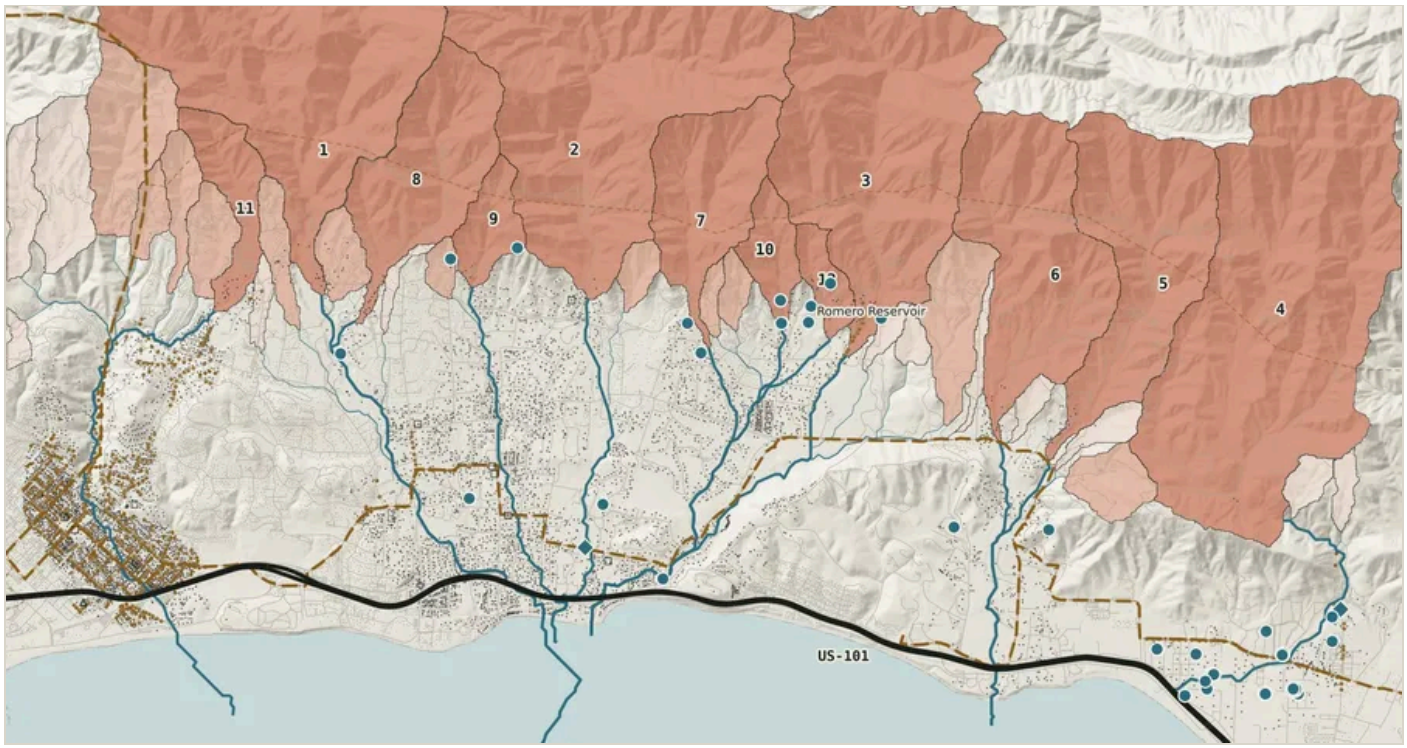
Your lines and mains aren't in public data. Send them, and this is what you'd get after the next fire on your territory. Here it is run on Montecito with public data only, where we know what happened.

Montecito front, Thomas Fire scar

FIRE	BURN DATA	CANYONS RANKED	CHECKED AGAINST
Thomas Fire, December 2017	Sentinel-2, Dec 3 and Dec 18, 2017	36, within this fire	Debris flows of January 9, 2018

On the flow paths below the six canyons ranked first: 42 storage tanks, 2 pumping stations, 1 reservoir, 102 power poles, a 66 kV transmission line and 173 km of access road, including US-101.



Top third · Middle · Bottom · Flow paths below the top third · US-101 · Storage tank or reservoir
Pumping station · Substation · Power pole · Transmission line · Schools and public buildings

The six canyons to plan around first

1 Cold Spring Creek

9.5 km² · burn 0.64 · 32°

1 storage tank, 31 power poles, a 66 kV transmission line and 41 km of access road, including US-101

Also: 1,066 buildings, 1 school and an urgent-care clinic

2 San Ysidro Creek

7.8 km² · burn 0.72 · 33°

1 storage tank, 1 pumping station and 26 km of access road

Also: 490 buildings and 2 schools

3 Romero Creek

5.2 km² · burn 0.65 · 34°

2 storage tanks, 1 reservoir, 12 power poles and 19 km of access road, including US-101

Also: 466 buildings

4 Arroyo Paredon

8.0 km² · burn 0.45* · 29°

36 storage tanks, 1 pumping station, 51 power poles, a 66 kV transmission line and 44 km of access road, including US-101

Also: 222 buildings

5 Toro Canyon Creek (east)

3.1 km² · burn 0.49* · 30°

2 storage tanks, 3 power poles and 38 km of access road, including US-101

Also: 266 buildings

6 Toro Canyon Creek (west)

3.3 km² · burn 0.48* · 29°

5 power poles and 4.6 km of access road

Also: 118 buildings

Ranked on satellite images from three weeks before the storm, then checked against January 9, 2018: all 6 canyons that flowed were in our top 12 of 36. Page 2 shows the storm and what happened.

