

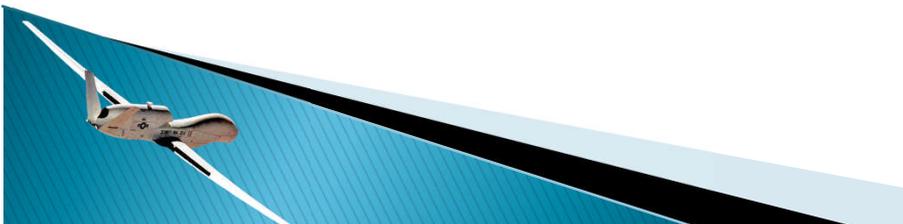


Global Hawk GRIP Summary



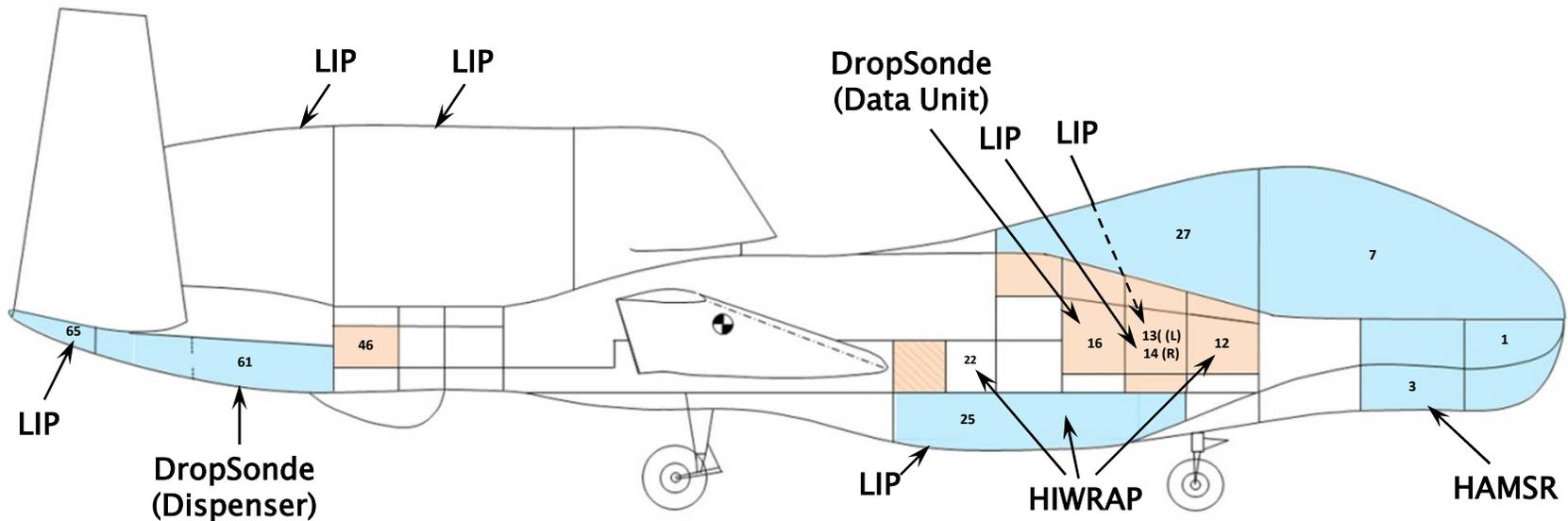
*GRIP
Science Meeting
LA, June 8, 2011*

***Dave Fratello**
Payload Manager
DFRC Global Hawk Project*





GRIP Science Payloads

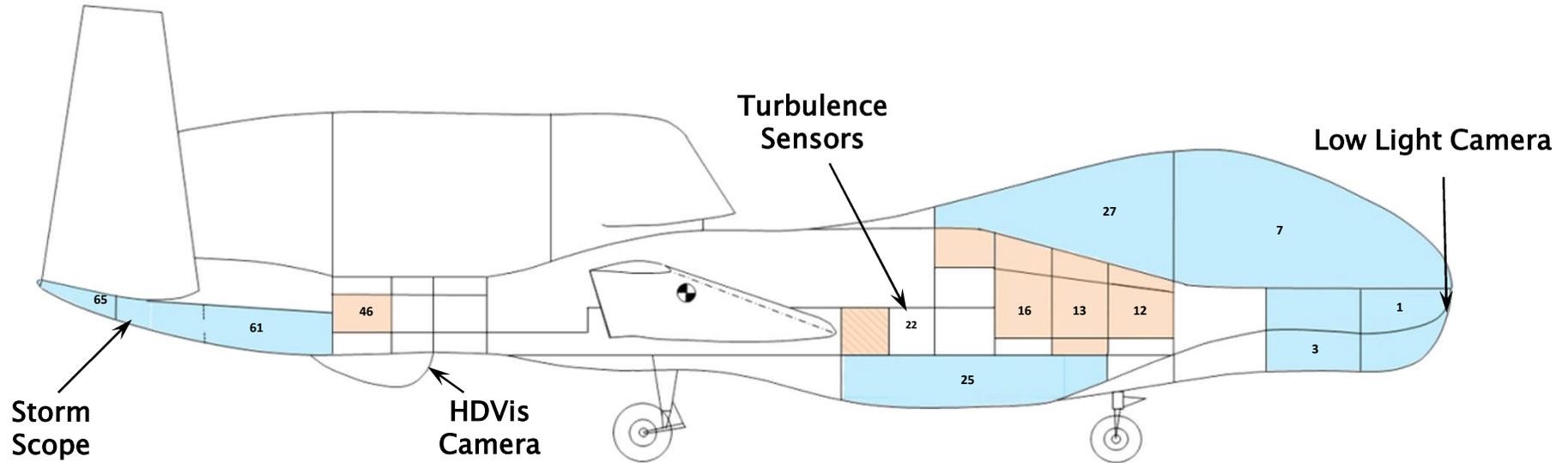


- LIP – Lightning Instrument Package
- HAMS – High Altitude MMIC Sounding Radiometer
- HIWRAP – High Altitude Imaging Wind and Rain Profiler
