

FIREBALL

Get a sample of Real Time Data

1. Get the PDF-Maps App
2. Get net video player
 - a. Android - MX Player
 - b. iOS – VLC
3. Associate your Wi-Fi with **fireball**
4. URL for MAP [http:// 10.1.1.2](http://10.1.1.2)
 - a. Click on either PDF to download
 - b. When down chose open with PDF-Maps
5. URL for Real Time IR <http://10.1.1.4:8080>
 - a. Open the URL as a network stream in the video app

Disseminating Fire Location and Intensity Intel

*The Digital Age Finally Covers the
Last Mile*

&

*Breaks the 12 hour
Planning Cycle*

Fireball

Airborne Field Observers



Fireball

Airborne Field Observers

*Intelligence in Time...
to Make a Difference*

Tim Ball

775 848 4462

tim@fireballit.com

www.fireballit.com



What mapping should do for you

- Products: What information do good incident maps convey?
 - ❑ Current Perimeter
 - ❑ Fire Activity Level & Potential
 - ❑ Values at Risk
 - ❑ Fuels
 - ❑ Interior Fire Activity that Threatens Perimeter
- “at-a-glance simple”

Oh, and did I mention deliver it NOW!

Three Time Frames For Intel Delivery

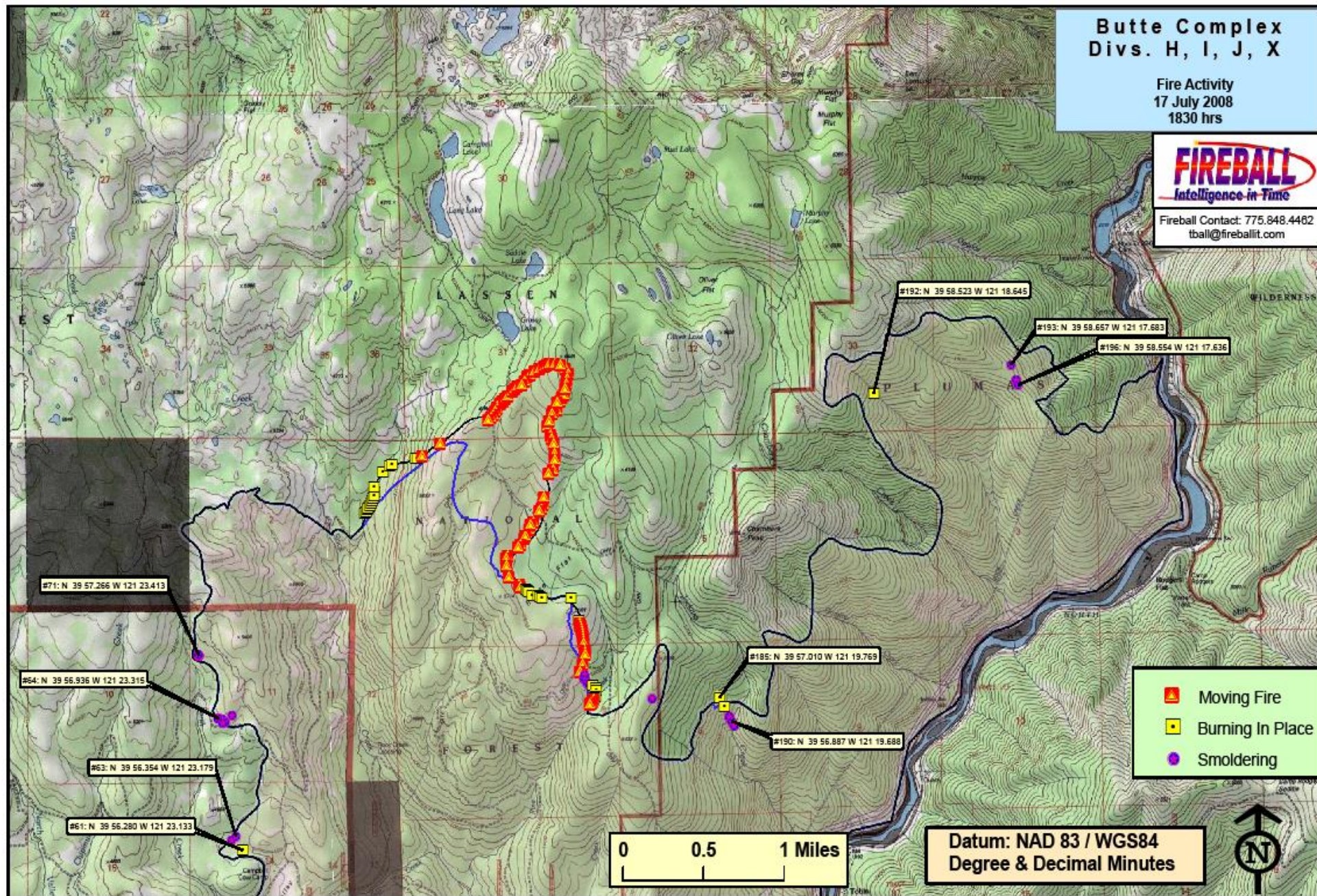
- In-Flight (*Wi-Fi Direct and/or Cell*)
- Immediately upon Landing (*Hard Copy & Cell*)
- Briefing package (*Hard Copy, Wi-Fi, Cell*)

