

IOOS ADVISORY COMMITTEE

Wind Energy Panel

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Head of Marine Affairs,
Orsted U.S. Offshore

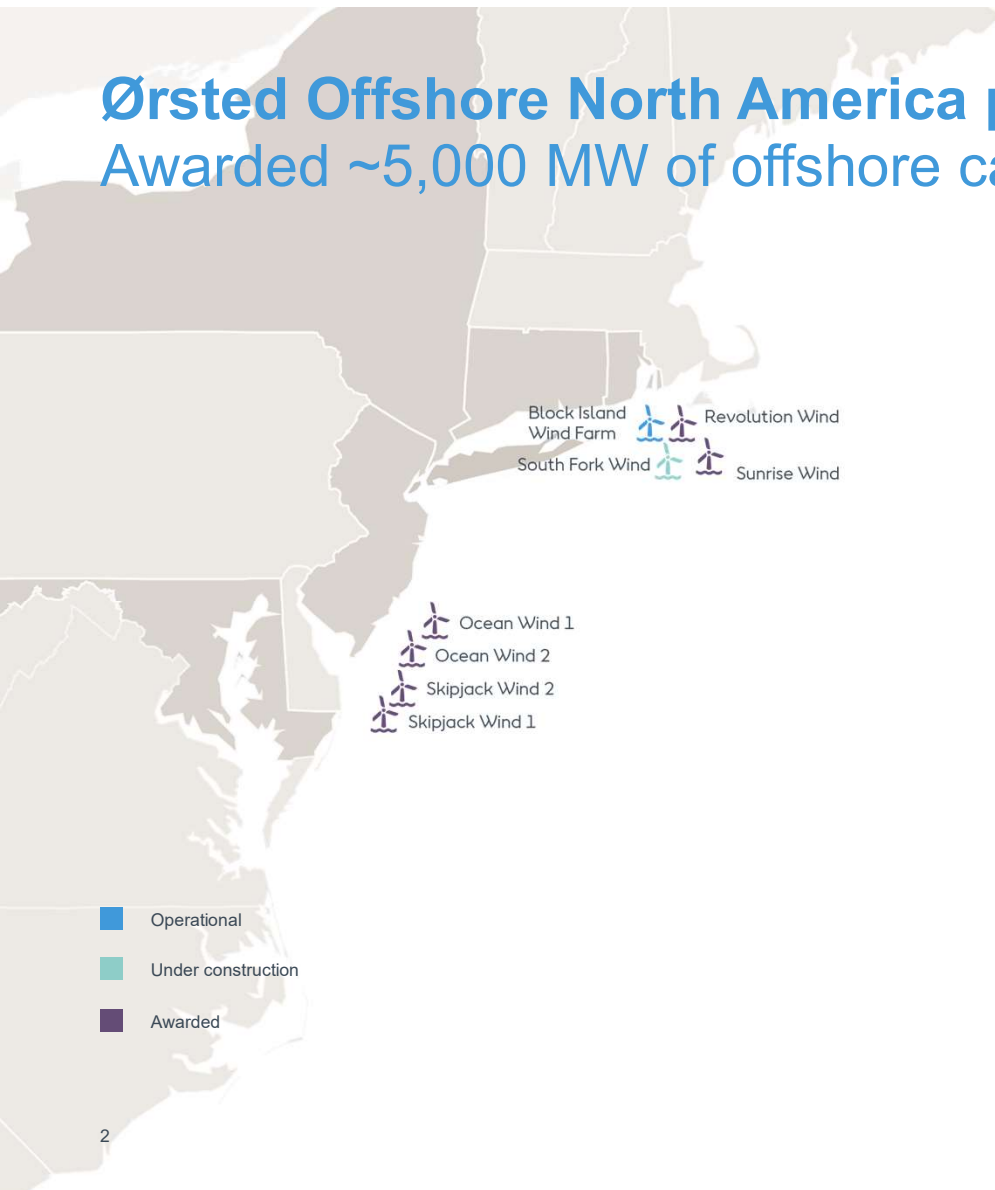
 Orsted

May 2022



Ørsted Offshore North America portfolio

Awarded ~5,000 MW of offshore capacity on the East coast



