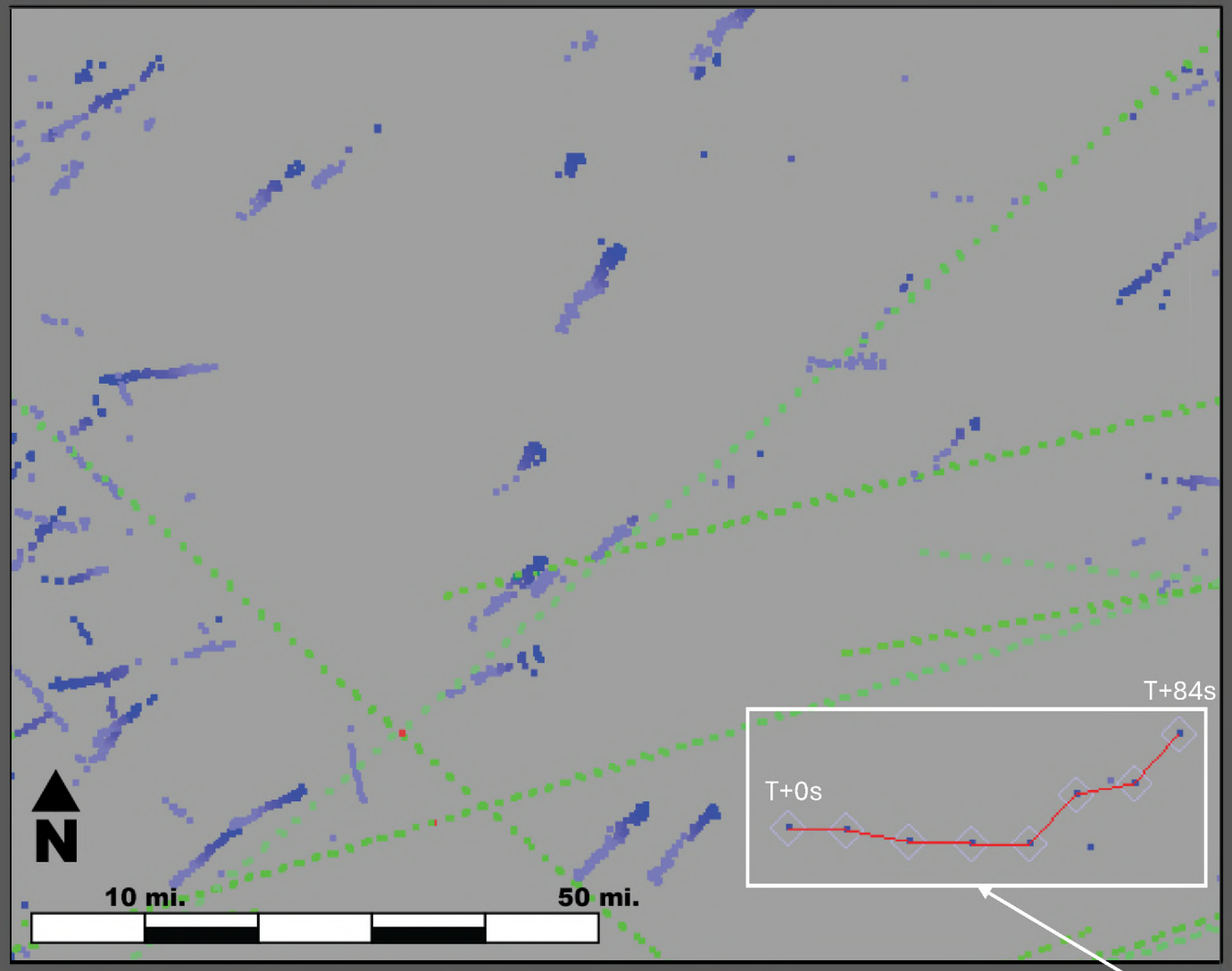
Unresolved Radar Detection, United States, 2023

Apparent supersonic kinematics* reported during an 84-second radar track



Event Summary

- In 2023, a civil air-surveillance radar system recorded eight detections over 84 seconds at an estimated altitude of 55,000–70,000 feet.
- The summed point-to-point distance between the eight detections is approximately 38.5 miles.
- If associated with a single object, 38.5 miles over 84 seconds yields a minimum mean horizontal ground-speed estimate of 1,650 mph; approximately Mach 2.5 at the reported altitude.*
- Successive point-to-point segments show an apparent 39° counter-clockwise change in bearing* after approximately 48 seconds.
- The 12-second radar sweep interval is not sufficient to independently establish that all eight reported detections originated from the same object or represent a continuous track.

Green and red points: Commercial air traffic
Blue-shaded areas: Weather data
Highlighted area: Reported detections

Red line connects detections in sequence using the shortest straight-line distance to show displacement over time; not a reconstructed trajectory.

*Apparent speed and bearing are bounded estimates derived from discontinuous detections.