The Global Ocean Observing System

OCG – 13 VIRTUAL MEETING
MAY 2021

Presenter:
Dr. Hugh Roarty
Rutgers University
MARACOOS

High Frequency Radar

Global HF Radar

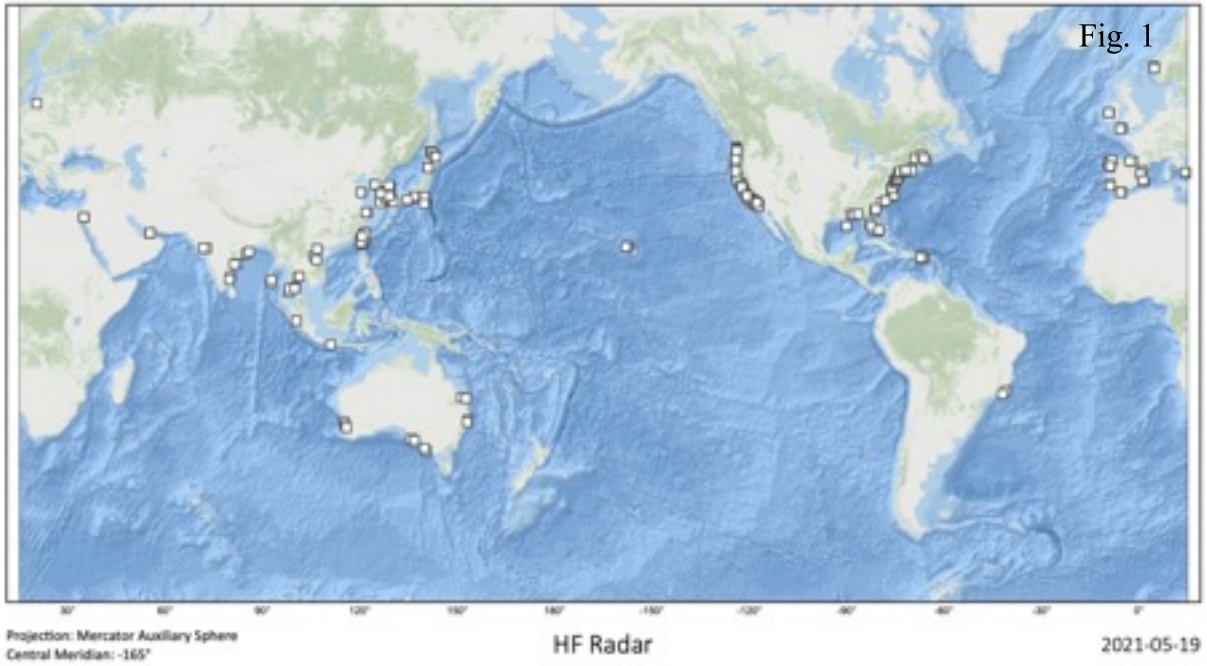


Fig. 1

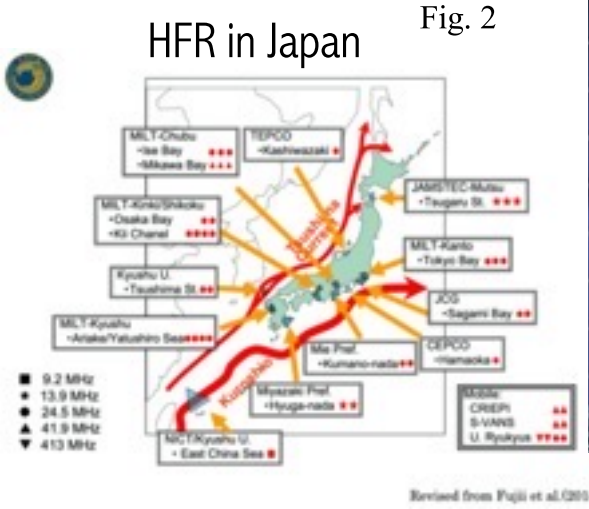


Fig. 2

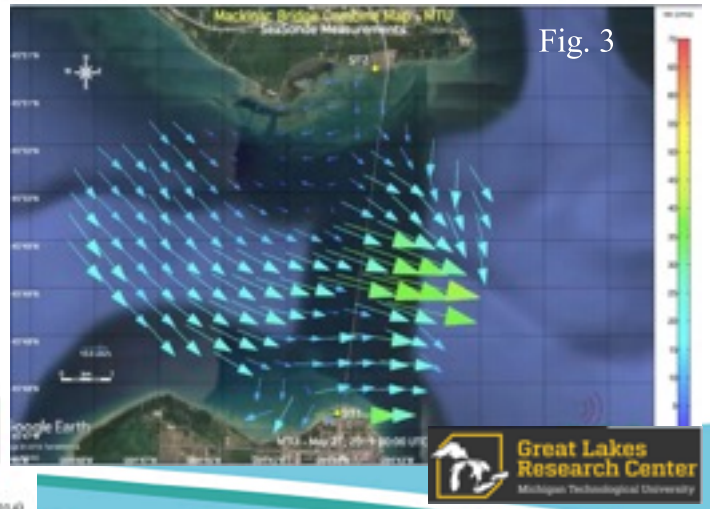


Fig. 3

Status (March 2022)

- 72 stations In Region 1 (Europe, Africa, Middle East) reporting data in real-time.
- 182 stations reporting in Region 2 (North and South America)
- 140 radars operating in Region 3 (Asia and Oceania)

Recent achievements

- A governance structure for the HFR community has been proposed (EUROSEA D3.4)
- New release of the Copernicus Marine Service delayed-mode product dedicated to in-situ observations of water velocity with historical data reporting
- The first US operational freshwater HF radar system went fully active on October 18, 2022 (Fig. 3)
