

Frequently Asked Questions

What is AIS?

- Global Fishing Watch uses public broadcast data from the Automatic Identification System (AIS), collected by satellite and terrestrial receivers, to show the movement of vessels over time.
- Each day, more than 20 million data points are added to AIS. Using cloud computing and machine learning, Global Fishing Watch processes this data, identifying which vessels are fishing boats, and when and where they are fishing*.
- Over the course of the year, more than 200,000 different vessels, including the 35,000 (and counting) fishing vessels included in Global Fishing Watch, broadcast their position, course and speed through AIS.
- AIS was primarily designed as a safety mechanism to prevent collisions at sea, but information about vessel behavior, such as fishing activity, can be derived from AIS data by Global Fishing Watch.
- Every day, a fleet of satellites records these positions and sends the information down to Earth.

How does Global Fishing Watch determine if a vessel is a fishing boat?

The 35,000 (and counting) vessels in the Global Fishing Watch Beta are classified as either “known” or “likely” fishing vessels. “Known” fishing vessels are those that have been matched to outside vessel registries. “Likely” fishing vessels self-report as “fishing” but Global Fishing Watch has not yet been able to match the vessels to an outside vessel registry.

How does Global Fishing Watch determine when a vessel is fishing?

Global Fishing Watch identifies fishing activity based on behaviors such as speed, direction and rate of turn.

Does Global Fishing Watch provide real-time data?

The data available in Global Fishing Watch is near real-time, typically 72 hours from the present. Users can access real-time vessel locations for individual vessels of interest through existing commercial AIS providers, however these outlets do not provide fishing behavior detection like Global Fishing Watch. Global Fishing Watch allows users to view recent fishing patterns that may be of interest, and users may flag a vessel for increased scrutiny by the authorities.

Has Global Fishing Watch been proven to work?

On March 10, 2016, Oceana released a report highlighting the ability of Global Fishing Watch to provide a clear view of fishing activity in marine protected areas around the world. Specifically, the report showed that Global Fishing Watch can monitor the success or failure of policies aimed at controlling fishing activity in protected areas. Using Global Fishing Watch, Oceana documented the success of the Phoenix Islands Protected Area (PIPA) by showing a drastic reduction in detected fishing activity following new regulations that established it as a no-take area.

Has Global Fishing Watch been used in any enforcement cases?

The government of Kiribati used Global Fishing Watch data to show that Marshalls 203, a Marshall Islands flagged purse seiner, was fishing illegally in the Phoenix Islands Protected Area (PIPA), which was declared off-limits to commercial fishing on January 1, 2015. The use of Global Fishing Watch helped result in a \$1 million fine that was paid by the Central Pacific Fishing Company, the owners of Marshalls 203. The company also made a special “goodwill arrangement” with the government, agreeing to pay an additional \$1 million in the form of a grant.

AIS requirements do not cover all vessels, right?

No, but many of the largest vessels that catch a disproportionately large amount of the fish are required to do so by the International Maritime Organization. In addition, many countries and intergovernmental agencies like Regional Fishery Management Organizations (RFMOs) are creating AIS requirements within their waters, so we expect an increase in AIS use in the coming years. For example:

- As of May 31, 2014, all European Union flagged fishing vessels that measure over 15 meters in length are required to be equipped with AIS.
- As of March 1, 2016, all commercial U.S. flagged fishing vessels that measure over 65 feet in length are required to be equipped with AIS.

Are there ways to improve AIS use among fishing vessels?

Yes, there are a variety of initiatives that would improve AIS usage. For instance:

- Creating market incentives for vessels consistently using AIS would allow fishing vessel operators to command a better price for their catch or gain access to markets that someday could be closed to vessels that do not make themselves “visible” with AIS.
- By requiring a verification step in implementing traceability rules in the United States, we can stimulate improved AIS usage.
- Market states like the European Union and the United States could penalize imports from countries that do not require or do not enforce AIS usage.
- As more vessels begin to use AIS, authorities will be better able to focus on those that do not.

How is Global Fishing Watch different from similar technologies being developed by others?

Global Fishing Watch is different from other technologies because it is global, free to anyone with an internet connection and focused exclusively on fishing. Global Fishing Watch is unique in that it is primarily designed to engage the public and civil society to help sustainably manage fisheries and effectively enforce fishing rules.

Can't fishing vessels turn off their AIS?