Butte Complex Divs. H, I, J, X

Fire Activity
17 July 2008
1830 hrs

FIREBALL
Intelligence in Time

Fireball Contact: 775.848.4482
tball@fireballit.com

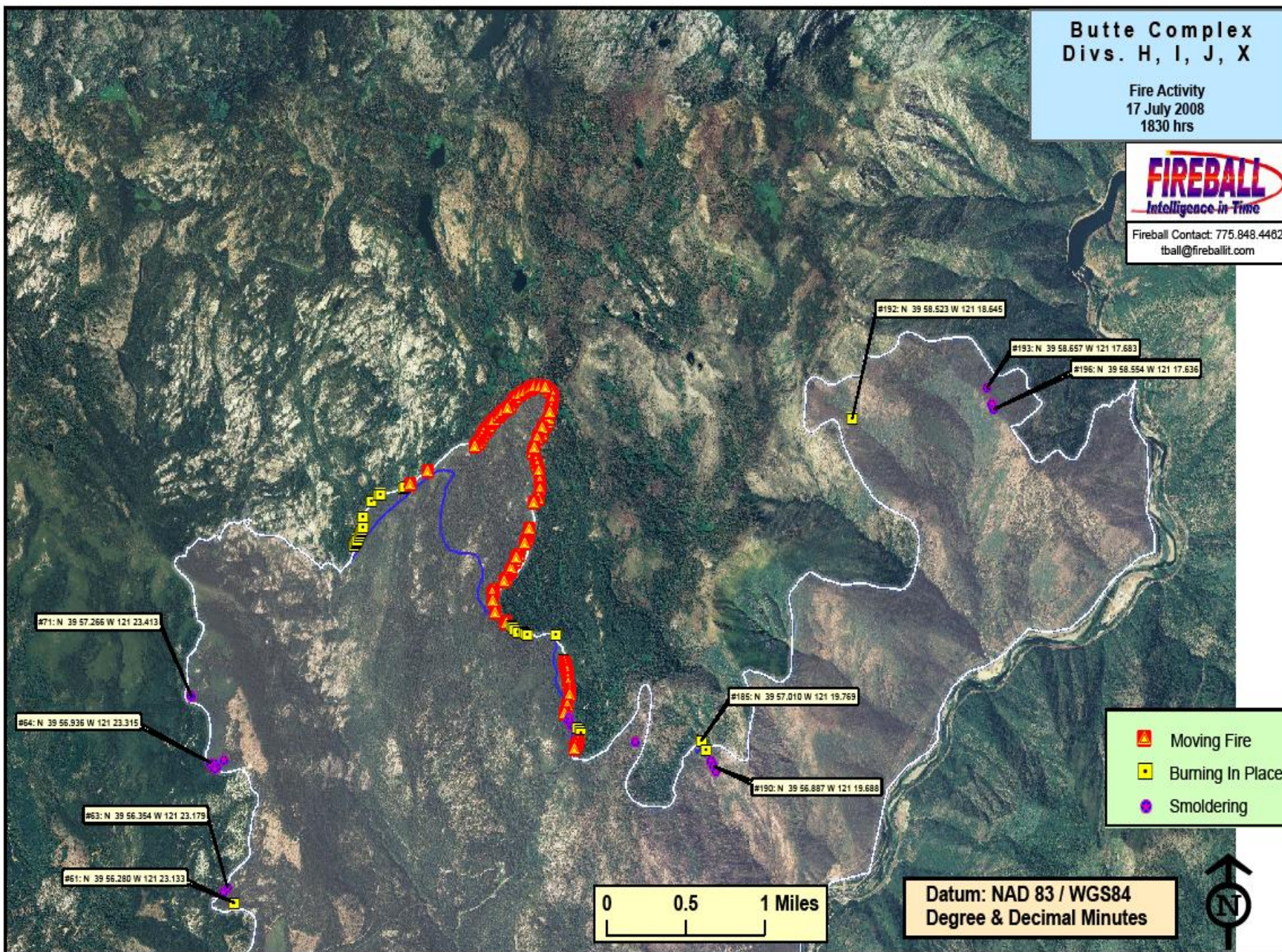


Butte Complex Divs. H, I, J, X

Fire Activity
17 July 2008
1830 hrs

FIREBALL
Intelligence in Time

Fireball Contact: 775.848.4462
tball@fireballit.com



Fire Activity
1630hrs 16 November 2008



Moving Fire



Burning In Place

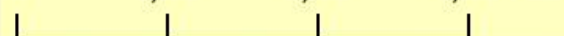


Smoldering

Tiny Blue Spots are locations of heat detected on previous flights. Reasonable places to patrol.

