



International Ocean Vector Wind Science Team Meeting  
La Jolla, CA  
2-4 May 2017



# CYGNSS Mission Update

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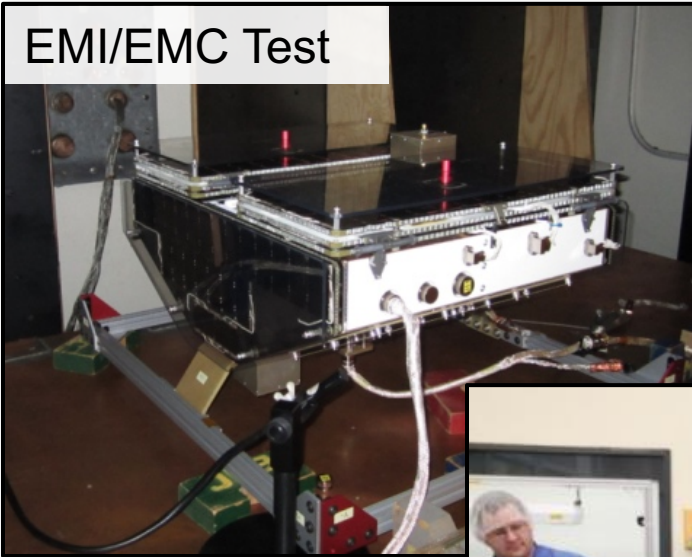
# CYGNSS Mission Science Requirement

| Rqmt # | Requirement   | Verification Status |
|--------|---|---------------------|
| 1      | 3 m/s to 70 m/s at 5 km x 5 km resolution   | <b>pending</b>      |
| 2      | Operation in presence of rain   | ✓ <b>verified</b>   |
| 3a     | 10% retrieval uncertainty for winds > 20 m/s  | <b>pending</b>      |
| 3b     | 2 m/s retrieval uncertainty for winds < 20 m/s  | <b>pending</b>      |
| 3c     | Spatial Resolution of 25 km x 25 km or better   | ✓ <b>verified</b>   |
| 4a     | 100% duty cycle during science operations   | ✓ <b>verified</b>   |
| 4b     | Mean temporal resolution less than 12 hours   | ✓ <b>verified</b>   |
| 4c     | 24 hour spatial sampling covering 70% or more of the cyclone historical track           | ✓ <b>verified</b>   |
| 5      | Calibrate and validate CYGNSS data in individual wind speed bins above and below 20 m/s | <b>pending</b>      |
| 6      | Support operational hurricane forecast community  | <b>in progress</b>  |

