

Low-Cost Situational Awareness

64th CGSIC 2024

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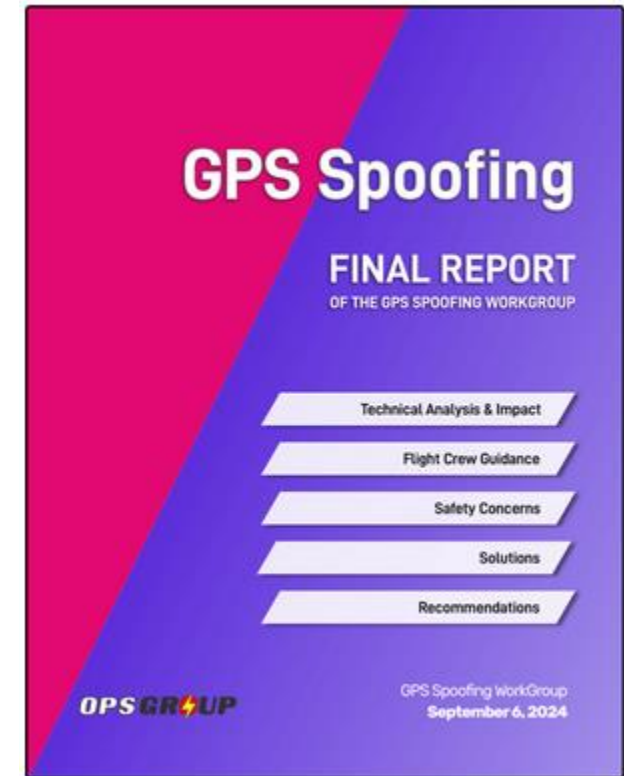
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Set the stage

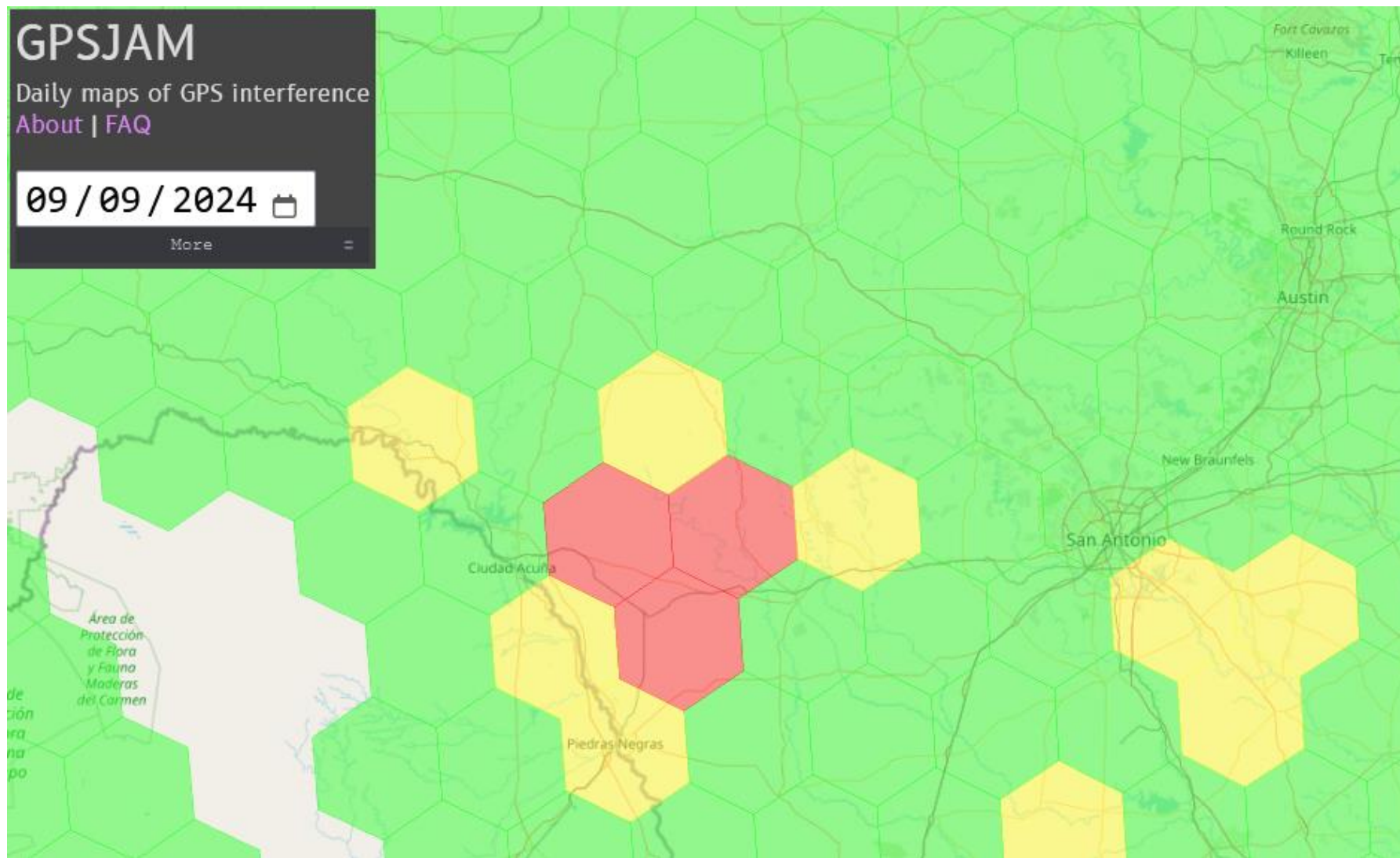
- Situational Awareness
 - Build ourselves
 - Build our community
 - Cornerstone to resilience
- Aviation and shipping industries are actively learning about GNSS interference
 - ADS-B / AIS as canaries
 - Garnering public attention
- The timing community can both leverage and help
 - Orthogonal architecture
 - Fixed locations
 - Long-term monitoring
 - Overlapping interests

