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OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE  
THE DEPARTMENT OF DEFENSE

**Fiscal Year 2023 Consolidated Annual Report on**

**Unidentified Anomalous Phenomena**

**October 2023**

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## Table of Contents

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I. EXECUTIVE SUMMARY .....	2
II. SCOPE AND ASSUMPTIONS .....	4
III. UAP REPORTING IS INCREASING ACROSS THE USG, AND THE IMPLEMENTATION OF IMPROVED ANALYTIC PROCESSES IS REVEALING TRENDS	5
A. Overall Trend Analysis .....	5
B. Geographic and Safety Trends Coming into Focus.....	5
C. Increased FAA Reporting Shifting Geographic Collection Bias and Morphology Trend .....	8
D. No Health/Physiological Impacts from UAP Incidents Reported.....	8
E. Data and Intelligence Sources Received Through Various Intelligence Channels .....	8
IV. AARO PROGRAM UPDATES .....	8
A. Analytic Division .....	8
B. Operations and Collections Division.....	9
C. Science and Technology (S&T) Division.....	9
D. Strategic Communications Division.....	9
V. WAY FORWARD .....	10
VI. APPENDICES .....	11
Appendix A: Case Closure Report .....	11
Appendix B: Glossary of Terms.....	14

## I. EXECUTIVE SUMMARY

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This report is provided by the Department of Defense (DoD) and the Office of the Director of National Intelligence (ODNI) in response to a requirement established in the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2022, Section 1683 (h), as amended by Section 6802(k) of the FY 2023 NDAA (as codified at 50 U.S.C. § 3373).

The report covers unidentified anomalous phenomena (UAP) reports from 31 August 2022 to 30 April 2023, and all UAP reports from any previous time periods that were not included in an earlier report. The All-domain Anomaly Resolution Office (AARO) received a total of 291 UAP reports during this period, consisting of 274 that occurred during this period and another 17 that occurred during previous reporting periods from 2019–2022, but had not been conveyed in previous submissions.

Reporting from this period continues to depict a strong but shifting collection bias. Most reports still reflect a bias towards restricted military airspace, a result of reporting from military personnel and sensors present in such areas. This bias has been lessened by reporting from commercial pilots showing a more diverse geographic distribution of UAP sightings across the United States. However, these reports mostly cover observations over U.S. airspace and littoral waters, and therefore, as these reports continue to come in, a U.S.-centric collection bias will grow significantly relative to the rest of the world.

During the reporting period, AARO received no reports indicating UAP sightings have been associated with any adverse health effects. However, many reports from military witnesses do present potential safety of flight concerns, and there are some cases where reported UAP have potentially exhibited one or more concerning performance characteristics such as high-speed travel or unusual maneuverability. AARO has de-conflicted these cases with potential U.S. programs and continues to work closely with its DoD and Intelligence Community (IC) mission partners to identify and attribute any objects found in these cases. Additionally, AARO continues to investigate and research all cases in its holdings.

While the mere presence of UAP in the airspace represents a potential hazard to flight safety, none of these reports suggest the UAP maneuvered to an unsafe proximity to civil or military aircraft, positioned themselves in flight paths, or otherwise posed a direct threat to the flight safety of the observing aircraft. Although none of these UAP reports have been positively attributed to foreign activities, these cases continue to be investigated.

AARO continues to make progress receiving, standardizing, analyzing, and resolving reports of UAP; working with military and technical partners to improve sensor placement and calibration to better collect against UAP; to elevate the quality of reporting; and to provide risk reduction for improved domain awareness.

While this progress is facilitating collection and analysis of the UAP problem set, the continued volume and unidentified nature of most UAP is a direct consequence of gaps in domain awareness. These gaps are the direct result of insufficient data secured by radar, electro-optical (EO)/infrared (IR) sensors; the presence of sensor artifacts, such as IR flare; and optical

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effects, such as parallax, that can cause observational misperceptions. Based on the ability to resolve cases to date, with an increase in the quality of data secured, the unidentified and purported anomalous nature of most UAP will likely resolve to ordinary phenomena and significantly reduce the amount of UAP case submissions.