In Operation

Block Island Wind Farm: 30MW

Under construction

South Fork Wind: 50/50 JV w/ Eversource, 132MW

Awarded

Revolution Wind: 50/50 JV w/ Eversource, 704MW

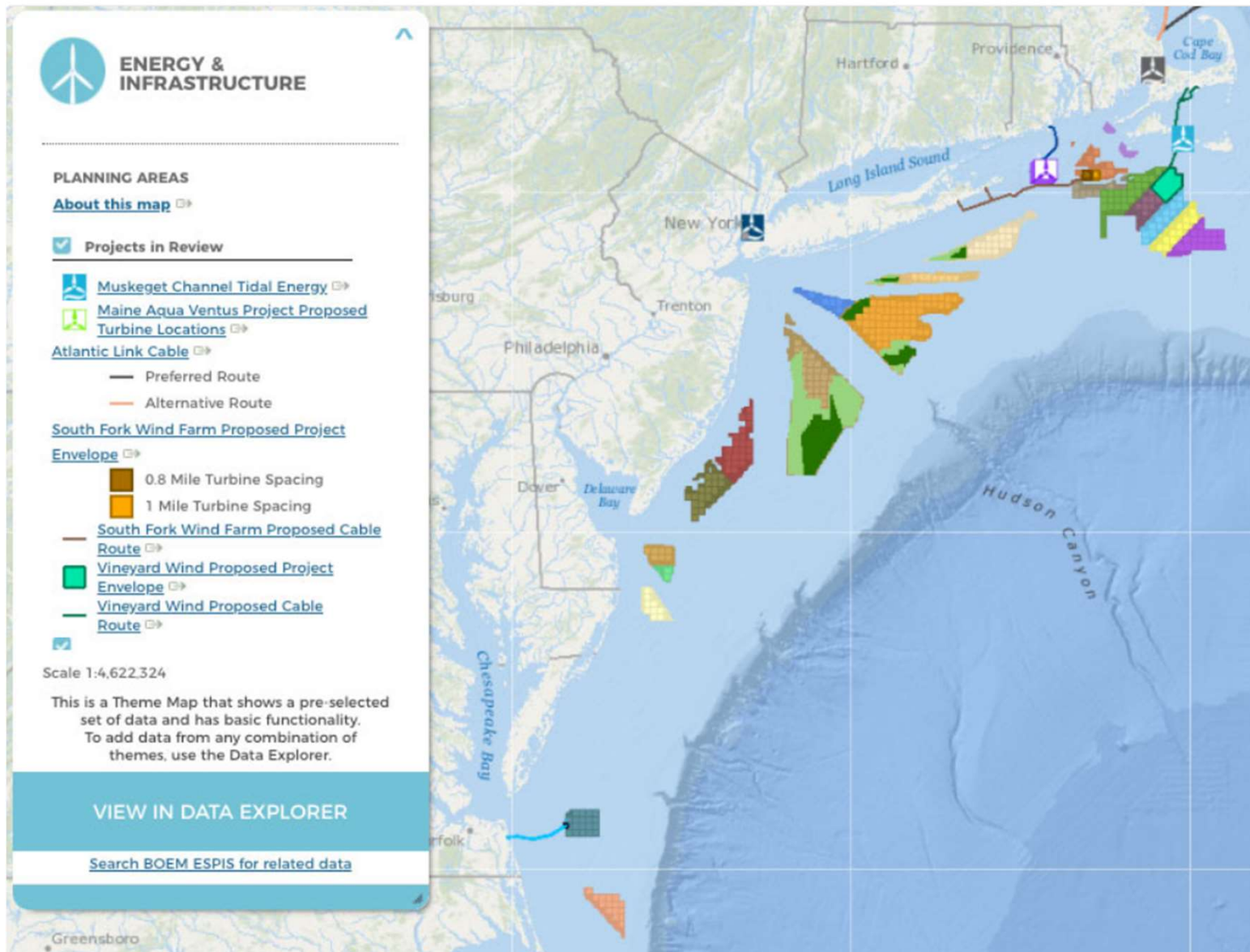
Sunrise Wind: 50/50 JV w/ Eversource, approximately 924MW