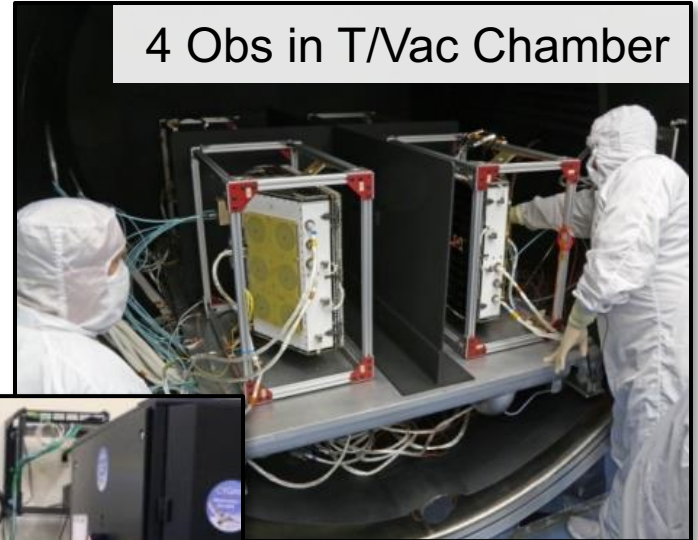


# Observatory Fabrication and Testing

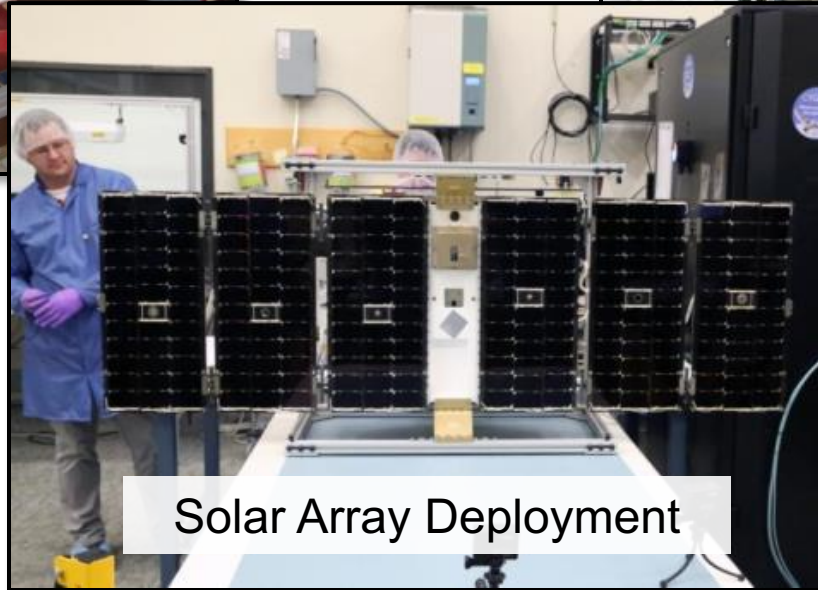
EMI/EMC Test



4 Obs in T/Vac Chamber



Solar Array Deployment



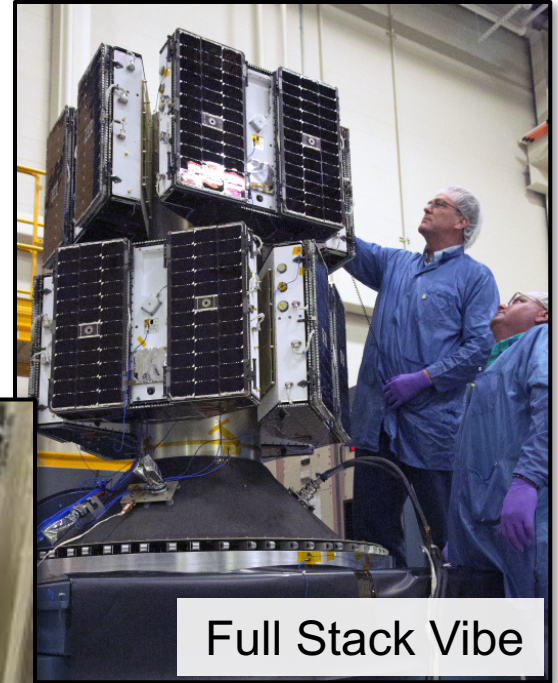


# Flight Segment Assembly and Test

Deployment Module