## II. SCOPE AND ASSUMPTIONS

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### Scope

This consolidated annual report is provided by DoD and ODNI in response to a requirement established in the NDAA for FY 2022, Section 1683(h), as amended by Section 6802(k) of the FY 2023 NDAA (as codified at 50 U.S.C. § 3373), which states: “Not later than 180 days after the date of the enactment of the Intelligence Authorization Act for Fiscal Year 2023, and annually thereafter for four years, the Director of National Intelligence and the Secretary of Defense shall jointly submit to the appropriate congressional committees a report on unidentified anomalous phenomena.”

This report was drafted by AARO and ODNI’s National Intelligence Manager for Military Integration (NIM-MIL) and coordinated with the Under Secretary of Defense for Intelligence and Security; the Office of the Assistant Secretary of Defense for Homeland Defense and Hemispheric Affairs; the Office of the Principal Deputy Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs; the Office of the Deputy Assistant Secretary of Defense for Nuclear Matters; the Office of the General Counsel of the DoD; the Office of the Assistant to the Secretary of Defense for Public Affairs; ODNI’s NIM-Economic Security and Emerging Technology; ODNI’s National Counterintelligence and Security Center; ODNI’s National Intelligence Council; the Department of Energy; the Nuclear Regulatory Commission; the National Aeronautics and Space Administration (NASA); the National Security Agency; the Defense Intelligence Agency; the National Geospatial-Intelligence Agency; the DoD Joint Staff; the National Ground Intelligence Center; the Missile and Space Intelligence Center; the Office of Naval Intelligence/National Maritime Intelligence Center; the Federal Bureau of Investigation; the Federal Aviation Administration (FAA); the National Reconnaissance Office (NRO); the National Oceanographic and Atmospheric Administration; the Air Force Research Laboratory (AFRL); the National Air and Space Intelligence Center (NASIC); the Oak Ridge National Laboratory; the Naval Criminal Investigative Service; the U.S. Army; the U.S. Navy (USN); the U.S. Marine Corps; the U.S. Air Force (USAF); and the U.S. Space Force (USSF).

### Assumptions

The assumptions inherent in this mission set remain the same as outlined in the previous report, which is that a wide range of factors can influence the observation and detection of UAP, observers convey their accurate recollection of their perception of the event, and that sensors generally operate correctly. However, AARO and NIM-MIL recognize that many reports are probably the result of sensor artifacts, equipment error, misidentification, or misperception.

### **III. UAP REPORTING IS INCREASING ACROSS THE U.S. GOVERNMENT (USG), AND THE IMPLEMENTATION OF IMPROVED ANALYTIC PROCESSES IS REVEALING TRENDS**

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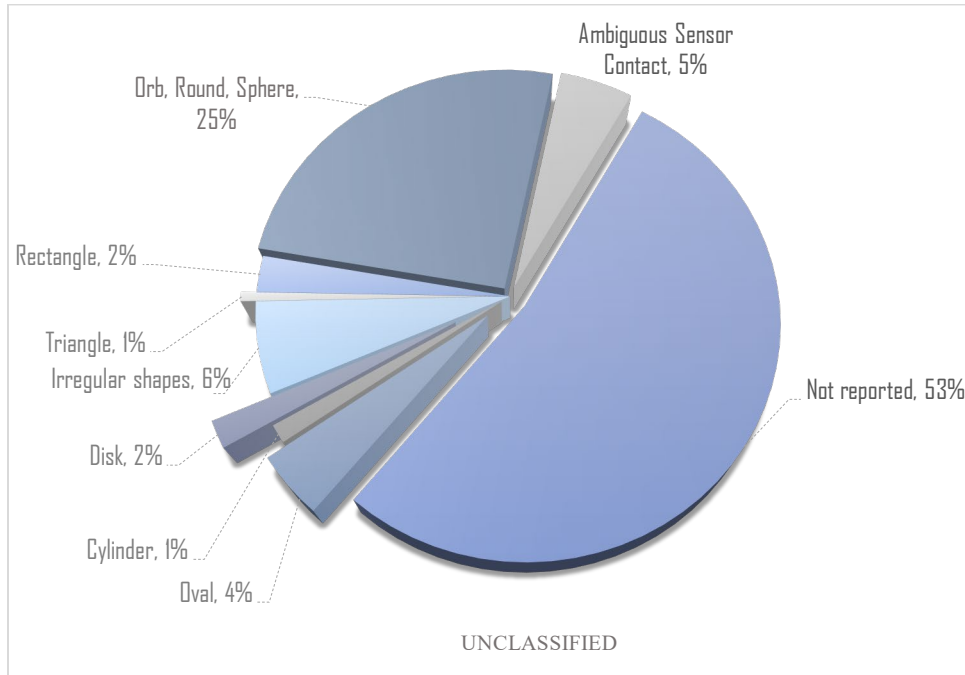
#### **A. Overall Trend Analysis**

