#### Williams Flats Fire, Washington, 2 August 2019

#### **News Reports, Photos and Videos**

Info compiled by Kayla Joachim

#### **Details:**

- Fire started the morning of 2 August 2019
- 100% Contained by 25 August 2019
- Location: Colville Indian Reservation
- 44,446 acres in total (= 17,987 ha)

#### Interesting case study for PyroCb = pyro-cumulonimbus = cumulonimbus flammagenitus

- "NASA's DC-8 flying laboratory passed directly through a large pyrocumulonimbus that day as it was rising from a fire in eastern Washington. The flight was part of a joint NOAA and NASA field campaign called FIREX-AQ."
  - Source https://earthobservatory.nasa.gov/images/145446/flying-through-a-fire-cloud

#### **Contributing Conditions**

- Lightning strikes early in the morning.
  - There were visual reports from Confederated Tribes of the Colville Indian Reservation.
- "High pressure over the fire area is producing above normal temps and low humidity. Poor humidity recovery, in combination with the daytime wind pattern, resulted in fairly active fire behavior for the night shift."
  - Source: "Washington State Suffers from Williams Flats Fire Caused by Lightning"
- Tough conditions such as high temperatures, reduced visibility, steep rocky terrain, and wildlife dangers such as snakes and bears made it hard for firefighters to contain the fire.

#### **Media and Photos**

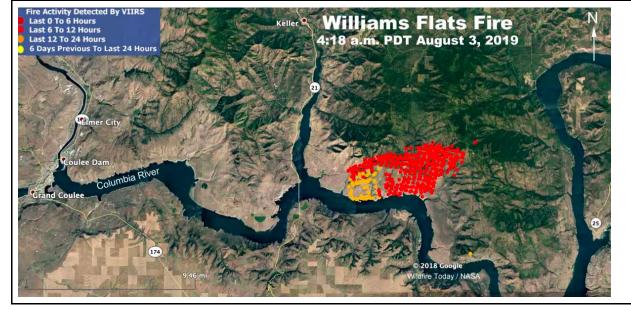


Caption and Source

"The Suomi NPP satellite collected this natural-color image using the VIIRS (Visible Infrared Imaging Radiometer Suite) instrument on **2 Aug 2019** ... **Actively burning fires**, detected by thermal bands, are shown as red points."

#### Source:

https://www.nasa.gov/image-article/washington-statesuffers-from-williams-flats-fire-caused-by-lightning/

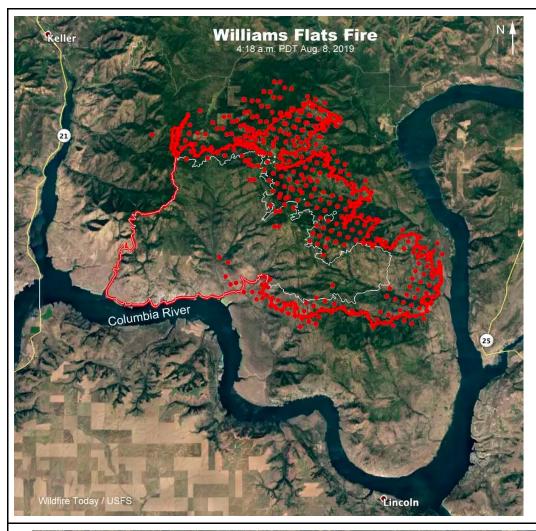


"Map of the Williams Flats Fire showing heat detected by a satellite as late as **4:18 a.m.** PDT **3 August 2019**."

"Saturday morning fire officials said it was **5,640 acres**, but satellite data from 4:18 a.m. PDT on Saturday indicates it may have burned an **additional 1,000 acres**."

#### Source:

https://wildfiretoday.com/2019/08/03/williams-flats-fire-burns-thousands-of-acres-along-columbia-river/



Map showing the location of the Williams Flats fire in northeast Washington.

The red line was the perimeter determined by a fixed wing mapping flight at 11:53 p.m. PDT on **7 August 2019**.

The white line was the perimeter 26 hours before.