- MARACOOS HFR wave data was used operationally by the National Weather Service on October 6, 2021 during the passage of Hurricane Sam.
- The annual meeting of HFR user communities in Japan was held in December 2021 in Fukuoka.
- Taiwan plans to increase radar coverage from 19 stations to 65 stations by 2024 (42 HFR and 23 microwave radars)

Foci for the Year 2021

- Finish work with for OceanOPS to integrate Global HFR Network in their monitoring network.

DEVELOPMENTS AND ACHIEVEMENTS

Newsletter of the European HF Radar Community released February 2022


HFRadar
EuroGOOS Task Team

Taking the pulse of the coastal ocean

Newsletter of the European HF Radar community

February 2022

Welcome to the #4 European HF Radar Task Team Newsletter

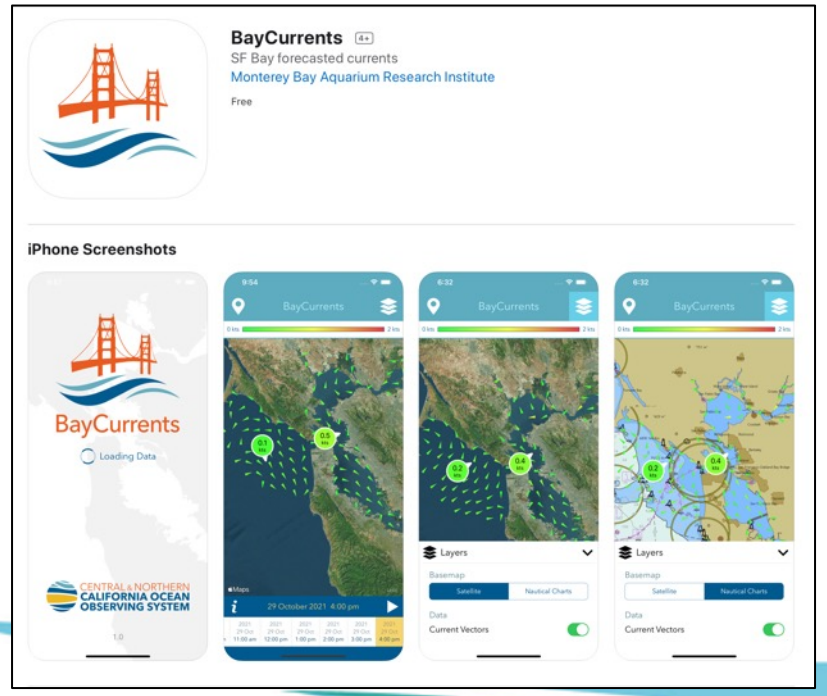
The European HF Radar Task Team helps coordinate the activities around the development and use of this coastal technology (more info here).

