Airborne Fire Mapping
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www.fireimaging.com
The PSW FireMapper:
A resource for forest and fire imaging

• Fire spread and intensity
• Aerial retardant application and effectiveness
• Postfire resource assessment
• Mapping forest mortality and fuels

www.fireimaging.com
Cedar Fire, San Diego County, California, midday, 26 October 2003
As viewed by the PSW FireMapper thermal-imaging radiometer
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Cedar Fire, San Diego County, California, 26 October 2003
As viewed by the PSW FireMapper thermal-imaging radiometer

Ground-surface temperatures at 11:34 am (pass 2).
Esperanza Fire, Riverside County, California, 26 October 2006
As viewed by the PSW FireMapper thermal-imaging radiometer

Color-coded ground-surface temperatures as viewed from the northwest along four flight lines between 11:17 and 11:43 PST. Fire was actively spreading to the southwest under Santa Ana winds. Note the broken appearance of the head of the fire at lower right where it encountered young vegetation. FireMapper is now deployed for active-fire mapping aboard Forest Service aircraft N127Z and may be ordered through the Southern Operations Coordination Center.
Esperanza Fire, Riverside County, California, 26 October 2006
As viewed by the PSW FireMapper thermal-imaging radiometer with winds simulated by the NCAR Coupled Atmosphere Wildland Fire Environment model

Color-coded ground-surface temperatures as viewed from the south along four flight lines between 11:17 and 11:43 PST. Fire was actively spreading to the southwest under Santa Ana winds. Simulated winds show the typical high speeds and easterly flow associated with Santa Ana events in Banning Pass. The fire was apparently affected by high-velocity winds and turbulence associated with the southern edge of the main flow.
2006 Esperanza Fire, Riverside County, California

As viewed by the Forest Service FireMapper (top) and NASA Moderate Resolution Imaging Spectrometer (bottom).
Esperanza Fire, Riverside County, California, 28 October 2006
As viewed by the PSW FireMapper system. Color-composite imagery in red, near-IR, & thermal-IR light (mapped to red, green, & blue) provides *high-resolution mapping for postfire assessments.*
Esperanza Fire, Riverside County, California, 28 October 2006
As viewed by the PSW FireMapper system. *Analysis of unburned vegetation.*
Esperanza Fire, Riverside County, California, 28 October 2006
As viewed by the PSW FireMapper system. Analysis of dark, sun-warmed ash.
Esperanza Fire, Riverside County, California, 28 October 2006
As viewed by the PSW FireMapper system. Analysis of ash from low-intensity burning and low mass fuels.
The FireMapper thermal-imaging radiometer

- An advanced-technology, multi-channel infrared imaging system designed specifically for fire monitoring.

- Deployed by PSW aboard Forest Service aircraft N127Z.

- N127Z is a shared resource of PSW and FHP with support from R5 and R2.

- Data will be transmitted by satellite communications and posted in near-real time.

Images are interpreted, geo-referenced to a map base, and posted to the Internet at [www.fireimaging.com](http://www.fireimaging.com).
Surface temperatures as estimated from radiance measured at 8-12 micrometers wavelength in the thermal infrared by the PSW FireMapper imaging system. A color scale is shown at lower right. Warmer tones (red, orange, yellow) represent recent and active combustion; areas of light gray if shown are cooling ash or warm bare ground; low temperatures of unburned vegetation and cool ground are shown in darker gray. Large reaches of higher temperature are typically associated with heavy fuel loading.
Fire Imaging: Freeway Fire, Orange County, CA

Ground surface temperatures as viewed from above at 8-12 micrometers wavelength (in the thermal infrared) on 15 November 2008, between 14:12 and 14:45 PST.

Map projection is UTM NAD83.
Corral Fire, Los Angeles County, California, 10:35, 24 November 2007
As viewed by the PSW FireMapper® thermal-imaging radiometer
Shapefile when added into ArcMap.
Shapefile in ArcMap, after following simple instructions to import symbology.
Shapefile in ArcMap, after following simple instructions to import symbology, on topo.
2008 Freeway Fire: Fire and retardant viewed by the PSW FireMapper 2.0
14:02:00 15 November 2008
2008 Freeway Fire: Fire and retardant viewed by the PSW FireMapper 2.0
14:02 15 November 2008
2008 Freeway Fire: Fire and retardant viewed by the PSW FireMapper 2.0
14:32:00 15 November 2008
2002 Troy Fire
Pass 3: 13:30:04
2002 Troy Fire
Pass 12: 14:05:59
2002 Troy Fire
Pass 18: 14:25:11
2002 Troy Fire
Pass 26: 14:52:45