



Clear Seas Webinar
November 9, 2023



MarineLabs

REAL-TIME COASTAL INTELLIGENCE



U. S. HYDROGRAPHIC OFFICE
TECHNICAL REPORT NUMBER 1

WIND, SEA, AND SWELL: THEORY OF RELATIONS FOR FORECASTING

By

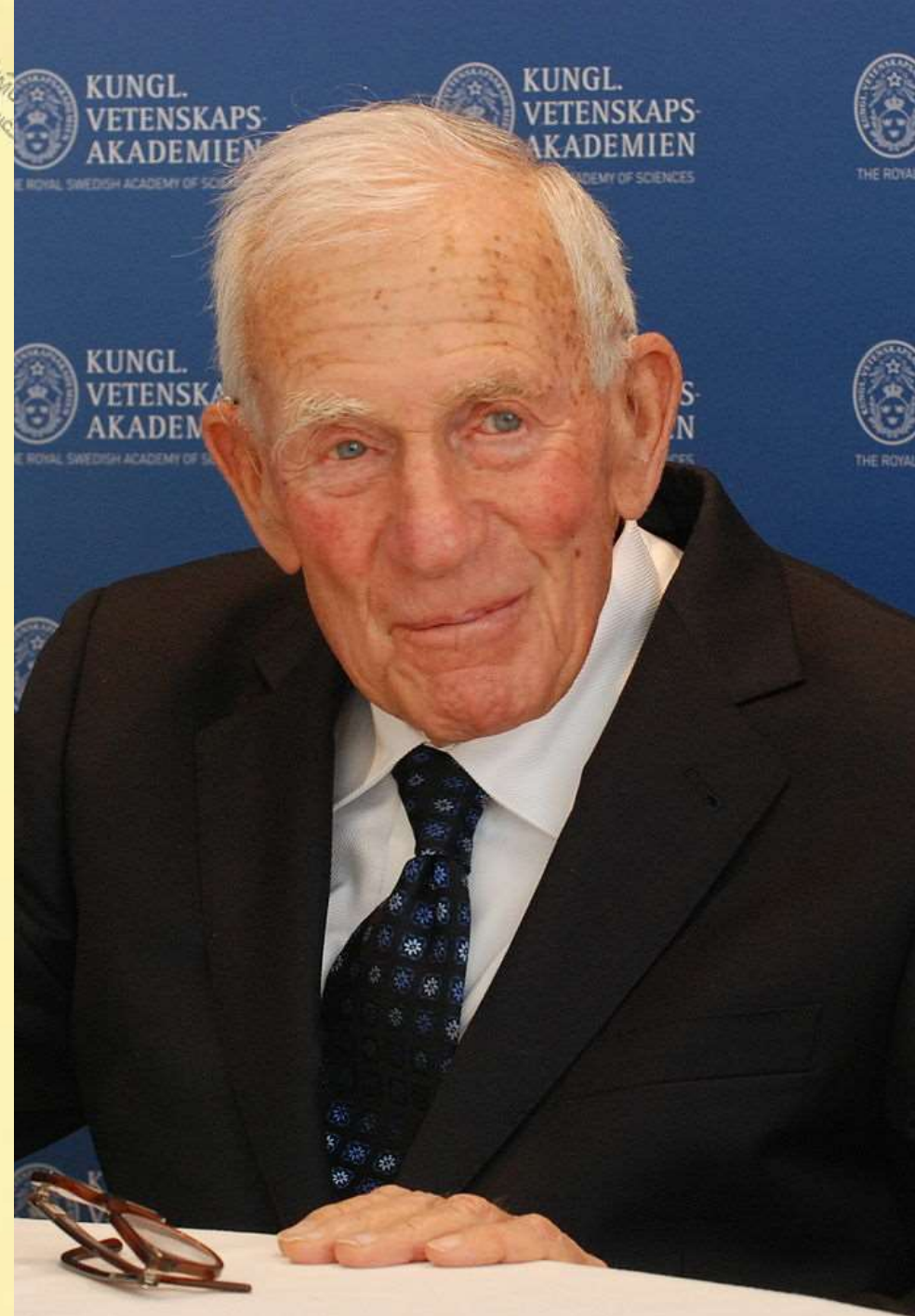
H. U. Sverdrup and W. H. Munk

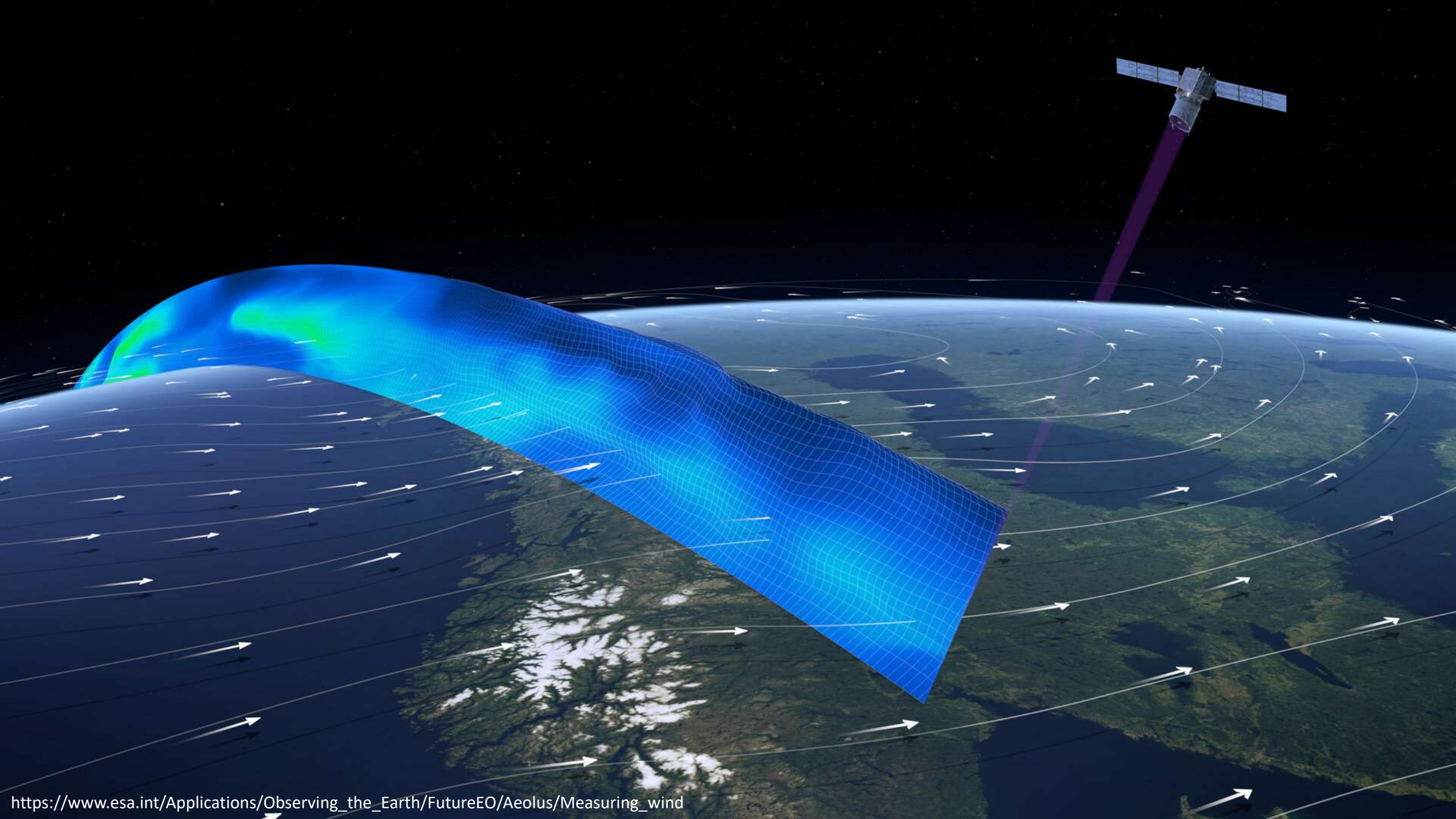
*University of California
Scripps Institution of Oceanography
La Jolla, Calif.*

