

Yellowstone Is Not Erupting:

Rumor Correction and How TikTok Users Made Sense of a Small-Scale Hoax

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Abstract & Research Questions

Making sense of emergent events within social media platforms often requires users to connect disparate pieces of information to develop a coherent understanding of such events. We present a case study of a small-scale hoax event on TikTok in which users were led to believe that a Yellowstone caldera eruption was imminent. We explore the work of content creators, including how they made sense of the event through their content and in conversation with viewers across the platform. Our research questions are:

RQ1: What methods did TikTok users employ to make sense of the Original Poster's (OP) claims about geological activity at Yellowstone National Park?

RQ2: What visual cues did TikTokers use to assist with the sensemaking process?

Key Points

- The social, visual, referential, and non-chronological nature of TikTok may make it **difficult to find information about a rumor or respond to them**, especially in a timely manner
- Netizens can and will debunk rumors through a combination of their own **experiences, verifiable and trusted sources**, and the **demonstration of information triangulation**
- More work should be done to characterize **why some rumors are quickly corrected and others continue to enable conspiratorial thinking**
- There may be **significant challenges in moderation** conspiratorial or sensational audio-visual material at scale. Keywords can be easily scanned, but information requiring context is harder to moderate.



Figure 1: A screenshot of OP's video by another user shows us "evidence" that there is serious police activity surrounding the discovery of "smoking" grass

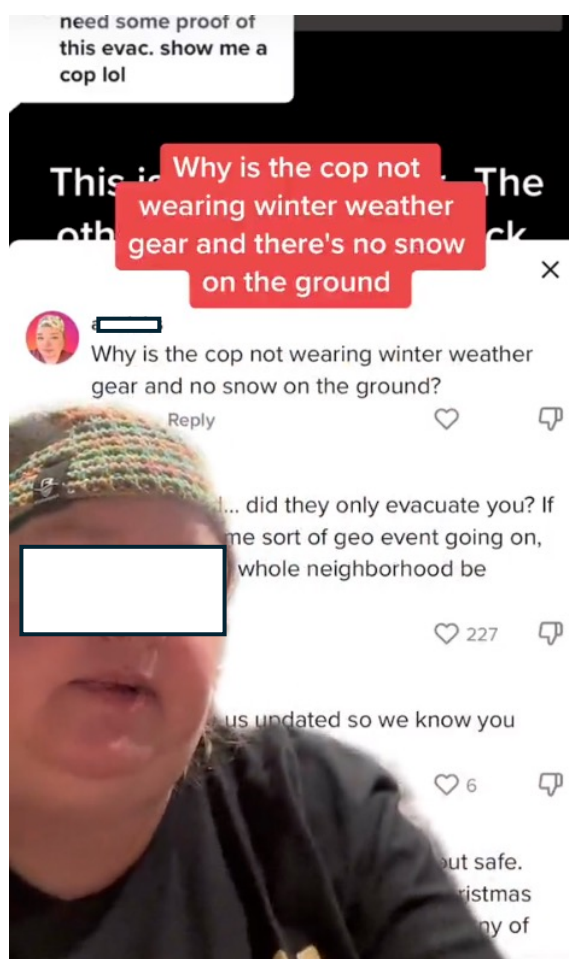


Figure 2: Comments in collaboration with creators help piece the puzzle together: is OP telling the truth?

