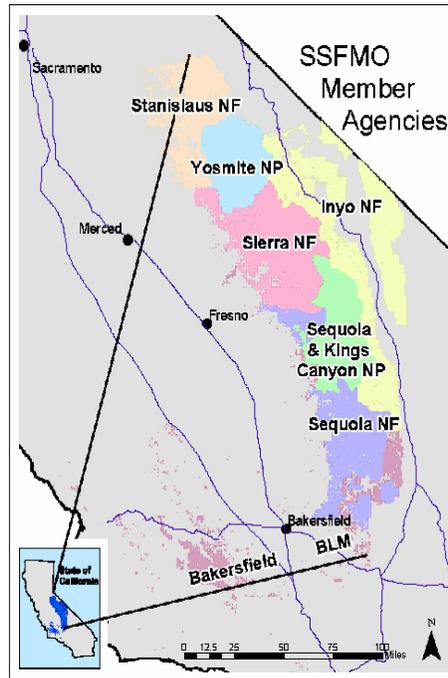


Figure 1 - Member agencies of the SSFMO.

Wildfire Application

The SSFMO website, still under development, is located at <http://sierrafire.cr.usgs.gov/swfrs>. Input forms allow local dispatchers from each agency to immediately add new fires to a single regional database. Managers can create summary reports to have current information at weekly Air Quality Board meetings. An ArcGIS Server supported map service (Fig. 2) displays 2006 fires to date as well as agency burn plan locations (Fig. 3) displays real-time smoke monitoring capabilities with in collaboration with the California Air Quality Board. To support the ongoing effort to establish national data standards, the SSFMO fire database has been designed to integrate with the existing 209 database on which the GeoMAC large fire application is based.

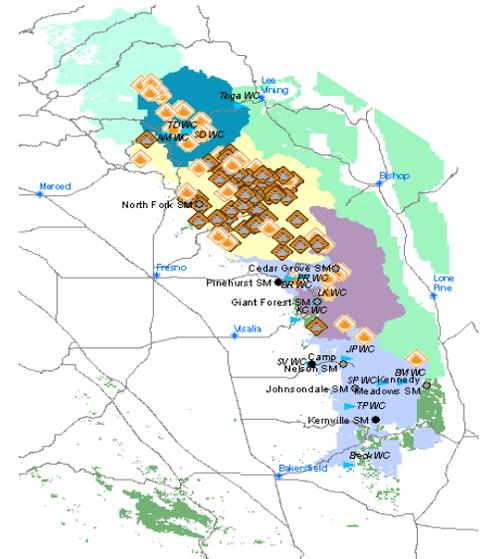


Figure 2 - Map service displaying 2006 fires and agency burn plan locations.

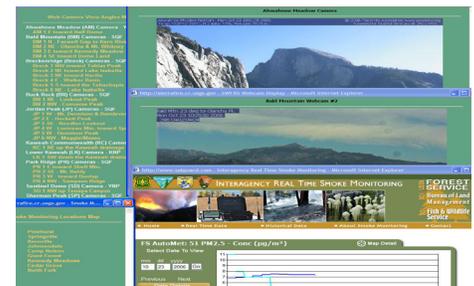


Figure 3 - Realtime smoke monitoring using web-cams and smoke particulate monitors.

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