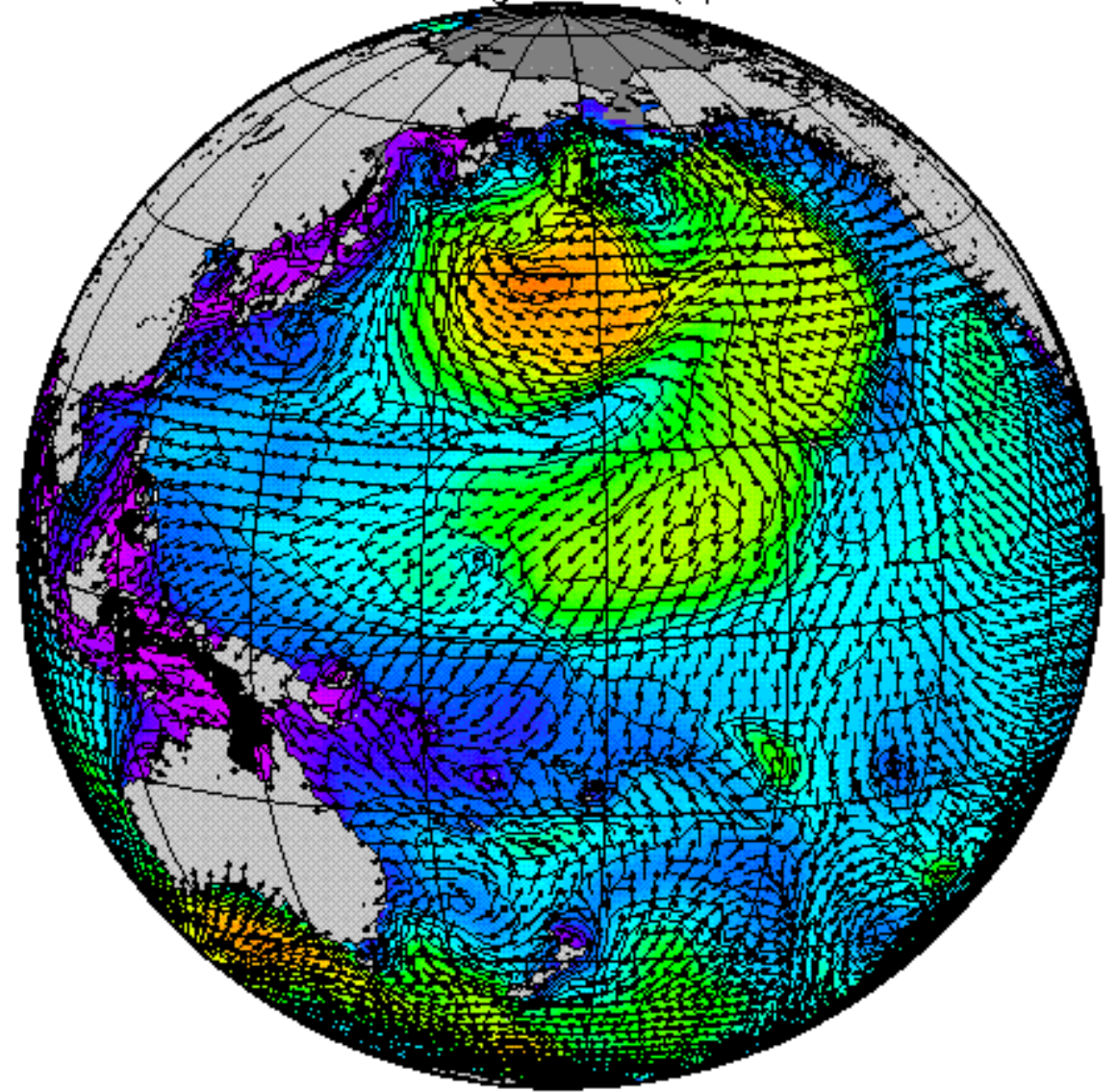
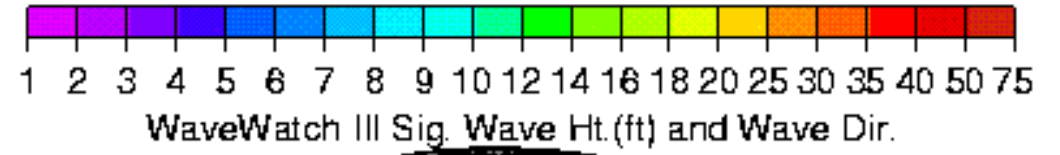
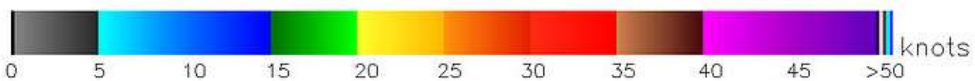
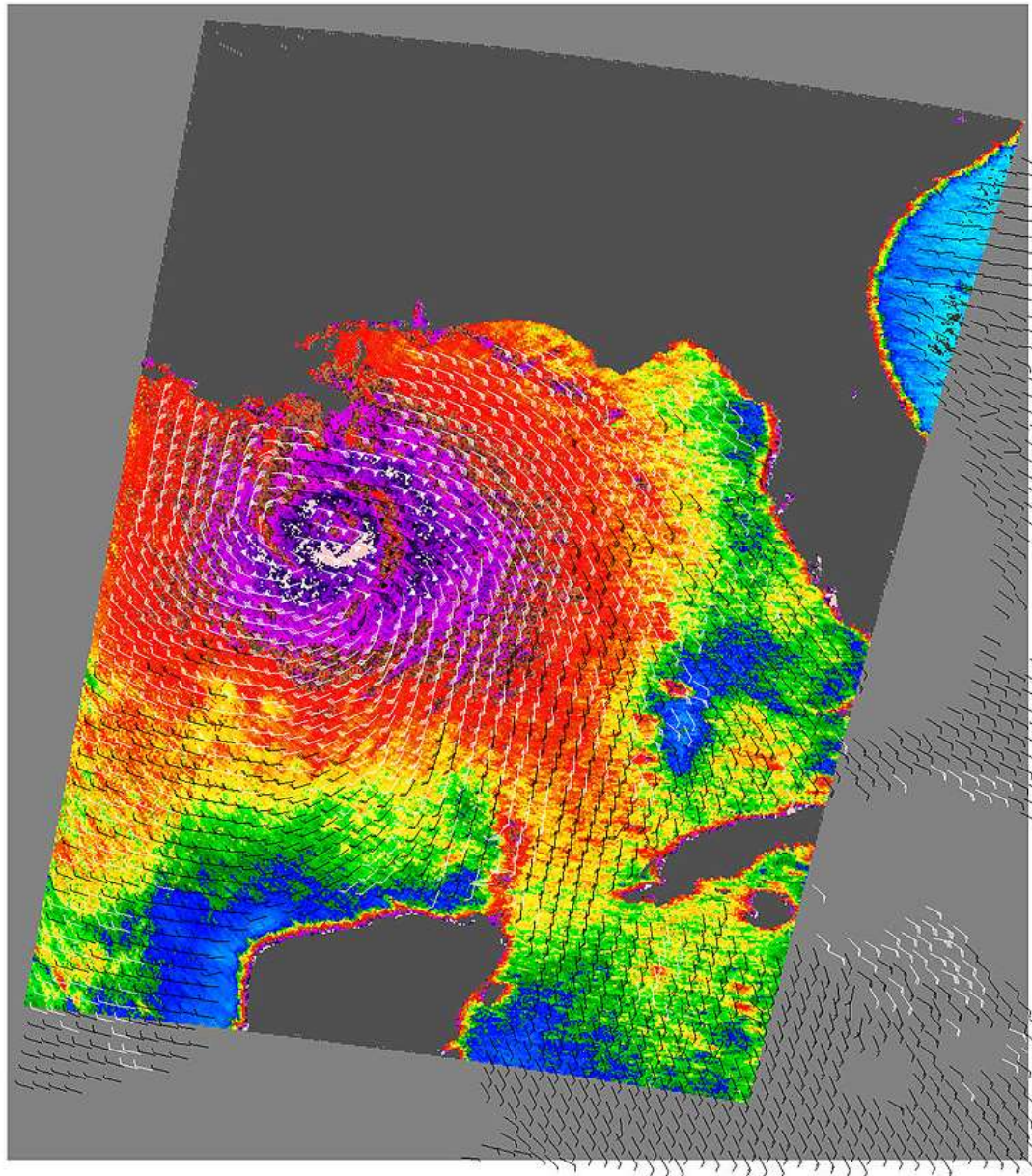
MARCH 1947