OPSGROUP report

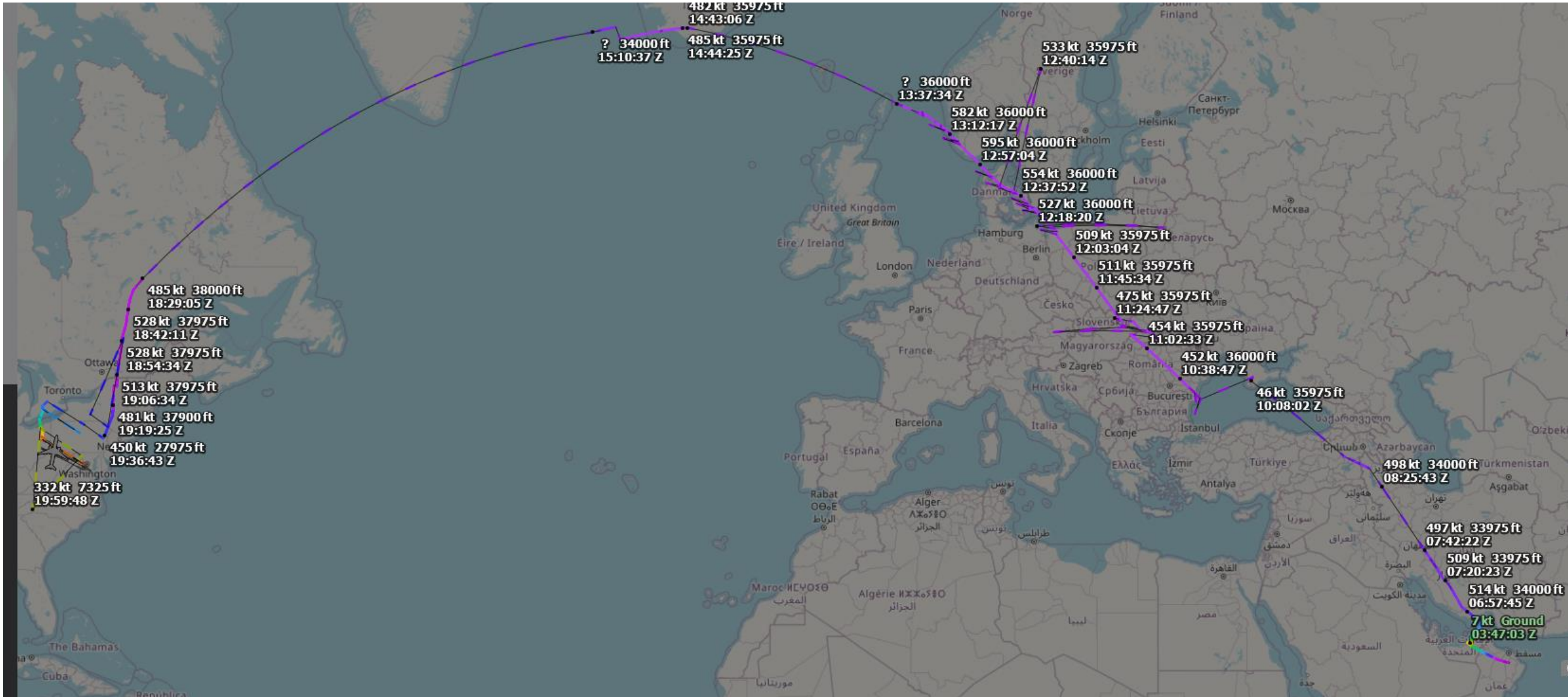
- Intentional interference is increasing
 - Spoofing 500% increase in 2024
 - Predominantly spill over from regional conflicts
 - Concern of counter drone for special events
 - Euro
 - Olympics
- Some systems do not easily recover
 - Intermittent and persistent errors
- Some systems erroneously report full recovery
 - Alternative checks
 - Manual user intervention