The red dots represent heat detected by a satellite at **4:18** a.m. PDT **8 August 2019**.

#### Source:

https://wildfiretoday.com/2019/08/08/williams-flats-fire-grows-to-over-34000-acres-in-northeast-washington/



NASA Earth Observatory image of the Williams Flats Fire by Joshua Stevens, using Landsat data from the U.S. Geological Survey.

#### Source:

https://wildfiretoday.com/tag/williams-flats-fire/



"The photograph [on the left], shot from roughly 30,000 feet (9 kilometers), shows the setting Sun shining through thick smoke at 8 p.m. Mountain Time. Particles in the smoke reflect light in ways that make the Sun appear orange." "August 8 photo by David Peterson"

#### Source:

https://wildfiretoday.com/tag/williams-flats-fire/



"The photograph below shows the smoke plume (gray) that fed the pyrocumulonimbus cloud (white)."

"The flight was the most detailed sampling of a pyrocumulonimbus in history"

August 8 photo by David Peterson (U.S. Naval Research Laboratory)

#### Source:

https://wildfiretoday.com/tag/williams-flats-fire/

#### \*\*Related and Interesting:

Seattle Times: Washington wildfire smoke triggered a thunderstorm – and NASA researchers flew through it.



A drone got caught flying around and over the Williams Flat Fire. Water drop helicopter temporarily shut down operations. After the incursion was reported by a Safety Officer, the Air Tactical Group Supervisor diverted a large Type 1 helicopter that was en route from the helibase until the air space could be cleared. Officer decided not to ticket the operator.

"File photo of a law enforcement officer patrolling the waters in the Columbia River adjacent to the Williams Flats Fire, August 10, 2019. InciWeb."

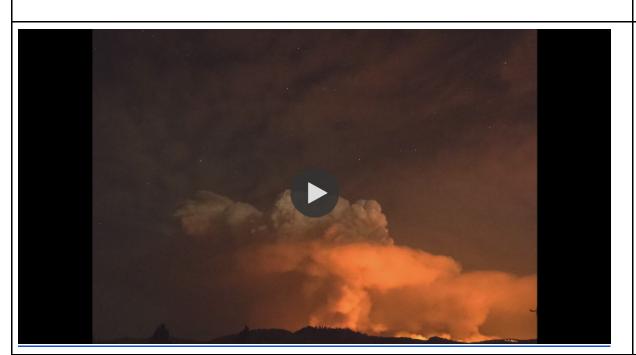
#### Source:

 $\frac{https://fireaviation.com/2019/08/14/drone-shuts-down-helicopter-drops-on-williams-flats-fire-operator-found/}{}$ 

"Any person identified flying a drone or unmanned aircraft system in a TFR could be subject to a \$20,000 fine"

#### Source:

https://www.krem.com/article/news/local/wildfire/light ning-may-have-sparked-fire-burning-on-colvilleindian-reservation/293-39d02b18-2e01-4666-a5c4-4767f68e93c3



### A timelapse of the william flats fire burning at night

(very beautiful)

#### Source:

https://media.wbir.com/embeds/video/293-e5083ee4-d355-4e95-932d-8c43a973523f/iframe

Video - Click link!



Photo of the smoke in the result of a wildfire over the reservation with a plane arriving at the Spokane airport.

Source:

Seattle Times - Williams Flat Fire Grows



## Williams Flats Fire burning over 45,000 acres improves to 80-percent containment

#### Source:

https://www.khq.com/news/williams-flats-fire-burning-over-45-000-acres-improves-to-80-percent-containment/article\_c59ee970-b636-11e9-90ef-ff55ae41b3bc.html

