ALL-DOMAIN ANOMALY RESOLUTION OFFICE

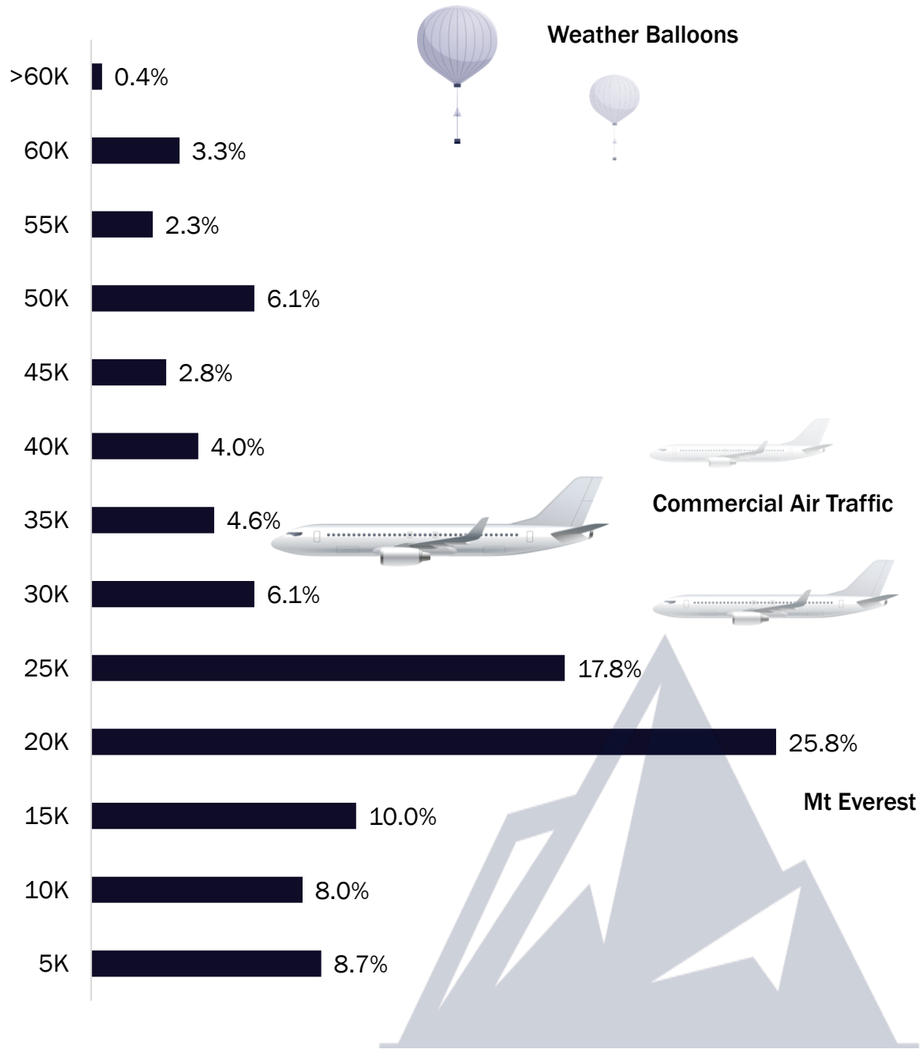
Senate Armed Services Subcommittee on Emerging Threats and Capabilities

