



Last Chance Survival Simulation Workshop





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Addressing the need for enhanced evacuation and survival training

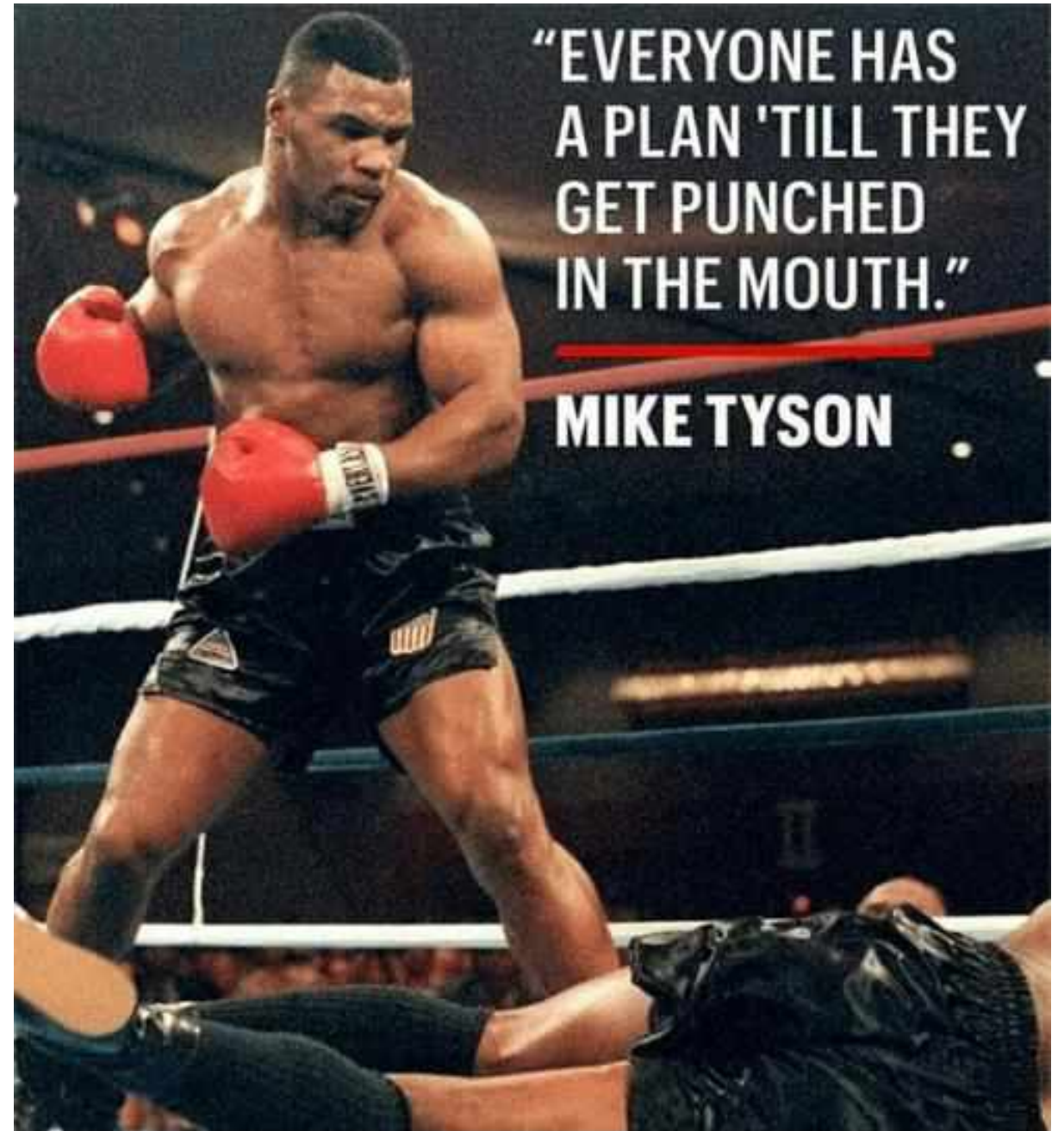


Who is going to save my dog?



This course addresses the need for civilian last chance survival and awareness.

- Tip of the spear for SB-99 (2019).
- Deferring risk is not the job of public safety.
- This is not “stay and fight”.



What to do if Trapped

ARE YOU READY TO GO? BROCHURE



Download the [Wildfire is Coming, Are You Ready to Go!](#) brochure to get your home ready for wildfire.

4. Locate your pets and take them with you.

When to Evacuate

Leave as soon as evacuation is recommended by fire officials to avoid being caught in fire, smoke or road congestion. Don't wait to be ordered by authorities to leave. Evacuating the forest fire area early also helps firefighters keep roads clear of congestion, and lets them move more freely to do their job. In an intense wildfire, they will not have time to knock on every door. If you are advised to leave, don't hesitate!

- Officials will determine the areas to be evacuated and escape routes to use depending upon the fire's location, behavior, winds, terrain, etc.
- Law enforcement agencies are typically responsible for enforcing an evacuation order. Follow their directions promptly.
- You will be advised of potential evacuations as early as possible. You must take the initiative to stay informed and aware. Listen to your radio/TV for announcements from law enforcement and emergency personnel.
- You may be directed to temporary assembly areas to await transfer to a safe location.

The terms "Order" and "Warning" are used to describe evacuation guidance. However, local jurisdictions may use other terminology such as "Precautionary" and "Immediate Threat." These terms are used to alert you to the significance of the danger. All evacuation instructions provided by officials should be followed immediately for your safety.