Datum: NAD 83 / WGS84
Degree & Decimal Minutes

0 2,000 4,000 6,000 Feet



DIV D

DIV WX

DIV YZ



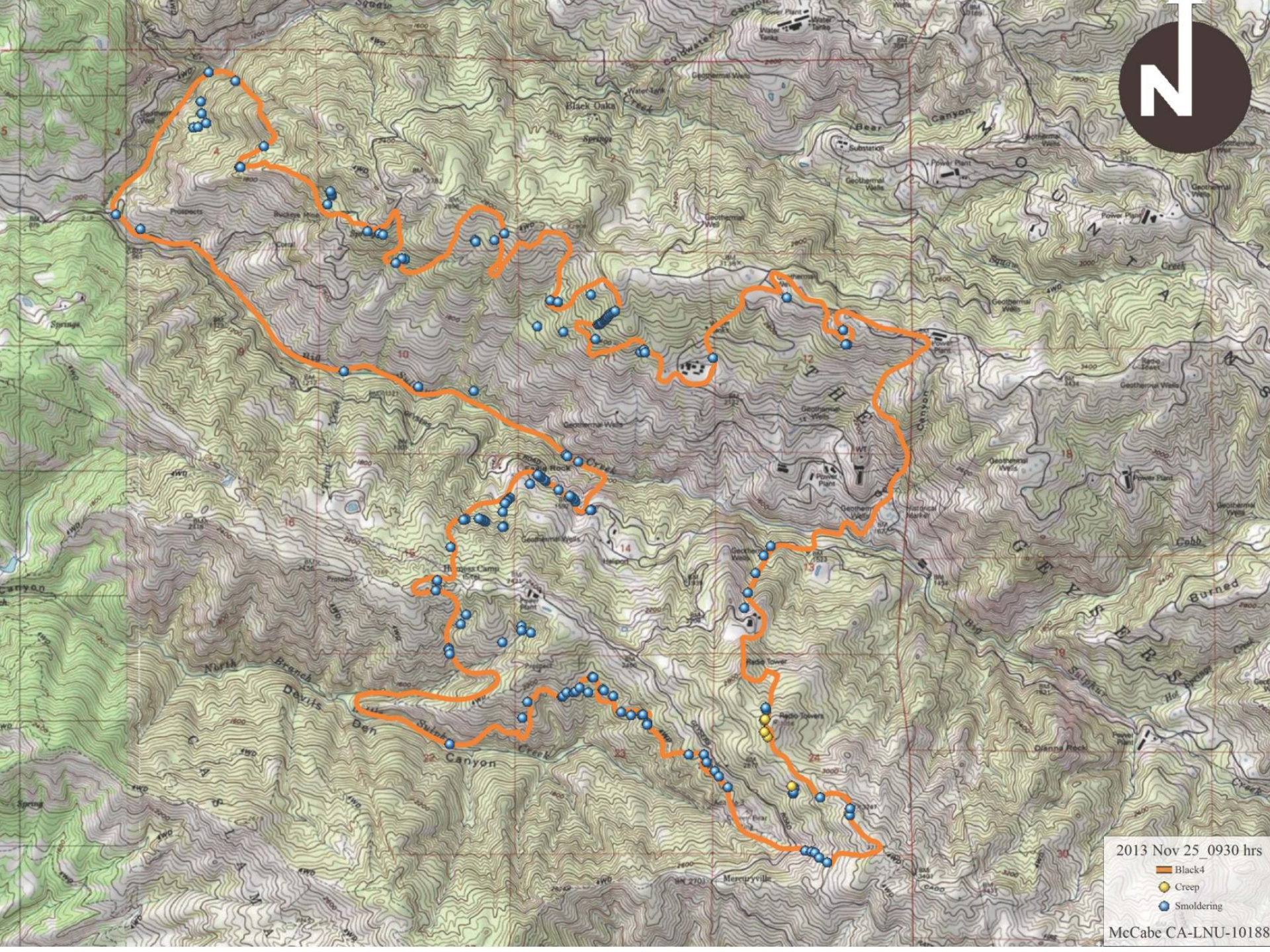
DIV WX

- #18: N 34 27.905 W 119 41.246
Line of canyon bottom heavy fuels.
- #28: N 34 27.871 W 119 41.276
Drainage Bottom
- #31: N 34 27.798 W 119 41.333
This spot is right near the top of a fin of rocks that forms the base of this ridgeline. This marked in morning flared up just before evening flight.
- #29: N 34 27.734 W 119 41.433
- #2: N 34 27.682 W 119 41.519
These hot spots are heavy fuels in the canyon bottom.
- #17: N 34 28.000 W 119 41.070
More gnarly Cliff Dwellers.
- #16: N 34 27.957 W 119 41.022
- #23: N 34 27.975 W 119 40.949
This cliff is a hard spot.
- #26: N 34 27.816 W 119 41.190
Cliff
- #21: N 34 27.813 W 119 41.274
Multiple small spots on cliff face. No way to mop these Gnarly Cliff Dwellers.
- #11: N 34 27.683 W 119 39.468
This area is pretty much a cliff. Dirty burn with many tiny (like roots) and a few moderate sized (like small log or patch of cluff in a crack) hot spots.
- #15: N 34 27.727 W 119 39.573
- #14: N 34 27.724 W 119 39.553
- #5: N 34 27.695 W 119 39.464
- #9: N 34 27.650 W 119 39.424
- #3: N 34 27.606 W 119 39.343
- #2: N 34 27.508 W 119 39.238
- #1: N 34 27.494 W 119 39.225
- #20: N 34 27.176 W 119 39.432
Large mulch field, nothing hot seen. Looks Good.
- #16: N 34 27.033 W 119 39.713
Physics Building is still Fizzing.
- #15: N 34 26.772 W 119 40.423
Looked for this on evening flight did not find
- #2: N 34 26.601 W 119 41.236
Could not find on evening flight. Good!
- #14: N 34 26.079 W 119 40.727
In the trees middle-way up a draw. Could not find on evening flight.

DIV YZ

Scale: 0 to 6,000 Feet

Map includes labels for Santa Barbara College, Sheffield Rexer, Filtration Plant, Cold Spring School, and various geographical features like canyons and mountains.