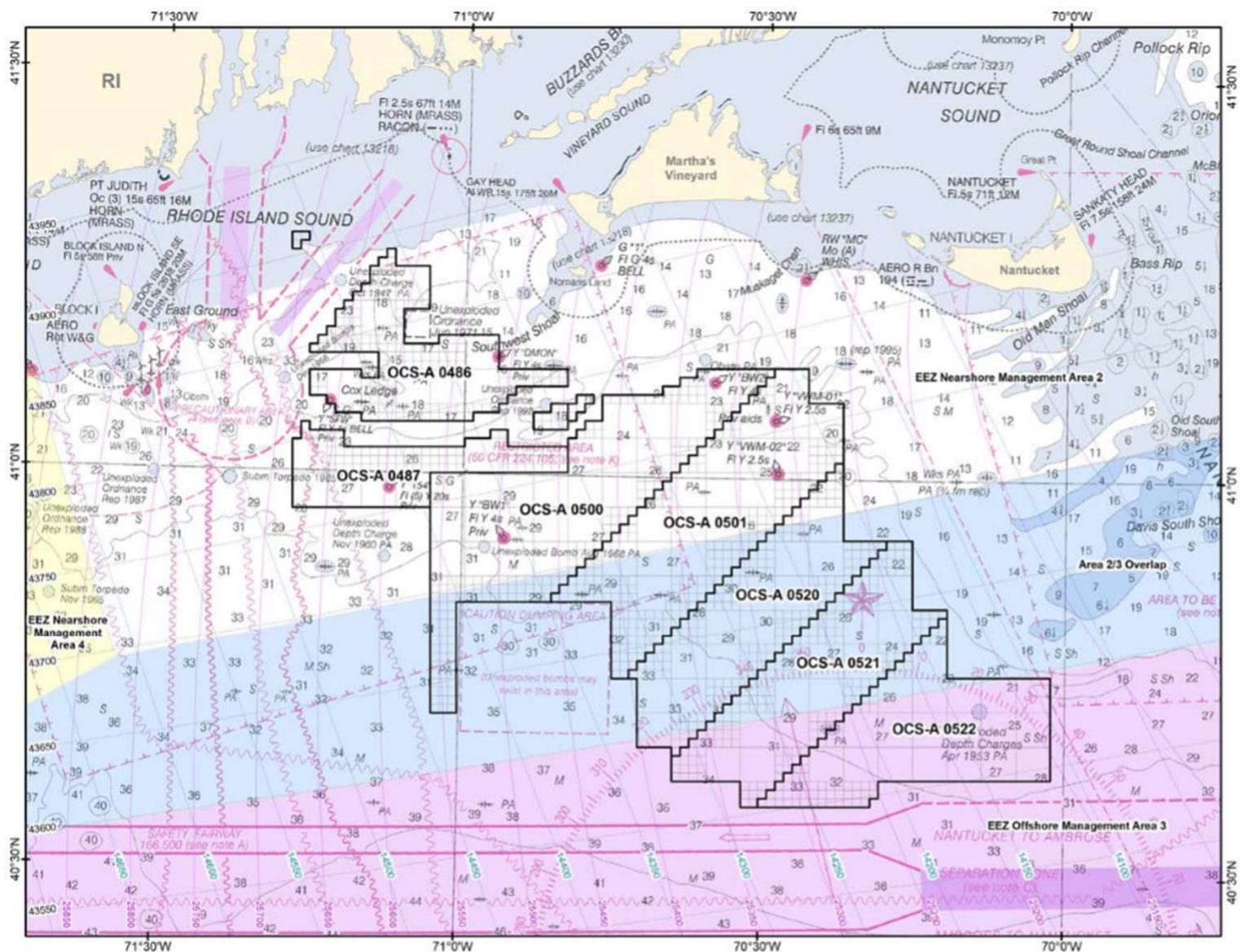
Ocean Wind 1: 75/25 JV with PSEG, 1,100MW

