Empowering Sustainable Fisheries Through Data

OceanBytes and Geoforce in Partnership

Fisheries around the world face increasing pressure to balance economic livelihoods with environmental stewardship. In regions where small scale fishing is both a cultural foundation and a primary source of income, tracking, reporting, and compliance can be inconsistent and difficult to manage. To address these challenges, OceanBytes and Geoforce have partnered to create an innovative fish mapping and reporting system that benefits fishermen, regulatory bodies, and environmental conservation agencies alike.

National Challenges - Global Impacts

Governments around the world also face increasing pressure to ensure marine conservation and prevent overfishing in their waters. The Ocean Bytes and Geoforce partnership has also resulted in the development and deployment of a fishing vessel tracking solution that provides global satellite coverage and full vessel visibility to both regulating bodies and fisheries themselves. With multiple countries served and almost 1,000 vessels now tracked, this partnership initiative has already shown significant results. What could technology collaborations like this mean to other countries around the globe?

End to End Marine Visibility

- Geoforce GT2s Devices are installed on participating vessels, providing reliable location data even in remote waters
- OceanBytes applications overlay vessel location, environmental information and fish distribution data, giving catchers visual insights into optimal approved fishing zones
- Reporting Integration allows users to log catch activity in alignment with local government and international compliance requirements, helping to replace dated paper systems with simple digital entries
- Data Sharing opt-in helps aggregate catch data by region, vessel type, or species, offering conservation agencies a real-world lens into fishing patterns

geoforce

“Better fisheries management, including the prevention of overfishing, could generate an estimated $80 billion in annual net economic benefits.”

The Nature Conservancy

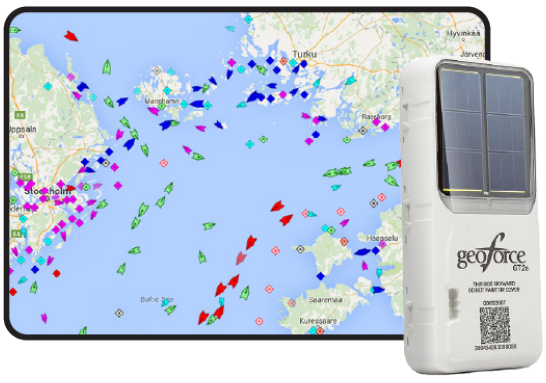
From Indonesia, where national certification and deployment are actively underway, to fleets across Latin America and other coastal regions, fishing operations vary widely in design, technology access, and compliance capacity. One of the goals of this partnership is to identify the vessel types and regional needs that would benefit most from this system, ensuring tailored rollouts that respect local operational realities while upholding international monitoring and sustainability standards.

The Challenge

Over 1 million small vessels across diverse coastal regions rely on fishing not just for sustenance but survival. Yet these fleets often lack access to reliable data on fish migration, catch volumes, or location history, which are critical for sustainable practices and international compliance. Many still rely on paper-based logbooks or inconsistent self-reporting methods, which create gaps in both accuracy and accountability. Governments and NGOs are left with incomplete insights into marine resource health, making it harder to enforce regulations or support responsible fishing efforts.

The Solution

Enter OceanTrack, a powerful modernized platform that brings together real-time vessel tracking and advanced catch data analysis, offering unparalleled insights and control for fisheries authorities and industry stakeholders. With seamless integration of data from approved tracking devices, AIS feeds, and catch reports from the OceanFishMap app, OceanTrack provides a comprehensive toolset for monitoring and managing fishing operations. This helps stakeholders with traceability, compliance, and resource protection.



Geoforce Solution: GT2 Solar Satellite GPS Tracker

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Value of Incentive Based Reporting

Rather than relying on top-down enforcement, the OceanBytes system encourages participation through real value to the user, making catchers more efficient, saving fuel, and increasing their haul. In turn, governments gain a scalable and data-backed framework to monitor activity in near real time, improving conservation efforts without alienating the communities they aim to support.

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Indonesia's Ministry of Marine Affairs & Fisheries

OceanBytes and Geoforce have achieved certification with Indonesia's Ministry of Marine Affairs and Fisheries (KKP | Kementerian Kelautan dan Perikanan) and are actively equipping vessels across the Indonesian fleet with Geoforce GT2s devices. This deployment improves reporting accuracy, enhances vessel visibility, and helps modernize fisheries monitoring for one of the world's largest fishing populations.

Scaling the Vision in Costa Rica's Conservation

Costa Rica offers a glimpse into the long-term potential of national scale adoption. As a country deeply committed to marine conservation, **Costa Rica has implemented multiple measures to safeguard its marine ecosystems, many of which align with the core capabilities of the Geoforce and OceanBytes solution.** Costa Rica has been actively engaged in marine conservation efforts, including monitoring and combatting overfishing and illegal fishing within its waters, supported by the deployment of GT2s devices across more than half of the country's artisanal fishing fleet.

Costa Rica has a significant amount of marine territory that requires a significant amount of effective fisheries management. The country's efforts include:

- **Collaboration with Global Fishing Watch (GFW):** Costa Rica's Institute for Fisheries and Aquaculture (INCOPESCA) signed an agreement with Global Fishing Watch to share vessel tracking data publicly, enhancing transparency in fishing activity. This data is used to identify vessels potentially engaging in illegal fishing operations and monitor vessels entering protected areas.
- **Vessel Monitoring System (VMS) and Automatic Identification System (AIS):** Costa Rica utilizes these systems, which are enabled by advanced technologies like Geoforce's GPS tracking devices, to monitor the location of fishing vessels in near real-time and aid in the identification of illegal activities.
- **Electronic Monitoring (EM):** Collaborations are also underway to develop and implement electronic monitoring programs on fishing vessels, which involve using technology to collect and transmit data at sea. This helps improve data collection, particularly on bycatch of protected species, and verify market compliance management.

Conclusion

Technology alone will not solve the world's overfishing crisis, but the right partnerships can. The collaboration between Geoforce and OceanBytes shows how scalable, field-tested tools can empower local fishers, strengthen national oversight, and support global conservation goals all at once. By turning compliance into opportunity and data into action, this system proves that sustainable fisheries management does not have to be a tradeoff, it can be a win for everyone.