

ALL-DOMAIN ANOMALY RESOLUTION OFFICE

The US Department of Defense & the UAP Mission

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CLEARED
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Department of Defense

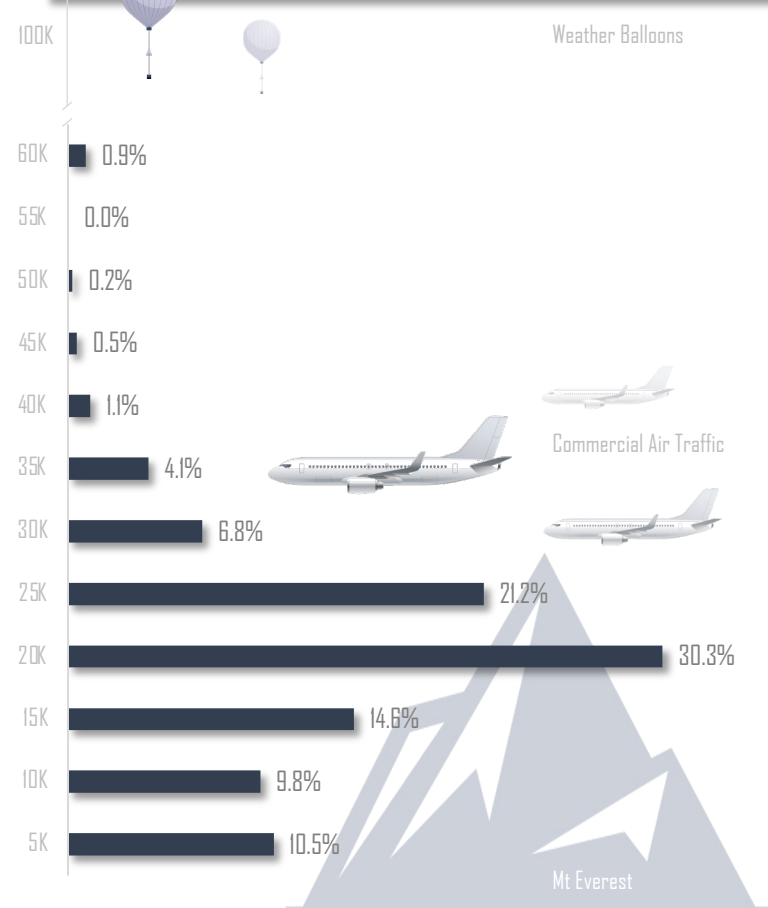
US Department of Defense



UAP Reporting Trends

1996-2023

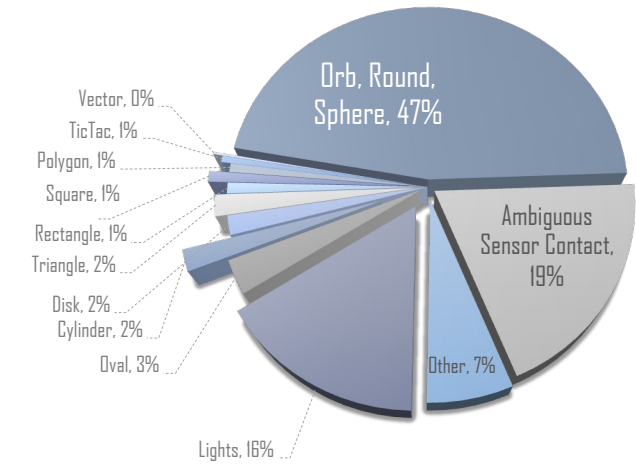
REPORTED-UAP ALTITUDES



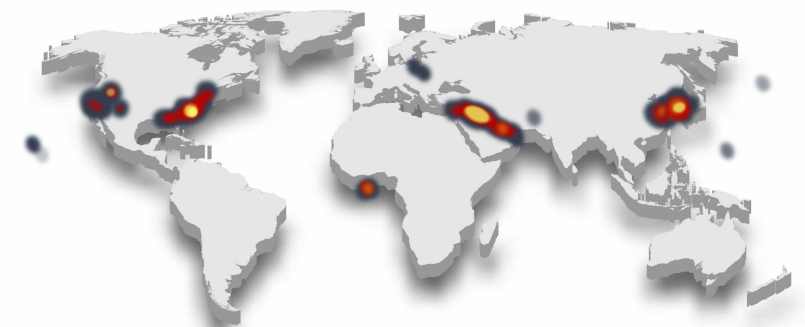
TYPICALLY-REPORTED UAP CHARACTERISTICS

Appearance	Morphology	Round, Atypical Orientation
	Size	1-4 meters
	Color	White, Silver, Translucent
Performance	Altitude	10K – 30K feet
	Velocity	Stationary to Mach 2
	Propulsion	No thermal exhaust detected
Signatures	Radar	Intermittent, X-Band (8-12 GHz)
	Radio	1-3 GHz, 8-12 GHz
	Thermal	Intermittent, Shortwave Infrared, Medium-Wave Infrared