2013 Nov 25 0930 hrs

- Black4
- Creep
- Smoldering

McCabe CA-LNU-10188

Products

Six Types with Three Time Frames

- In Flight:
 - PDF-Maps (Full Detail) Via Wi-Fi & Cell & NICS
 - Video Down Link (Visible & IR)
- Immediate Post-Flight:
 - Overview Maps (Hard Copy Whole Incident, Less Detail)
 - PDF-Maps (Electric)
 - Video Clips with GPS Track (Electric)
 - Shapefiles
 - Data Submitted to NICS
- Briefing
 - Division Level (Hard Copy Detailed maps, Lat/Lon Callouts)
 - PDF-Maps (Full Detail Electric)
 - Mug Shots (Photos with specific guidance)
 - Overview Maps (Hard Copy Whole Incident, Less Detail)

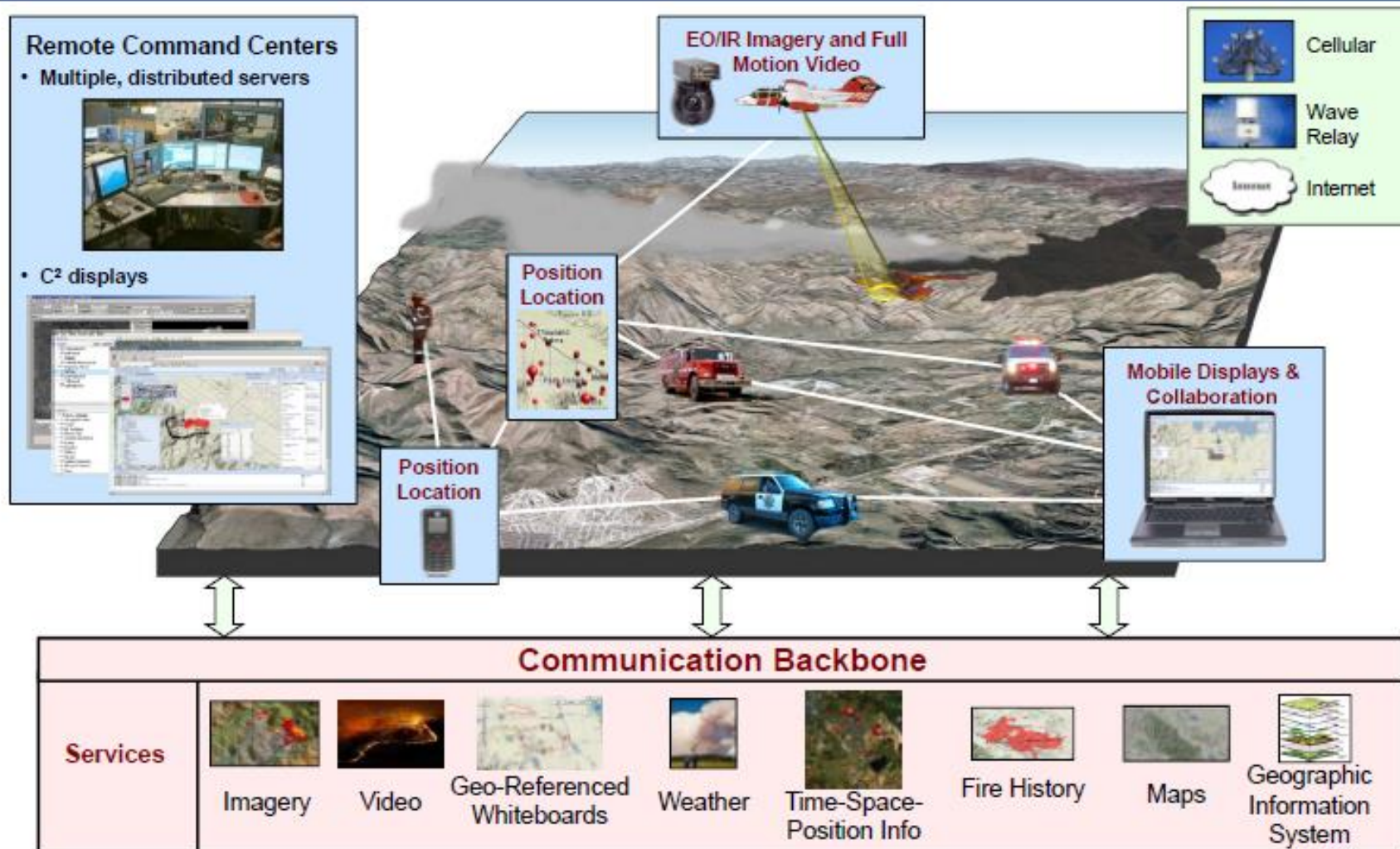


NICS System Overview



Homeland
Security

Science and Technology



Ancient History, 2003



Historic First Ever
Live Firemap Download
HP-IPAQ
GrandPrix Fire BDU

Map Printed on Hood of
Patterson's Vehicle



Smart Phone Revolution



PDF & JPG
Available via FTP
today

Android
Apps is Available
months
Maps &
Live-Video



Military Proven
Video Link
15 miles
Solid



Markers, Symbols, and Icons

1. Select DRAW button

Caution: Markers are like rubber stamps....once you select one, you "print" that marker every time you click your mouse. To clear the marker, select one of the other Draw tools or the Hand tool.

2. Select Pin button (marker, symbol, icon) & choose desired marker

3. Place Selected Pins

The screenshot shows the Google Maps interface with the 'Draw' menu open. The 'Draw' menu has a red arrow pointing to the 'DRAW' button in the top toolbar. The 'Select a Marker' sub-menu is also open, showing a grid of markers. A red arrow points to the 'Pin' button (a red location pin) in the 'Draw' menu. Another red arrow points to the 'Pin' button in the 'Select a Marker' sub-menu. A third red arrow points to the 'Pin' button in the 'Draw' menu. The map shows a red polygon drawn around a mountain range, with several pins placed at the vertices of the polygon. The map is centered on the area around Lake Mathews, California. The bottom status bar shows the zoom level as 11, and the coordinates as Lon, Lat: -117 11.6550, 33 45.1566. The map data is attributed to Google.