5.2k
Shares



PREPARE FOR WILDFIRE

READY, SET, GO!

GET READY

GET SET

GO! EVACUATION GUIDE

Pre-Evacuation Preparation Steps

Power Outage Information

Evacuation Steps

Animal Evacuation

What to do if Trapped

649 Shares



ARE YOU READY TO GO? BROCHURE



WHAT TO DO IF YOU BECOME TRAPPED NEAR A WILDFIRE

While in your vehicle:

- Stay calm.
- Park your vehicle in an area clear of vegetation.
- Close all vehicle windows and vents.
- Cover yourself with wool blanket or jacket.
- Lie on vehicle floor.
- Use your cell phone to advise officials—call 911.



While on foot:

- Stay calm.
- Go to an area clear of vegetation, a ditch or depression on level ground if possible.
- Lie face down, cover up your body.
- Use your cell phone to advise officials—call 911.



While in your home:





Field Marshal Helmuth von Moltke, Chief of Staff of the Prussian Army between 1857 and 1888, was the first military leader to recognize that one commanding officer from a central position on the battlefield could no longer direct military formations.

He understood that the operational environment, including new technologies, imposed a different command philosophy on strategic, operational and tactical levels.

What are the elements of a wildfire?

- **Fuel** - things that burn, including your clothes
- **Topography**- the shape of the mountain-canyons
- **Weather** - wind, humidity, temperature

Alignment of these three...



Case Studies: Life and Death in the WUI

Evaluate fuel, weather, topography, last chance survival areas.

George and Lynne Powell (and company), Sonoma 2017



6/2017

Mark West Springs Rd

Google Earth
Earth Point

Tour Guide



1993

Imagery Date: 6/16/2017 38°31'26.29" N 122°43'11.86" W elev 575 ft eye alt 1697 ft



10/2017

N

Mark West Springs Rd

Google Earth
Earth Point

Tour Guide



1993

Imagery Date: 10/17/2017 38°31'28.59" N 122°43'16.51" W elev 611 ft eye alt 1697 ft





6/2017

Buttercup Dr

Blue Ridge Trail

Blue Ridge Ct

Winding View Trail

Mark West Springs Rd

Google Earth
Earth Point

Tour Guide



1993

Imagery Date: 6/16/2017 38°31'20.98" N 122°43'24.04" W elev 593 ft eye alt 3032 ft

