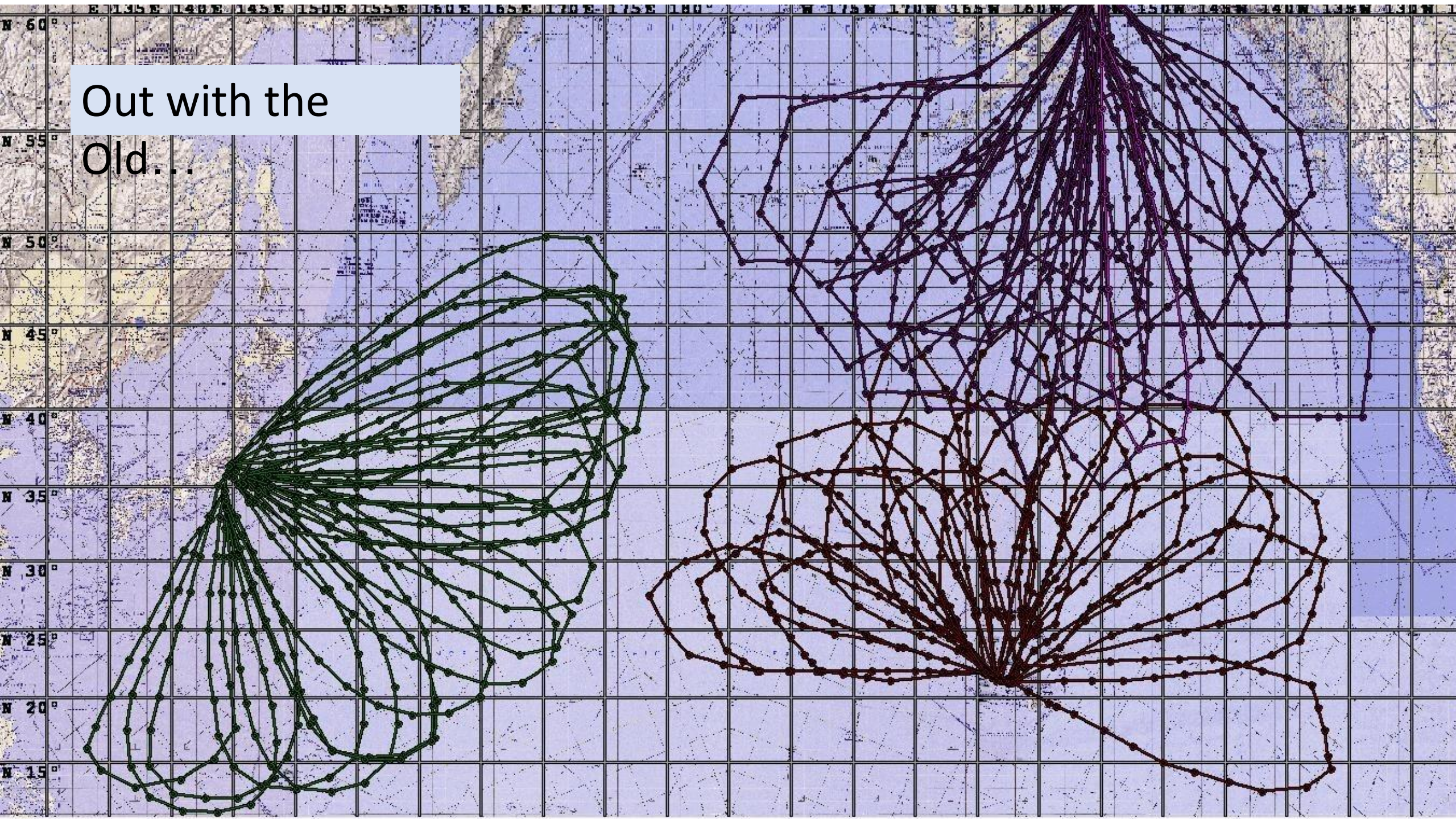


Flying the Atmospheric Rivers – NOAA AOC Achievements and Challenges 2014-2018



Out with the
Old...



In with the New. Atmospheric Rivers 2014.