Rooms ▾ My Map

Share My Map RAW5 CARRU AVL Other Tools ▾

Draw DATA UNDO REDO COPY PASTE

Draw x Select a Marker

Pin (marker, symbol, icon) & choose desired marker

Place Selected Pins

Caution: Markers are like rubber stamps....once you select one, you "print" that marker every time you click your mouse. To clear the marker, select one of the other Draw tools or the Hand tool.

1. Select DRAW button

2. Select Pin button (marker, symbol, icon) & choose desired marker

3. Place Selected Pins

Zoom: 11 Lon, Lat: -117 11.6550, 33 45.1566

Map data ©2011 Google - Terms of Use

Public Whiteboard Chat

The screenshot displays the LDDRS (Lincoln Distributed Disaster Response System) interface. At the top, the title bar reads "LDDRS" and the main header says "Lincoln Distributed Disaster Response System". Below the header, there are tabs for "Rooms", "My Map", and "MasterMap". A toolbar with various icons (DRAW, DATA, UNDO, REDO, COPY, PASTE) is visible. The main area shows a topographic map of the San Francisco Bay Area. At the bottom, there is a "Whiteboard Chat" window. Red arrows from instructional text boxes point to the "MasterMap" tab, the bottom chat area, and the chat messages.

1. Expand or collapse the whiteboard chat area

2. Type text in the bottom space

3. Everyone will see it here. This text is permanently recorded.

Whiteboard Chat

jthorpe, MIT LL - SME(3:55:56 PM): what do you mean "sample text" with the text tool????
bbloxham(3:56:56 PM): that will work thanks I will send Power Point later
jthorpe, MIT LL - SME(3:57:42 PM): Are you near a phone.....let me call to make sure I know what you need
bbloxham(3:58:04 PM): i am good
bbloxham(3:58:56 PM): also are they ever going to change upper left corner to NICS for will it stay LDDRS
jthorpe, MIT LL - SME(3:58:48 PM): OK...if you need anything, call my cell...best
jthorpe, MIT LL - SME(3:59:49 PM): Will change to nics...also the login will change to NICS.LL.MIT.EDU something this summer

Type message here (Everyone in the room will see message)