- DropSonde – NOAA Drop Sonde System (90 sondes)





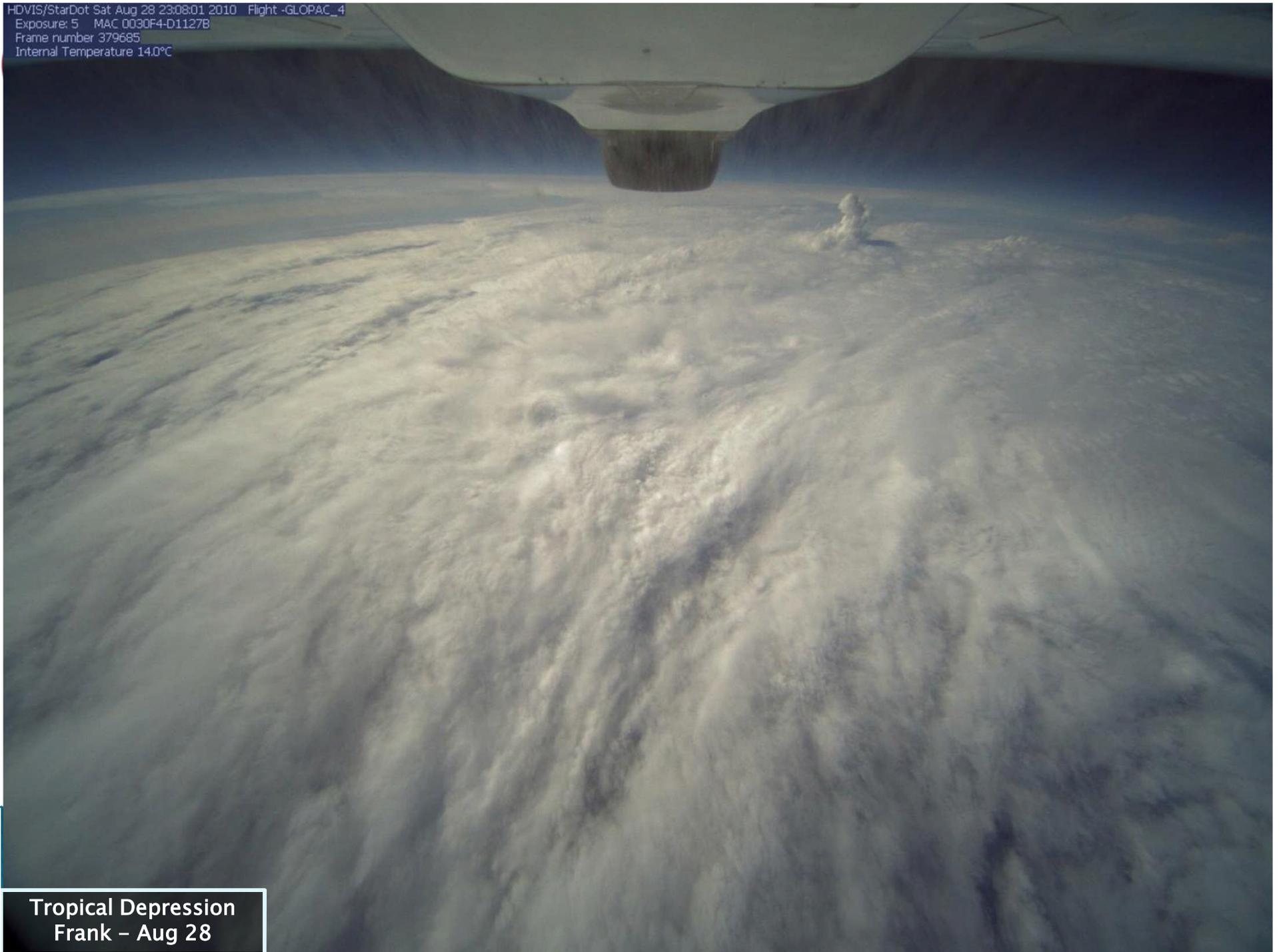
Additional Sensor Enhancements



- 2 Cameras – HDVis and Low Light for Pilot Situational Awareness
- Storm Scope – Lightning Detection Display in the GHOC
- Accelerometers – Real-time Turbulence Time-history Display in the GHOC



HDVIS/StarDot Sat Aug 28 23:08:01 2010 Flight -GLOPAC_4
Exposure: 5 MAC 0030F4-D1127B
Frame number 379685
Internal Temperature 14.0°C