- 12 Science Missions
- 73.2 flight hours
- 190 dropwindsondes
- 98.9% dropsonde quality
- Travis AFB – Honolulu - Anchorage



What we learned

- Customized AR tracks worked fine with Oakland
- First use of the NOTAM box (flexibility)
- Mobile basing served the science
- Low transects possible with the G-IV, near the coast
- Schedule shift ~ 3 weeks





CalWater 2015

- 12 science missions
- 102.0 flight hours
- 365 dropwindsondes
- 98.4 % dropsonde quality
- Sacramento, Honolulu



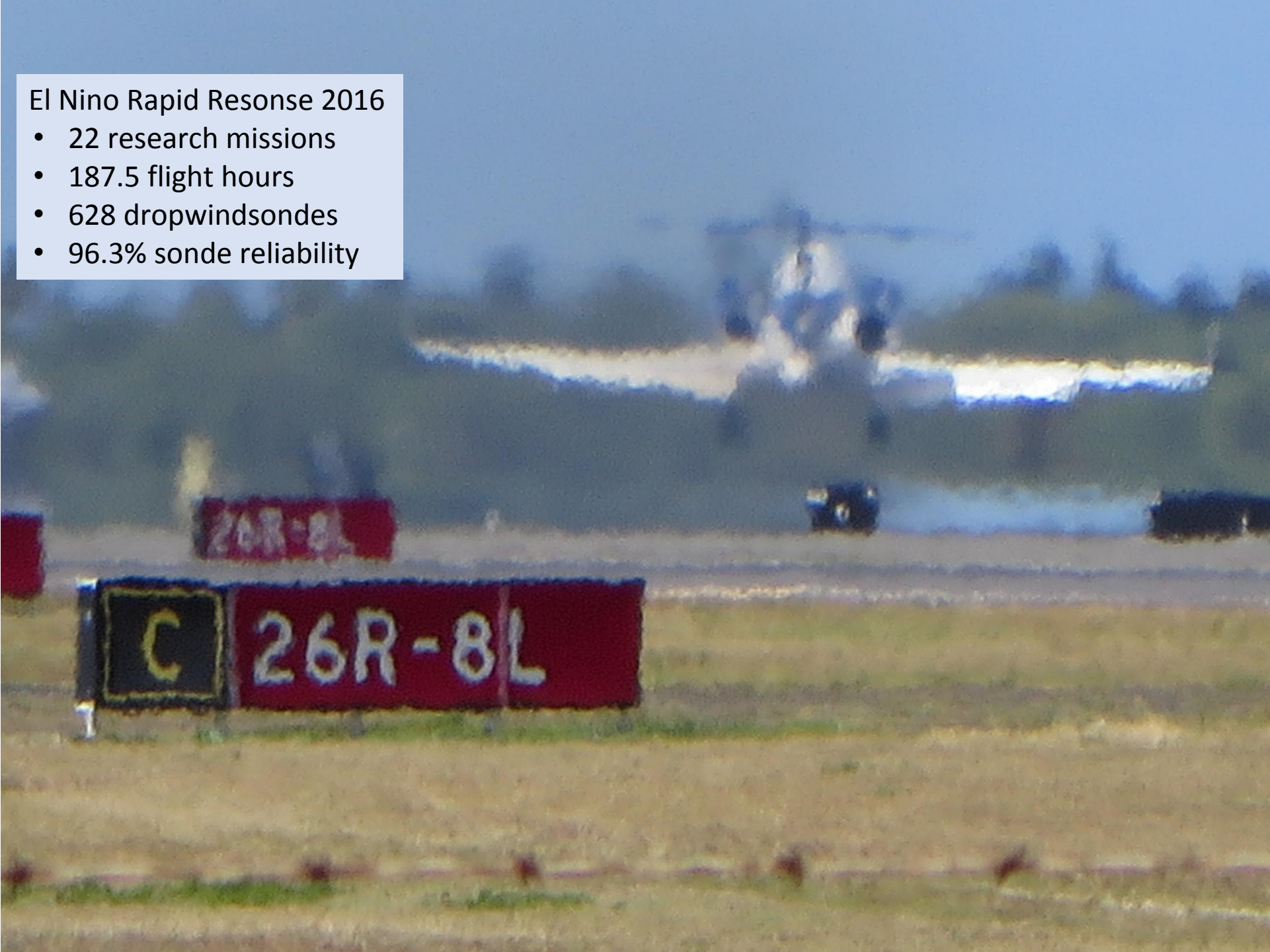
What we learned

- Coordination with multiple aircraft, ship
- High quality dense 'budget-box' patterns
- Complexities of GISMOS, ozone instruments



El Nino Rapid Resonse 2016

- 22 research missions
- 187.5 flight hours
- 628 dropwindsondes
- 96.3% sonde reliability