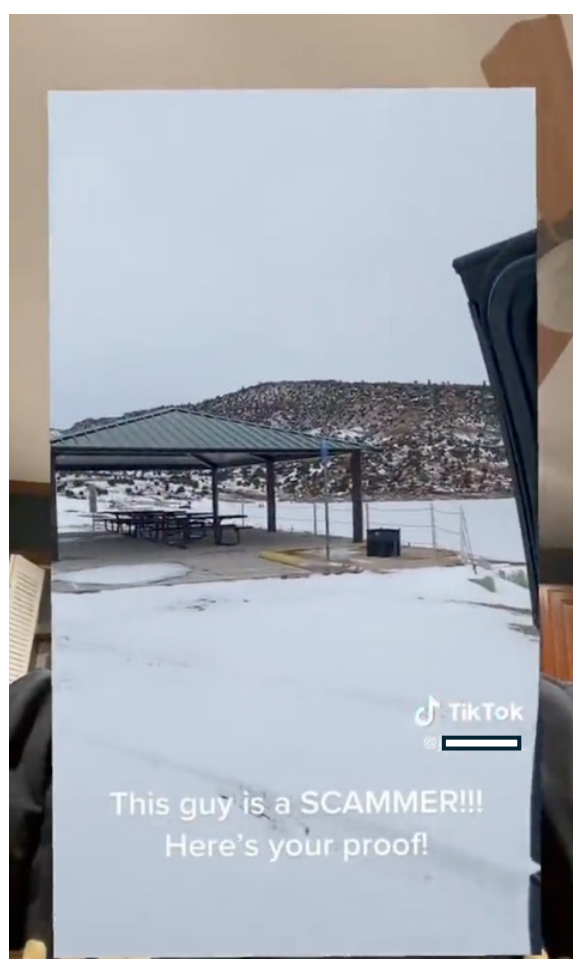


Figure 3: Another TikTok user shows us their recent view of Alcova Reservoir, close to the scene of the "smoking" grass. Ice fishers and ice are plentiful, which does not line up with increased geothermal activity

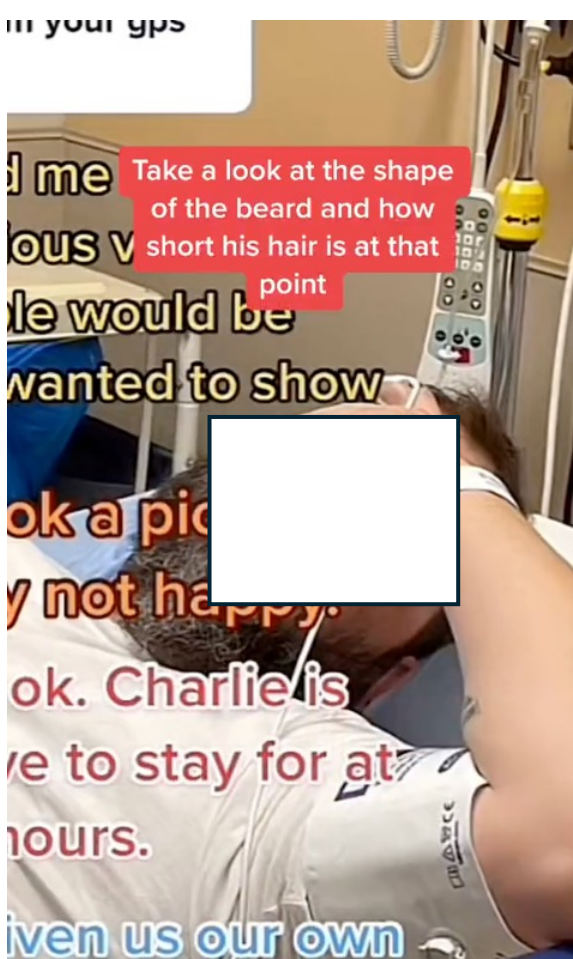


Figure 4: A hospital photo of OP does not align with a recent video showing a vastly different "beard situation"

The Hoax Event

- In late December 2022, a TikTok user ("Original Poster," or "OP") posted a video from his home in Wyoming* claiming the ground was "hot" with visual evidence of smoke emerging from a patch of grass.
- Over the coming days, OP posts video messages from his car, claiming to have called US Geological Survey (USGS). In a separate video, OP says he has left town and is in search of a hotel as USGS needs space to do its work. OP suggests USGS notes that an "explosion is imminent," OP continues to post content suggesting he was being followed, was in a car wreck, and then taken to the hospital, with "proof" in the form of police reports
- TikTok users begin to pick apart his statements within a few hours
- In OP's last public video, he uses the phrase "thanks for playing", suggesting the "game" was in good fun all along.

