So Cal Fire Siege Workshop
Situational Awareness Group Discussion

Four key barriers hamper the use of remote sensing tools, technologies, platforms and data for enhanced situational awareness when responding to wildfires:

(1) Lack of defined, easily used resource types
(2) Lack of current data inputs and processes to derive and maintain data
(3) Lack of "Remote Sensing/situational awareness guru" personnel to support field operations
(4) Funding and targeted field trials for further demonstrations, testing and refinement of practices and procedures

Resource Typing

Remotely sensed data and information products generated and delivered in usable formats to Incident Command, EOC and other operations centers proved invaluable in the Southern California Fire Siege. However, there is still some confusion as to what to request in order to get appropriate and useful information on a timely basis. The group stressed the need to define resource types that, if requested in the current operational framework for getting assets deployed, would trigger getting the appropriate types of information. For example, what "resource type" needs to be requested in order to get a detailed, geo-rectified view shape file of the fire perimeter? What "resource type" would provide detailed enough photographs or images for assessing the condition of critical infrastructure (bridge, dam, etc.).

The definition of these resource types should consider that the key types of situational awareness information required over the course of a wildfire changes. Further, resource types should also include systematic plan to draft and revise data/information standards to assure quality, accuracy and interoperability (formats).

Key Data inputs and processes to derive and maintain current data

The following lists types of information and processes are needed and whether it is needed early or later in the fire fighting effort: Process to derive and maintain these data, before, during and after active fire events should be identified. The group felt it was time to re-evaluate the current state of RS, GPS and GIS technology and data needs to support pre-fire, active fire and post fire responsibilities.

Type of Information	Early	Later
Real Time NADIR Thermal	✓	✓
Air Attack Sketch Map	✓	✓
Active Vehicle Location (AVL) tracking of personnel and resources	✓	✓
Perimeter	✓	✓
Active Fire	✓	✓
Resources Threatened (Structures)	✓	✓
Power Lines/Hazards & other safety Hazards for F/F	✓	✓

Control Lines	✓	✓
Water Supply	✓	✓
Access & Evac routes	✓	✓
Fuel	✓	✓
Weather	✓	✓
Local/Base data	✓	✓
Fire Behavior	✓	✓
Control Lines	✓	✓
Evaluation Plan	✓	✓
Evacuation (Actual/Plan)	✓	✓
Damage Assessment (acreage, etc.0	✓	✓
Burned area assessment		✓
Hot spots (Mop up)		✓
Damage Assessment (Final)		✓
Archive Data --- where?		✓

Situational Awareness Guru

To effectively communicate, integrate and utilize remotely sensed and other information for enhanced situation awareness, the group identified the need for a "Situational Awareness Guru". Personnel trained and deployed to field operation centers would orchestrate the collection, display and use of information from remotely sensed, cashed and web-accessed sources to provide a "real-time" picture of the situation and interactive communication to facilitate collaboration.

A plan to develop and define such positions, responsible agencies and training programs must be developed.

Field Trials/Iterative Improvements

To facilitate and further refine the development of both the Resource Types and Guru position identified above, funding and execution of a pilot program attached to a real-world program is desirable. Targeted organizations/agencies of interest include CAL Fire, USFS, DOI/FEMA, OES (Cal, counties). One proposed target was to work through Firescope. And a suggestion was made to start with a COP tool that covered all of California.