Launch Vehicle Integration



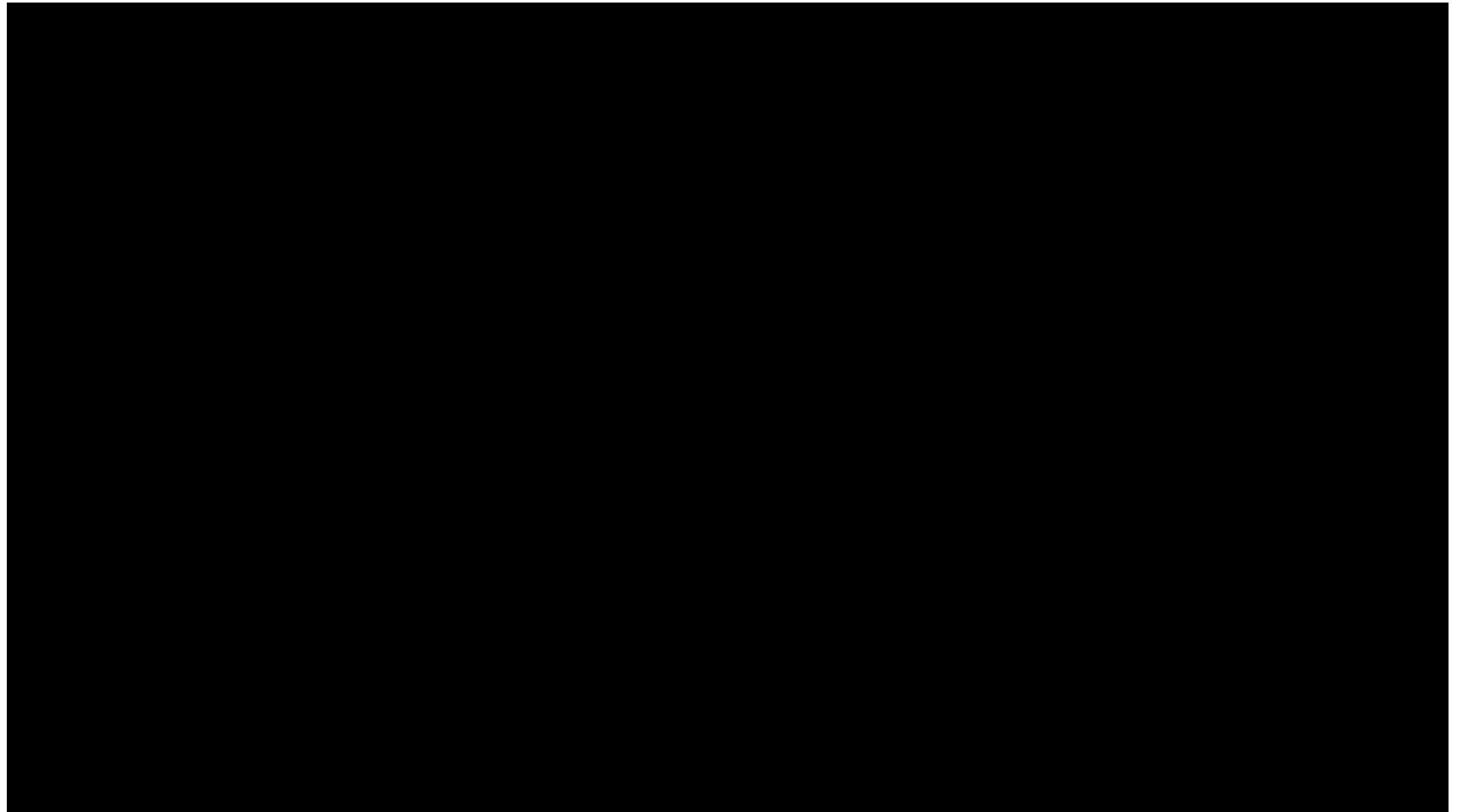
Full Stack Vibe



# CYGNSS Launch 15 Dec 2016

(air launch from L-1011 out of Cape Canaveral, Florida)

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# Observatory Separation (*simulated*)