Dr. Jon Kosloski

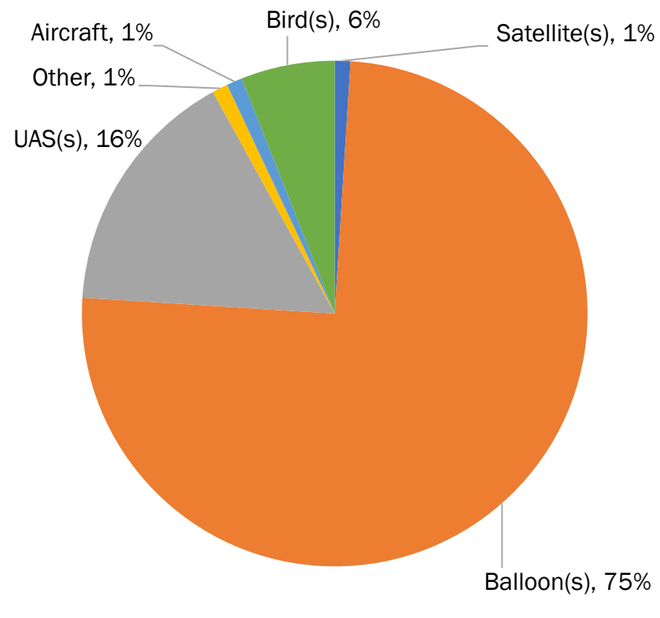
Director, AARO

UAP REPORTING TRENDS: JANUARY 1, 1996 – OCTOBER 10, 2024

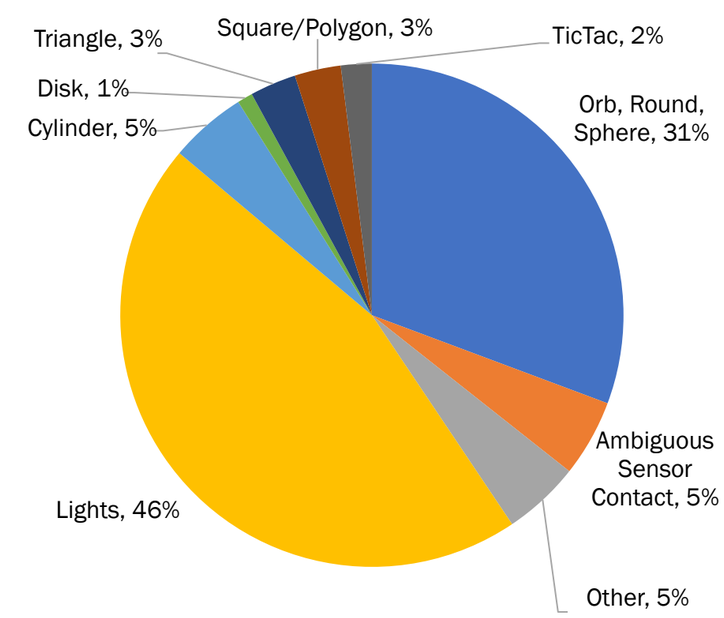
REPORTED-UAP ALTITUDES



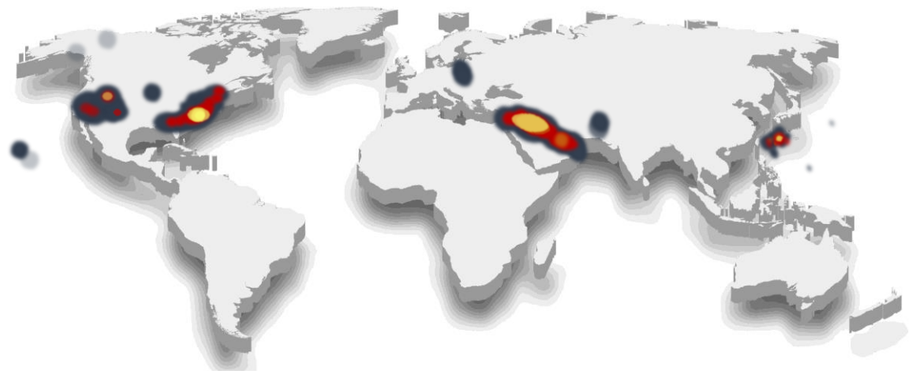
CLOSED CASES RESOLUTION OUTCOMES



REPORTED UAP-MORPHOLOGY

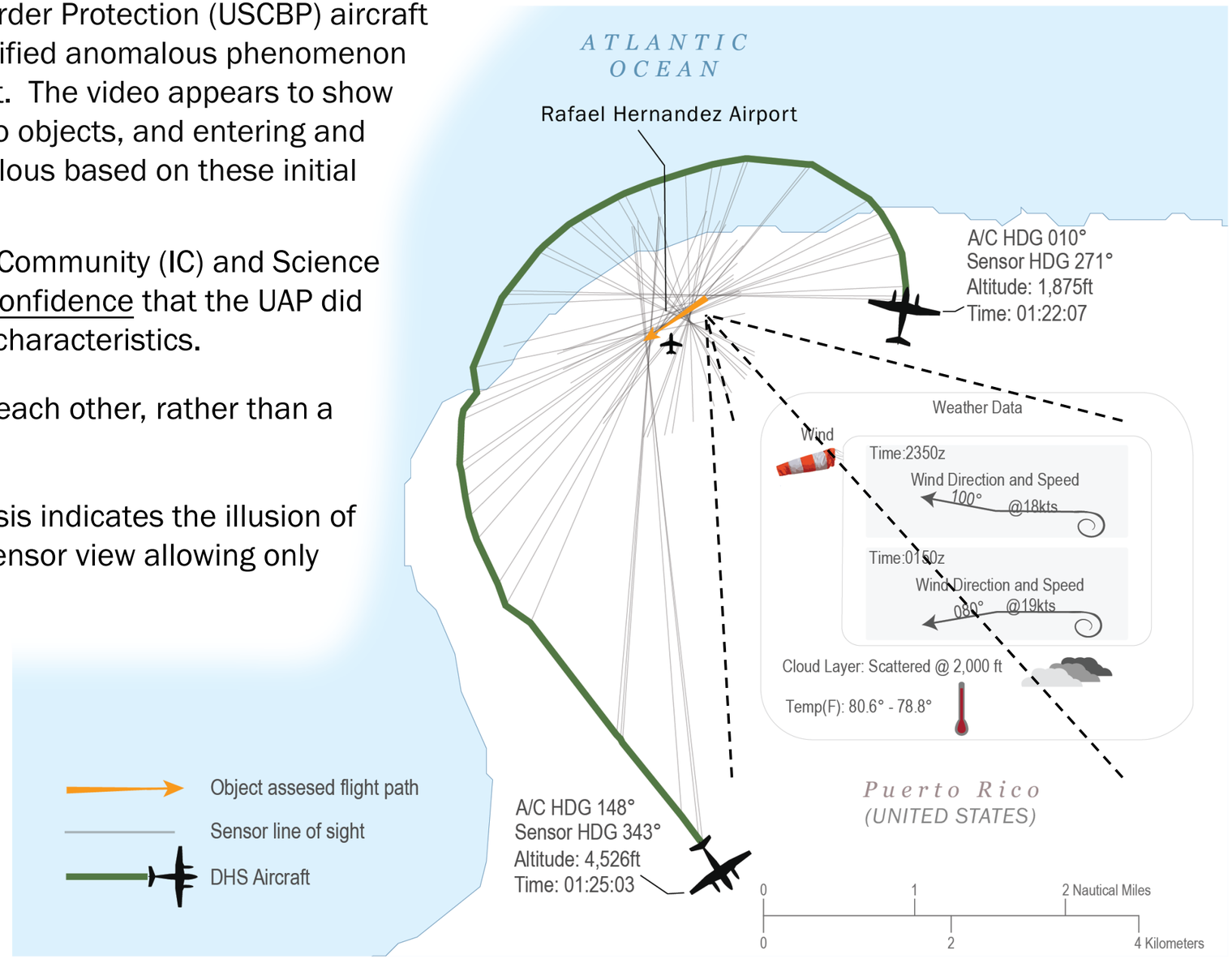


REPORTED-UAP HOTSPOTS



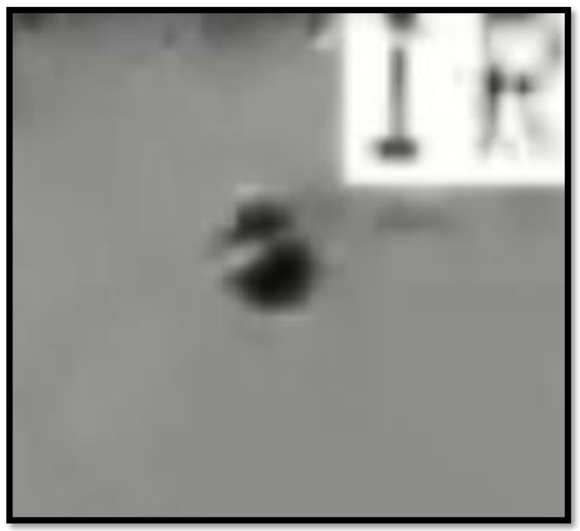
THE PUERTO RICO OBJECT

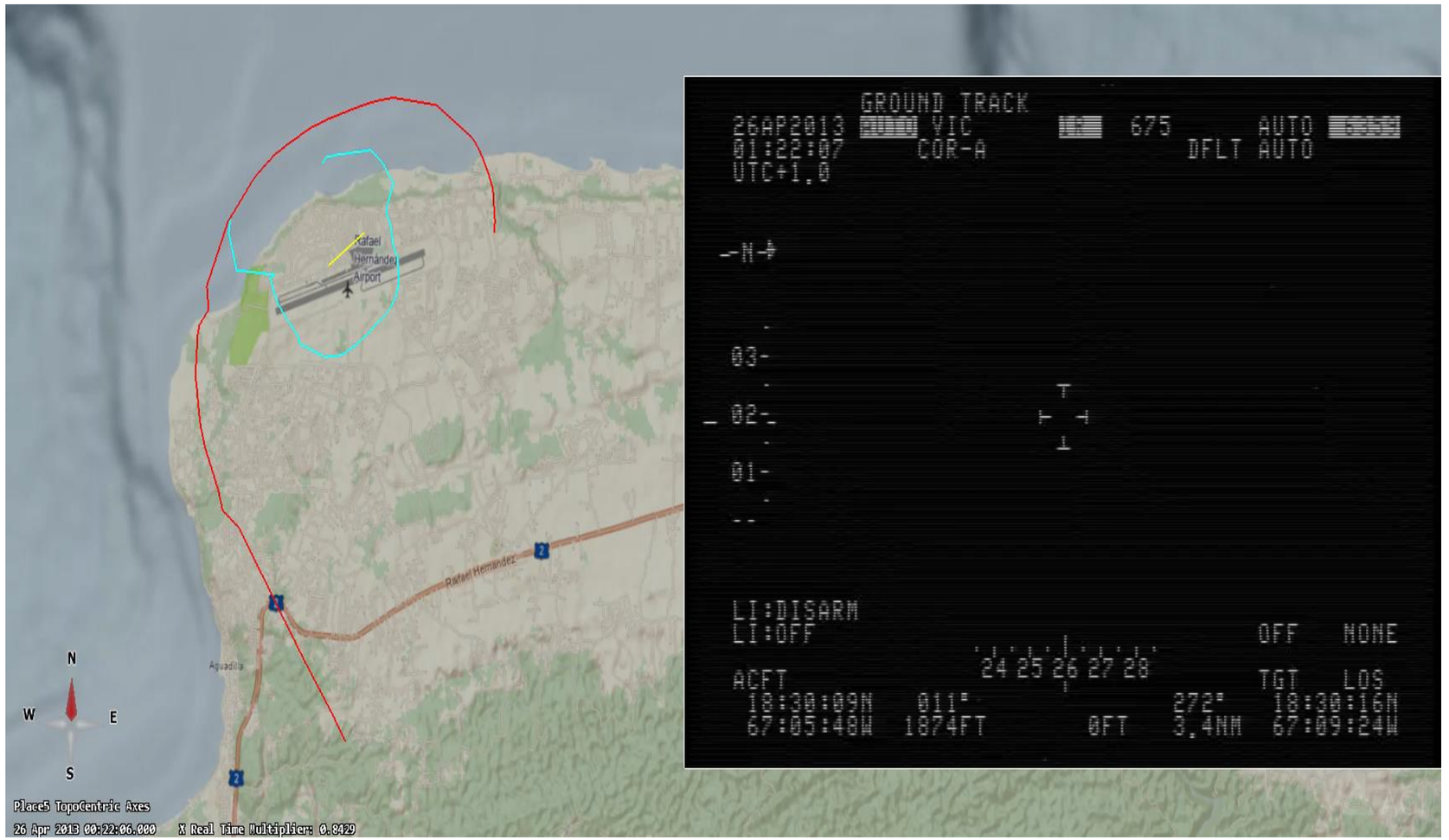
- **Event:** On April 26, 2013, a U.S. Customs and Border Protection (USCBP) aircraft recorded infrared (IR) video of a potential unidentified anomalous phenomenon (UAP) over Puerto Rico's Rafael Hernandez Airport. The video appears to show an object traveling at high speed, splitting into two objects, and entering and exiting the water. The object was deemed anomalous based on these initial perceptions.
- **Findings:** AARO, in coordination with Intelligence Community (IC) and Science and Technology (S&T) partners assess with high confidence that the UAP did not demonstrate any anomalous speeds or flight characteristics.
- Two distinct objects were airborne in proximity to each other, rather than a single object splitting into two.
- Modeling and Minimum Separation Vectors analysis indicates the illusion of splitting was likely due to the changing angle of sensor view allowing only intermittent views of both objects.
- The perception of high speed was attributed to motion parallax.
- Reconstruction confirmed the objects traveled at wind speed in a straight line over land during the entire observation period, never entering the water.