10/2017

Buttercup Dr

Blue Ridge Trail

Blue Ridge Ct

Winding Way Trail

Mark West Springs Rd

Image © 2018 DigitalGlobe

Google Earth
Earth Point

Tour Guide

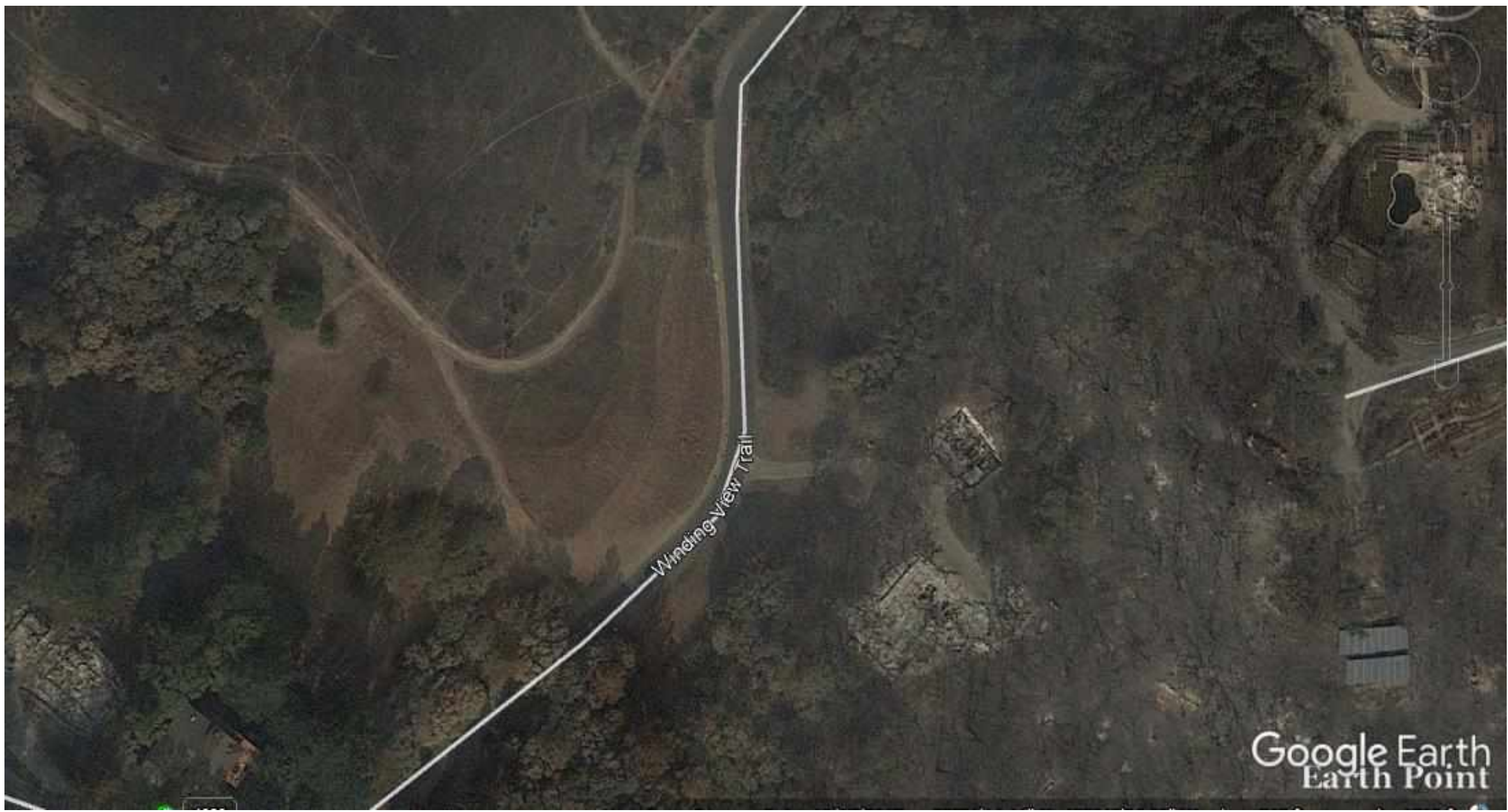


1993

Imagery Date: 10/11/2017 38°31'20.62" N 122°43'06.10" W elev 563 ft eye alt 3032 ft

Winding View Trail

Google Earth
Earth Point



Irene Lopez and Mario Monte, Sonoma 2017



System Complexity



- Air speed
- Artificial Horizon
- Altimeter
- Turn indicator
- Heading
- Vertical speed

**Complex system
broken down into
comprehensible
bites.**



Complexity and Coupling



Highly complex
Loose coupling
Can function independently
Margin for error?



Highly complex
Tight coupling
Can NOT function independently
Margin for error?

Analytical decision-making



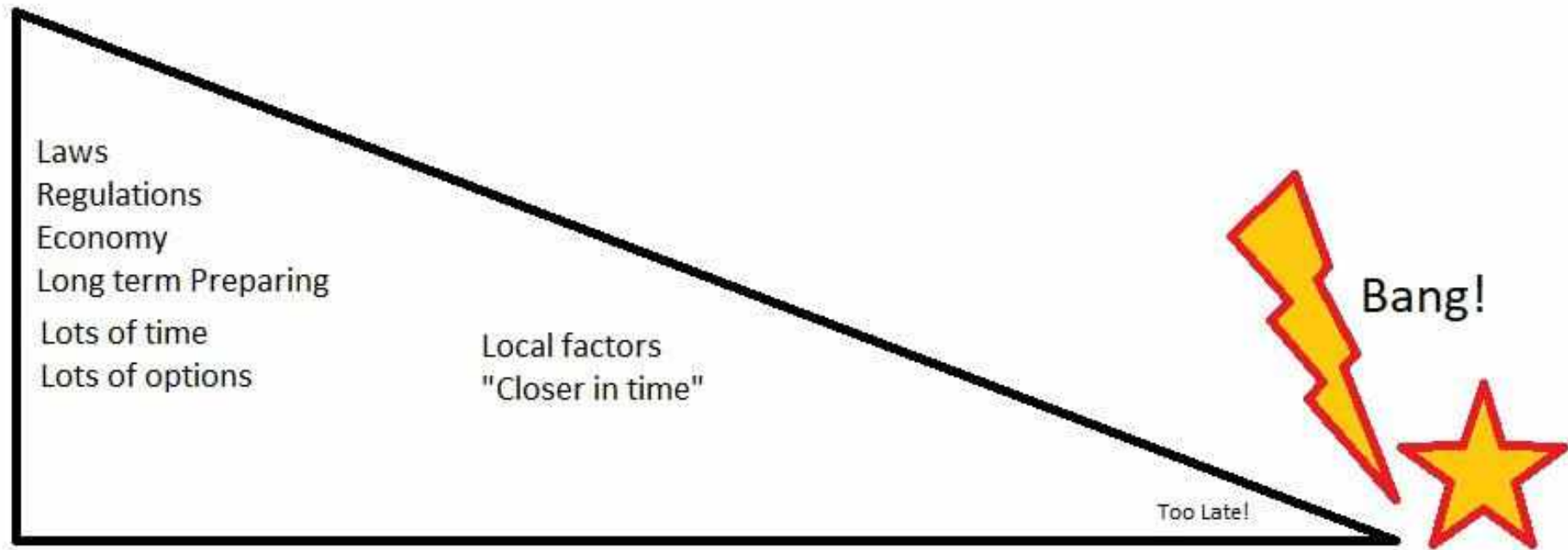
Recognition based decision making

Sometimes called “intuitive decision making” or “gut feeling”.

Example: Klein/Gladwell - Story of Boston basement/fuel oil/kitchen fire



"Time Wedge"



Time+ ability to "steer the boat"

Lt. Col Thiele (USMC-Ret.)

Several distinct era of warfare

- Attrition warfare- Currently the majority of campaign fires (Think WW1 - Vietnam)
- Maneuver warfare- We see some elements especially initial attack. (Outpacing and surprising the opponent, attacking critical components of the system)
- Ideological warfare- Changing the expectations of the FD and public. (think Smokey Bear) .
- What is the relevance to civilian fire training? “If you are a big tree, I am a small axe.” Bob Marley

Objectives, Strategy, Tactics

(In that order)

Objectives: The larger goal. “Escape to Ocean Beach”, “Move to a grazed field”, “Survive”.

Strategy: Direct or Indirect. “Close to or though the fire”, “far away from the fire”.

Tactics: The specific action you do to achieve the objective. “Clearing survivable space”, “Delaying for the fire to pass or reduce”.