The report covers UAP reports from August 31, 2022, to 30 April 2023, and all UAP reports from any previous time periods that were not included in an earlier report. AARO received a total of 291 UAP reports during this period, consisting of 274 that occurred during this period and another 17 that occurred during previous reporting periods from 2019-2022 but had not been conveyed in previous submissions. Of these reports, 290 occurred within the air domain and one in the maritime domain. No transmedium or space domain UAP reports were submitted to AARO. The increase in reporting is, in part, due to deepening federal relationships and AARO's ability to incorporate new reports into its adjudication and research process. UAP mission partners continue to coordinate, collaborate, and streamline processes. With these new reports, as of April 30, 2023, AARO has received a total of 801 UAP reports.

#### **B. Geographic and Safety Trends Coming into Focus**

Reporting from this period continues to depict a strong but shifting collection bias. Most reports still reflect a bias towards restricted military airspace, a result of reporting from military personnel and sensors present in such areas. This bias has been lessened by reporting from commercial pilots showing a more diverse geographic distribution of UAP sightings across the United States. However, these reports mostly cover observations over U.S. airspace and littoral waters, and therefore, as these reports continue to come in, a U.S.-centric collection bias will grow significantly relative to the rest of the world.

**Figure 1: Reported UAP Morphologies FY 2023**



**Figure 2: Reported Lights FY 2023**

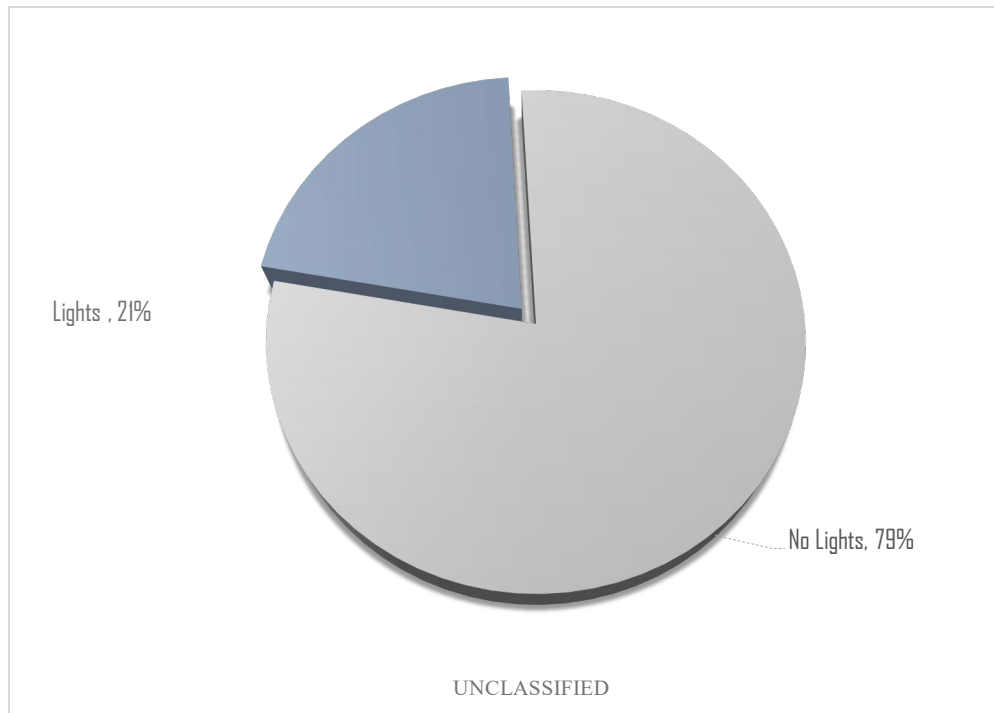


Figure 3: Reported UAP Altitudes FY 2023

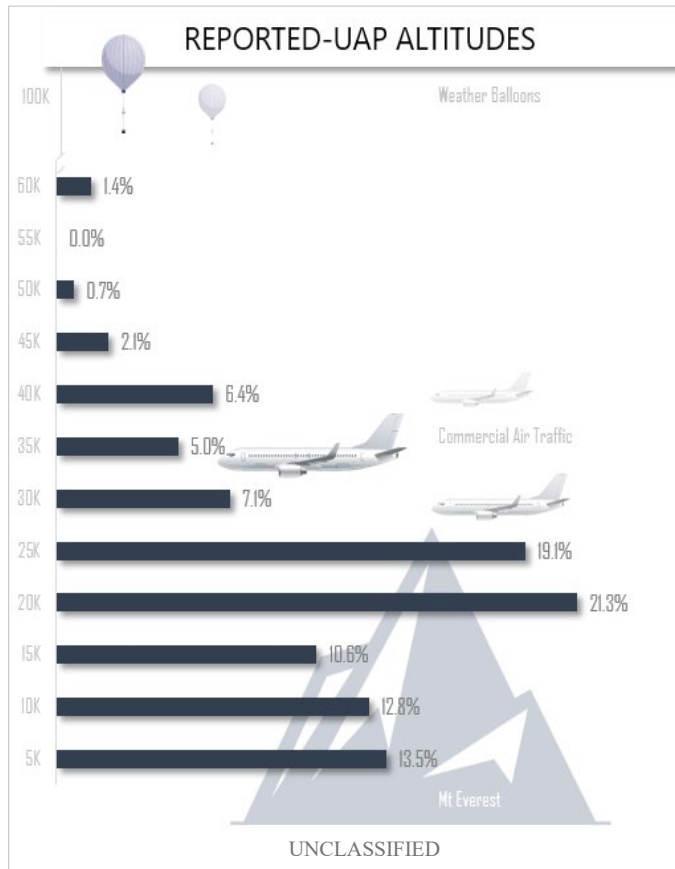
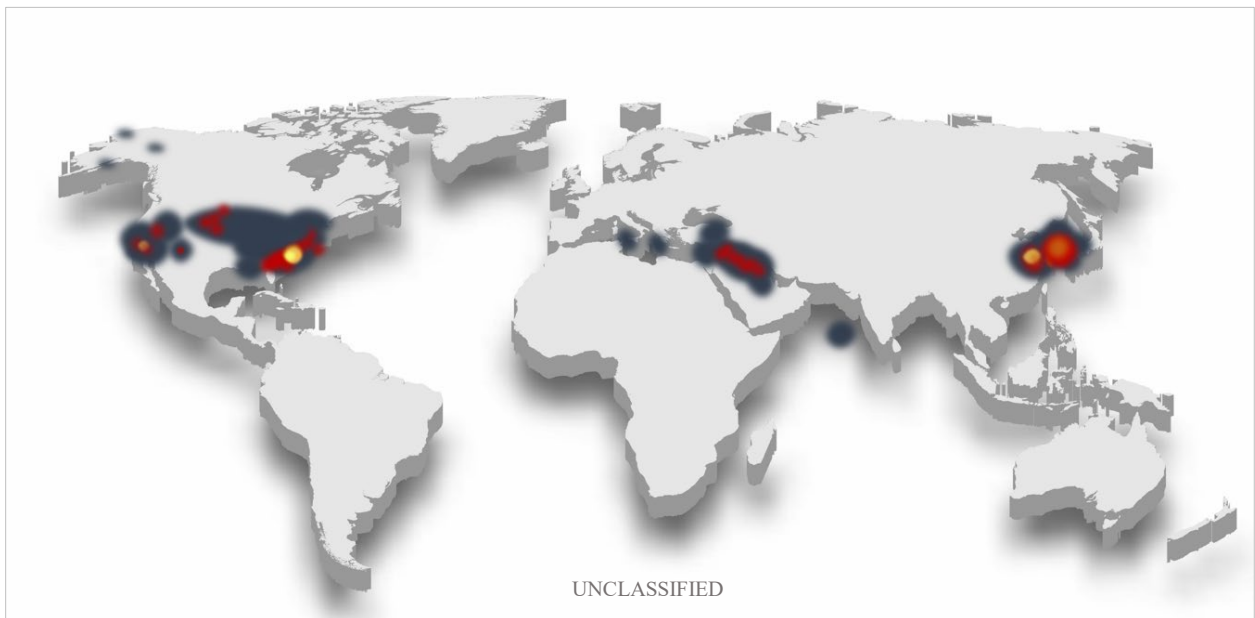