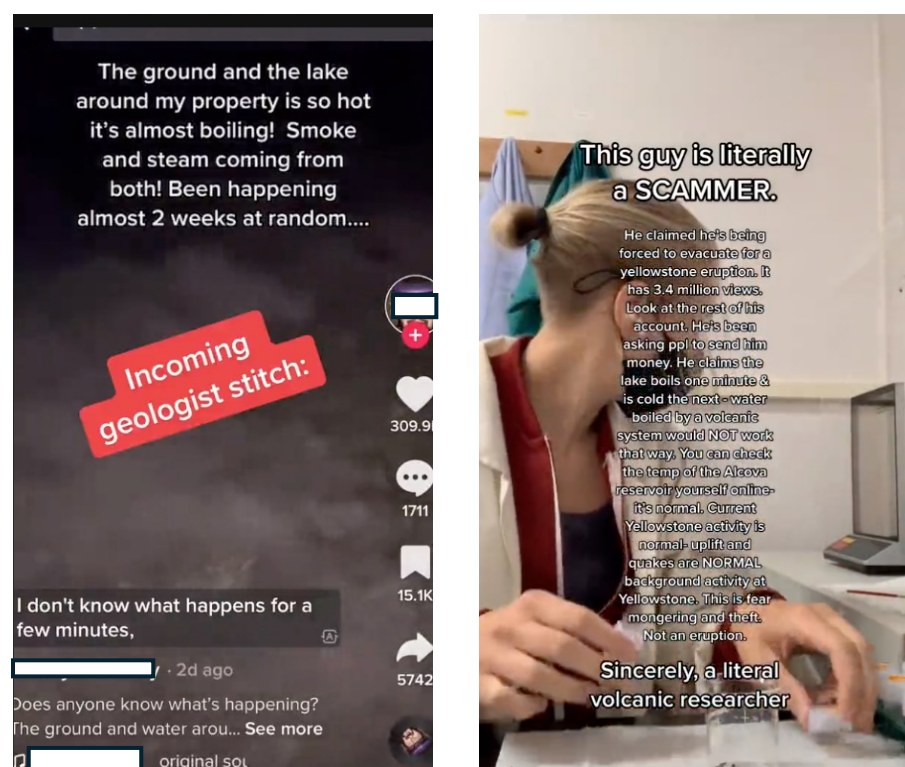


Figure 5: A TikTok user and self-proclaimed "expert" tells users why OP's content is bunk.

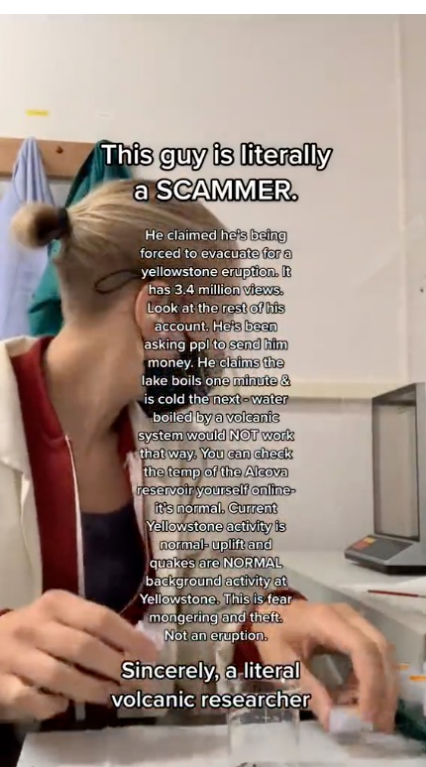


Figure 6: A TikTok user scrolls through blue-checked, official content from law enforcement, debunking OP's claims