Tactical Maneuver:

Movement by forces to gain
"advantageous position relative to
the enemy*."

*Fire is not our enemy.

*What does advantageous look like?

Primary - escape

Alternate - escape

Contingency - escape/survive

Emergency - survive

Complexity and coupling? Offensive vs defensive

DRAW-D

Tactical Engagement Cards from
civilian perspective

Ally Christensen, Cottonwood Fire, St. George UT, 2020

- Traveling from SLC to Henderson NV.
- Found herself trapped in a wildfire.
- Saw only one sign on freeway- “Fire ahead do not report”, didn’t think much about it.
- Smoke getting closer, traffic getting worse.
- People jumping out of their cars carrying children. People running and screaming.

What should you look for in a similar scenario?

- Places that are flat.
- Places with nothing to burn.
- Places that have already burned.
- Places that have less to burn.
- Duration of the burn? Grass vs large trees.
- Places where there are not other people panicking (a secondary threat).

Randy Rodgers, Coach US Ski Team, 1990’s, on avoiding target fixation, “You must look for the openings between the trees, look for the openings and connect them.”

ALY WINDER





Courtesy: Erica England



What is your everyday dress?

How does their choice of clothing affect the people in the previous video?

What to wear:

- Heavy jeans- not stretch jeans
- Long sleeve cotton shirt
- Workboots/hikers
- Silk, wool
- Wool blanket

AVOID:

- Synthetics, unless they are specialty FR- Nomex
- Wet bandanas











Paradise Fire

Is the grass greener on the other side?
Is the journey worth the risk?



Tabela opłat		
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Prezmysl,
Poland 2022



Feather River Hospital

Tactical Maneuver









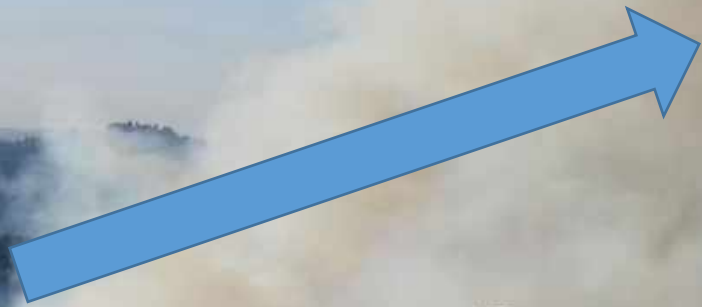














Harris
Fire,
Joilet MT





Figure 7. A comparison of the inside and the outside of the Red Lodge Engine, from photos taken two weeks after the burnover. The comparison highlights that, even though riding out this event inside the engine was certainly miserable for Scott, he was in the safest possible position at that moment, and for that reason was able to escape this incident with no physical injuries.

Mr. and Mrs. Pascoe
Sonoma 2017





8/2017



1993

Google Earth
Earth Point

Imagery Date: 6/16/2017 38°31'24.97" N 122°42'01.70" W elev 1071 ft eye alt 1559 ft



8/2017



Heights Rd

Image Landsat / Copernicus

Google Earth
Earth Point

1993

Imagery Date: 6/16/2017 38°31'44.53" N 122°42'04.08" W elev 1332 ft eye alt 1902 ft



2/2018



Image Landsat / Copernicus

Google Earth
Earth Point

1993

Imagery Date: 10/17/2017 38°31'24.10" N 122°42'03.73" W elev 1050 ft eye alt 1247 ft



Gripped by fear, the world on fire, then they remembered their neighbor's pool.



Watch later Share



0:46 / 2:26



YouTube





Gripped by fear, the world on fire, then they remembered their neighbor's pool.



Watch later



Share

0:30 / 2:26

Waiting for bs.serving-sys.com...

CC HD YouTube



Gripped by fear, the world on fire, then they remembered their neighbor's pool.