What we learned

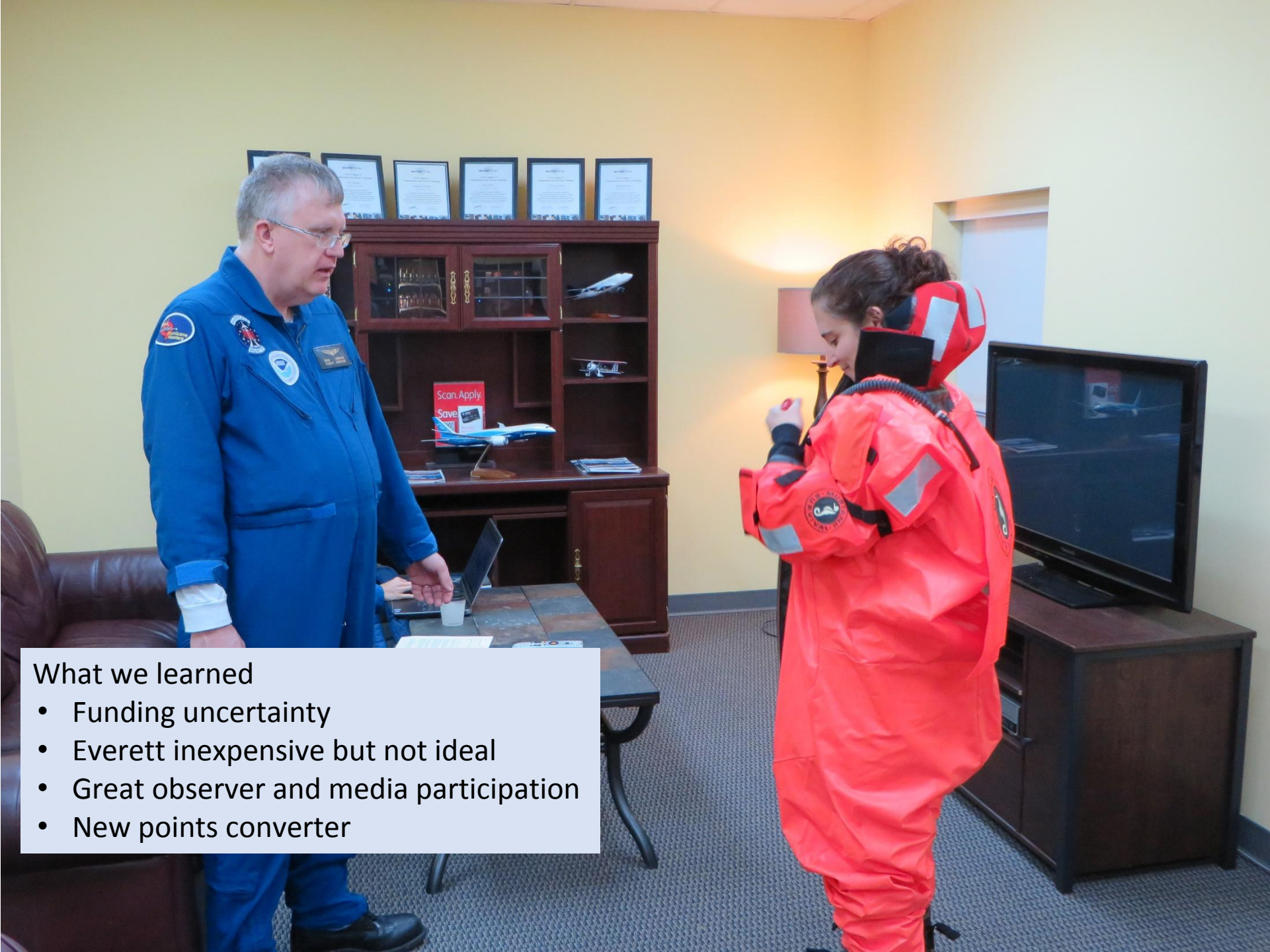
- Fast response to increased/enhanced field effort
- Logistics of up to four international operating sites
- No alternates near Christmas Island
- 120/30 AOC crew flight limit
- Consider Maui or Kona



Atmospheric Rivers 2018

- 3 science missions
- 35.6 flight hours
- 115 dropwindsondes
- 97.4% sonde reliability





What we learned

- Funding uncertainty
- Everett inexpensive but not ideal
- Great observer and media participation
- New points converter







Overall

- AOC management has substantial enthusiasm toward AR research, understands its importance to saving lives and property.
- When possible, secure NOAA sponsorship, funding and be part of the NOAA aircraft working group
- Smooth transition from canned WSR to customized AR tracks. Thanks, Oakland ARTCC
- Central planning works well for us executing at remote locations
- Many thanks to you all