

# Decommissioning the ocean observatories initiative: a shortsighted and self-defeating retreat from sustained ocean observation

## Abstract

The United States is dismantling the Ocean Observatories Initiative (OOI), a national network of cabled and moored deep-ocean instruments that has delivered continuous, openly accessible measurements of the ocean interior for roughly a decade. This opinion argues that the decision is shortsighted and, on its own stated terms, difficult to defend. Removing functioning infrastructure engineered for about a quarter-century of service—after Congress twice restored its funding—would convert a modest annual operating expense into the permanent loss of an irreplaceable, multi-year data record that cannot be reconstructed once the time series is broken. The instruments measure properties of the deep ocean that satellites cannot directly observe, and they provide in-water reference data on which satellite products and forecast models depend. The arrays underpin fisheries, marine energy, and coastal-flood applications; contribute to monitoring of the Atlantic Meridional Overturning Circulation; and are part of an international scientific collaboration. The decommissioning further raises questions about Congress’s appropriations authority and cedes leadership in ocean observation at a moment when other Nations are expanding theirs. I conclude that the action should be paused, that the assets should remain in the water while legal review proceeds, and that a bridge in funding can preserve the option to continue observations until the underlying policy is reconsidered. The cost of watching the ocean is small; the cost of going blind is not.

**Keywords:** ocean observing systems, Ocean Observatories Initiative, research infrastructure, ocean and climate monitoring, science policy, Atlantic Meridional Overturning Circulation, ocean acidification, appropriations

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**Abbreviations:** AMOC, Atlantic Meridional overturning circulation; APA, administrative procedure act; IOOS, integrated ocean observing system; NOAA, national oceanic and atmospheric administration; NSF, national science foundation; OOI, ocean observatories initiative

## Introduction

The Ocean Observatories Initiative (OOI) is among the most advanced continuously operating ocean-observing systems ever built: a network of more than nine hundred instruments, anchored from the sea surface to the deep seafloor across the North Atlantic and North Pacific, returning open data on currents, chemistry, and physics in near real time. In mid-2026, the National Science Foundation (NSF)

announced that it would begin removing the arrays, dispatching ships to extract instruments off Oregon, Washington, Alaska, and the U.S. East Coast, and from the Irminger Sea between Greenland and Iceland.<sup>1-3</sup>

The decision is, by any reasonable measure, inexplicable. It is presented as cost discipline and prudent life-cycle management, yet on each dimension by which it might be justified—fiscal, scientific, economic, security, constitutional, and diplomatic—it fails on its own terms. What follows is not a defense of every federal program against every cut, but an argument that this particular action destroys far more value than it preserves, and does so irreversibly. Table 1 summarizes the arrays at issue.

**Table 1** OOI arrays affected, their locations, and representative measurements and uses

Array	Location	Representative measurements and uses
Coastal Endurance Array	Off Oregon and Washington	Temperature, salinity, oxygen, pH; fisheries and acidification monitoring (removal underway)
Coastal Pioneer Array	U.S. East Coast (Mid-Atlantic)	Shelf-break currents; fisheries, coastal processes, marine-energy siting (removal slated 2027)
Global Station Papa Array	Central Gulf of Alaska	Air-sea exchange, carbon, subarctic Pacific conditions
Global Irminger Sea Array	Between Greenland and Iceland	Deep convection and overturning circulation (AMOC); ocean carbon uptake
Regional Cabled Array	Off Oregon (Axial Seamount)	Seafloor geophysics and water-column sensors (seismic instruments continue to 2028)

AMOC, Atlantic Meridional Overturning Circulation.

## A self-inflicted fiscal loss

The network cost roughly 368 million U.S. dollars to build and about 48 million dollars per year to operate, and it was engineered to run for approximately twenty-five years—barely past its first decade.<sup>1</sup> Removing it now, after months of ship time spent extracting more than nine hundred instruments, would spend public money to destroy a functioning capital asset with some fifteen years of design life remaining.<sup>1,2</sup> Compounding the irony, managers had already powered down instruments and curtailed data collection to reduce costs;<sup>1</sup> a system deliberately starved is now declared expendable. Whatever annual savings are claimed is dwarfed by the sunk investment being written off and by the cost—if it were even feasible—of rebuilding such a system later.

## An irreplaceable scientific record, broken

For about a decade, OOI has produced a continuous record of temperature, chemistry, and currents from the surface to the seafloor.<sup>1</sup> NSF has indicated that recovered equipment will be retained pending further guidance, with no plan to redeploy the instruments or sustain the observations.<sup>2</sup> A geophysical time series is not a manuscript that can be shelved and resumed: once a gap opens, it cannot be filled retroactively, and the specialized engineering required to operate these sites is at risk of being lost together with the teams that hold it.<sup>1</sup> Many of the signals these instruments exist to detect—ocean heat uptake, deoxygenation, acidification, and slow circulation change—emerge only across years to decades, precisely the scales that a severed record destroys.