Figure 4: World Map Illustrating Geographic Distribution of UAP Reports FY 2023





### **C. Increased FAA Reporting Shifting Geographic Collection Bias and Morphology Trend**

AARO has received over 100 UAP incident reports from FAA that contribute to the trend analysis of activity over the United States and its adjacent waters. Of the incident reports FAA has shared with AARO, the vast majority concern sightings of unidentified lights without specific shape at widely varying estimated altitudes (from less than 5,000 feet up to 60,000 feet). None of these reports suggest the UAP were exhibiting anomalous characteristics, maneuvered to an unsafe proximity to civil aircraft, or posed a threat to flight safety to the observing aircraft. AARO will continue to add these reports, as appropriate, to the active archive where they will be used in the overall trend analysis.

### **D. No Health/Physiological Impacts from UAP Incidents Reported**

To date, no encounters with UAP have been confirmed to have directly contributed to adverse health-related effects to the observer(s). ODNI and DoD acknowledge that health-related effects may appear at any time after an event occurs, therefore any reported health implications related to UAP will be tracked and examined if and when they emerge.

### **E. Data and Intelligence Sources Received Through Various Intelligence Channels**

AARO's new integrated analysis process ensures that raw intelligence related to UAP from various intelligence disciplines are assimilated into all-source data packages analyzed by teams of scientists and intelligence analysts. AARO's analysts scour multiple classified and unclassified databases to identify any existing data on each UAP case, prioritizing technical sensor information that yields the highest quantity of pertinent, valuable data for review. As the office employs more sensors specifically tailored for UAP detection, the amount and variety of technical data produced will increase, facilitating more and better analytic fidelity.

## **IV. AARO PROGRAM UPDATES**

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### **A. Analytic Division**

AARO's analytic efforts are confirming that only a very small percentage of UAP reports display interesting signatures, such as high-speed travel and unknown morphologies. The majority of unidentified objects reported to AARO demonstrate ordinary characteristics of readily explainable sources, while a large number of cases in AARO's holdings remain technically unresolved because of a lack of data. Without sufficient data these cases cannot be resolved. For the few objects that do demonstrate characteristics of interest, AARO is approaching these cases with objectivity and analytic rigor. This approach includes physical testing and employing modeling and simulation to validate analyses and the underlying theories, and then peer reviewing those results before reaching any conclusions.

## **B. Operations and Collections Division**

During the period of reporting, AARO, in close collaboration with the Joint Staff and other DoD components, further normalized UAP operations, led development of reporting standards; informed acquisition of mission-specific sensors; and guided integration of UAP detection, identification, and mitigation efforts. Improving the quality of data from DoD sources is important, since up to this point, most UAP cases have been derived from DoD mission reports and are representative of observations in the Department's operating, training, and testing areas.

## **C. Science and Technology Division**

In accordance with the FY 2022 NDAA, Section 1683(g), as amended by the FY 2023 NDAA, Section 6802, AARO has established a multilayered science and technology (S&T) plan that incorporates close partnerships with DoD Services, USG agencies, and other centers of excellence to identify systems that may assist in AARO's mission to detect, track, and characterize UAP. This plan includes a sensor calibration campaign to measure known objects that are often reported as UAP. These objects include balloons (hobbyist and commercial), unmanned aircraft systems, and natural phenomena. The resulting data are turned into models for use in pilot training and algorithm development. AARO and its mission partners have developed models of known and unknown shapes that can be used within a simulator for sensor operators. This modelling will help AARO increase its analysis and resolution of future cases as well.

## **D. Strategic Communications Division**

AARO successfully exercised its process for declassifying data and full-motion videos of UAP events for an open congressional hearing held on 21 March 2023. This process is a complicated, synchronized effort that involves various stakeholders and information owners with differing processes. AARO is working to standardize and routinize this declassification process to ensure as much transparency as possible.