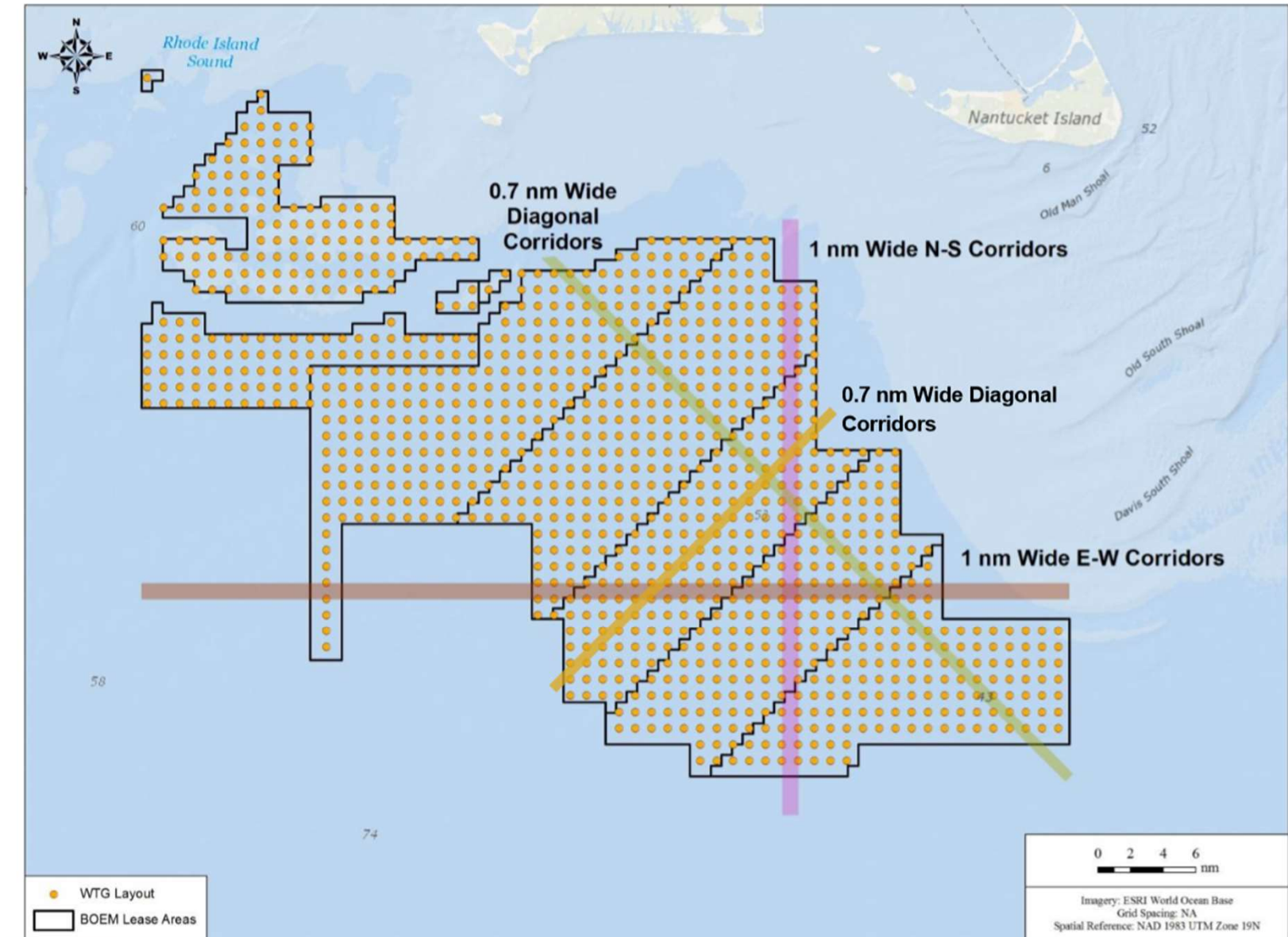
Ocean Wind 2: 1,148MW

Skipjack Wind 1: 120MW

Skipjack Wind 2: 846MW

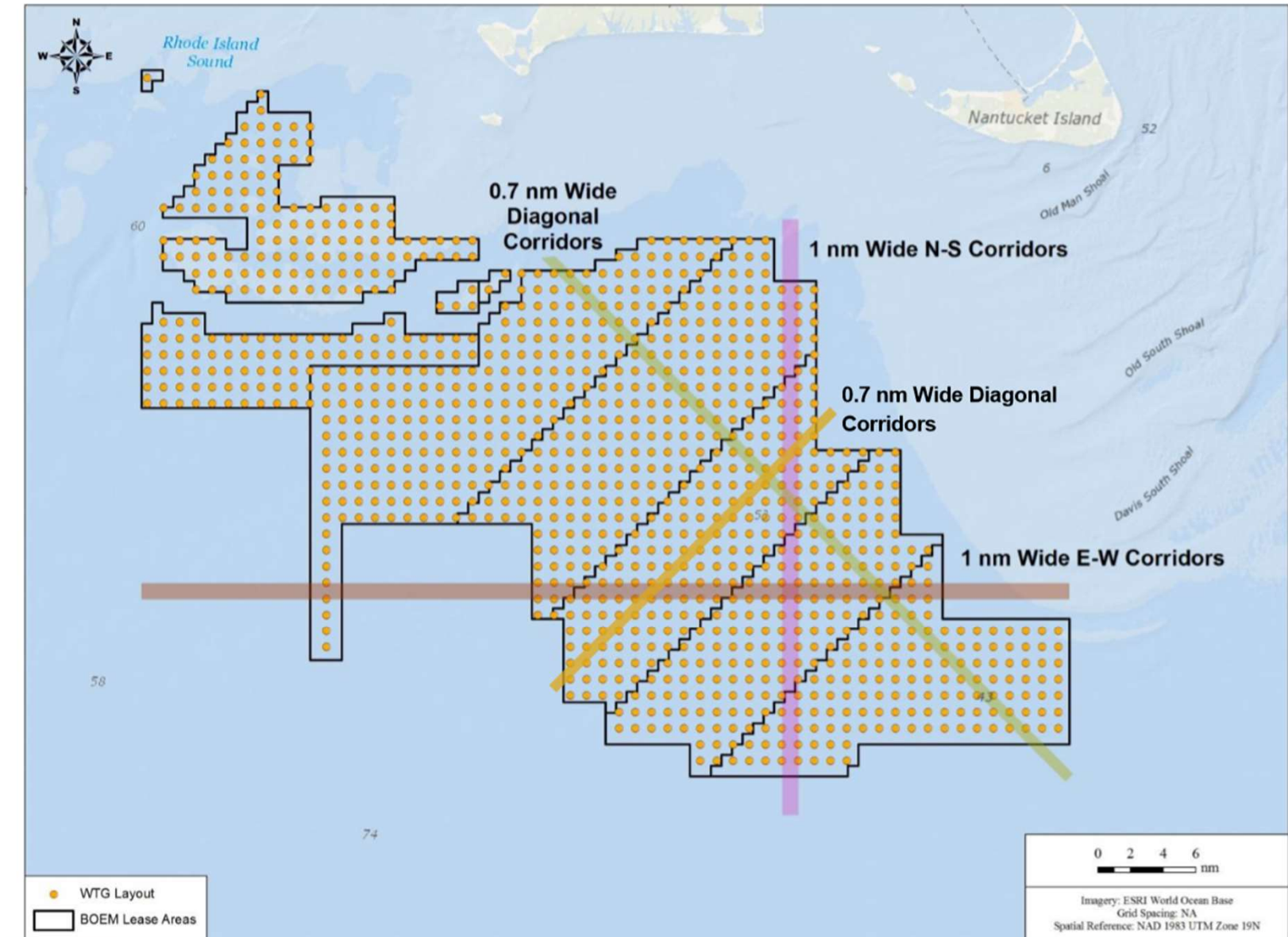


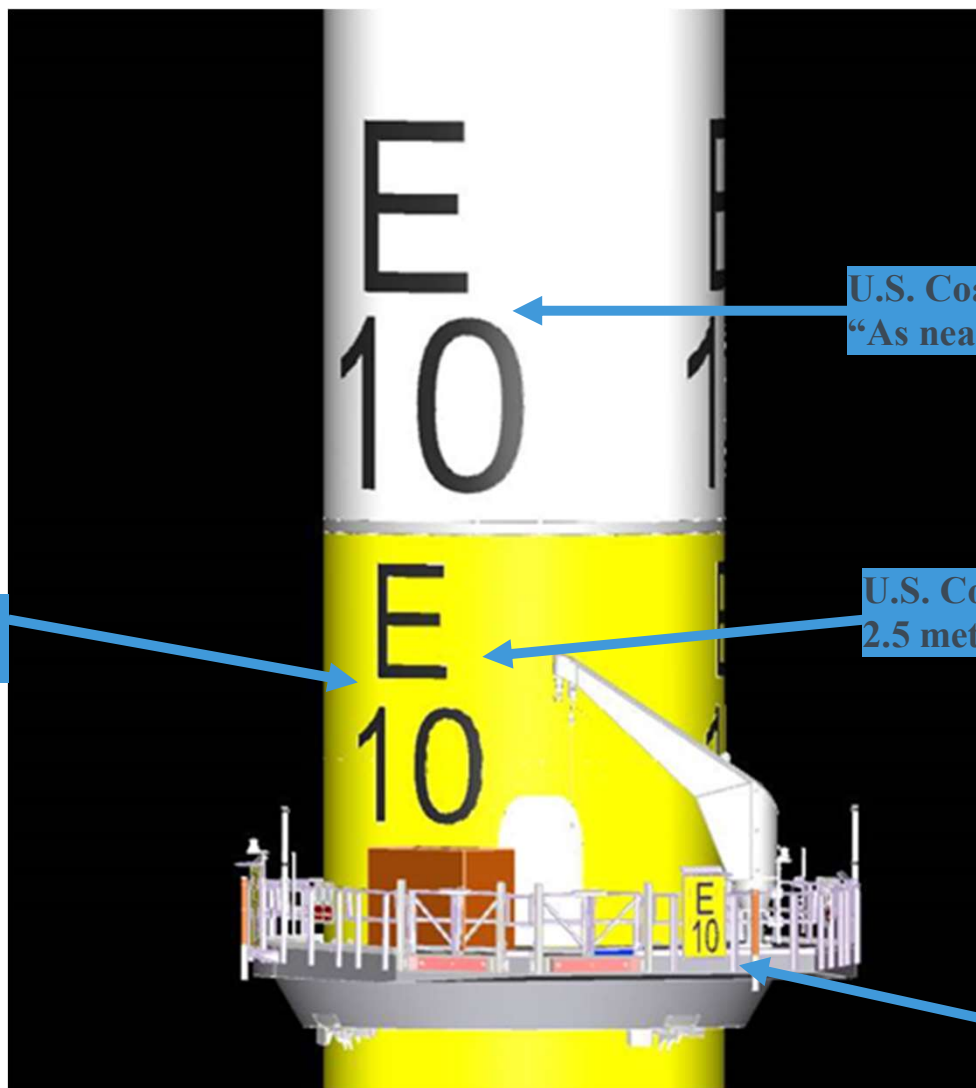




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| X | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | [| \ |] | ^ | _ | ` | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z | { | | } | ~ |
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| AJ 15 | AJ 16 | AJ 17 | AJ 18 | AJ 19 | AJ 20 | AJ 21 | AJ 22 | AJ 23 | AJ 24 | AJ 25 | AJ 26 | |