**Tropical Depression
Frank – Aug 28**

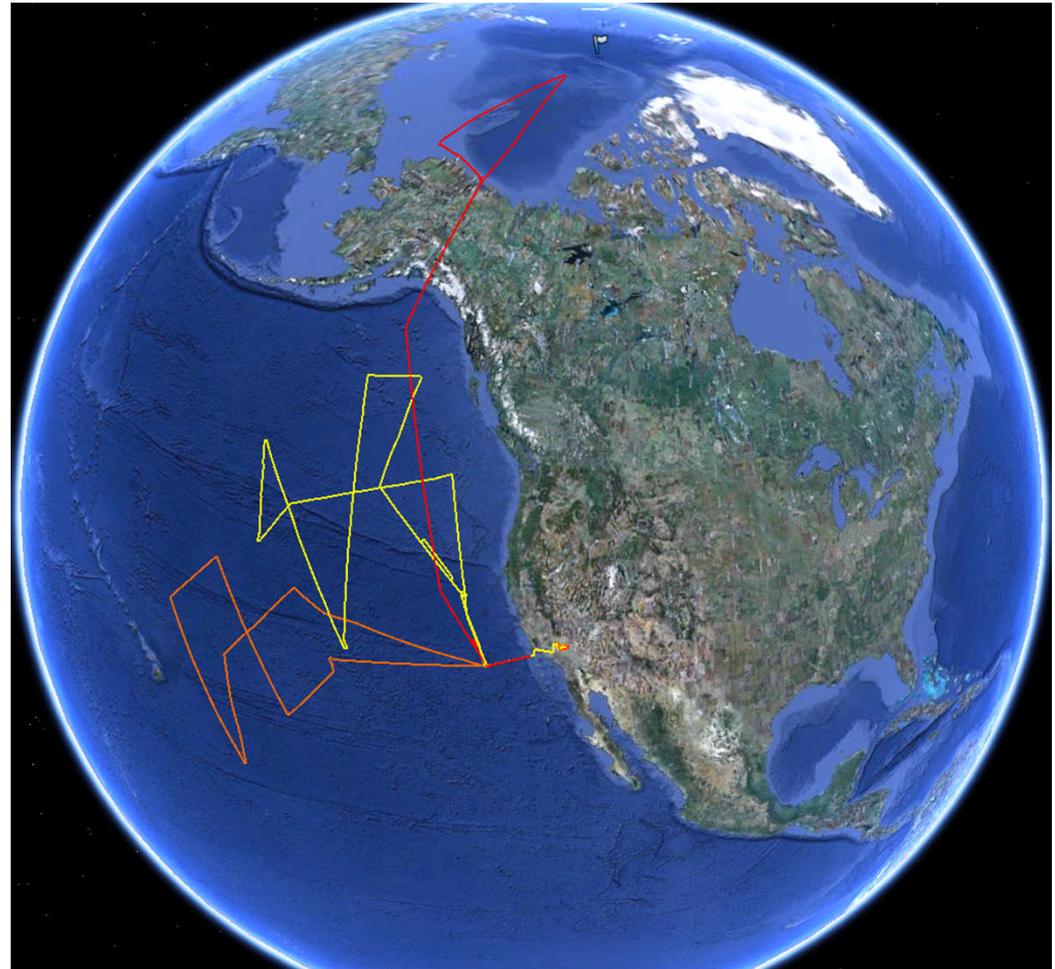


AVAPS Flight Status

Status: Certified and Demonstrated

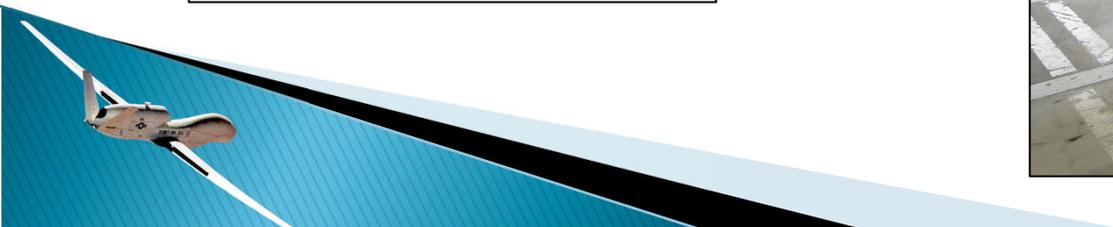
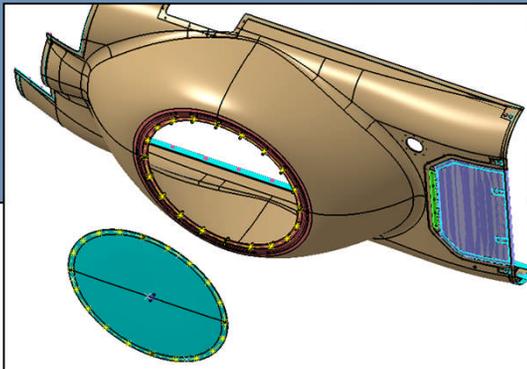
"WISPAR" Flight Summary