We are happy to share with you the latest news and events since July 2021.

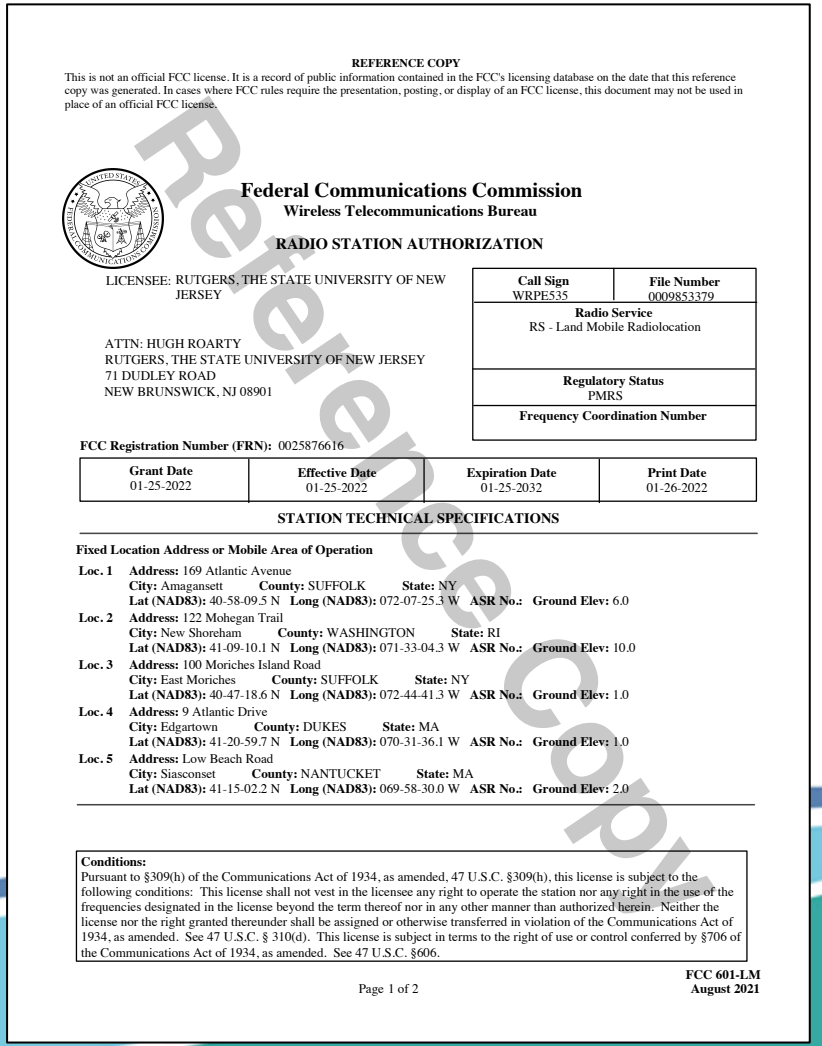
- A governance structure for the HFR community has been proposed (EUROSEA D3.4)
- Updated map of HFR network (see EuroGOOS Task Team web)
- Updated list of publications of the European HFR community is available in a ZOTERO Community Library
- New release of the Copernicus Marine Service delayed-mode product dedicated to in-situ observations of water velocity with historical data reporting
- Data Gap filling and Wave Working Groups have been launched
- Contacts with OCEANOPS have been established.
- Increasing number of systems connected to the European HFR Node (+7).
- Ongoing activities for identifying the stakeholders, their needs/problems/requirements, and the capability of HFR data/products.
- Ongoing work on describing good practices on stakeholder commitment.
- Ongoing work to build a competence matrix of the European HFR community.
- 2 community papers have been submitted in MONGOOS

Developments and Achievements

- Radiowave Operators Working Group (ROWG) meeting will be a hybrid in-person/virtual meeting at the ECU Coastal Studies Institute in Wanchese, North Carolina. The meeting will take place Nov. 2–3, 2022 with a Radar Manufacturer Day on Nov. 4, 2022.



Operators in the United States are transitioning from Experimental Licenses to Radio Station Authorization



REFERENCE COPY

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.