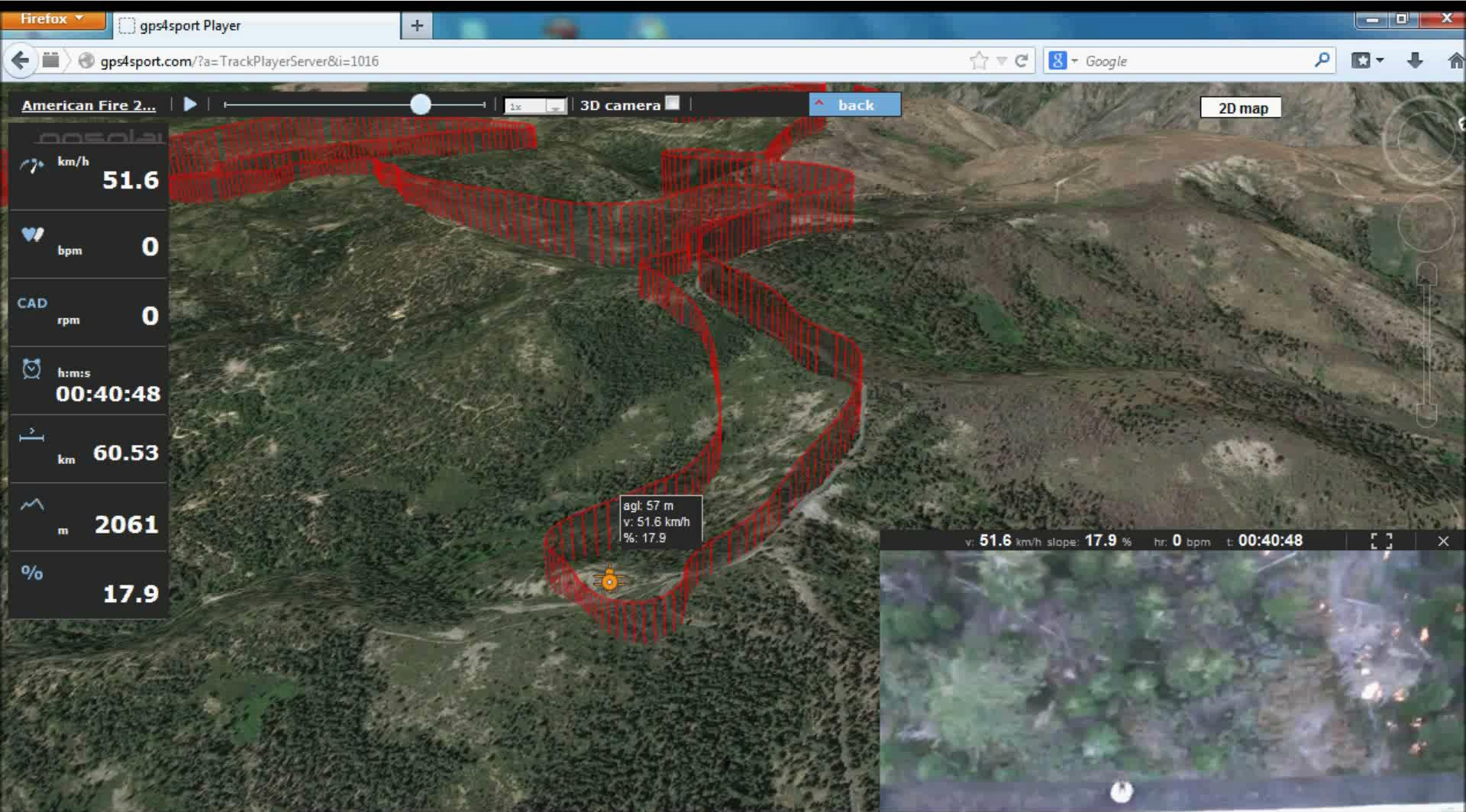
In-Flight Video

- Via Wi-Fi
- Any Smartphone, Tablet, or Laptop
- Tracking Antenna needed to get to ICP
- IR Stream
- Visible Stream