- 3 Science Flights
- 69.6 Flt. Hours
- 24,000. nmi
- 190 sondes deployed





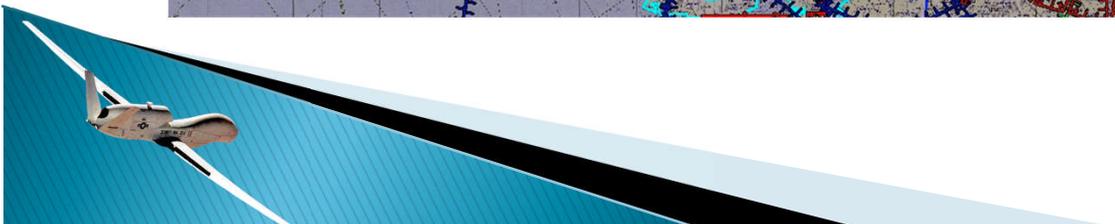
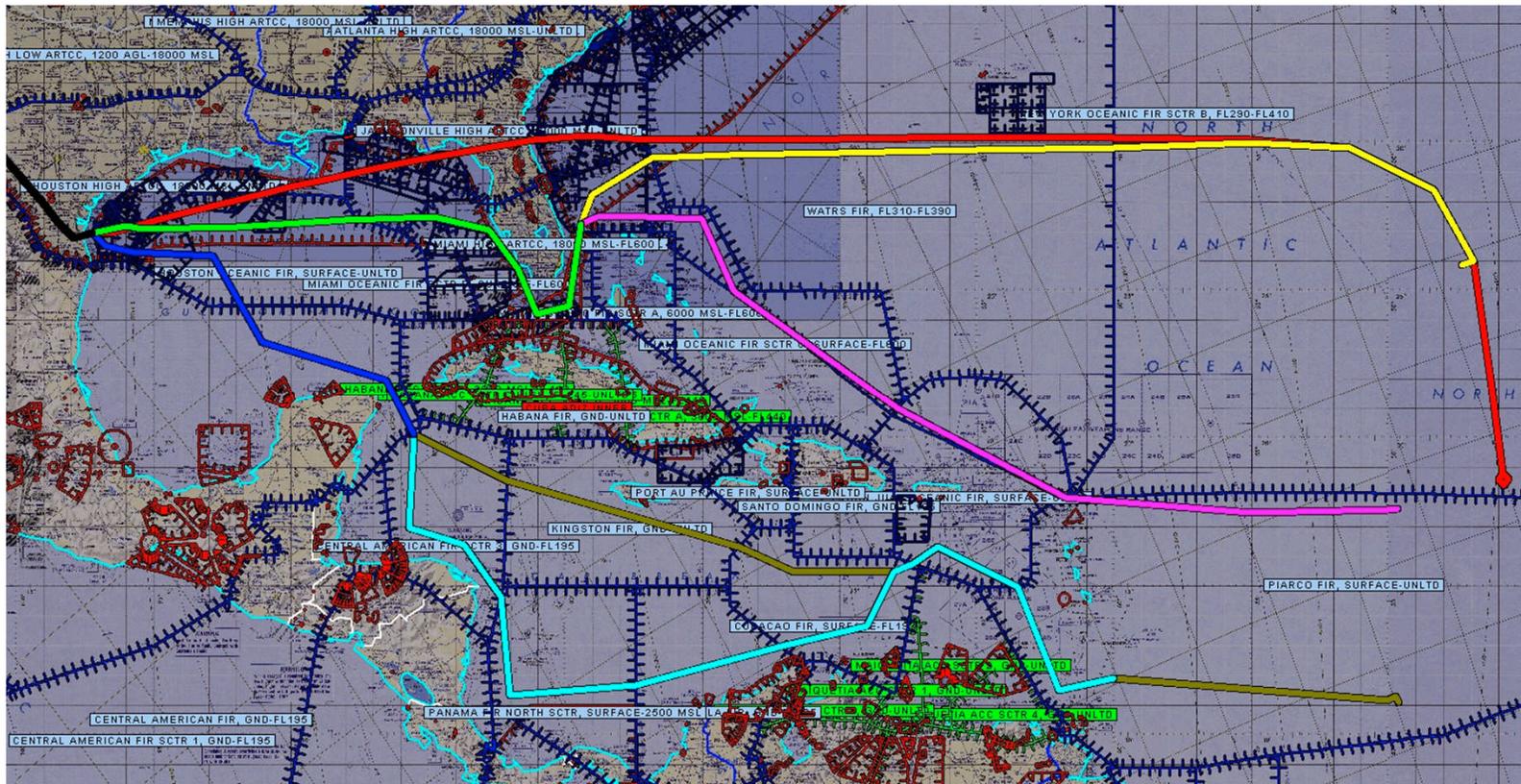
First Use of "Deep" Radome