Rumors & Sensemaking

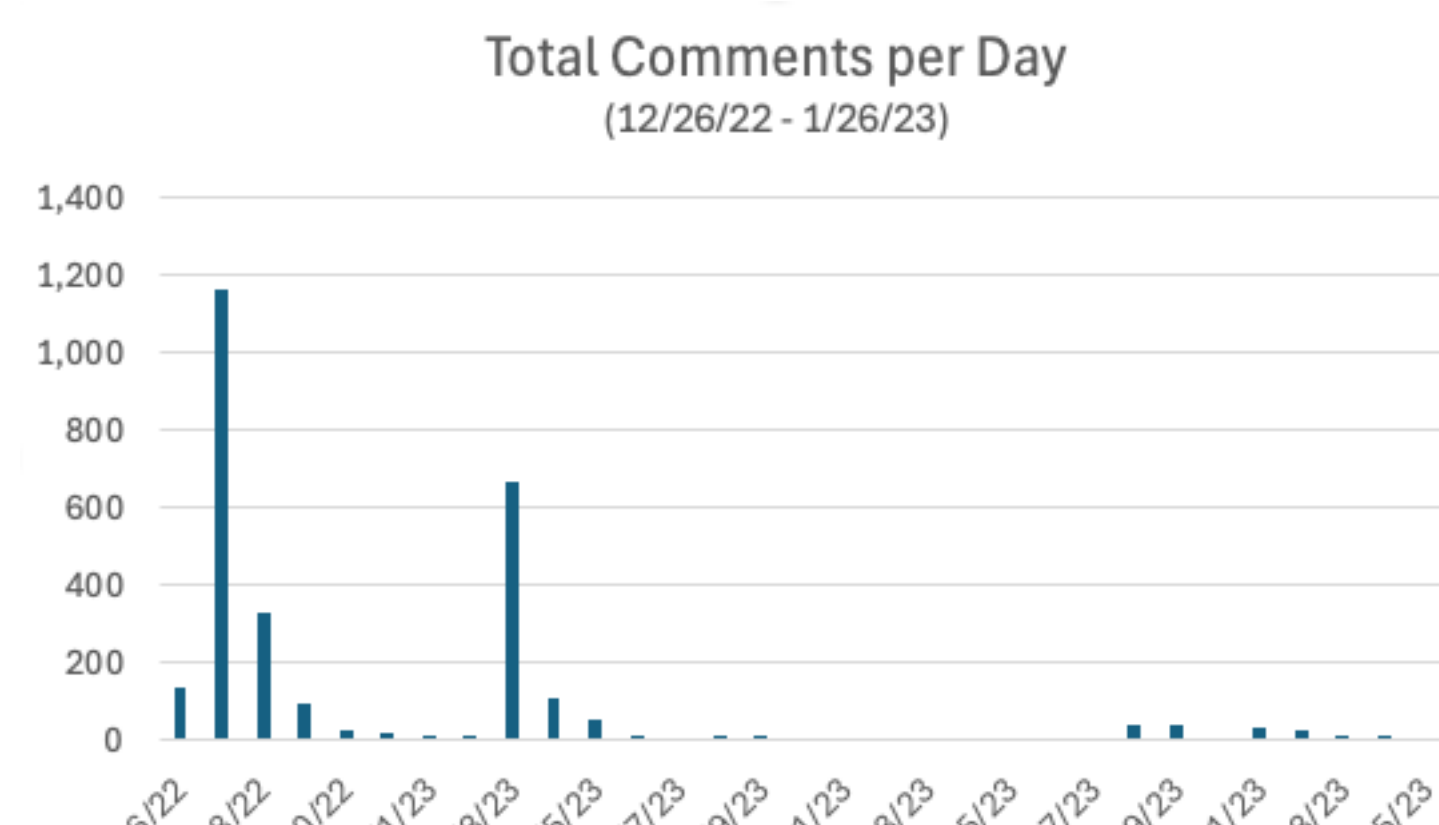
- Sensemaking** and rumoring are good ways to understand the *actions* taking place within this hoax event. **Rumors** generally circulate in the absence of verifiable information, such as in natural disasters and other topics of public interest. **Hoaxes** are situations where content is intentionally fabricated for a variety of motives.
- Rumoring is often a byproduct of **collective sensemaking**, which Karl Weick defines as "the ongoing retrospective development of plausible images that rationalize what people are doing." [4]
- Tamotsu Shibutani defines a **rumor** as "a recurrent form of communication through which men caught together in an ambiguous situation attempt to construct a meaningful interpretation of it by pooling their intellectual resources." [2]
- Salaverría defines **hoaxes** as "all those false contents that reach a publicly disseminated result is intentionally fabricated for a variety of motives, which may range from simple jokes or parodies to ideological controversies, including economic fraud" [1]

Methods

- We utilized the TikTok Research API to search for videos that included terms such as **#yellowstone**, **#yellowstoneeruption**, **#yellowstonehoax**, **#hoax**, and combinations of these hashtags. The first author noted the date of the first post on this matter by OP, in a separate project, and used this for data collection.
- As OP's videos were private at the time of analysis, **we relied heavily on the stitching, dueting, and screenshots of other TikTok users**, which quoted OP's videos
- We performed a **content and thematic analysis** of all collected videos (38) and comments (2,415) noting debunking strategies and tools used by TikTok content creators and commenters