ISSUED UNDER AUTHORITY OF
THE SECRETARY OF THE NAVY















Company Overview

- MarineLabs Data Systems Inc. – A real-time coastal intelligence company
- Located in Victoria, Canada
- Website: Marinelabs.io
- Operating currently in Pacific and Atlantic

Selected Clients, Partnerships, Affiliations:



Pacific Pilotage
Authority



KONGSBERG



IALA



Canada



U.S. DEPARTMENT OF
ENERGY



SCRIPPS INSTITUTION OF
OCEANOGRAPHY

Problem

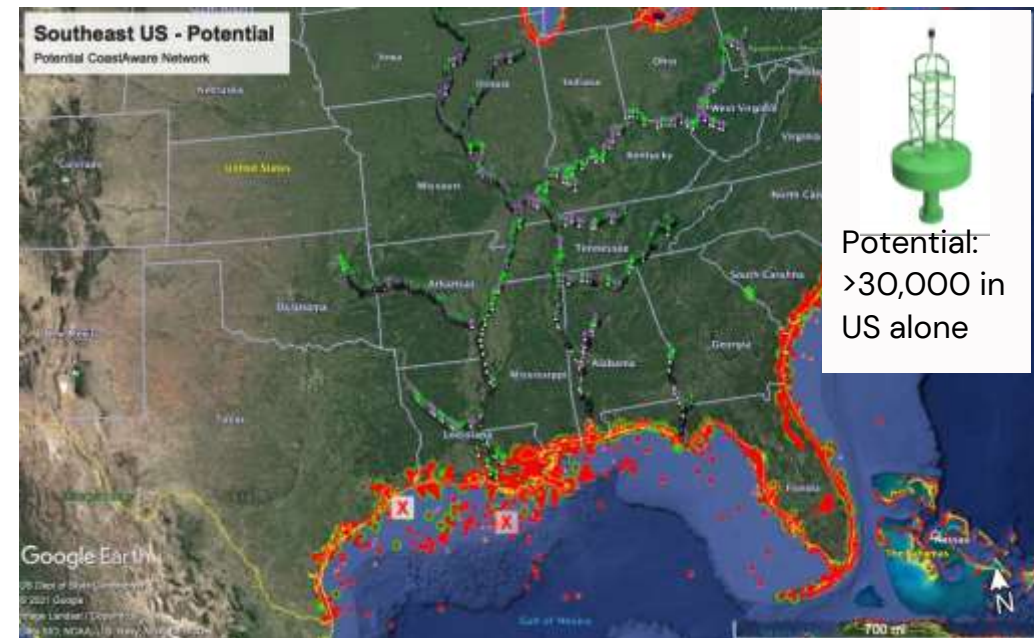


SOLUTION:

Every float in the world should be a real-time data station



Now with Legacy Tech



Our Vision

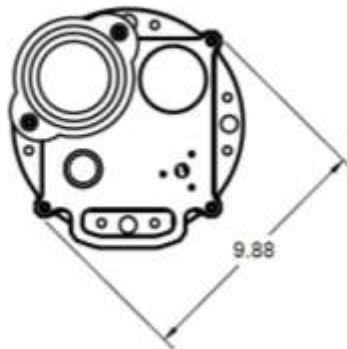
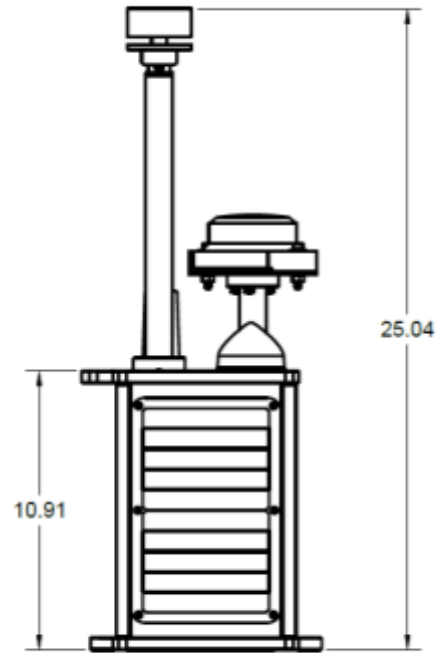
Why?



Why?







CoastScout™

- 15min updates
- Cell (LTE), + Satellite backup
- Wave: Directional using GPS, IMU fused for wave measurement
- Wind: Ultrasonic sensor (Speed, gust, direction)
- Camera: 360degree
- Solar powered, self contained
- 4 bolt mounting using std. pattern
- MIL SPEC Shock & Vibration tolerant
- Uses QARTOD – NOAA standard QA/QC

A photograph of a yellow conical buoy floating on a blue body of water. The buoy has a black top section with some equipment. In the background, there are blue mountains under a clear blue sky.

Deployed on small buoy

- 0.9m diameter
- ~80kg
- Max 4kn current, ~200m water depth
- Meets or exceeds all private buoy regs