Watch later Share





Route Fire, LACo, ANF, Sept. 11 2021









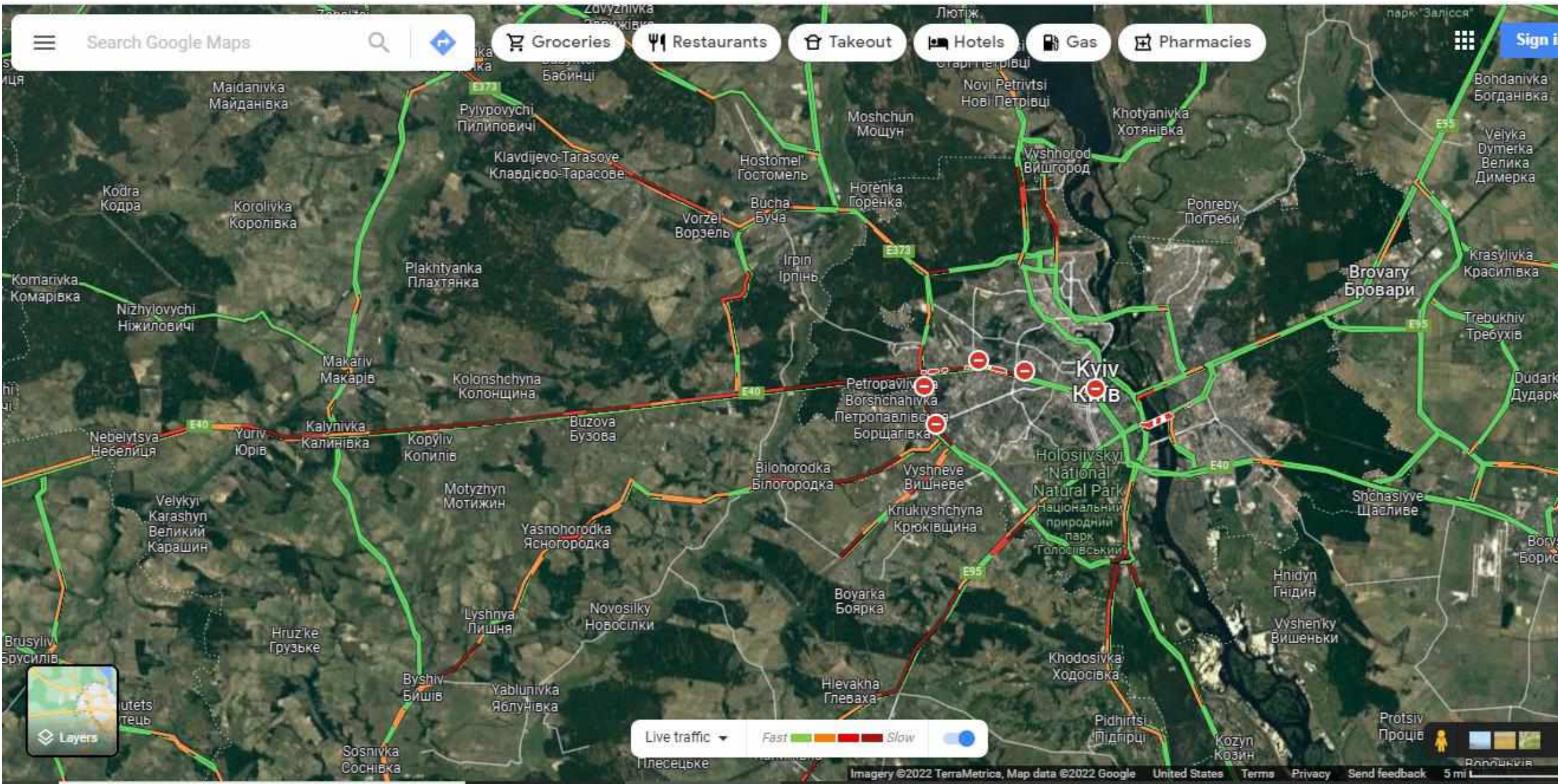




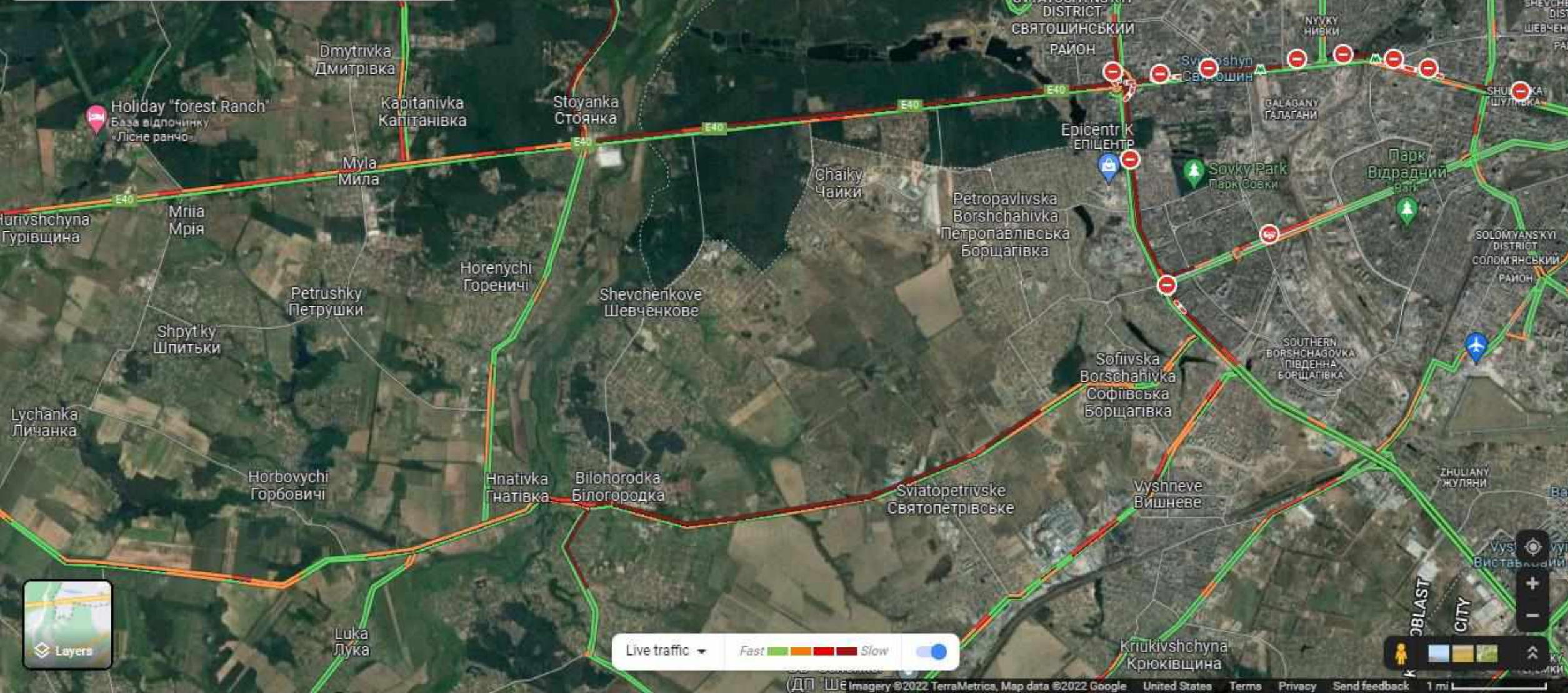
@LACoFireAllOps



<https://www.youtube.com/watch?v=d4lus6ePx8U&t=7s>









Environment,
Land, Water
and Planning









Big tree - Small axe

Principal of force-on-force

Be the Coyote



- Listen to authorities.
- However, the flow of information is often too slow/ changing too fast to be of much relevance.
- Intel is outdated by the time you get it!
- Your ability to project the significance of intel into the future.