AARO has launched a public-facing website that shares information about its mission, operations, UAP analytic trends and statistics, and declassified UAP data and footage. The website will also link to AARO's secure mechanism for authorized reporting of UAP.

AARO has established classified collaboration mechanisms to encourage cooperation on UAP investigation and research among government agencies.

## V. WAY FORWARD

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**The space and maritime domains need to be fully integrated into AARO's processes.** Airborne UAP continue to dominate UAP reporting with 290 of the 291 reports from this reporting period occurring within this domain and, consequently, the relationship between AARO and air domain elements such as NIM-MIL, the USAF, including NASIC and AFRL, and air command elements remains strong and continues to deepen and expand in terms of collection, analysis, exploitation, and resolution. Collaboration with Space Force, U.S. Space Command, NRO, and NASA is well underway.

Integration of the maritime domain is another area where AARO will seek to make significant progress in the coming year. AARO will work with the U.S. Navy and NIM-MIL to ensure timely and quality reporting via existing reporting mechanisms, and begin conducting research on sensor calibration relevant to the maritime domain.

**Mitigating reporting bias and increasing reporting quality.** To further mitigate the inherent collection bias and to develop more comprehensive domain awareness, AARO and NIM-MIL are strengthening targeted collection by the IC. This partnership will help organizations focus on the information they should be seeking from UAP observers to provide valuable, complete reporting for subsequent analysis by AARO and its partners.

## **VI. APPENDICES**

### **APPENDIX A: CASE CLOSURE REPORT**

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Attached is a pilot example of the result of AARO's full-phase analytic process. The files and accompanying data in each case have been given to AARO's IC and S&T partners for their analysis, and this resolution report reflects AARO's determination based on the results. These case resolutions and accompanying unclassified analyses will be published on AARO's website.

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## All-Domain Anomaly Resolution Office

US Department of Defense



### Case: "Western United States"

Case Resolution | 8 May 2023

#### (U) Key Findings

(U) AARO assesses that the UAP in this case were almost certainly commercial aircraft travelling on well-established air corridors as far as 300 nautical miles from the platform, based on a thorough review of the data by multiple analytical and scientific entities.

- (U) Military personnel reported seeing five equidistant lights that they believed represented a potential incursion into restricted military airspace.
- (U) AARO's Intelligence and Science and Technology (S&T) partners independently came to the same conclusion in accordance with AARO's analytic framework.
- (U) The objects strongly correlated with specific commercial aircraft travelling on different air routes up to 300 nautical miles from the sensor.

#### (U) Intelligence Assessment

(U) Analysis of the objects' positions and acquisition of additional data led AARO to the conclusion that the objects were significantly farther from the platform than originally estimated by the observers.

#### (U) Case Essentials

(U) Military personnel reported this case due to the observed UAP presenting a potential incursion into restricted airspace. The UAP were described as equidistant lights that flew at a relatively constant pace