MarineLabs



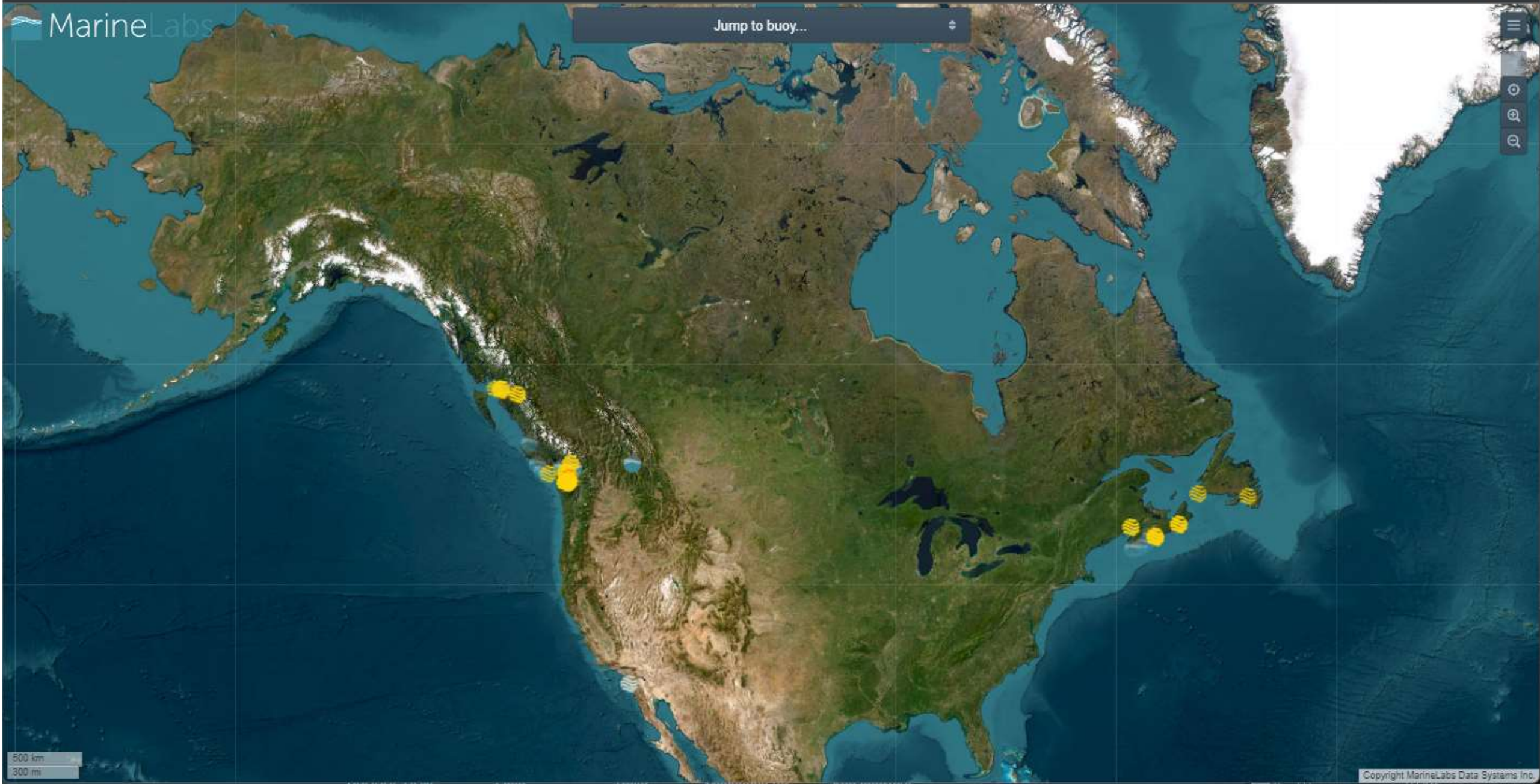


CoastAware™

The world's highest resolution, persistent, real-time weather data



Jump to buoy...



500 km
300 mi

HOW DOES IT WORK:

Subscription based service

- MarineLabs owns and operates the hardware
- Subscriptions to Port/Pilots/Industry
- Data access by phone, browser, API

Why do Coastal Communities care?