What to do if Trapped

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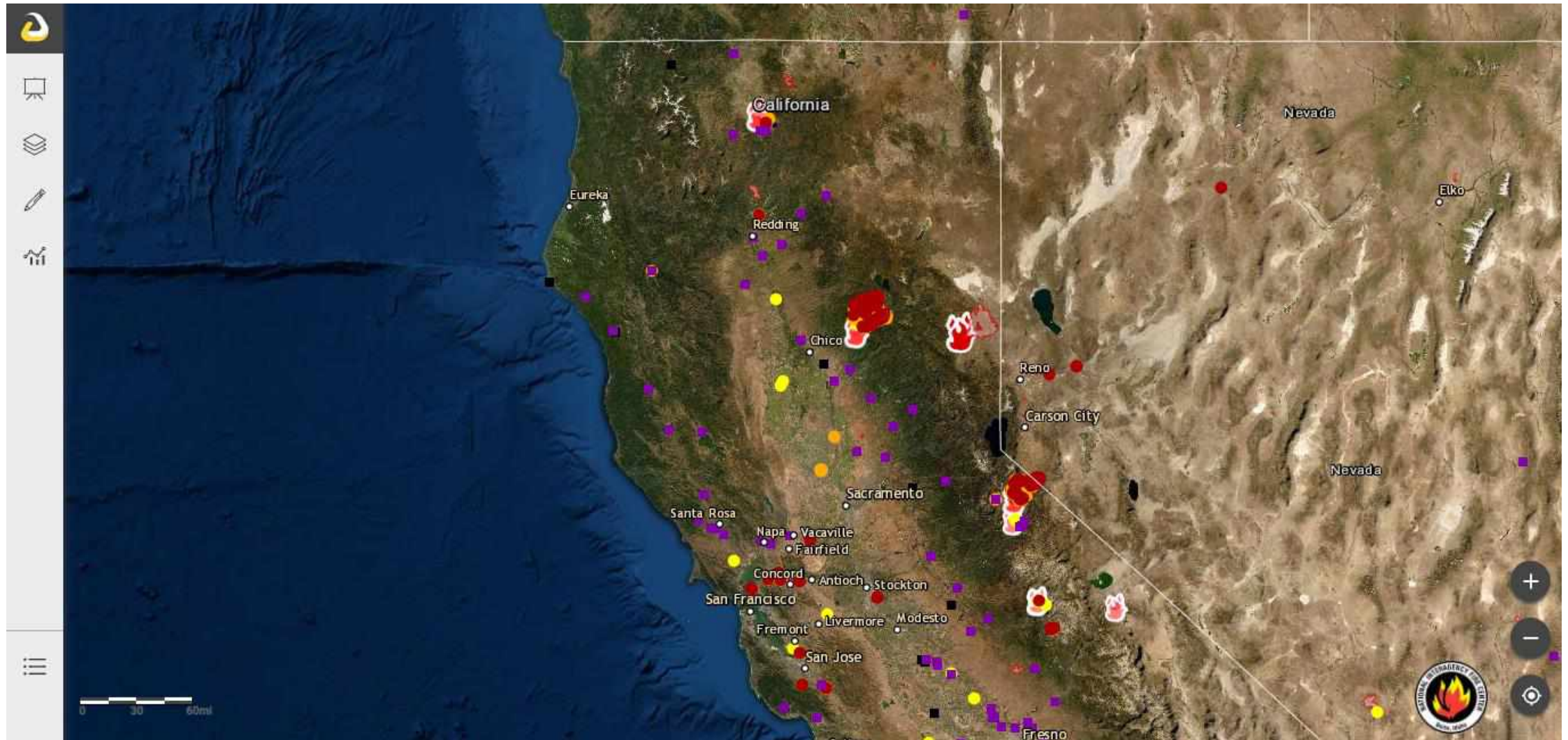
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[Social sharing icons: Facebook, Twitter, Pinterest, Email, Print]