## What satellites and AI models cannot replace

A common rejoinder holds that satellites have rendered in-water instruments redundant. They have not. Satellites observe the ocean surface with extraordinary reach—temperature, color, winds, waves, and sea-surface height—but they cannot measure the temperature, salinity, oxygen, and acidity of the ocean interior, nor the deep currents that organize global circulation. Equally important, satellite retrievals and the forecast and data-assimilation models built upon them must be calibrated and validated against in-water measurements; remove the in-situ backbone and the very surface products on which operational users rely will slowly drift, with no independent means of detecting the error. The same dependence extends to the data-driven and machine-learning forecasting systems now proliferating: they are trained on reanalyses that themselves assimilate in-water observations, so their skill is inherited from the in-situ network and decays as that network is dismantled. In-situ and satellite observing are complements, not substitutes—and a satellite, or an algorithm, is only as accurate as the ocean truth used to anchor it.

## Economic harm to coastal industries and communities

These data are not abstract. Endurance Array moorings off Oregon and Washington track the temperature, oxygen, and acidity that shape the Pacific Northwest fishery; the Pioneer Array off the East Coast informs coastal currents, fisheries, and a federally supported marine-renewable-energy test site; and the same observations bear on the coastal flooding that threatens infrastructure and lives.<sup>1</sup> The timing compounds the harm: the instruments are being withdrawn as a new El Niño develops—precisely the period in which managers most need to anticipate how shifting temperatures will redistribute fish stocks.<sup>2</sup>

## A national security dimension

The physical variables OOI measures—temperature, salinity, and current structure—govern how sound propagates underwater and

therefore bear directly on anti-submarine warfare and naval operations. It must be stated plainly that OOI is an open civilian research network, not a defense system. Even so, the baseline environmental knowledge, the trained workforce, and national leadership in deep-ocean observation carry strategic value, and they are being surrendered at a moment when other major powers are rapidly expanding their own ocean-sensing capabilities; the Office of Naval Intelligence has so testified to Congress. Dismantling civilian observing capacity does not advance national security—it quietly erodes it.

## Overriding the appropriations authority of Congress

The administration proposed reducing the program's funding by roughly 80% over two successive years, and in each case, Congress restored the funding.<sup>1</sup> Proceeding to dismantle the network notwithstanding those appropriations raises a serious institutional question about the spending authority that the Constitution vests in the legislature. Whatever one's view of the program's merits, a precedent in which duly appropriated infrastructure is physically removed against the expressed intent of Congress is corrosive to the separation of powers, and analogous funding disputes are already before the federal courts.

## Abandoning international scientific partnerships

The Irminger Sea moorings, fixed thousands of meters below the surface between Greenland and Iceland, form part of an international effort to observe the Atlantic Meridional Overturning Circulation (AMOC), whose weakening would carry hemispheric climate consequences.<sup>1</sup> The best available assessment indicates that the AMOC has very likely weakened and may weaken further under continued warming; an abrupt collapse within this century is judged unlikely but high-impact and cannot be ruled out.<sup>4</sup> Sustained observation is the only means of narrowing that uncertainty. To withdraw unilaterally is to break faith with partner nations and shift the burden of monitoring a globally consequential system onto others.

## Preserving the option

None of this requires that the present policy be permanent. The decision is reversible until the instruments leave the water; once they are removed, it is not. The prudent course is to pause removal, keep the assets on station, and allow legal review and congressional deliberation to run their course. Where federal funding has lapsed, philanthropy can bridge the interval and preserve the option to continue observations—an inexpensive insurance policy against an irreversible mistake.

## Conclusion

What is most striking about this decision is how poorly it survives its own justification. Presented as fiscal discipline, it spends money to destroy a paid-for asset; presented as modernization, it discards the in-water measurements that modern satellite and model products require; and presented as routine portfolio management, it overrides the considered judgment of Congress. The ocean covers most of the planet and governs its climate, its fisheries, and its weather. The cost of continuing to observe it is modest; the cost of choosing not to is the slow, compounding penalty of acting blind. The instruments should remain in the water.

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## Conflicts of interest

The author is President & CEO of The Ocean Foundation, which has proposed a philanthropic bridge fund to sustain ocean-observing infrastructure of the kind discussed here. The views expressed are the author's own.

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