GRIP Mission Planning

*The GH Mission Plan –
“Black line” Paths in the GRIP Mission Plan*





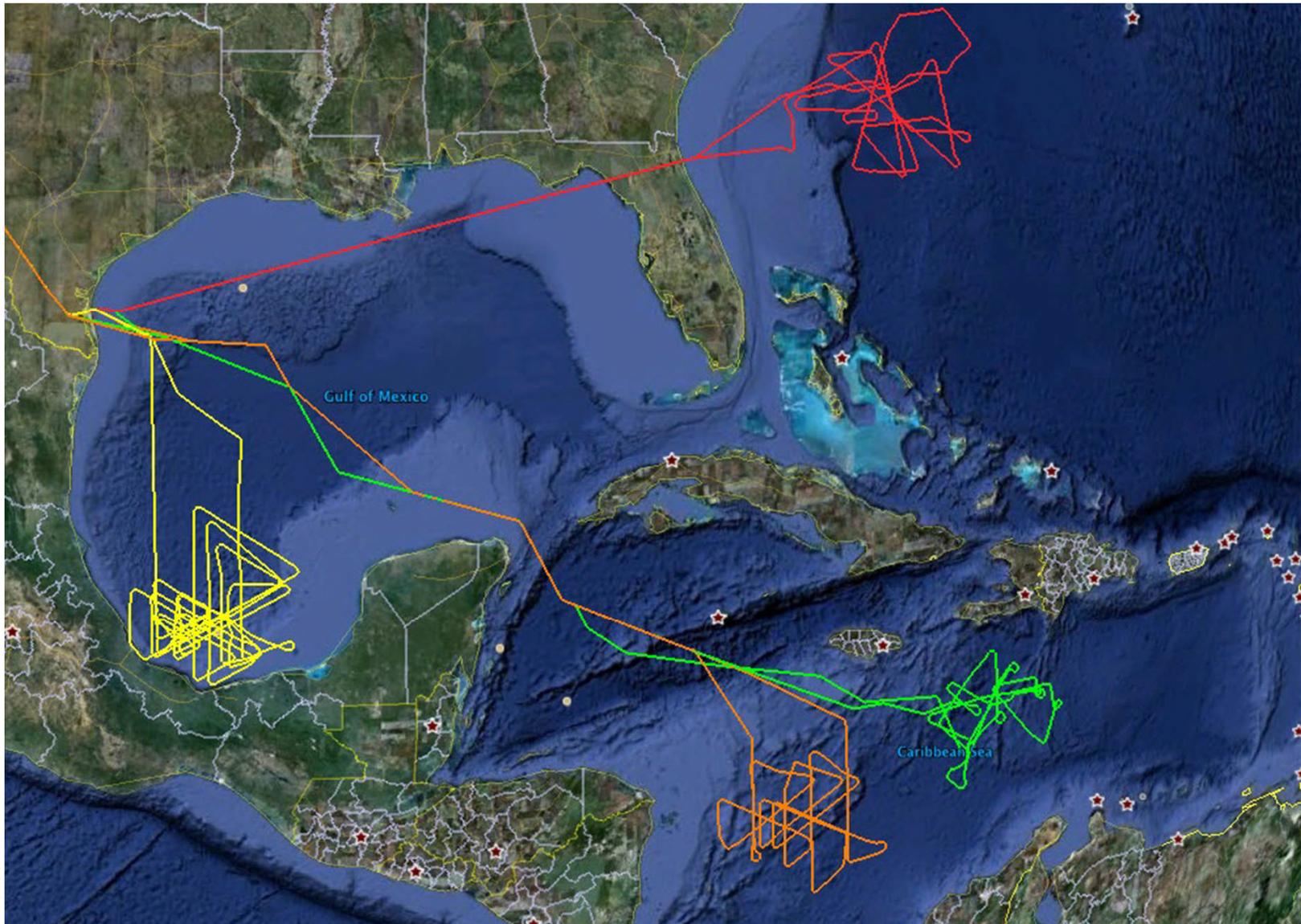
Payload Op's – Hurricane Earl





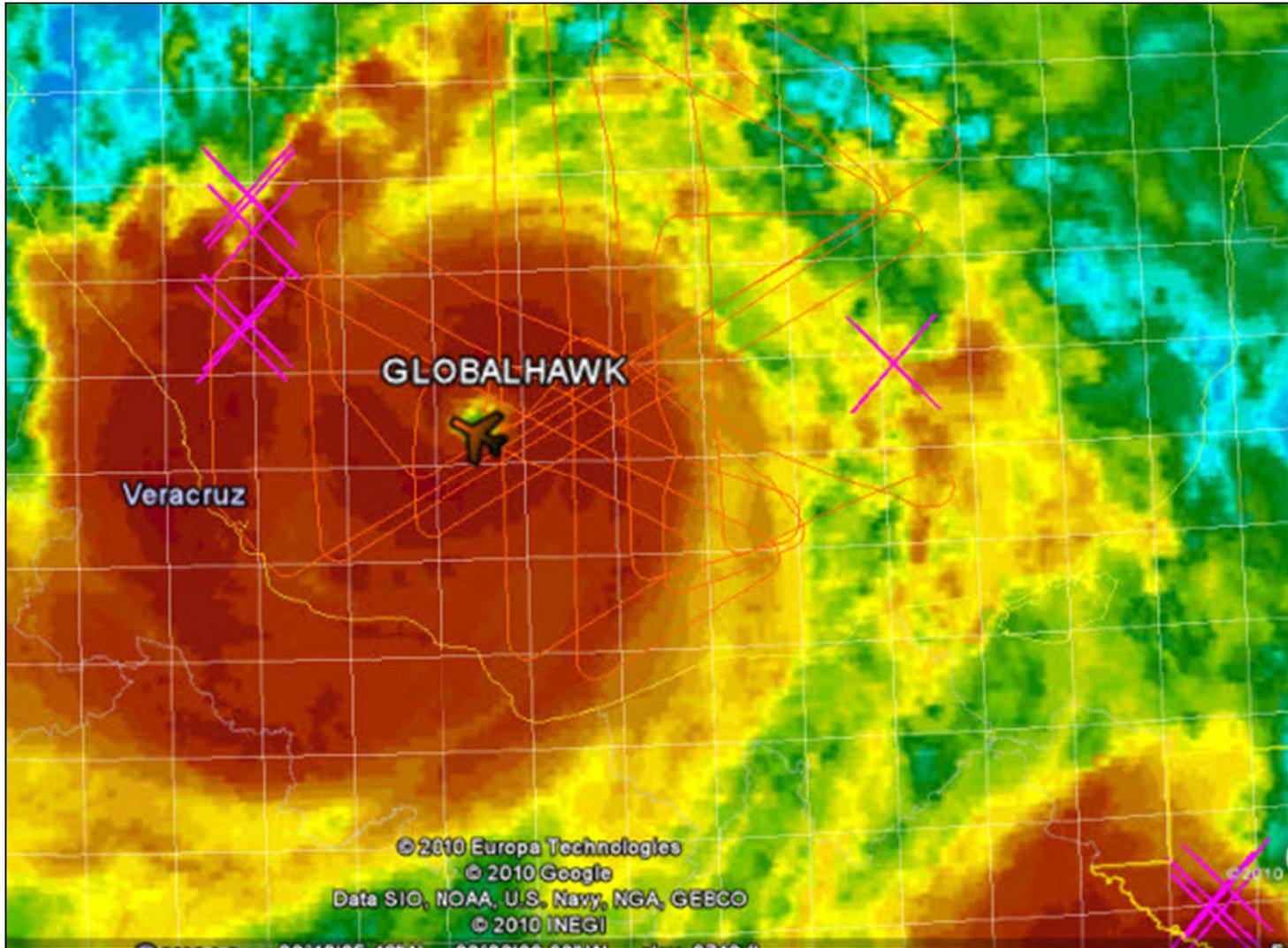
GRIP Flights

Actual Mission Routes flown during GRIP

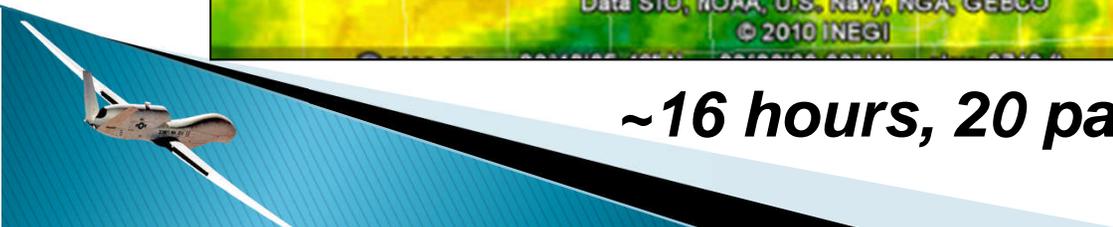




GH – Hurricane Karl



~16 hours, 20 passes over the eye





Op's Lessons Learned



- ▶ “Integration process needs improvement. Need to establish a more defined process with associated schedule and milestones.”
 - Comment: Our process was compromised due to the impact of the late GloPac Mission that pushed the GRIP Integration to a too-tight schedule with no slip. Our process is working fine with HS3 and ATTREX.

- ▶ “The payload scientists were often given too little “hands-on” time to work-on, prep, and post-flight their instruments on the GH.”
 - Comment: For GRIP we expanded to a 2-shift maintenance team schedule, and on request, we broke our own post-flight inspection rules to give PI's quick access to their data cards after the aircraft came back in the hangar. HS3 & ATTREX have been funded for a 3-shift maintenance team schedule.

- ▶ “Global Hawk project really needs to come up with an updated, accurate and useful ‘Investigator's Handbook’.”
 - Comment: This is in work. However, there was no known impact on GRIP due to this issue. With our three other documents that we provide PI's, and the on-site lab visits we perform, we are unaware of any confusion or delays that resulted from the lack of this single document.





Looking Forward...