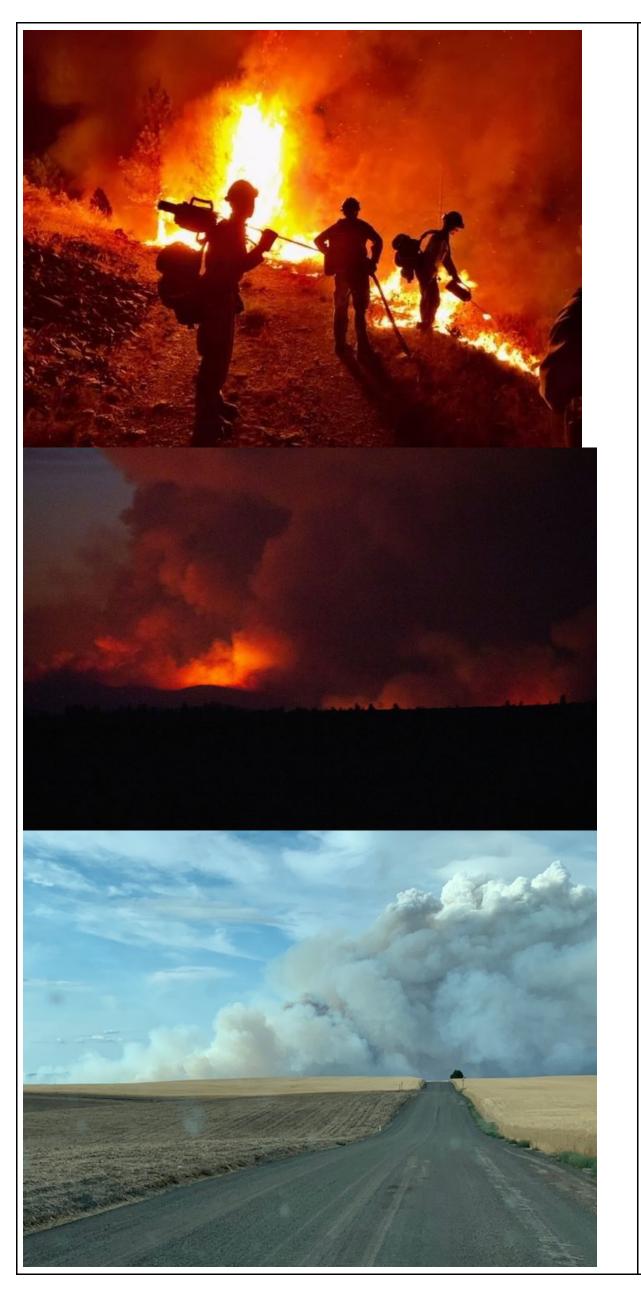


Image by Jay Bern. Taken from Davenport.

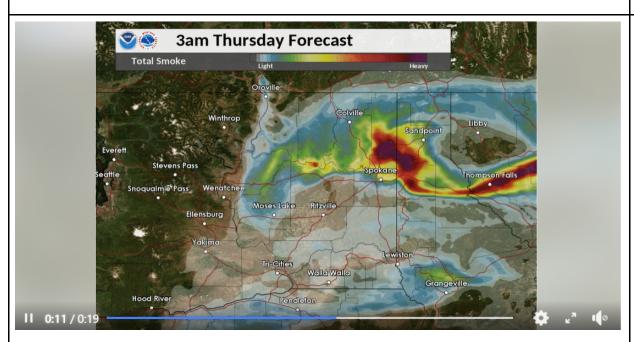


# The Williams Flats Fire in eastern Washington produced a pyrocumulonimbus (pyroCb) cloud, which GOES West spotted on 7 Aug 2019.

Intense heating by wildfires can generate a smoke-infused thunderstorm, or pyroCb, like the one in this GeoColor loop. The blaze, which began on August 2, 2019, after "a band of early morning thunderstorms with lightning moved across the eastern portion of the Colville Indian Reservation," has already grown to more than 34,000 acres, according to InciWeb.