REPORTED UAP-MORPHOLOGY



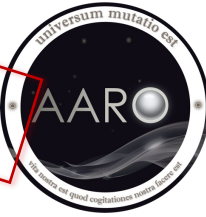
REPORTED-UAP HOTSPOTS





Middle East, 2022: MQ-9 observed apparent spherical UAP via electro-optical sensors

UNRESOLVED,
ACTIVE-ARCHIVE



CHARACTERISTICS

PERFORMANCE

SIGNATURES

BEHAVIOR

EFFECTS

- UAP characteristics and behavior consistent with other “metallic orb” observations in the region
- No demonstration of enigmatic technical capabilities and no apparent threat to airborne-asset safety

- Case in “**active archive**,” pending discovery of additional data
- AARO uses active-archive cases for trend and statistical analyses



Middle East UAP, unresolved (U)



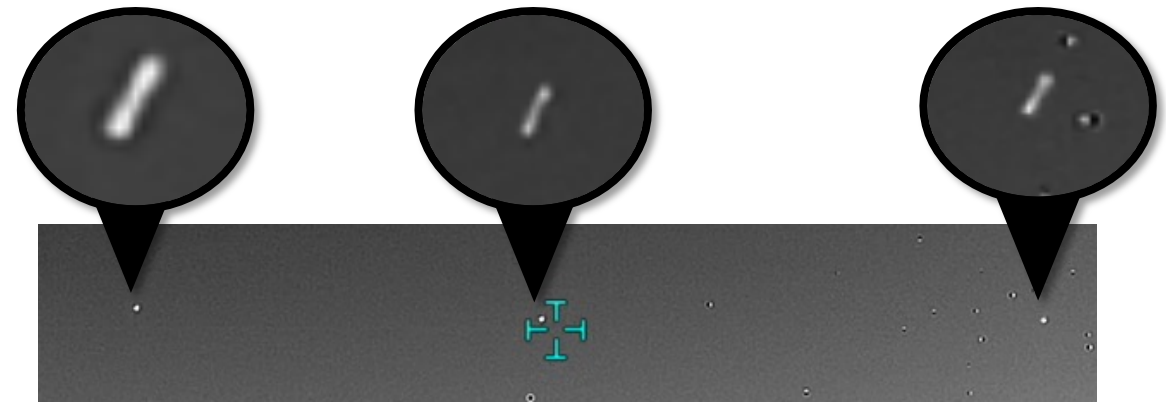
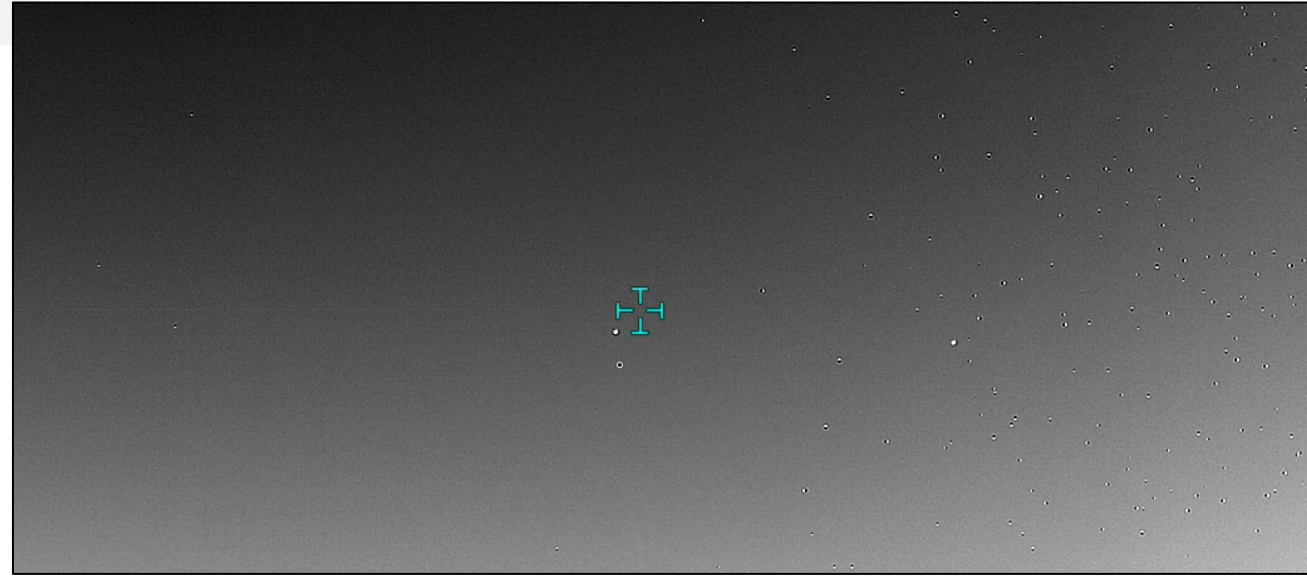
Western United States: P-3 on training mission observed several equidistant UAP that it was unable to intercept

