AR Recon 2025-2026 Overview

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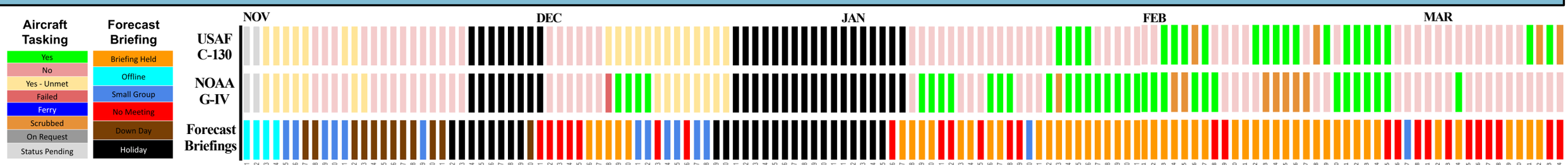
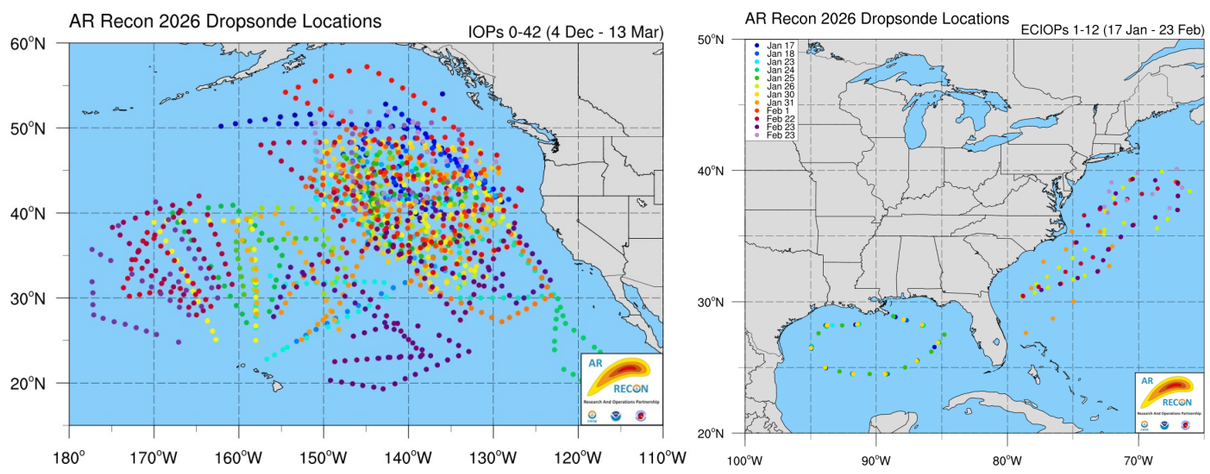
2025-2026 AR Recon Season Timeline



AR Recon Season Statistics

The 2026 water year saw 56 landfalling atmospheric rivers (AR) across the U.S. West Coast between October 2025 and March 2026. CW3E led the collaborative Atmospheric River Reconnaissance (AR Recon) field campaign to sample these storms in conjunction with the National Weather Service, NOAA Office of Marine and Aviation Operations, US Air Force Reserve Command 53rd Weather Reconnaissance Squadron, and other research partners. Teams of forecasters, flight planners, researchers, and aircrews collaborated **in 53 forecast** discussions to plan **68 individual flights** for a **record number 42 IOPs** which provided **1,558 dropsonde observations.** Furthermore, CW3E teams launched **275 radiosondes** from five different West Coast locations. The AR Recon Coordinated University Soundings Program (ARR-CUSP) completed over **470 radiosonde** launches across **16 universities** in the U.S. and Canada.



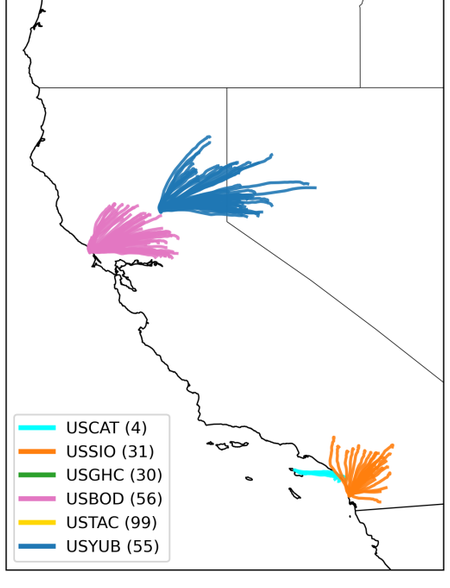
AR Recon dropsonde locations for Northeast Pacific (left) and the Gulf/Atlantic (right) (B. Kawzenuk).