#### Source:

https://www.facebook.com/GOESRsatellites/videos/the-williams-flats-fire-in-eastern-washington-produced-a-pyrocumulonimbus-or-pyr/484584352098662/

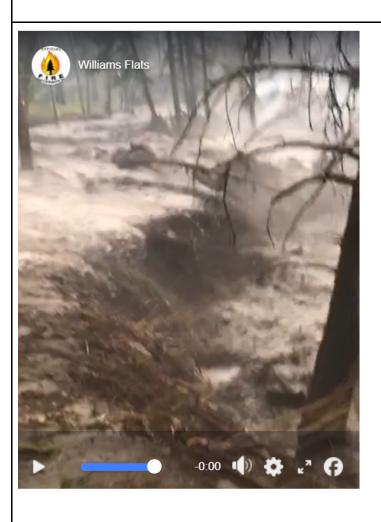


"Total Smoke" forecast showing possible trajectory of smoke from Williams Flat Fire near Keller, WA & Eagle Bluff Fire in Southern British Columbia. This is only an estimate as smoke moves farther away from its source it usually becomes more diffuse.

#### Source:

https://www.facebook.com/NWSSpokane/videos/total-smoke-forecast-showing-possible-trajectory-of-smoke-from-williams-flat-fir/382054102500668/

Video - Click the Link!



### Thunderstorm creates rougher conditions for crews battling Williams Flats Fire

"A thunderstorm tracked directly over the Williams Flats Fire on the Colville Reservation Saturday, causing flash floods and hazardous road conditions.

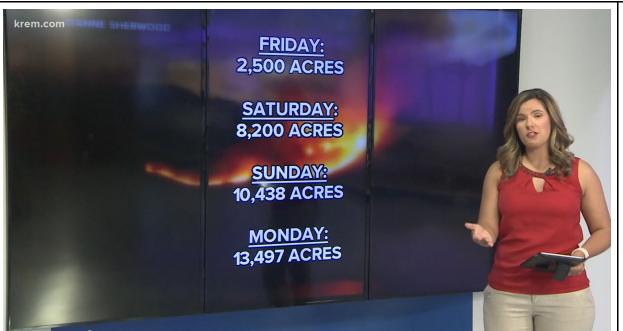
Sixty-four firefighters were unable to make it back to the command post overnight due to the intense weather. The fire is 40% contained at 43,000-acres.

The Spokane Tribal Police has provided a rescue boat for emergency evacuation of injured firefighters."

Source:

<u>Thunderstorm creates rougher conditions for crews battling</u>
Williams Flats Fire

Video - click the link!



#### **News Report on Williams flat Fire**

https://media.12news.com/embeds/video/responsive/293-d3f02449-c2b9-4f03-98f5-23c43dfb8501/iframe

Video - click the link!



(Don Spackman)

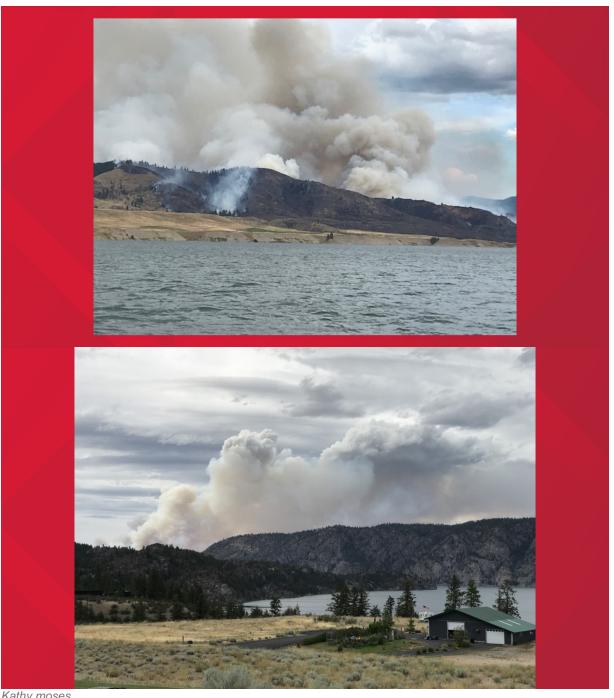


Images of the Williams Flat fire taken by citizens .

#### Source:

https://www.krem.com/article/news/local/wildfire/lightning-may-have-sparked-fire-burning-on-colville-indian-reservation/293-39d02b18-2e01-4666-a5c4-4767f68e93c3

(The next 9 photos are from this source)



Kathy moses



Mark Liptrap Smoke from the Williams Flat Fire on the Colville Reservation in Stevens County.