Reference Copy

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

ATTN: HUGH ROARTY
RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
71 DUDLEY ROAD
NEW BRUNSWICK, NJ 08901

Call Sign	File Number
WRPE535	0009853379
Radio Service RS - Land Mobile Radiolocation	
Regulatory Status PMRS	
Frequency Coordination Number	

FCC Registration Number (FRN): 0025876616

Grant Date	Effective Date	Expiration Date	Print Date
01-25-2022	01-25-2022	01-25-2032	01-26-2022

STATION TECHNICAL SPECIFICATIONS

Fixed Location Address or Mobile Area of Operation

Loc. 1 **Address:** 169 Atlantic Avenue
City: Amagansett **County:** SUFFOLK **State:** NY
Lat (NAD83): 40-58-09.5 N **Long (NAD83):** 072-07-25.3 W **ASR No.:** **Ground Elev:** 6.0

Loc. 2 **Address:** 122 Mohegan Trail
City: New Shoreham **County:** WASHINGTON **State:** RI
Lat (NAD83): 41-09-10.1 N **Long (NAD83):** 071-33-04.3 W **ASR No.:** **Ground Elev:** 10.0

Loc. 3 **Address:** 100 Moriches Island Road
City: East Moriches **County:** SUFFOLK **State:** NY
Lat (NAD83): 40-47-18.6 N **Long (NAD83):** 072-44-41.3 W **ASR No.:** **Ground Elev:** 1.0

Loc. 4 **Address:** 9 Atlantic Drive
City: Edgartown **County:** DUKES **State:** MA
Lat (NAD83): 41-20-59.7 N **Long (NAD83):** 070-31-36.1 W **ASR No.:** **Ground Elev:** 1.0

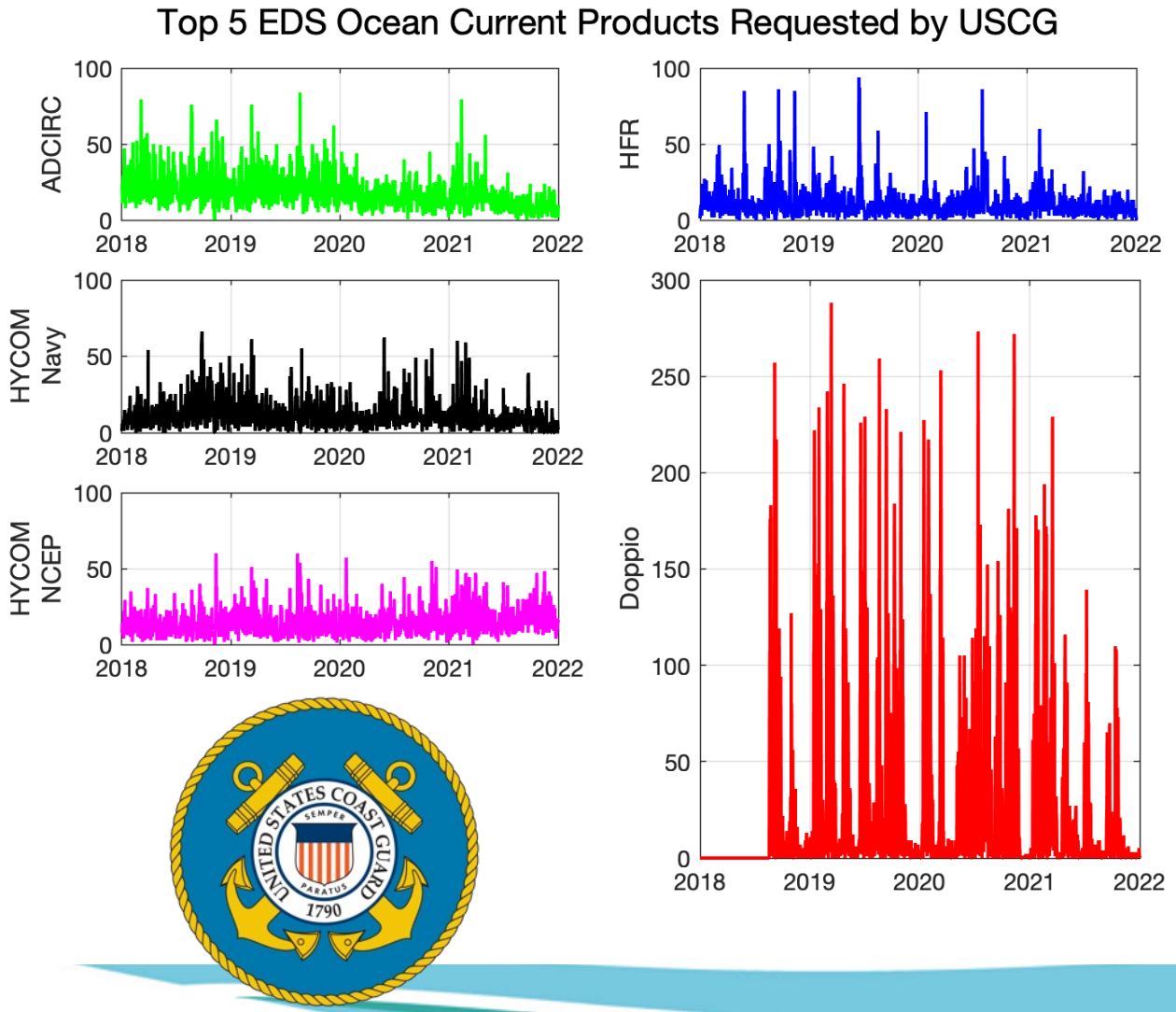
Loc. 5 **Address:** Low Beach Road
City: Siasconset **County:** NANTUCKET **State:** MA
Lat (NAD83): 41-15-02.2 N **Long (NAD83):** 069-58-30.0 W **ASR No.:** **Ground Elev:** 2.0

