



FY23 Atmospheric Rivers Reconnaissance NOAA - AOC - N49RF

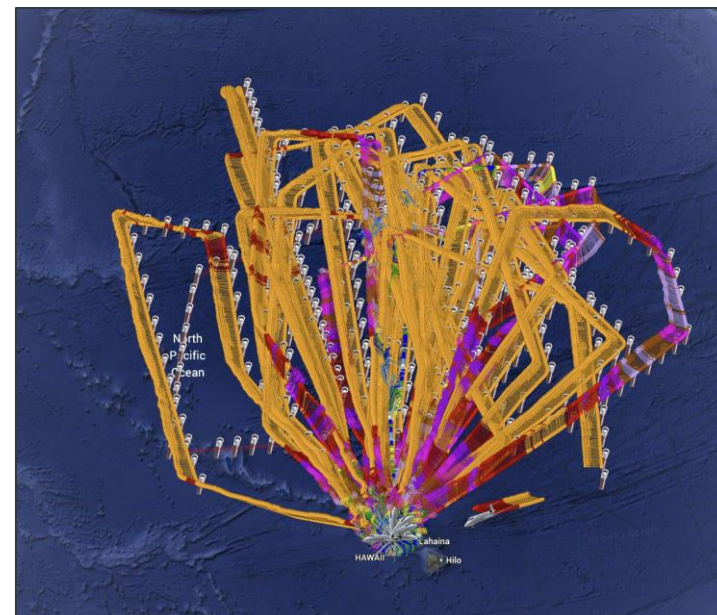
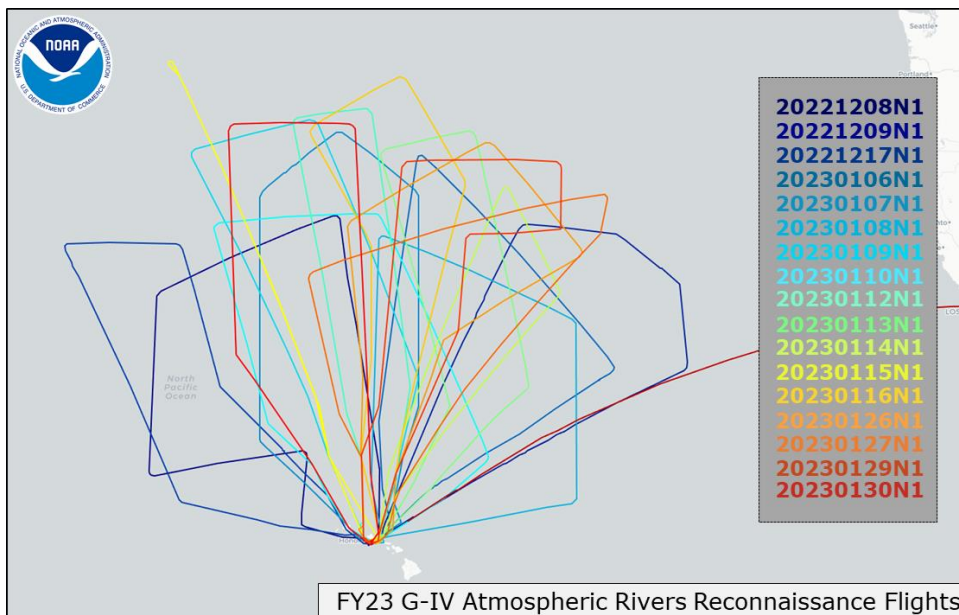


Photography by Jeff Milstein

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Atmospheric Rivers Reconnaissance Overview



FY	IOPs	Hours	Miles	Dropsondes
2014-2021 *excluding 2017/2019	79 (13 avg)	693 (115 avg)	311,850 nmi (51,975 avg)	2270 (378 avg)
2022 (52 Days)	10	100	43,200 nmi	310
2023 (54 Days)	17*	132	55,735 nmi	552 (505 xmt)

* Additionally, 2 ferry flights to/from CONUS & HI released 5 (3 xmt) dropsondes



G-IV Winter Mission Locations





Discussion Items



- Arrival at PHNL on Dec 7th and began flying missions on Dec 8th
- Most intensive period of Ops: 1/6 – 10 flights in 11 days
 - Led to crew waivers required for 120 hour / 30 day exceedance policy
- G-IV had unscheduled maintenance (fuel indicator) that led to a cancelled mission on 12/18
 - Departed project on 12/19 for STL for mx — 4 days prior to “holiday break” (5 *project days missed*)
 - Returned to service on 1/4 to return to HI
- Additional IOP cancelled on 1/25 for unscheduled maintenance
- ARO real-time transmission
- CW3E guests and media flew on some G-IV missions
- Minisondes for 2023-2024





G-IV Transition to new aircraft G550



- G550 still expected for the 2025–2026 AR season
- Initial Altitude of 41,000 – 45,000 ft depending on fuel and instrument load
- Maximum Altitude of 51,000 ft
- Maximum Range (NBAA theoretical, max fuel, ~14.5 hrs): 6,750 nmi (12,500 Km)
- Likely Mission Range of 10 hrs with payload, 4,000 nmi (9,075 Km)
- Long-range Cruise: Mach 0.80
- High-speed Cruise: Mach 0.85



G-IV Transition to new aircraft G550



- Planned G550 initial instrumentation includes:
 - Improved in-situ sensors (especially for flight level humidity)
 - AVAPS system with automatic launcher (NRD41 minisondes only)
 - Tail Doppler Radar (TDR)
 - Stepped Frequency Microwave Radiometer (SFMR)
 - High Altitude MMIC Scanning Radiometer (HAMSR)
 - Provides continuous swaths of humidity and temperature data below the aircraft
- Data system modernization
 - AAMPs 2.0 will replace AAMPs (Airborne Atmospheric Measurement and Profiling System)
 - AAMPs 2.0 will go on the G550 and then the WP-3D
- Transitioning from RD41 to NRD41 dropsondes
 - Delivery of minisondes to begin later this Summer
 - Will use up RD41 inventory first
 - G-IV is approved
- AVAPS receiver and software upgrade



Questions?