1. Port Safety & Efficiency
2. Environmental Monitoring
3. Climate resilience

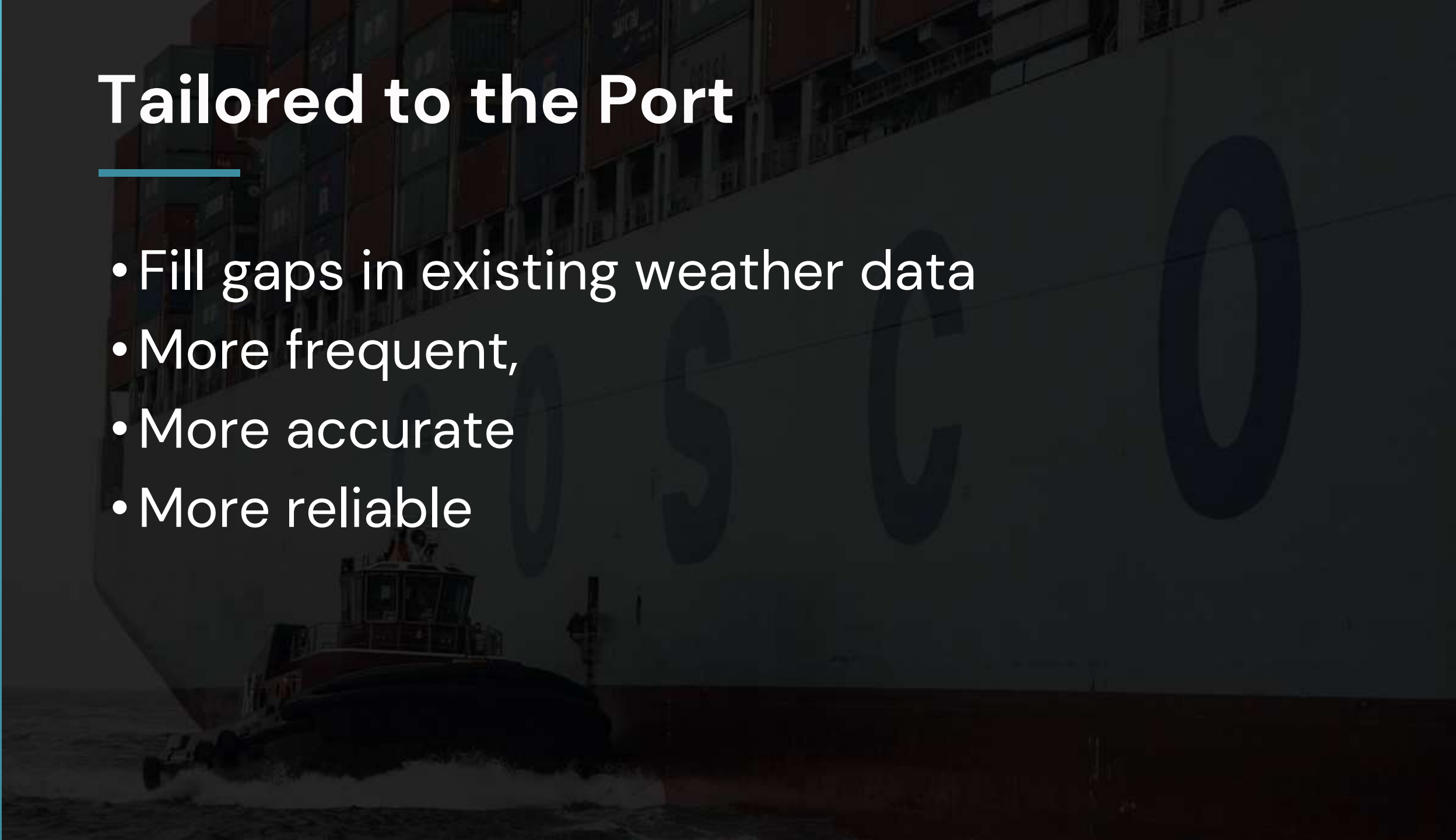


Safety & Efficiency

- Handle larger ships in tight weather margins
- Reduce unforeseen weather delays and cancellations
- Incident/Accident avoidance

Tailored to the Port

- Fill gaps in existing weather data
- More frequent,
- More accurate
- More reliable



Reliability in Numbers

With a single data buoy



With MarineLabs



Reliability in Numbers

Data void



Still reliable data





Buoy Cam

- 360degree view every 15min
- Weather context for Pilots
- Visibility information
- Security monitoring applications



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PARTNERSHIP:

