



## AWS Cloud-Hosted GIS Web Services Now Operationally Supported; IDP GIS Web Services Shutting Down June 29, 2023

By: Paxton Fell, GIS Meteorologist

On June 29, 2023, the [Integrated Dissemination Program \(IDP\) Geographic Information Systems \(IDP-GIS\)](#) will be shut down, and users will be redirected to [GIS Web Services](#), which are hosted in Amazon Web Services Cloud (AWS) with 24x7 support. A [Public Information Statement](#) was released in January 2023 in preparation for the transition of our GIS services from the on-premise infrastructure to the cloud infrastructure.

In 2014, NOAA's National Weather Service (NWS) completed the IDP project of moving the GIS web services from a research/proof-of-concept posture to fully operational status. The goals of the project were to implement GIS systems, establish standards, and allow for consistent dissemination formats and protocols across several NOAA datasets and products. Currently, there are two operational GIS stacks on IDP: one stack runs the Environmental Systems Research Institute (ESRI) ArcGIS server, and the other runs the open-source GeoServer. Both stacks disseminate GIS services using standards outlined by the Open Geospatial Consortium (OGC). The [IDP-GIS web services](#) provide users with access to the new products such as web mapping services. The IDP-GIS web services are served out of NOAA's IDP operational center, which provides a scalable, robust, secure, and 7x24x365 operational dissemination infrastructure at College Park, MD, and Boulder, CO.

The IDP services currently hosted on-premise have been operational since March 2016. As technology has evolved, the NWS has recognized that some information systems are well suited for hosting in the public cloud. The on-premise GIS services were identified as an excellent candidate to be hosted in the public cloud. The results in over 200 new data layers available to the GIS customers that are not available on the on-premise project. Therefore, the two systems have diverged and it no longer makes sense to maintain both. In this time, the cloud services have not experienced any outages over two hours proving that they are reliable for around the clock operational use.

As of February 2023, the cloud services are supported around the clock, 24x7. The technical functionality is the same between two systems but the organizational "look and feel" presentation is different. GIS web service users may begin to use the cloud hosted services by adding new or updating calls to their applications. The specific changes users will need to make depend on the type of protocol or endpoints utilized. The mapping of on-premise GIS web services to the AWS GIS web services can be found [here](#).

After June 29, 2023, NCO will redirect the [GIS web services](#) site to the [Cloud GIS Web Services](#) site for 30 days. All Cloud GIS Services can be viewed on our [interactive map](#), a web-based geospatial display for NWS information hosted on the AWS cloud. Key features include:

- 24x7 support
- Capabilities to display, interrogate, access, and discover data that can be seamlessly accessed and digested
- Program sites for NWS service areas to tailor information for that program's service area. The [General](#) and [Water](#) program sites are operational as of October 2022. Experimental program sites also exist for [Tropical](#), [Fire](#), [Severe](#), [Winter](#), [Space](#), [Climate](#), [Aviation](#), and [Marine](#) service areas
- Data layers that range from rapidly updating products (e.g., radar) to more traditional products (e.g., forecasts), and from watches and warnings to reference boundaries
- A major update in April 2023 that includes [enhancements and improved functionality](#) to the Viewer, including dynamic WWA legends

For questions concerning the operational support of IDP-GIS until June 29th, please contact [Joshua Huber](#) (NCEP/NCO Implementation and Data Services Branch). For questions concerning CloudGIS after June 29th, please contact [Nipa Parikh](#) (DISS/Weather Information and Distribution Services Branch).

# Honolulu WFO Visits Hawaii's Single Point Mooring Operation

By: NWS Staff

Forecasters from the Honolulu Weather Forecast Office (HFO) were invited on a familiarization visit with PAR Hawaii energy company to witness how petroleum products such as crude oil and other chemicals are received in Hawaii via single point mooring (SPM). This visit allowed WFO forecasters to better understand marine weather impacts experienced by users of NWS marine forecasts, while also allowing the forecasters to highlight relevant NWS publicly available products.