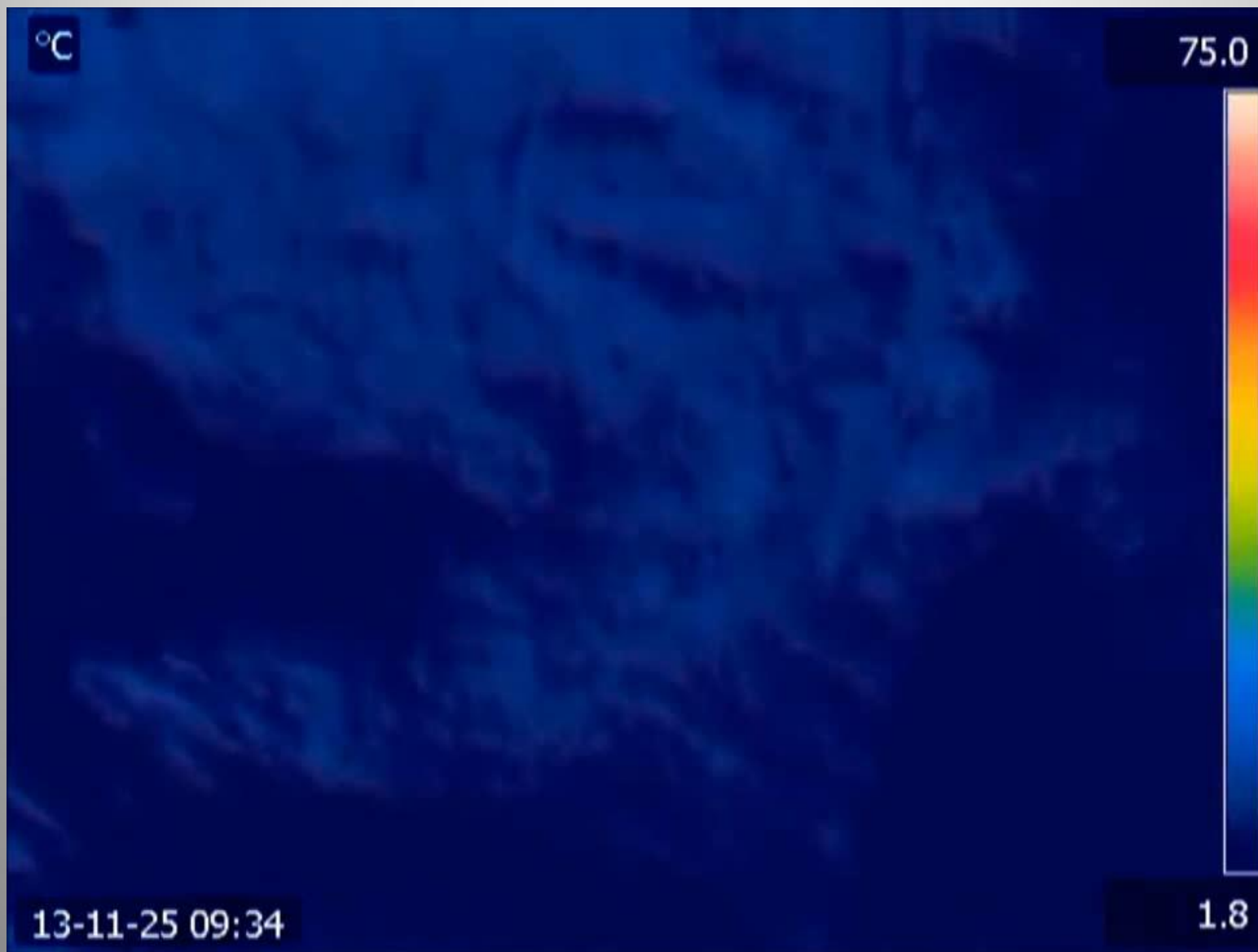
We will see IR example later

Vis Clip





IR Clip from LNU McCabe Incident 11/25/2013_0900





Fire Intensity

Energy Release $\cdot \text{area}^{-1} \cdot \text{time}^{-1}$

Integrated Intensity value needed.

Measurement:

Difference in energy content of the air in and out of the smoke plume.

- Simple temperature and humidity record flying in and out of the plume.
- Calculate Δ -virtual potential temperature
- Allows calculation of energy input at the surface.

Fire Intensity

Energy Release $\cdot \text{area}^{-1} \cdot \text{time}^{-1}$

Likely Instrument Package for Dragon-Eye:

- Raspberry Pi
- Arduino - Pressure, Temperature, Humidity, GPS
- ✓ Correlate with Dragon-Eye Thermal Camera

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Systems based in:

Redding
Reno
Van Nuys



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