GPSJam.org

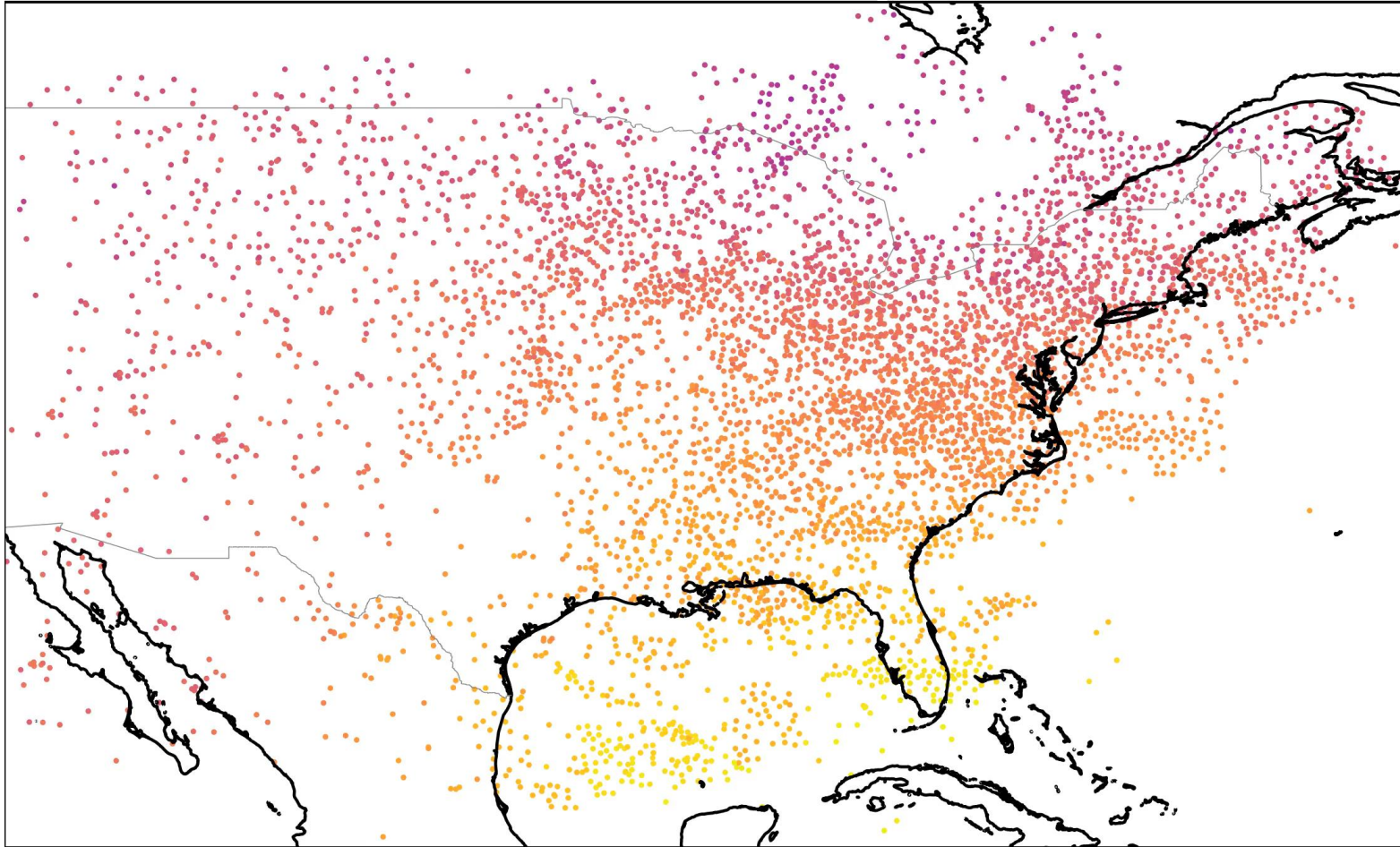


Intermittent errors in an ADS-B track

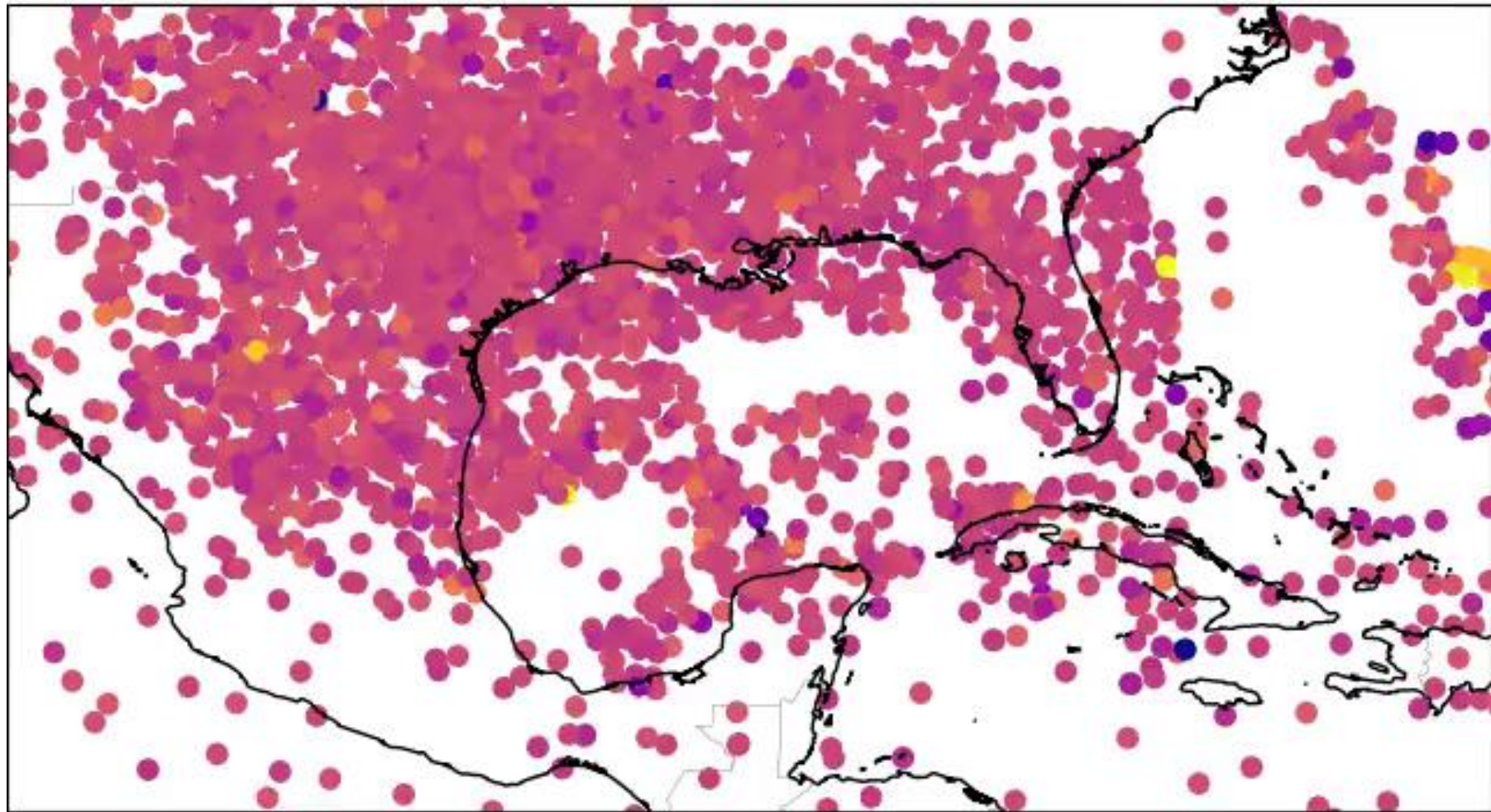


Solar Eclipse and the Ionosphere

2024-04-08 18:00:30 UTC



2023-11-18 12:30:00 UTC



Recap

- Look outside timing community for help and to help
- Situational awareness is a cornerstone to resilience

- OPSGROUP Report
 - <https://ops.group/blog/gps-spoofing-final-report/>
- GPSJam.org
- Globe.adsbexchange.com/?badgps
- @ionplotbot on X



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