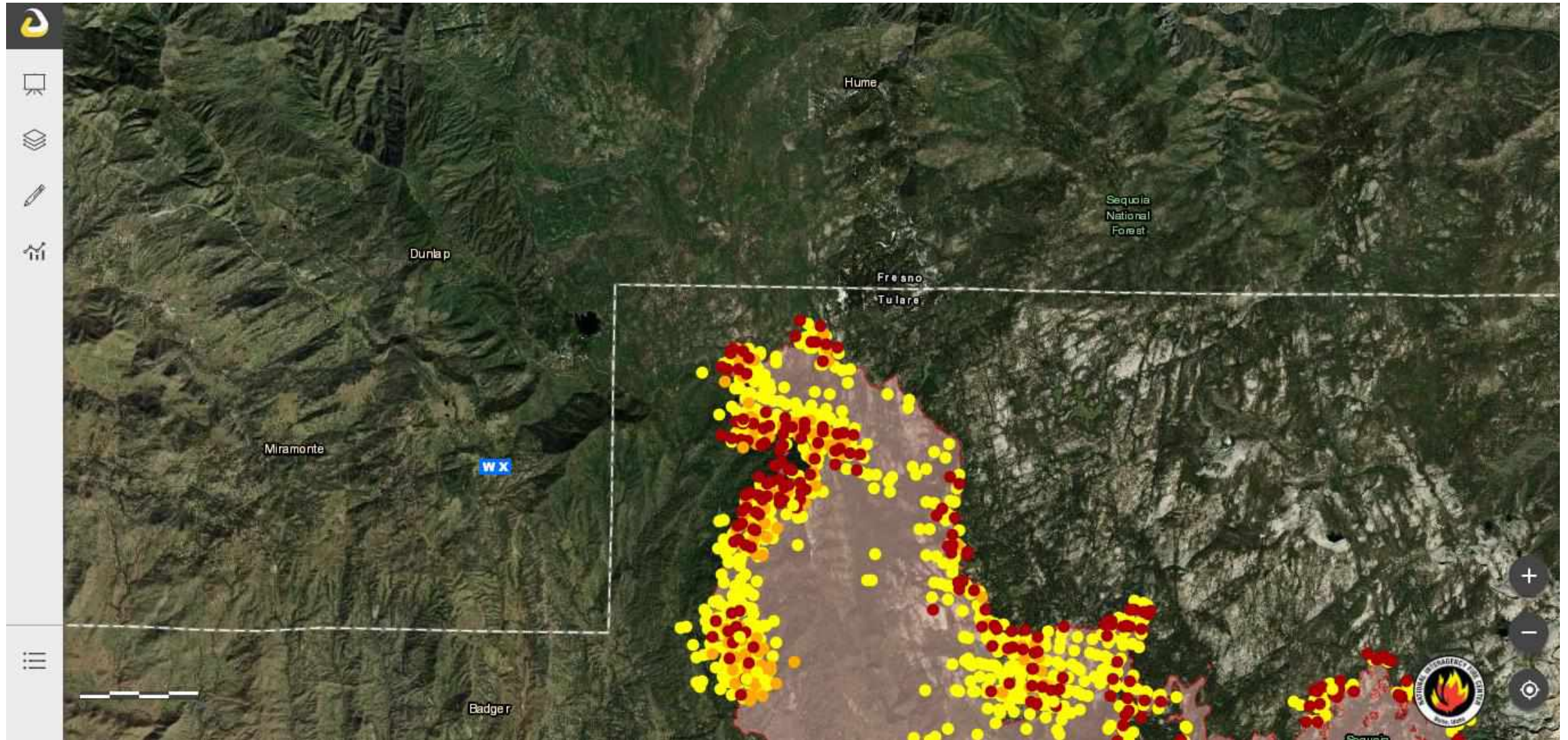
Open Source Intelligence (OSINT) Exercise

- Maps.nwccg.gov
- www.flightradar24.com
- Live traffic maps
- Cameras
- Radio scanner/ HAM
- Pulse point
- Twitter
- CHP CAD

Maps.nwcg.gov



Maps.nwccg.gov



Flightradar24.com

flightradar24 LIVE AIR TRAFFIC

Apps Add coverage Data / History Subscription plans Social Press About Commercial services Log in UTC 00:45

N690RA
Private owner

Search VIEW Map

AIRCRAFT TYPE (AC90)
Aero Commander 690

REGISTRATION: N690RA COUNTRY OF REG.: [USA]

SERIAL NUMBER (MSN): [locked] AGE: [locked]

Recent N690RA flights

CALIBRATED ALTITUDE: 9,550 ft VERTICAL SPEED: [locked]