THE PUERTO RICO OBJECT

- **Analytic Factors:** Perception of objects' fading in and out due to Thermal Crossover.
- Trajectory reconstruction shows the objects traveled southwest in a straight line at a consistent speed of ≈3.6 meters per second while slowly descending to ≈200 meters.
- Winds were 7 knots (3.6 m/s) out of the east-northeast. Cloud cover was approximately 50 percent, with scattered clouds at 914 meters (3000 feet).





Vector analysis is used to plot the line of sight of the sensor as a function of time. Using a closest-approach method, a track of the object can be estimated

GO FAST

- **Event:** In January 2016, U.S. Navy aircraft recorded an object appearing to travel at high speeds close to the ocean surface off Florida's east coast.

- **Findings:** Following in-depth computational analysis of Navy aircraft's flight characteristics and sensor readings, AARO, in coordination with S&T partners, assesses with high confidence the UAP did not demonstrate any anomalous speeds or flight characteristics.

- **Analytic Factors:** The UAP's altitude is assessed with high confidence as approximately 13,000 feet above sea level at a calculated velocity of approximately 45 mph / 39 knots.
  - Analysis of contemporaneous weather patterns in the area at the time of event indicate winds were approximately 60 knots at 13,000 feet

- Analysis of its flight path in relation to the Navy aircraft revealed the object maintained a relatively straight, slightly rising trajectory with a slow, curving descent near the end of the analyzed video.
  - High confidence analysis of the UAP's exact position was not possible given a lack of precise positional data from the observing Navy aircraft.

* Video released by DoD in 2017

MT. ETNA OBJECT

- **Event:** In 2018, a U.S. UAV flying over the Mediterranean Sea observed an eruption by Italy's Mt. Etna, capturing video of a potential UAP seemingly passing through the volcano's plume with no apparent impact to its performance, altitude and bearing.