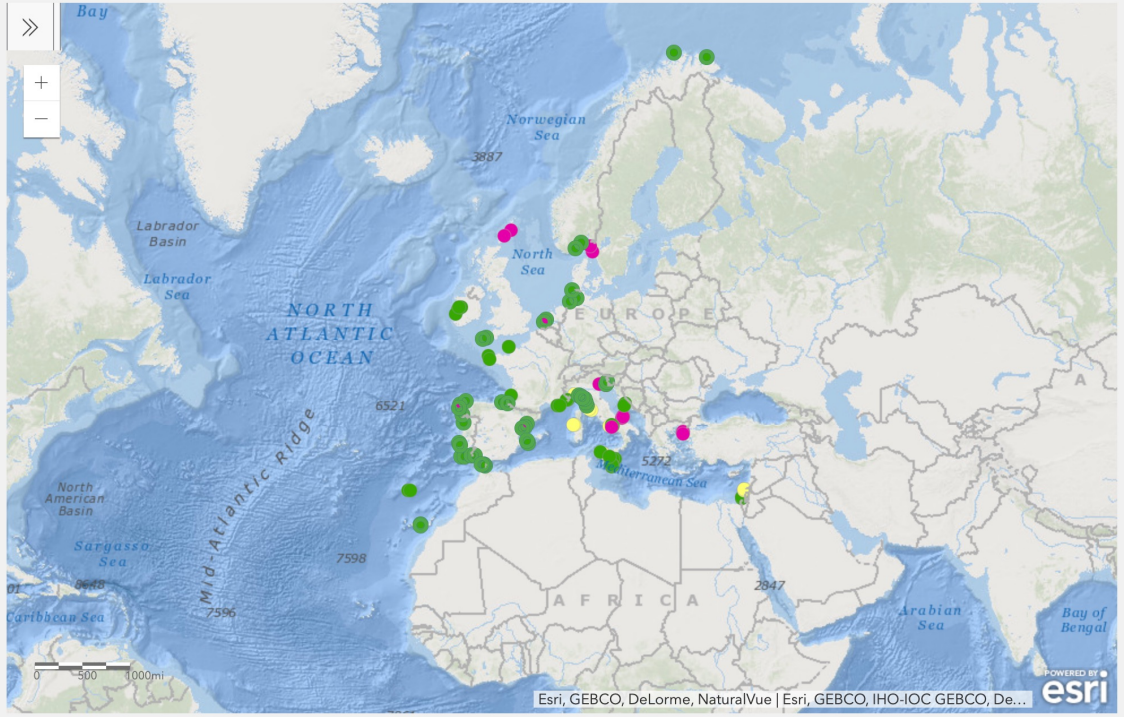
Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Page 1 of 2