The Watch on its worst day

RECONSTRUCTION · WRITTEN IN 2026 · NEVER SENT

SENT **Sunday, January 7, 2018, morning**
SUBJECT **Flash Flood Watch over the Thomas scar, Monday 4 PM to Tuesday 10 PM**

NWS Los Angeles/Oxnard issued a Flash Flood Watch at 9:40 PM Saturday for the Thomas burn area, naming Montecito. Rain rates of half an inch to an inch an hour are possible.

Top canyons under the Watch: 1 Cold Spring Creek · 2 San Ysidro Creek · 3 Romero Creek

On the flow paths below them: 4 storage tanks, 1 pumping station, 1 reservoir, 43 power poles, a 66 kV transmission line and 86 km of access road, including US-101.

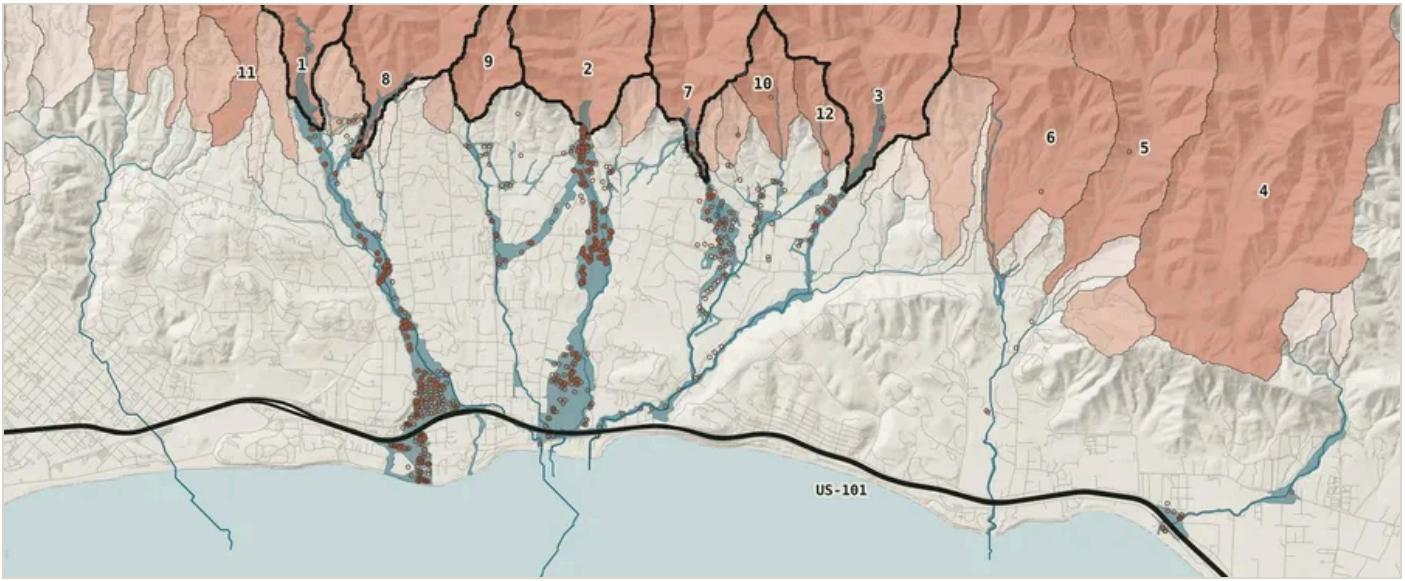
Your action, agreed in advance: Move crews and equipment off the flow paths below canyons 1 to 3, and check access to the tanks and pumping station before Monday 4 PM.

USGS's hazard assessment for the Thomas Fire is the official likelihood for each drainage. Read it alongside this. We send a close-out when the Watch ends. A person checked this message.

- Sat Jan 6, 9:40 PM — NWS issues a Flash Flood Watch for the Thomas burn area, in effect Monday 4 PM to Tuesday 10 PM.
- Sun Jan 7, morning — Our heads-up (left), under the base service rule: the morning after an overnight Watch.
- Sun Jan 7 — The county orders evacuation above Highway 192 from noon Monday, with a warning below it.
- Tue Jan 9, 2:32 and 3:35 AM — NWS issues Flash Flood Warnings for the Thomas burn scar.
- Tue Jan 9, about 3:30 to 4 AM — Debris flows come out of the canyons above Montecito.

How the reconstruction was made: the ranking on page 1, built only from data that existed before the storm (Sentinel-2 images of December 3 and 18, 2017, and USGS terrain), the NWS Watch as issued, and today's public asset data.