**(U) Location:** Western United States military airspace

**(U) Date(s):** 2021

**(U) Altitude:** Between 20,000 to 40,000 feet

**(U) Shape:** Oblong dots/lights

**(U) Reporter:** Military personnel

**(U) Sensor:** Infrared (IR)

**(U) Behavior:** Equidistant lights that flew at a relatively constant pace

**(U) Case Status:** Resolved; the lights were aircraft up to 300NM away from the sensor

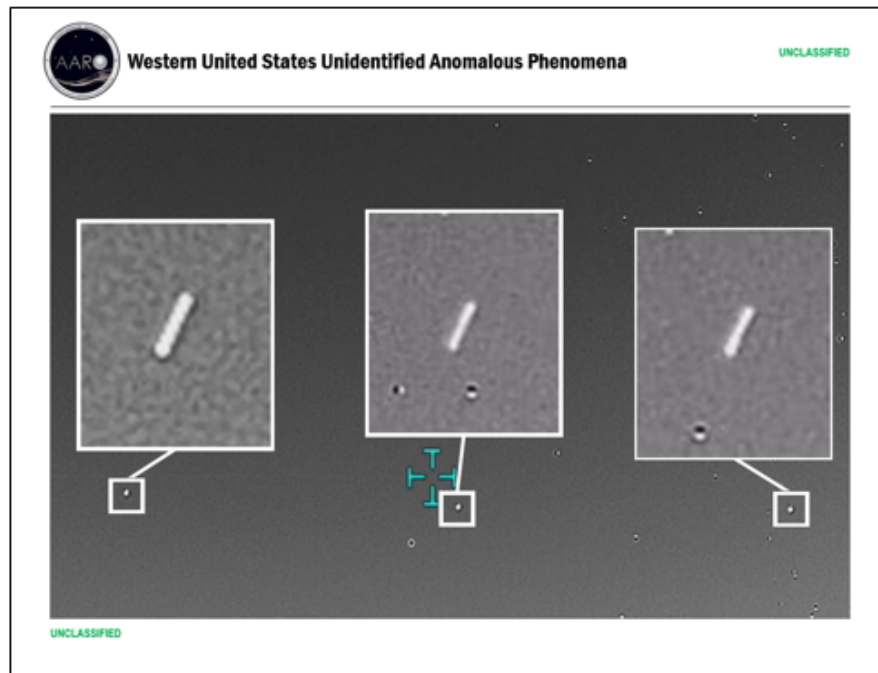
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- (U) Analysis of air-traffic control data suggested the objects were likely commercial aircraft transiting known flight corridors between major airports in the region.

**(U) Science & Technology Assessment**

(U) AARO's S&T partners independently came to the same conclusion.

- (U) AARO's S&T partners used boresight analysis to determine that the UAP were commercial aircraft at an altitude of between 20,000 to 40,000 feet at a similar distance.



(U) Figure 1: Western U.S. UAP shape distorted due to sensor vibration.

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**APPENDIX B: GLOSSARY OF TERMS**

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**Unidentified Anomalous Phenomenon (UAP):** Sources of anomalous detections in one or more domain (i.e., airborne, seaborne, spaceborne, and/or transmedium) that are not yet attributable to known actors and that demonstrate behaviors that are not readily understood by sensors or observers. “Anomalous detections” include but are not limited to phenomena that demonstrate apparent capabilities or material that exceed known performance envelopes. A UAP may consist of one or more unidentified anomalous objects and may persist over an extended period of time.

**Spaceborne UAP:** Sources of anomalous detections above the Karman Line (i.e., 100 km above Earth's mean sea level).

**Airborne UAP:** Sources of anomalous detections between Earth’s mean sea level and the Karman Line.

**Seaborne UAP:** Sources of anomalous detections at or below Earth’s mean sea level within a body of water.

**Transmedium UAP:** Sources of anomalous detections that transit more than one domain.

**UAP Objects and Material:** Corporeal artifacts of UAP. UAP may contain one or more UAP objects (e.g., airborne craft exhibiting apparent anomalous capabilities). UAP material are samples, in whole or in part, of UAP objects (e.g., debris).

**UAP Data:** Any records of UAP detection, observation, identification, effects (on persons or equipment), mitigation, and material-exploitation. UAP data includes but is not limited to written notes, still and full-motion photographs, audio recordings, full-/ partial- spectrum characterization, and digital record from observers, sensors, platforms, debriefers, and investigators.

**UAP Incident:** Any occurrence where UAP is detected by persons or sensors.

**UAP Incursion:** Any UAP incident in, on, or near U.S. military installations, operating areas, training areas, special use airspace, proximity operations, and/or other national security areas of interest. Other areas of interest include but are not limited to U.S. critical infrastructure, IC installations and platforms, and national defense equities of Allied military and intelligence coalitions (e.g., Five Eyes).

**UAP Engagement:** Bringing UAP under kinetic or non-kinetic fire, to deny, disrupt, or destroy the phenomenon and/or its object(s).

**UAP Interrogation:** The elicitation of UAP location, capabilities, characteristics, and/or intent using passive and/or active sensing capabilities-including but not limited to electro-optical/imagery, infrared/thermal, radiofrequency/radar, light/laser/lidar/ladar, electromagnetic, gravitational, and radioactive means.

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**UAP Attribution:** The assessed natural or artificial source of the phenomenon and includes solar, weather, tidal events; U.S. Government, scientific, industry, and private activities; and foreign (allied or adversary) government, scientific, industry, and private activities.

**UAP Risk:** A safety hazard to persons, materiel, or information (e.g., from collision).

**UAP Threat:** A force-protection and/or national- security threat to persons, materiel, or information by UAP that demonstrate hostile intent.