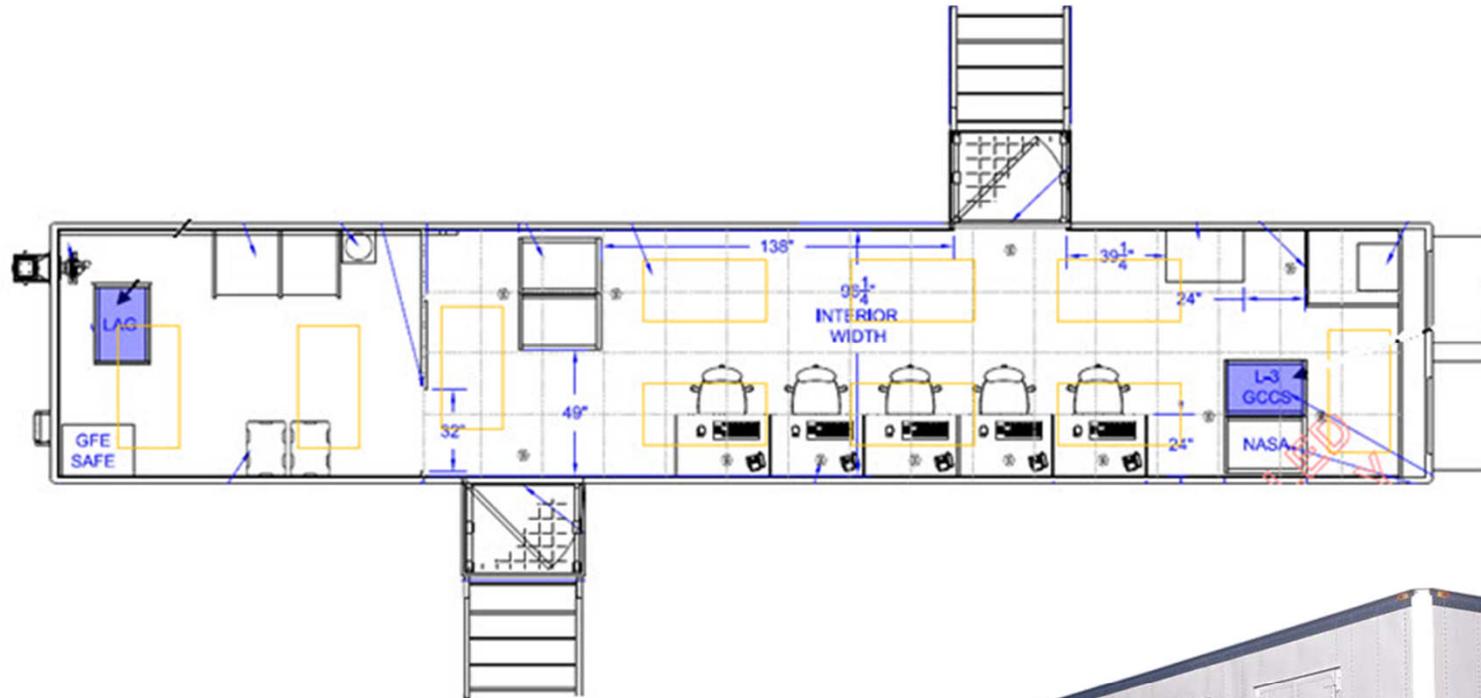
HDVIS/StarDot Thu Sep 16 17:31:12 2010 Flight GRIP_5
Exposure: 8 MAC 0030F4-D1127B
Frame number 189596
Internal Temperature 8.5°C



Flight to Karl, Texas
Coastline



GHMOF (Flight Ops) Trailer



*Completed CDR
Shipment to L-3Com in June
Delivery to DFRC in September '11*

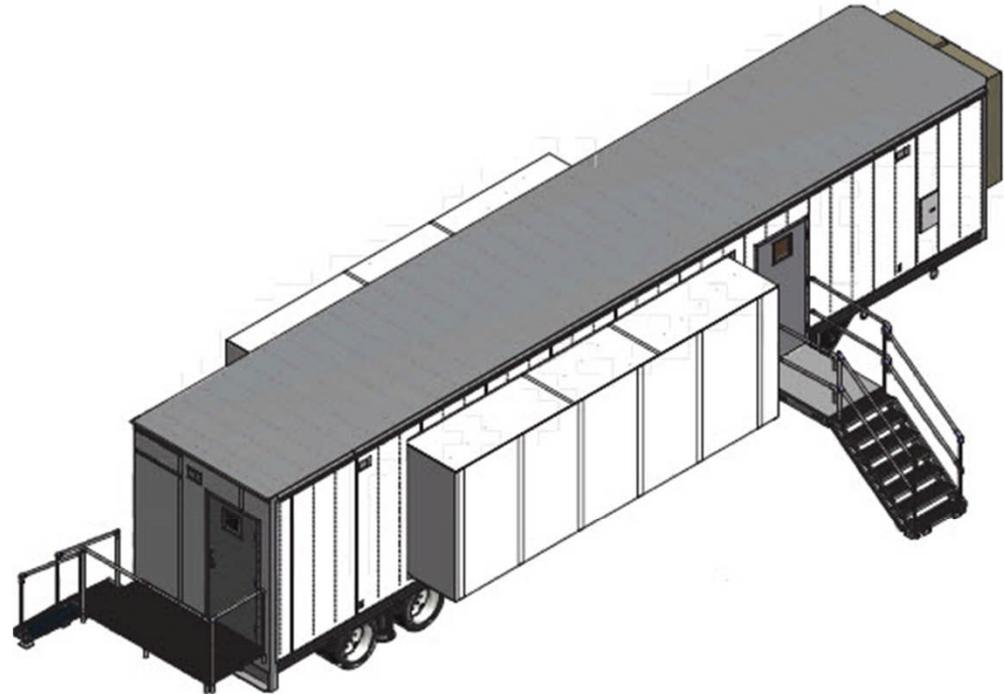


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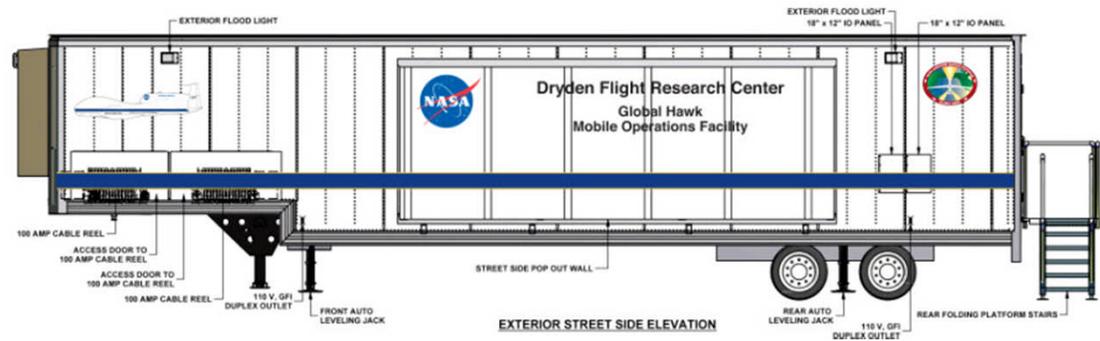