The tour was conducted aboard a private yacht (Hondo) that, if needed, could be utilized to shuttle maintenance crews and other pertinent parties out to a catenary anchor leg mooring (CALM) system anchored approximately a mile offshore of Oahu's Ewa Plain.

The primary function of the SPM is to transfer liquid cargo (e.g., petroleum products) from tanker vessels to inland refineries and/or transfer facilities. SPM is mainly used in areas where a dedicated facility for the loading or offloading of liquid cargo is not readily available or physically feasible. SPM's CALM transfer unit is connected via floating hoses from tankers with sea floor pipelines that transfer product to onshore refining or storage facilities. SPM operations can handle ships of massive capacity, such as very large crude carriers. One of the benefits of utilizing the SPM operation for the offloading of huge product capacities is that large vessels with high drafts that cannot come into shallow ports can efficiently offload their product within deeper offshore waters.

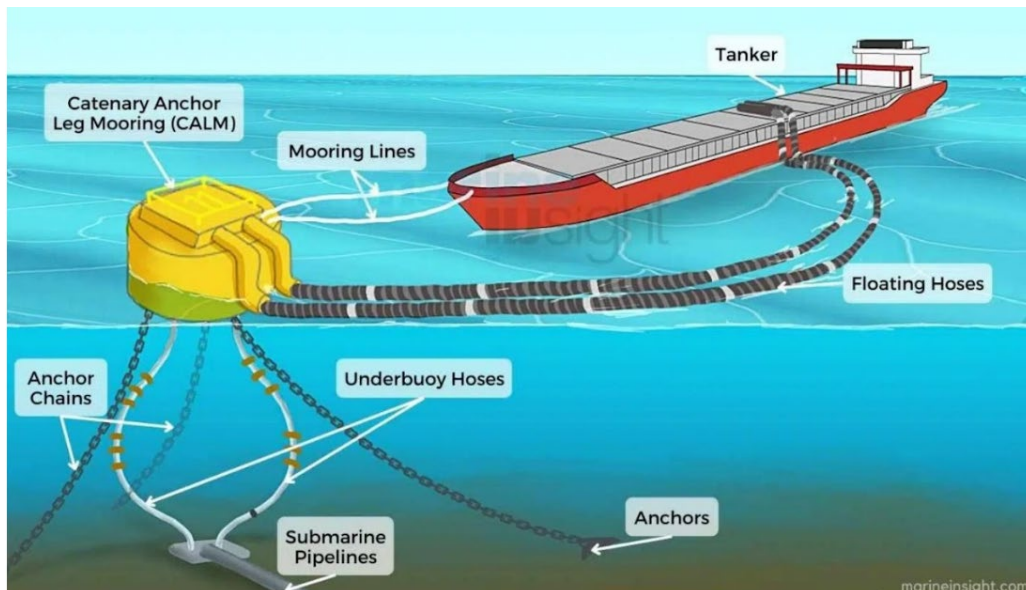
Many living in the Hawaiian Islands do not fully understand how global crude oil or other petroleum products are received in the islands for either immediate use or future refinement. This visit onboard the Hondo to the SPM allowed HFO marine forecasters to better understand the logistics of PAR's offloading operations and what meteorological situations most impact their operations during SPM. The main weather impacts could be from either a vicinity or landfalling tropical cyclone or any large kona storm producing storm-force winds and resultant high seas that would prevent the safe offloading of product.



The 60' Hondo transports maintenance crews and other pertinent parties to Oahu's SPM operations.



The 60' Hondo transports maintenance crews and other pertinent parties to Oahu's SPM operations.



# Ocean Prediction Center Visits WR WFOs and the Columbia River Bar Pilots

By: NWS Staff

When WFO Portland learned that **Michael Folmer**, WCM from the Ocean Prediction Center, was going to be visiting some of the West Coast offices, they asked if he would be interested in learning more about the Columbia River Bar Pilots, the mariners who pilot vessels into and out of the Columbia River into the Pacific. A trip was arranged, and Captain Dan Jordan welcomed NWS employees from PQR and OPC to learn about the pilots' interesting and exciting role!