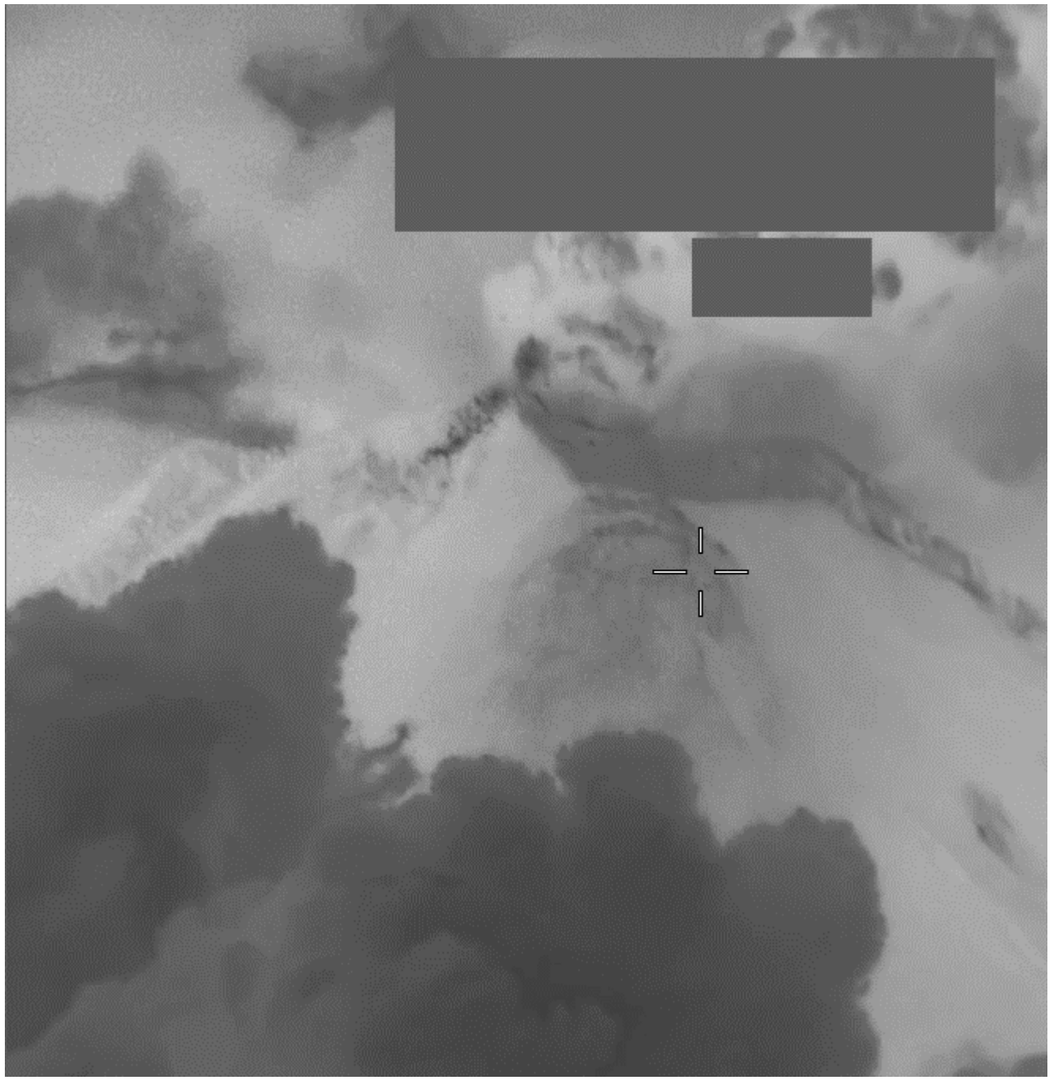
- **Findings:** AARO, in coordination with IC and S&T partners, assesses with moderate confidence that the object was a balloon drifting with the wind approximately 170 kilometers from the volcano.

- **Analytic Factors:** Coordinated analysis employed full-motion video analysis software, 3D modeling, pixel examination — as well as novel speed and distance calculation techniques — to reach this conclusion.

- The estimated distance between the UAP and the UAV is based on weather analysis of the cloud deck and wind speeds.

- AARO and its partners disproved the object flew through the ash plume by conducting an analysis of the luminosity of the object's pixels in relation to a sample range of pixels immediately around it.

- To validate the estimated UAP speed and bearing, 3D modeling and wind calculations were used to estimate the UAP's location when the UAV operator lost sight of it. Subsequent video analysis found faint tones of the UAP where the modeling assessed it would traverse, further validating the findings.



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