Aircraft	Flight Hours	Dropsondes	Flights	ARO Profiles
G-IV	155.2	559	21	1,207
C-130s	424.8	999	47	2857
Total	**580**	**1,558**	**68**	**4,064**

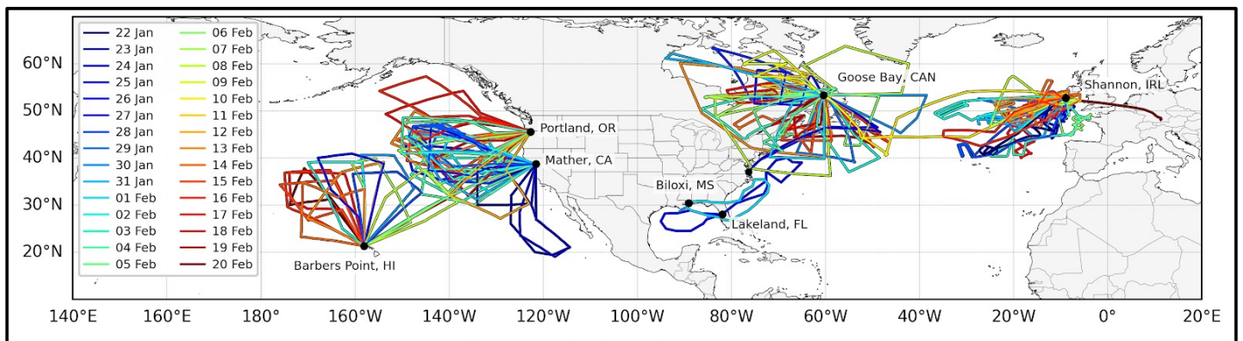
Northeast Pacific operations included the NOAA G-IV operating from Portland, OR and the USAF C-130s from Sacramento, CA and Kapolei, HI. During Gulf and Atlantic operations, the G-IV operated out of Lakeland, FL, and the C-130s from Biloxi, MS. This season saw a record number of IOPs, flights, dropsonde observations, and flight hours, underscoring the continued expansion of AR Recon.

On both Feb 22 and Feb 23, four aircraft were deployed as part of AR Recon. NOAA's G-IV and three individual USAFRC C-130s deployed from bases in OR, HI, and MS each day. These aircraft deployed a total of 150 dropsondes and accumulated a total of 68 flight hours over a 48-hour period, highlighting the intensive nature of AR Recon operations aimed at improving forecasts. From Oregon, Hawai'i, and Mississippi, 150 dropsondes were released during nearly 68 flight hours over the span of 48 hours.

CW3E launched radiosondes along the U.S. West Coast throughout the AR Recon season, from the following locations in California and Washington: La Jolla, Catalina Island, Bodega Bay, Marysville, Aberdeen, and Tacoma.



AR Recon and GARRP



GARRP flight tracks for all campaigns (P. Capute).

The Global Atmospheric River Reconnaissance Program (GARRP) brought field campaigns across the Northern Hemisphere together between January 22nd to February 20th, 2026. The goal of GARRP was to coordinate various field campaign observations to improve forecast skill by filling critical data gaps in regions where atmospheric rivers often form and intensify. GARRP included coordination between AR Recon (NOAA G-IV & USAF C-130s), NURTURE (NASA G-III), and NAWDIC (KIT G-550) with **1131 dropsondes** deployed over the Pacific, Gulf, and Atlantic by flights originating from Hawai'i, California, Oregon, Mississippi, Florida, Goose Bay CAN, and Shannon IRE. Additionally, **798 radiosondes** were released during this period by CW3E, ARR-CUSP, E-ASAP, and EUROP.

00 UTC	24 Jan 2026	AR Recon	IOP 12	C-130 (AF301)	Mather, CA
00 UTC	24 Jan 2026	AR Recon	IOP 12	G-IV	Lakeland, FL
12 UTC	24 Jan 2026	NAWDIC	IOP Kilkenny	G-550	Shannon, IRE
18 UTC	24 Jan 2026	NURTURE	RF1 (Ferry)	G-III	Goose Bay, CAN

00 UTC	03 Feb 2026	AR Recon	IOP 22	C-130 (AF301)	Mather, CA
00 UTC	03 Feb 2026	AR Recon	IOP 22	G-IV	Portland, OR
12 UTC	03 Feb 2026	NAWDIC	IOP Sligo	G-550	Shannon, IRE
18 UTC	03 Feb 2026	NURTURE	RF6	G-III	Goose Bay, CAN

January 24th and February 3rd both featured four flights by GARRP aircraft across the Northern Hemisphere from all three campaigns.

Operational Considerations

Each AR Recon season, the team adapts to a variety of known logistical and operational considerations to successfully plan and execute missions including:

- *Aircraft and crew availability (on station vs resources permitting period)*
- *Maintenance and crew rest considerations during intensive periods of consecutive flights*
- *Hazardous weather conditions at airports and over sampling regions*

This season also featured new and unique considerations for the team including:

- *Incorporation of the Global Atmospheric River Reconnaissance Program (GARRP) for the first time this year, leading to expansive coordination efforts between the different campaigns.*
- *The 2nd year of the ARR-CUSP program, allowing for greater geographical coverage of observations over the Continental U.S. using supplemental radiosonde launches by multiple universities.*
- *AR Recon was able to overfly the SAFARI (Study of Air-Sea Fluxes and Atmospheric River Intensity) moored buoy located north of Hawai'i four separate times during the season.*
- *Mid-season aircraft asset repositioning from West Coast to Hawai'i.*
- *Complex airspace considerations over the North Pacific off the coast of Oregon, Washington, and British Columbia.*

Despite these logistical hurdles, the AR Recon team was still able to provide valuable observational data for the global forecast models and future meteorological research.