Berthwatch: Real-time depth scanning in port berths

- Maximize cargo throughput in port/terminals that have siltation
- Kongsberg hardware – MarineLabs software
- Used for:
 - Post storm port recovery
 - Optimizes vessel loading



KONGSBERG



Brent Baxter
Harbour Master
Prince Rupert Port Authority

"We simply wouldn't be able to smoothly support the new class of ships without MarineLabs data."



Adam Parsons
Director, Marine Operations and
Harbour Master
Port of Halifax

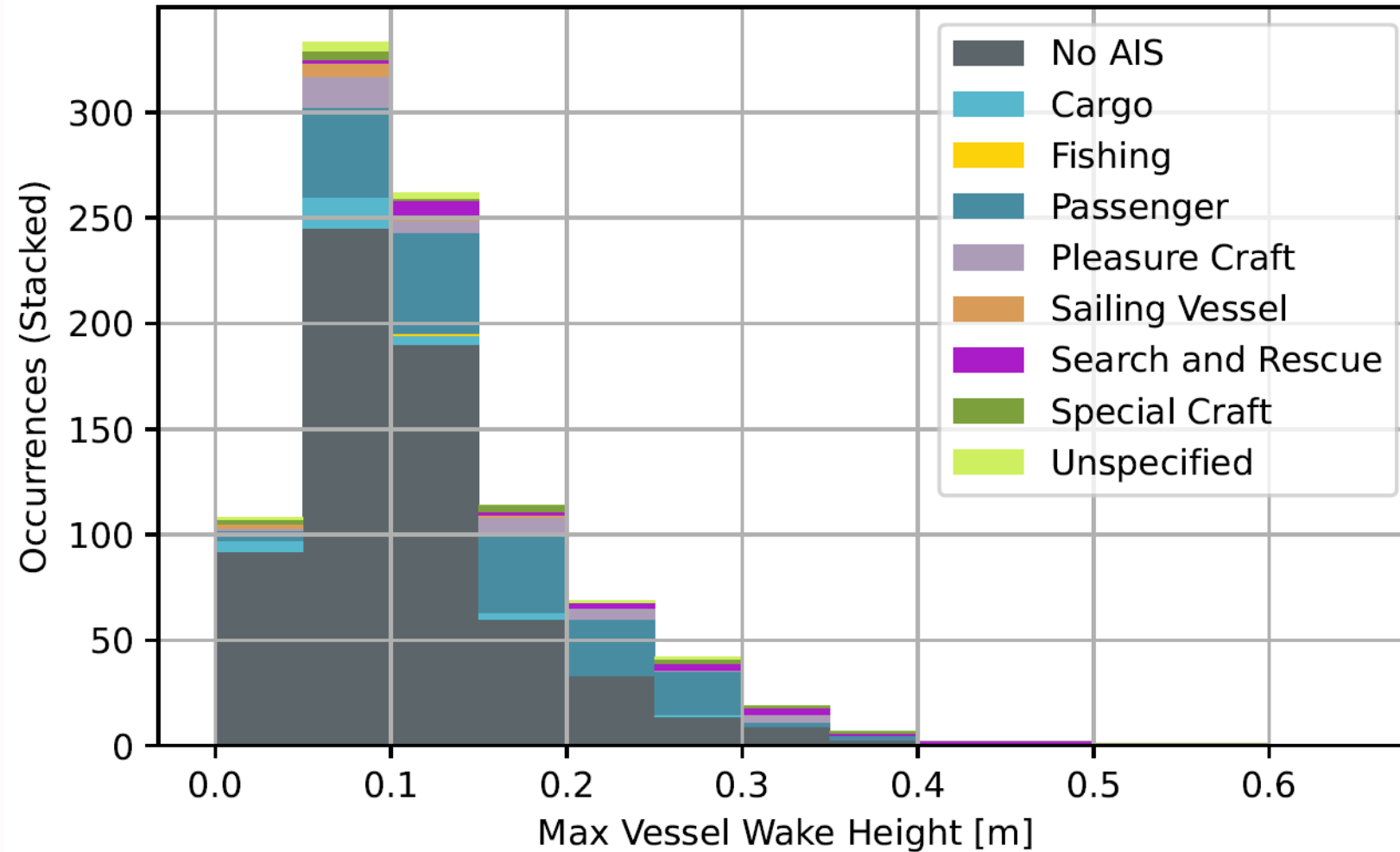
“....MarineLabs provide all of us working in the marine environment with information that will ultimately lead to safer outcomes for all involved.”