- Yes – and Global Fishing Watch can help detect when this appears to occur.
- When a vessel turns off its AIS, Global Fishing Watch users can identify that behavior and share the information publicly.
- Users will also be able to flag suspicious activities such as ships disappearing or appearing suddenly, jumping 1,000 miles at once, or appearing to fish on land.
- Perhaps most importantly, AIS was primarily designed as a safety mechanism to help avoid collisions at sea, so turning off AIS to avoid being tracked can put a vessel and its crew at risk of being hit by another ship.

Can't vessels just broadcast a false location in their AIS signals?

We have seen vessel tracks that appear in impossible places such as the Himalayan Mountains or over Antarctica. We cannot say for sure whether the AIS has been tampered with or is faulty, but the errors have followed regular patterns - varying from a vessel's true location by a constant amount, or flipping a coordinate from the Southern Hemisphere to the Northern Hemisphere, for example. Once we identify these patterns, we can often correct false locations.

Do "pirate" fishing vessels that engage in illegal fishing even use AIS?

Although not all of them do, we have seen vessels broadcasting AIS that appear to be fishing illegally.

Is monitoring AIS signals an invasion of trade secrets privacy?

- No. Monitoring vessel activity through satellite AIS is already a well-established practice in the shipping, insurance and commodity industries, and AIS data is already publicly available.
- AIS was designed to be an open, public communications tool. Vessels that use AIS are intentionally making themselves trackable to everyone around them.
- Global Fishing Watch shows commercial resource extraction that takes place on the open ocean, not on private property. Our fisheries are a common resource, whether on the high seas that belong to everyone or in the sovereign waters of individual nations.

Won't Global Fishing Watch show fishing vessel operators where the fish are?

No. Commercial fishing fleets are already using sophisticated technology like helicopters, tracking beacons, fish-finding sonar and even fish forecasts based on satellite data to find and catch fish. Global Fishing Watch shows where fishing activity has occurred; it does not predict where fish are likely to be in the present or the future. Fishing companies can already watch their competitors using private AIS feeds, so they already know where others are fishing.

Who funds Global Fishing Watch?

Funding partners include the Leonardo DiCaprio Foundation, Marisla Foundation, Bloomberg Philanthropies, The Wyss Foundation, The Waterloo Foundation and Adessium Foundation.

Is Global Fishing Watch partnering with other organizations?

Yes. Global Fishing Watch works in partnership with a growing number of organizations that contribute data, expertise and funding to make global fishing activity more transparent and to make an impact on protecting our oceans. The technology is available to all organizations and we will work with as many as we can to achieve the greatest possible impact.

What is the significance of EEZs?

- An Exclusive Economic Zone (EEZ) is a zone in the ocean in which the adjacent nation has jurisdiction. These generally include waters extending 200 nautical miles from a nation's coastline and are also established closer to the coastlines where multiple nations' jurisdictions would otherwise overlap.
- Each country has special rights regarding exploration and use of resources within its EEZ. For example:
 - If a country establishes that its fishing resources are being fully exploited by domestic fleets, it can exclude foreign vessels.
 - A country can also allow foreign vessels to fish in its EEZ and can sell them fishing licenses, generating revenue.

What is the difference between a No-Take MPA and a Restricted Use MPA?

- A No-Take MPA prohibits all fishing and other extraction measures within its boundaries.
- Other Restricted Use MPAs allow fishing but impose restrictions such as limits on certain types of fishing gear or fishing methods, seasonal closures, or restrictions on fishing sectors (commercial vs. recreational, or industrial vs. small-scale).

*Any and all references to "fishing" should be understood in the context of Global Fishing Watch's fishing detection algorithm, which is a best effort to determine "apparent fishing activity" based on vessel speed and direction data from the Automatic Identification System (AIS) collected via satellites and terrestrial receivers. As AIS data varies in completeness, accuracy and quality, it is possible that some fishing activity is not identified and conversely, that some fishing activity identified is not fishing. For these reasons, Global Fishing Watch qualifies all designations of vessel fishing activity, including synonyms of the term "fishing activity," such as "fishing" or "fishing effort," as "apparent," rather than certain. Any/all Global Fishing Watch information about "apparent fishing activity" should be considered an estimate and must be relied upon solely at your own risk. Global Fishing Watch is taking steps to make sure fishing activity designations are as accurate as possible.

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