| AK 15 | AK 16 | AK 17 | AK 18 | AK 19 | AK 20 | AK 21 | AK 22 | AK 23 | AK 24 | AK 25 | AK 26 | |
| AL 15 | AL 16 | AL 17 | AL 18 | AL 19 | AL 20 | AL 21 | AL 22 | AL 23 | AL 24 | AL 25 | AL 26 | |
| AM 15 | AM 16 | AM 17 | AM 18 | AM 19 | AM 20 | AM 21 | AM 22 | AM 23 | AM 24 | AM 25 | AM 26 | |
| AN 15 | AN 16 | AN 17 | AN 18 | AN 19 | AN 20 | AN 21 | AN 22 | AN 23 | AN 24 | AN 25 | AN 26 | |
| AP 15 | AP 16 | AP 17 | AP 18 | AP 19 | AP 20 | AP 21 | AP 22 | AP 23 | AP 24 | AP 25 | AP 26 | |
| AQ 15 | AQ 16 | AQ 17 | AQ 18 | AQ 19 | AQ 20 | AQ 21 | AQ 22 | AQ 23 | AQ 24 | AQ 25 | AQ 26 | |
| AR 15 | AR 16 | AR 17 | AR 18 | AR 19 | AR 20 | AR 21 | AR 22 | AR 23 | AR 24 | AR 25 | AR 26 | |
| AS 15 | AS 16 | AS 17 | AS 18 | AS 19 | AS 20 | AS 21 | AS 22 | AS 23 | AS 24 | AS 25 | AS 26 | |
| AT 15 | AT 16 | AT 17 | AT 18 | AT 19 | AT 20 | AT 21 | AT 22 | AT 23 | AT 24 | AT 25 | AT 26 | |





U.S. Coast Guard guidance
“As near to 3-meter high”

U.S. Coast Guard acceptable
2.5 meter high

IALA O-139 standard
1-meter high

Retro-reflective paint
No artificial illumination

Tier 1 Mitigations:

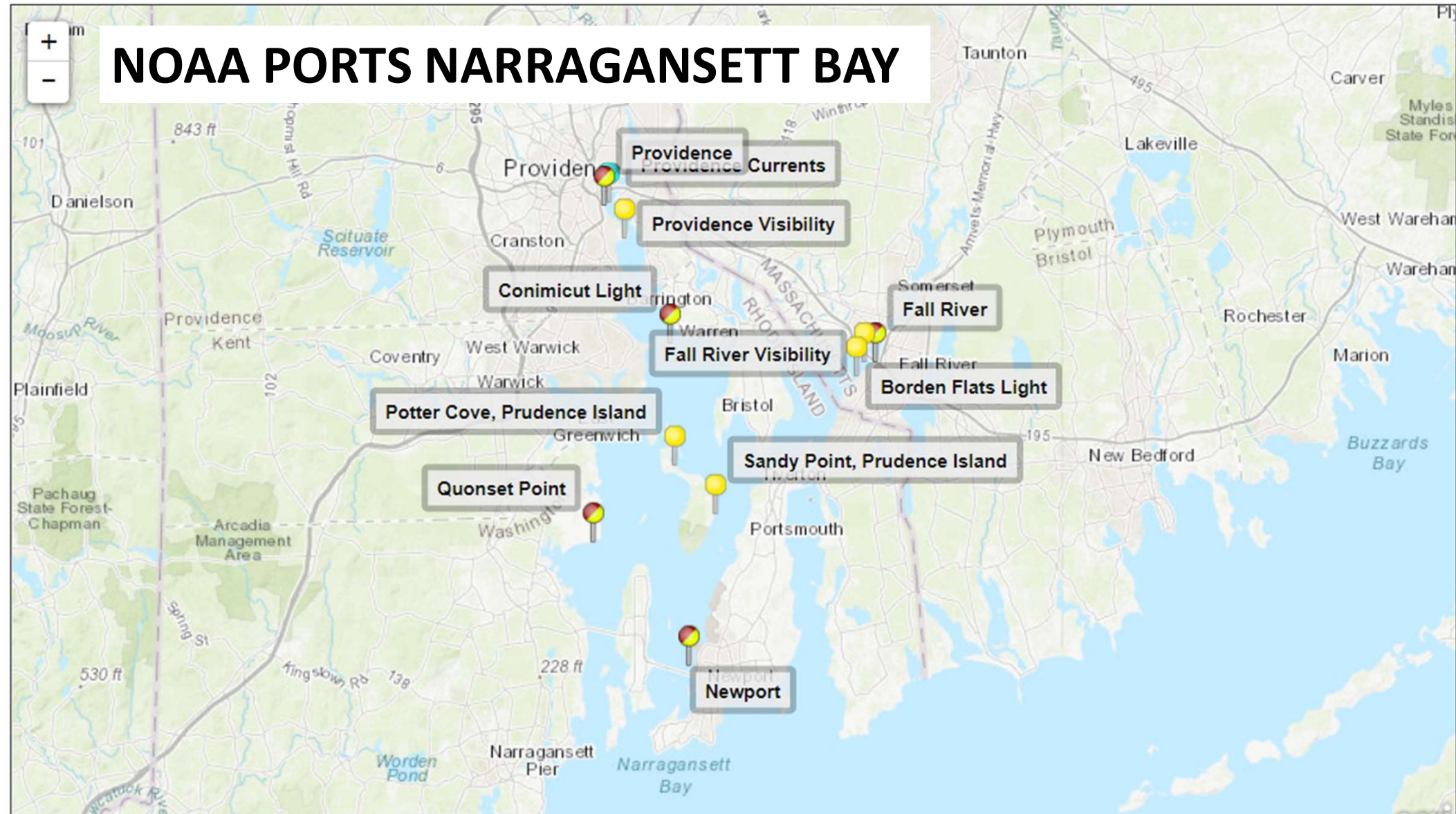
Tier 1 Mitigations

| # | SAR Mitigation | Notes |
|----|--|----------------------------------|
| 1 | Enhanced VHF coverage | Expanded VHF range |
| 2 | Cellular coverage | E-911 Program |
| 3 | AIS Coverage | D1 LNM Guidance |
| 4 | Uniform Alpha-Numeric Marking | D1 Design for MA/RI |
| 5 | Marine Coordination Center/Maritime Ops Center | Monitoring and communications |
| 6 | Access to Infrastructure Plan | Sharing of information |
| 7 | 24x7 Monitoring Capabilities | Adaptable for response incidents |
| 8 | Enhanced ENC Symbolology | Work with NOAA |
| 9 | Facilitation of SAR Trials | Tabletop/simulations/real-world |
| 10 | Self-Help Capabilities/Response Assistance | Project vessel presence offshore |
| 11 | SMS/ERP/OSRP Documentation for Projects | Included within Project COPs |

Other Collaborative Issues:

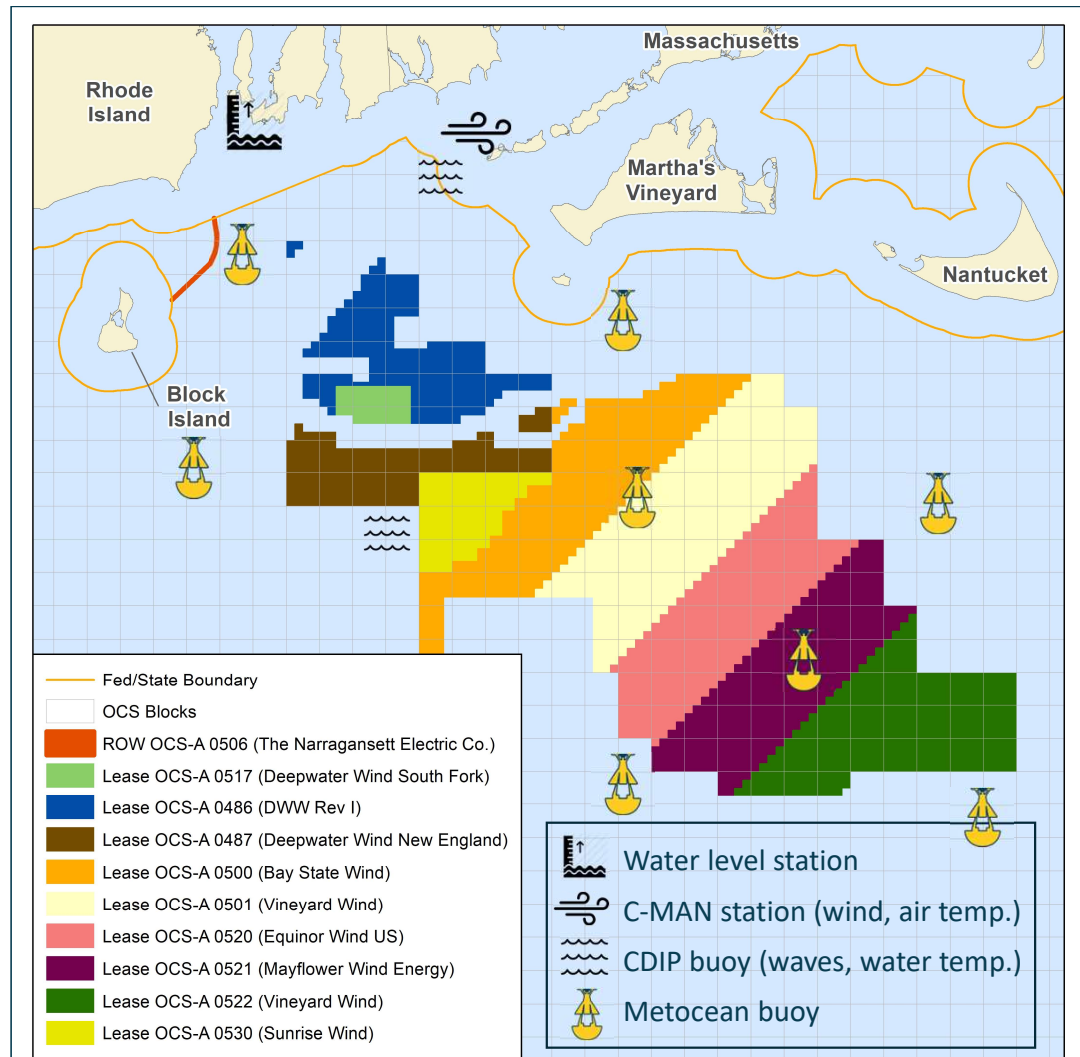
1. New IALA Marking Guidance
2. PATON Process
3. AIS
4. Emergency Response Plans
5. Reflective Paint
6. UXO / MEC
7. Fisheries Issues
8. Jones Act Compliance
9. Vessel Safety Standards
10. HF Radar Mitigation

NOAA PORTS NARRAGANSETT BAY



The Solution: Wind Energy Area Observing System

- Purpose-built observing system to support safe navigation and operations
- Key measurements and forecasts:
 - Wind speed, direction & gusts
 - Wave height, direction & period
 - Visibility
 - Air & water temperature
 - Current speed & direction
- Full accessibility of real-time observations and forecasts to support all mariners



Thank you

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Questions?