Descriptive Stats on Videos & Comments

Video Metric	Mean	Median
Views	741	70
Likes	2,026	64
Shares	1	0
Comments	102	22



Debunking Strategies & The Power of Humor

- Crowdsourcing verifiable information**, such as the local weather or other news stories, to detect narrative inconsistencies and find original sources (See Fig. 7 & Fig. 8.)
- Using **personal experiences/personal knowledge** to debunk the OP's narrative.
 - Ex. 1, Video Description: "I lived near Devil's Tower. I don't believe this guy at all"
 - Ex. 2, Video Description: "This guy actually lives in Tennessee. The authorities have been called."
- Using **OSINT tools** such as Google Maps and Google Photos to reverse image search content that OP has posted, such as police reports
- Going backwards in OP's post history** to look at historical landmarks + verify that OP does not live in Wyoming, but Tennessee
- Relying heavily on **visual cues/visual information**
 - OP's beard growth in triangulation with recent videos was discussed and determined to be implausible. This detail might have played out differently on a text-based platform and dismissed as hearsay without photo/video evidence.
- Meta-Commentary**: Using humor and/or sarcasm to dissuade donations to OP for hotel costs + car accident costs incurred
 - Ex 1, Video Description: "I can't believe you guys are falling for this."
 - Ex 2, Video Description: "Don't fall for this idiot's shit. He's just posting for clout & your money. & no Yosemite isn't about to rupture ffs."
 - Ex 3, Video: A TikTok user sarcastically throwing boiling water on their lawn + proclaiming needing a \$10K donation
- TikTok users smartly downloaded video and screen-captures knowing OP might delete content later
- Few experts or self-proclaimed experts weighing in on phenomenon

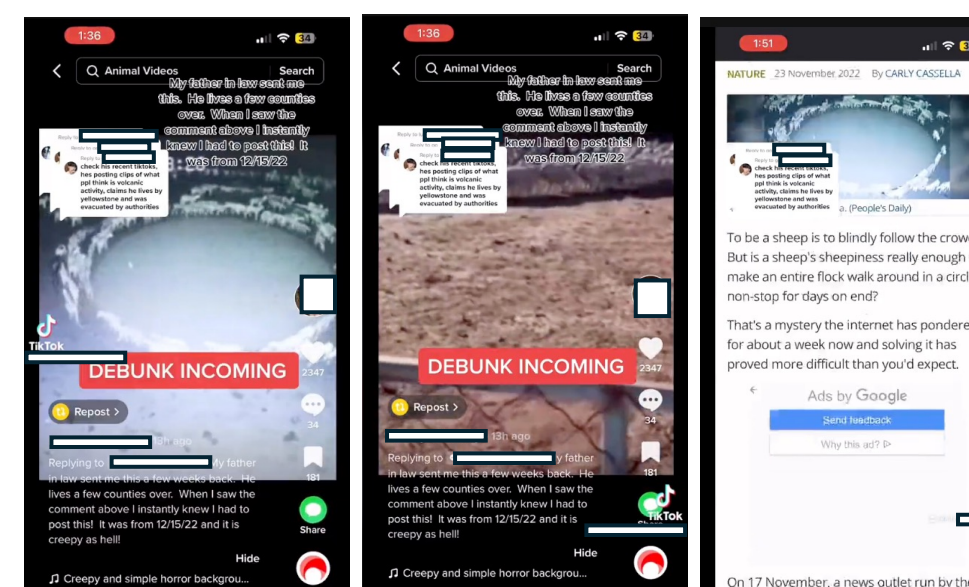


Figure 7: A TikTok user shows the original sources for content that OP has claimed as their own