GPS ALTITUDE: [locked] TRACK: 2°

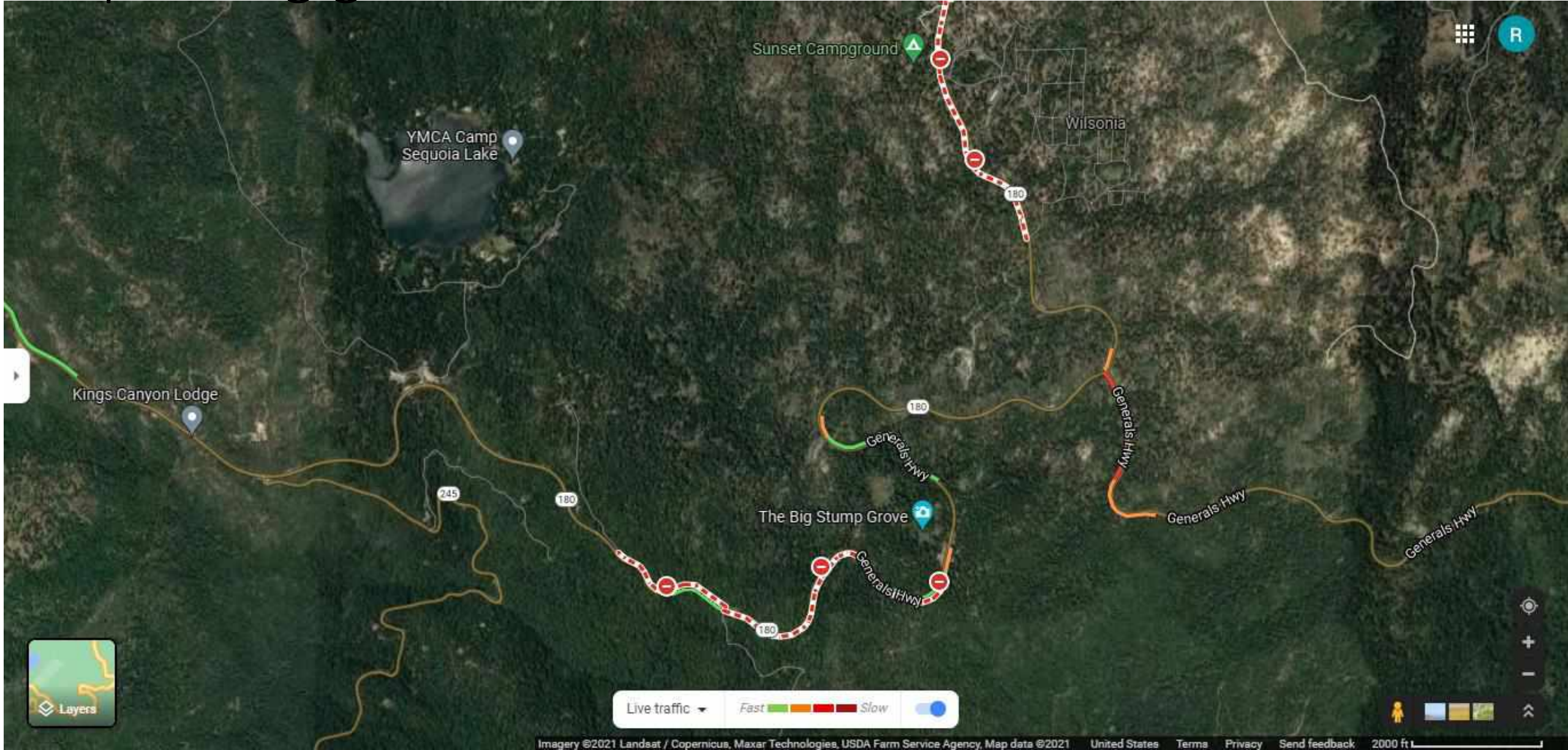
Speed & altitude graph

GROUND SPEED: 187 kts TRUE AIRSPEED: N/A

3D view Route Follow Share More

Settings Weather Filters Bookmarks Widgets Playback Upgrade

Map data ©2021 2 km Terms of Use Report a map err





About

Partners



FAQ

Sierra Nevada & Foothills Cameras  (report fire start)



Image Courtesy of
 SOUTHERN CALIFORNIA
EDISON



CHP Traffic Incident Information Page

Communications Centers

Border

Searches

Choose One

Resources

Choose One

Border Communications Center

Updated as of 1/19/2022 11:20:38 AM

Auto Refresh Off

Number of Incidents: 10

Details	No.	Time	Type	Location	Location Desc.	Area
Details	00428	11:13 AM	Traffic Hazard	SR905 W I805 N CON / I805 N	WB TO NB	San Diego
Details	00426	11:10 AM	Hit and Run No Injuries	Central Ave / Bonita Rd		San Diego
Details	00427	11:09 AM	Hit and Run No Injuries	I5 N / Las Pulgas	I5 N LAS PULGAS	Oceanside
Details	00407	10:48 AM	Trfc Collision-No Inj	530 Iowa St		Oceanside
Details	00318	9:40 AM	Assist CT with Maintenance	I15 S / Clinton Keith	I15 S CLINTON KEITH	Temecula
Details	00236	8:14 AM	Assist CT with Maintenance	15/ Wall Move		
Details	00212	7:53 AM	Assist CT with Maintenance	Sr163 S / I8	SR163 S I8	San Diego
Details	00172	7:20 AM	Assist CT with Maintenance	Sr74 / Collier Ave		BC
Details	00166	7:17 AM	Assist CT with Maintenance	435 La Tortuga Dr - Ocn - Oceanside Chp Office (new)	UNTIL 1330	Oceanside
Details	00120	6:04 AM	Assist CT with Maintenance	Sr79 / Sr76		El Cajon

Incident: 00407 **Type:** Trfc Collision-No Inj **Location:** 530 Iowa St **Loc Desc:** [Lat/Lon: 33.385796 -117.248052](#)

Detail Information

11:02 AM 2 [3] [Notification] [CHP]-Problem changed from 1183-Trfc Collision-Unkn Inj to 1182-Trfc Collision-No Inj by CHP
 10:48 AM 1 [1] SOLO VEH VS A PARKED VEH

Unit Information

11:01 AM 3 Unit At Scene
 10:50 AM 2 Unit Enroute
 10:50 AM 1 Unit Assigned

UV5R

\$25



Green text vs blue text (data)





your
ego
is not
your
amigo
Always

Breeching Tools - Gates and Fences

Chainlink
Barbed wire
Padlock



Breaching continued

Attack the weakest part of the system.



Live Field Simulation

- Review and/or activate your emergency wildfire plan - based off Ready Set Go.
- The boundaries?
- **Time limit:** Travel on your primary route for 2-3 songs, then travel on your alternate route for 2-3 songs. What is your contingency/ emergency if you can't escape the area?

Tips for the Live Field Simulation

- Safety talk - vehicular traffic will be most dangerous, respect private property, adhere to traffic rules.
- Document your journey with photos and locations- maintain your logbook.
- Utilize open source intel (google maps satellite, flight radar 24, scanner, VHF).
- Play along with the sim, treat it as real.

**Thank you for attending the Last Chance
Survival Simulation Workshop!**

Be the Coyote.