The Columbia River Bar, where the Columbia River exits into the Pacific Ocean, is the deadliest in the world. The bar is about 3 miles wide and 6 miles long, and, unlike other major rivers in the world, has no delta that helps diffuse the water – it's like a fire hose spraying water with significant force. Since written records have been kept, over 2000 large ships have sunk in and near the Columbia Bar. Crossing the bar is very noticeable – a mariner may find water conditions nice and smooth on the river portion only to get hit with high seas within minutes, with the tides having a huge influence as well.

The bar pilots are highly trained mariners who are the only ones authorized to navigate vessels through the highly dangerous Columbia River Bar. They transfer onto vessels from either a boat using a ladder or from a helicopter that hoists them onto the ship. The helicopter is actually faster and safer for them to use – imagine climbing up a 20 foot rope ladder as



*View of Cape Disappointment/Lewis and Clark Interpretive Center at the mouth of the Columbia River Bar important operations.*



*Back to front, left to right: Capt Jordan checking the seas on his phone, Shawn Weagle, Daniel Hartsock, Jon Bonk, Tanja Fransen, Noah Alviz, and Michael Folmer*

both the boat you are on and the vessel you are climbing onto are rocking! The pilots work 24/7/365 and, unless the U.S. Coast Guard closes the bar (generally around 20 foot seas), they are out in all types of weather. Due to the nature of marine traffic on the Columbia (where the majority of US wheat exports come through), the bar pilots need about 12 hours' notice of major changes in conditions in order to handle a vessel coming up the river or going back out across the Pacific.

Capt. Jordan has always welcomed NWS forecasters to come out and see their operations, and this trip allowed us to get six NWS employees out to sea to better understand the needs of users of NWS marine forecasts. We started the day with an excellent presentation by Capt. Jordan and then a trip to the airbase at the Astoria Airport where the helicopter is located. It was an excellent opportunity to expand our knowledge of these

# WRN FLYERS and Heart of America Commemorative Air Force Co-Host Thunderstorm Safety Workshop

By: NWS Staff



Guest Speaker Johnny Rowlands addresses the crowd.



The WRN FLYERS (FLYing, Education, Resources, and Safety) Team and the Heart of America Commemorative Air Force (CAF) Wing co-hosted a thunderstorm workshop on May 24 for general aviation (GA) pilots. The workshop was held at the CAF Wing hangar at the old Naval Air Station in Olathe, Kansas, which is now called New Century AirCenter (KIXD). Airworthy World War II era aircraft on display in the hangar provided a unique backdrop for the workshop.

This workshop focused on thunderstorm safety and avoidance due to the consistently high fatality rate for general aviation pilots who encounter thunderstorms. According to the NTSB, even though thunderstorms accounted for only about 2% of all general aviation weather-related accidents between 2008 and 2020, the fatality rate is about 65% when those accidents involve thunderstorms. This rate has remained steady for the past few decades. The workshop also covered NWS aviation products and services to help pilots mitigate thunderstorm-related accidents.

The workshop featured aviation meteorologists **Jenifer Prieto** and **Sarah Teefey** from WFO Topeka (TOP), **Kenny Podrazik** from CWSU Kansas City (ZKC), and **Joey Welsh** and **Nicole Stevens** from the Aviation Weather Center (AWC). The guest speaker was KMBC Newschopper 9 Chief Pilot Johnny Rowlands. Rowlands is well known throughout the midwest for his tornado chasing experiences in his helicopter. His first tornado encounter was the May 4, 2003 tornado outbreak in the Kansas City area, including an F-4 tornado that impacted Liberty, MO.

The CAF is an American non-profit organization that preserves and shows historical aircraft at airshows in the U.S. and Canada. The WRN FLYERS partnered with the local CAF Wing for this workshop after discovering a shared interest in promoting aviation safety. Other chapters can be found at [the CAF website](#).



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