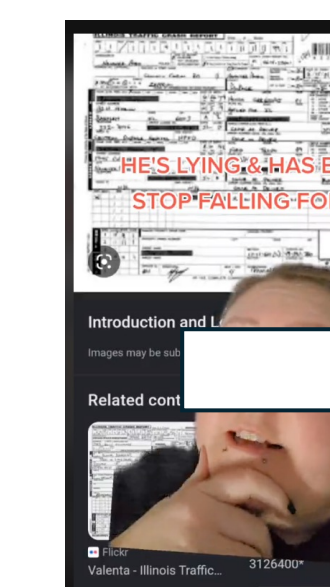
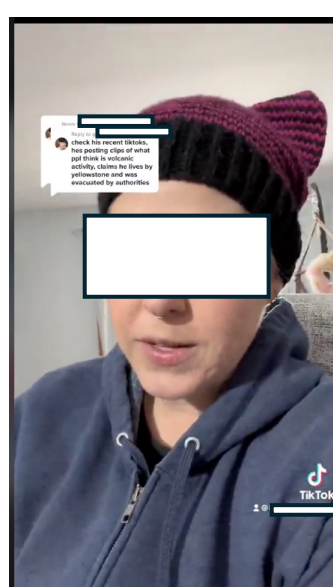


Figure 8: A TikTok user shows that the story about OP living in Wyoming + encountering snow + showing fake police reports + the Michigan license plate on the state trooper's car does not add up with OP's narrative

Corrective Work in Comments

- Plausible explanations**: Users calling out the "smoking" grass phenomenon as radiation fog, also known as ground fog or valley fog, which appears as "smoke" near the ground, especially in fall or winter temperatures/conditions [3]
- Megaphoning verifiable sources**, such as real-time USGS reporting
- Calling in **scientific knowledge** about volcanoes and Yellowstone to deny OP's reporting
- Using **Personal Experiences as evidence**: "He literally blocked me when I called him out about the grass" or "I don't know anyone that has been evacuated [there]"
- Referencing other platforms** such as Facebook and official Facebook pages of law enforcement to show that there are no evacuations
- Repeating "scammer", "fraud", and "grifter"** keywords/sentiment
- However – there are still a few comments that cast doubt: "You think the government is going to warn 300M people?"
- Users **tagging other users** in the comments to get the word out about a potential scam



Figure 9: Comments utilizing personal experiences

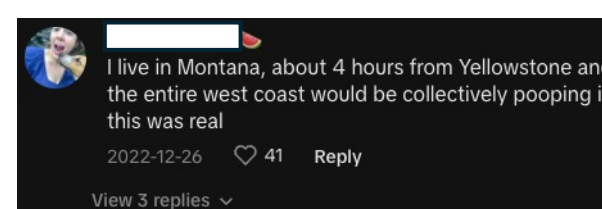


Figure 10: Comments utilizing personal experiences

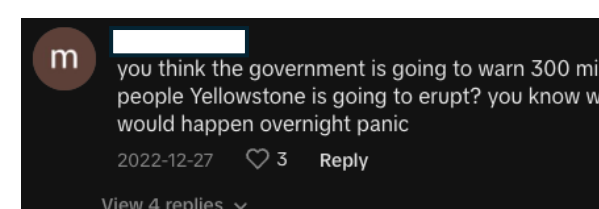


Figure 11: Comments that cast doubt on response

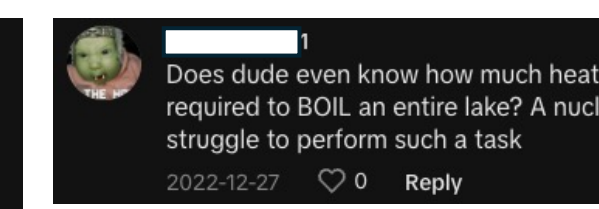


Figure 12: Comments calling in scientific knowledge

Limitations

This research is greatly limited by several factors, including: 1) the privatization of OP's TikTok account and content, 2) the length of time between the hoax itself and collection of data, at least 8 months, 3) heavy reliance on #scam hashtags to capture the data, as the content's ephemeral nature made it difficult to trace narratives back to the early days and minutes of the hoax. Also, the contextless nature of TikTok (and assumptions that if someone is seeing this content on their FYP, then they must be "in" on the narrative) makes it difficult to use hashtags to capture relevant material. Finally, this case study may not be generalizable to all hoax-type events on TikTok, much less elsewhere. More work should be done to characterize why some rumors are quickly corrected and others enable conspiratorial thinking

Acknowledgements & References

Many thanks to TikTok and the TikTok Research API for allowing us to collect this dataset, originally collected as part of a study on collective sensemaking within the platform.

*This and many claims were proven to be false.

- References
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