RESOLVED



CHARACTERISTICS	PERFORMANCE	SIGNATURES	BEHAVIOR	EFFECTS
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- Three UAP objects observed, apparently flying at high velocity
- Observing craft pursued but was unable to intercept
- Analyses of object geospatial positioning conclude the objects were significantly farther from the observer than originally estimated
- Apparent morphology changes result of sensor autofocus
- Analyses of air-traffic control data suggest objects likely **commercial aircraft** transiting known flight paths to/from major airports in the region
- Analyses being validated by AARO's scientific partners



Western-US UAP, likely commercial airliners and video autofocus effect (U)

AARO S&T Research



- Assessing existing sensors against typical UAP object
 - . Commercial
 - . Civil
 - . NASA
- Augment with dedicated sensors for typical UAP object
- Partnerships with Academia
 - . Exploring signatures to match data
 - . Statistical analytic techniques
 - . AI/ML analytic techniques
- Partnerships with labs to explore SOA fundamental physics of UAP observations, both current and historical reporting
- Interagency and Allied partnerships for calibration of U.S. and Allied capabilities
- Pattern of life analysis provides location prioritization for new collection



Sensor Calibration (illustrative)

	Naturally Occurring Object	Balloons	Drones	Projectiles
EO	X	X	X	
IR	X	X		X
Radar			X	X

Recommendations for NASA



Expanding NASA/AARO relationship with the new, imbedded NASA Science Advisor

- **Unclassified crowd-sourced data following a prescribed format.** Imagery from smartphones is of limited value given the resolution of the cameras, but NASA could take lead on evaluation crowd-sourced metadata.
- **Large scale, ground based scientific instrument evaluation.** NASA could examine the efficacy of using large scale scientific instruments used in such areas as radio science, radiological detection, gravimetric, and geomagnetic measurements for UAP detection. What are the theoretical limits of detection for objects similar to the parameterized UAP target package provided by AARO?
- **Earth sciences satellites.** All NASA & NOAA earth sensing satellites and data should be reviewed relative to the parameterized UAP target. NASA could lead a M&S effort, developing representative models of UAP, and then evaluating detection capability.
- **Intentional vice coincidental collection.** NASA/NOAA can explore techniques to integrate tip and cue collection capabilities across the scientific architecture (overhead & ground based) for turning on additional collection.
- **Peer reviewed parameterization of advanced capabilities not yet engineered.** NASA could lead the elevation of the scientific discourse on what potential form of advanced flight and propulsion capabilities would take on Earth and what signatures would be presented.
- **Archived scientific anomalous data review.** NASA could review astronomical and atmospheric data holdings against the parameterized UAP target package to look for anomalous signatures
- **Distribution of sightings.** NASA could review unclassified observations of alleged UAP and generate an analogue map to AARO's classified distribution map.
- **Foreign partnerships.** NASA could begin to build a robust scientific community of interest to review data, conduct analysis, and determine the value of unclassified data sources.



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