Environmental Monitoring

- Shipping effects on coastlines
- Working with Indigenous groups on marine stewardship







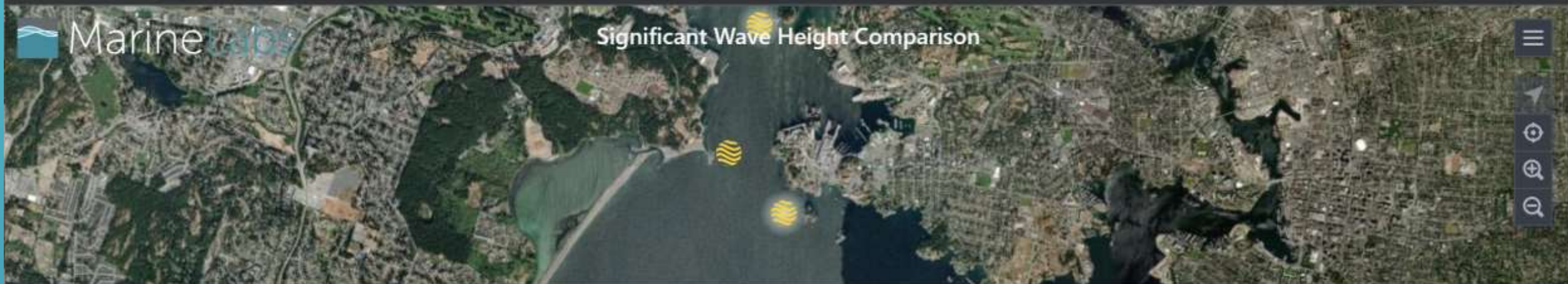
Climate resilience

- Long term data feeds directly into port and harbor design

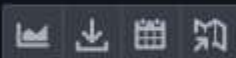




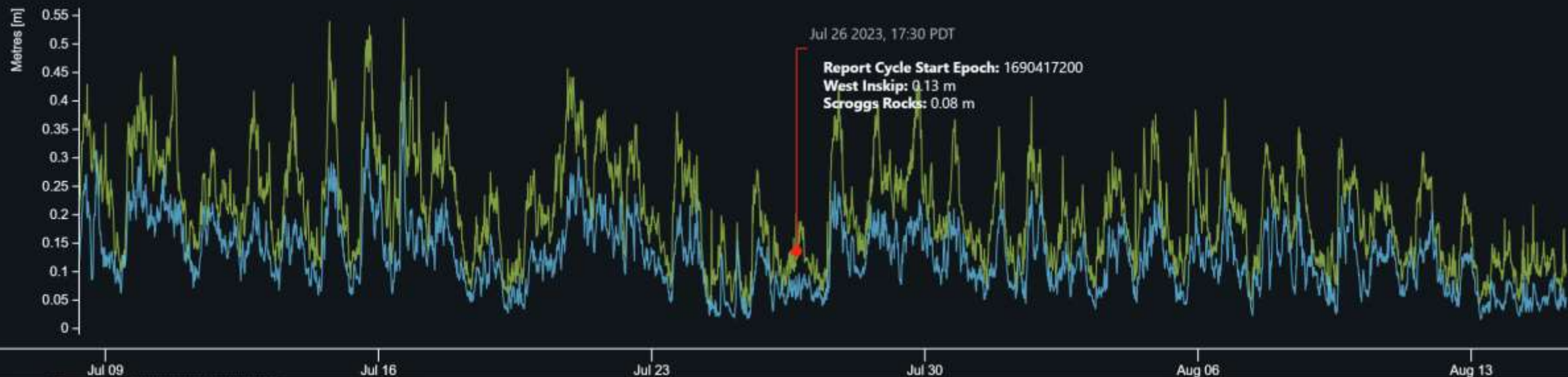
Significant Wave Height Comparison



Plot



West Inskip — Scroggs Rocks



Summary

- We provide real-time, historical, and insights data as service
- Making coastlines safer, greener and more climate resilient



MarineLabs

REAL-TIME COASTAL INTELLIGENCE

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