What happened on January 9, 2018



Top third · Canyon that flowed · USGS-mapped inundation · Destroyed · Damaged, CAL FIRE inspection

No canyon is credited with any damage on this map.

6 of 6 canyons that flowed were in our top 12 of 36 (ranks 1, 2, 3, 7, 8, 9).

23 people died.

162 of 558 inspected structures were destroyed; **3.5 km²** was inundated.

US-101 was closed from January 9 to January 21.

ALREADY IN PLACE BEFORE JANUARY 9

- USGS's hazard assessment: debris-flow likelihood and volume for each drainage, finished before the storm. It is the official source; we show it where it exists, attributed.
- The NWS Flash Flood Watch, issued Saturday night, naming the Thomas burn area and Montecito.
- The county's evacuation orders, by zone.

WHAT THE WATCH ADDS

- Which canyons come first on this scar, and the named assets on the flow paths below them.
- Sent the day a Watch covers the scar, to the people who run those assets, with the one action they agreed in advance, and a close-out when it ends.
- Every storm season through the eighth year after the fire, after the federal teams have gone. It replaces none of the above and does not forecast where a flow will go.

All 36 canyons, ranked within this fire

#	CANYON	AREA	BURN	SLOPE	ON THE FLOW PATHS BELOW
1	Cold Spring Creek	9.5 km²	0.64	32°	1 tank · 31 poles · 41 km road · US-101
2	San Ysidro Creek	7.8 km²	0.72	33°	1 tank · 1 pump stn · 26 km road
3	Romero Creek	5.2 km²	0.65	34°	2 tanks · 12 poles · 19 km road · US-101
4	Arroyo Paredon	8.0 km²	0.45*	29°	36 tanks · 1 pump stn · 51 poles · 44 km road · US-101
5	Toro Canyon Creek (east)	3.1 km²	0.49*	30°	2 tanks · 3 poles · 38 km road · US-101
6	Toro Canyon Creek (west)	3.3 km²	0.48*	29°	5 poles · 4.6 km road
7	Buena Vista Creek	1.8 km²	0.67	33°	2 tanks · 14 km road
8	Hot Springs Creek	2.2 km²	0.62	30°	3.7 km road
9	Oak Creek	0.6 km²	0.67	28°	6 tanks · 3 poles · 35 km road
10	Unnamed canyon	0.5 km²	0.53	30°	5 tanks · 11 km road
11	Unnamed canyon	0.8 km²	0.32*	24°	623 poles · 87 km road · US-101
12	Unnamed canyon	0.4 km²	0.47*	26°	1 tank · 4 poles · 3 km road

Ranks 13 to 36: 24 more canyons, each under 1.3 km². Area counts in full, so a small canyon ranks low even when it burned hard. Listed in full in the client version.

Burn: mean burn weight from the satellite burn map (dNBR), 0 to 1 · Slope: mean gradient · Area: ground draining to the canyon mouth · * under 80% of the canyon reads as burned (cloud gaps and unburned ground count as unburned), which can rank a canyon lower than it should be

HOW TO READ THIS

- The ranking compares canyons within this fire only. It is never a probability, a volume, or a comparison between fires.
- Rainfall is not an input. The ranking assumes the canyons get similar rain, which holds for a compact scar under one storm.
- Burn comes from satellite images (dNBR). On this fire it finds the canyons that flowed as well as the field-checked BAER map does; it is not validated for exact rank order.
- An asset is listed under a canyon when it lies within 600 m of the flow path below it. Where channels join, it counts once, under the highest-ranked canyon above it.
- Assets are today's public data (2026-10), so they differ from what stood in 2018. A client's own asset lists replace them.

SOURCES

- Terrain: USGS 3DEP, 10 m. Burn: Sentinel-2 L2A (Copernicus, via Earth Search), December 3 and 18, 2017.
- Watch and warnings: NWS Los Angeles/Oxnard products of Jan 6 to 9, 2018 (Iowa Environmental Mesonet archive).
- 2018 debris flows, inundation, damage inspection and deaths: Kean, J.W., et al. 2019, USGS data release, doi:10.5066/P9JQJU0E; Kean, J.W., et al. 2019, Geosphere 15(4).
- Evacuation orders: Santa Barbara Independent, Jan 16, 2018. US-101 closure: Caltrans, via the Associated Press, Jan 21, 2018.
- Buildings, facilities, roads and power: © OpenStreetMap contributors (ODbL). Transmission: HIFLD archive (2024). Dams: USACE National Inventory of Dams.

What we would watch for your territory

- Your service territory, every day, for new fires.
- Once a perimeter settles: the spans, poles, tanks, pumping stations and access roads on the flow paths below the worst canyons, from your own line and facility data.
- A heads-up the day an NWS Flood or Flash Flood Watch covers a scar, through the eighth year after the fire, and a close-out when it ends.

Send a KMZ or shapefile of your lines and facilities, or reply with your service area, and we will set up a 15-minute walkthrough on your territory.

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