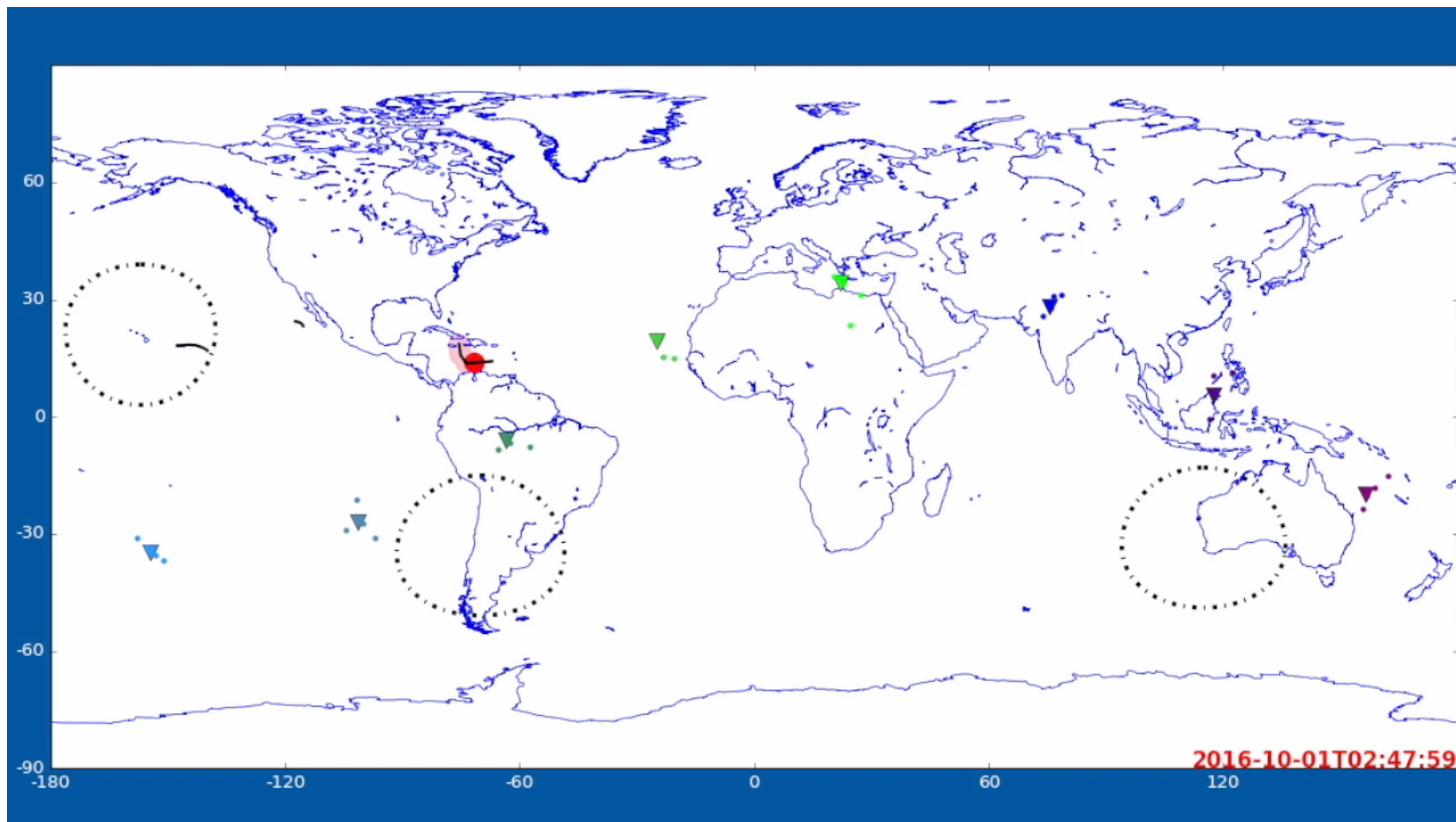
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# Storm Intersection Forecast Tool

## Hurricane Matthew Simulation





# Data Calibration and Release Plans

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- May 2017: Complete first round science data product cal/val
- 22 May 2017: Begin continuous public data release  
<<https://podaac.jpl.nasa.gov/CYGNSS>>
- Jun–Nov 2017: Atlantic hurricane season, assimilation of data into numerical weather prediction models, P-3 hurricane hunter underflights
- Dec–Mar 2018: Storm forecast skill retrospective analysis; Refined validation of high wind speed data products
- Apr–May 2018: Version 2 validation and release of science data products