PayMOF (Payload Ops) Trailer

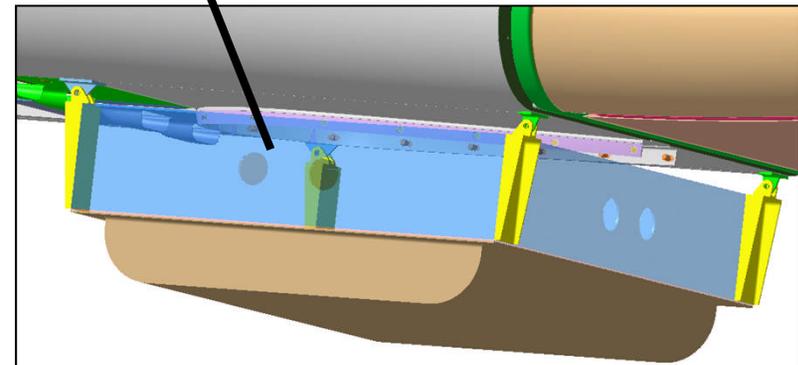
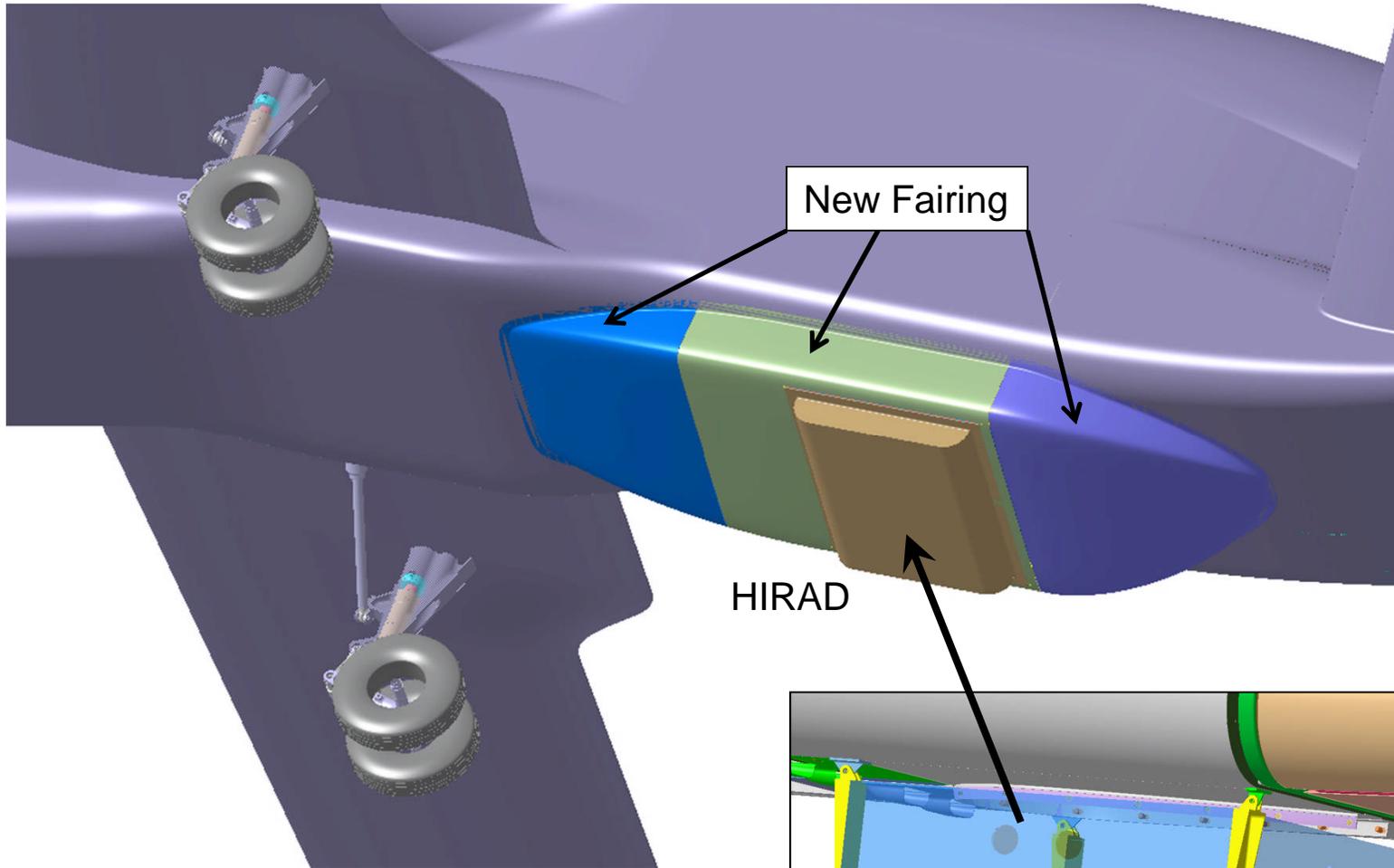


*CDR at Vendor in June
Delivery to DFRC in August '11*





New Nadir Payload Location





Current NASA GH Fleet



Two Operational Aircraft
TN871, TN872

Three "new" Aircraft
TN873, TN874, TN876