FCC 601-LM
August 2021

Developments and Achievements



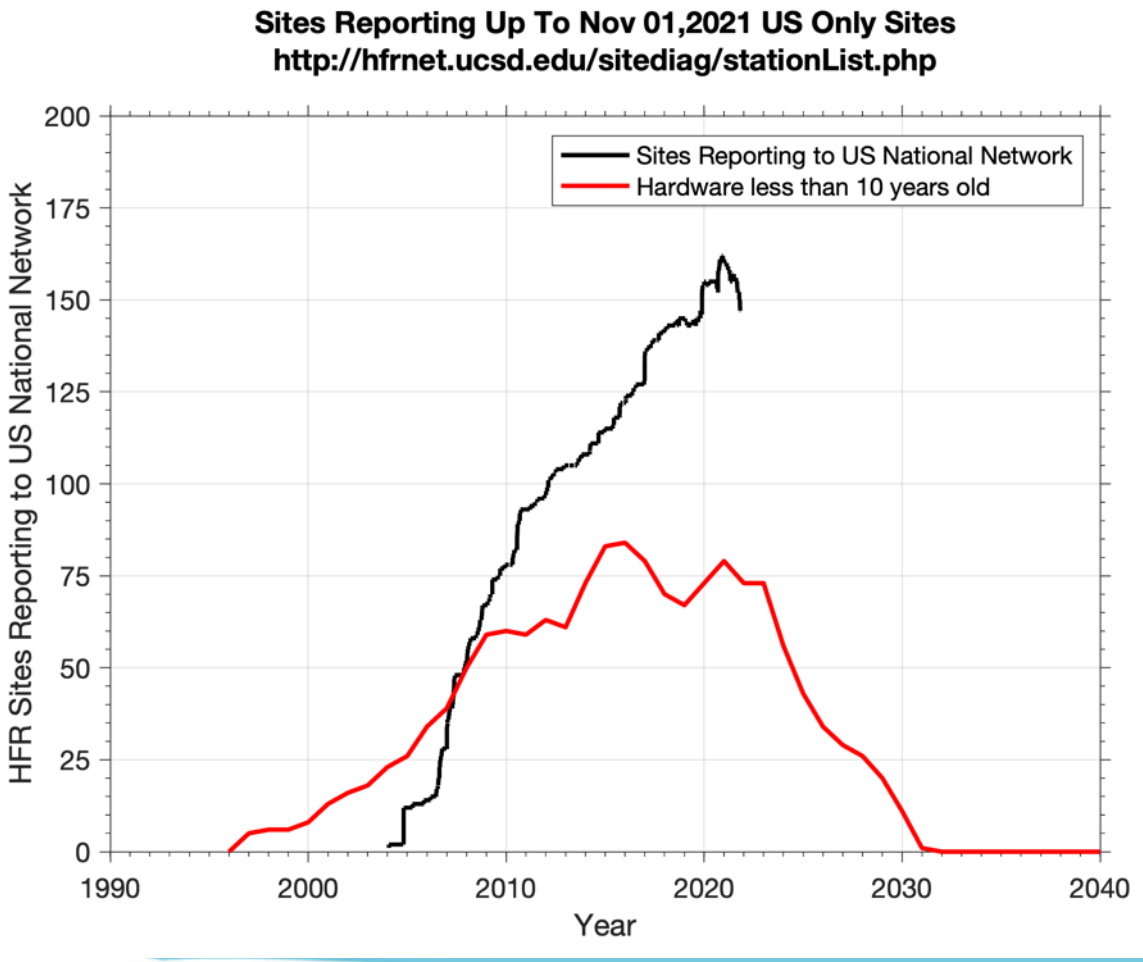


Map of locations of the 107 HFRs included in the current EuroGOOS Task Team inventory (July 2021). The **ongoing systems** (69) are plotted in green, **future installations** (14) in yellow and **non-functioning** (24) in purple (including historical deployments or currently inactive stations). 45 HFRs are connected to the HFR node (pulsing circles) **sending data in near real-time**.

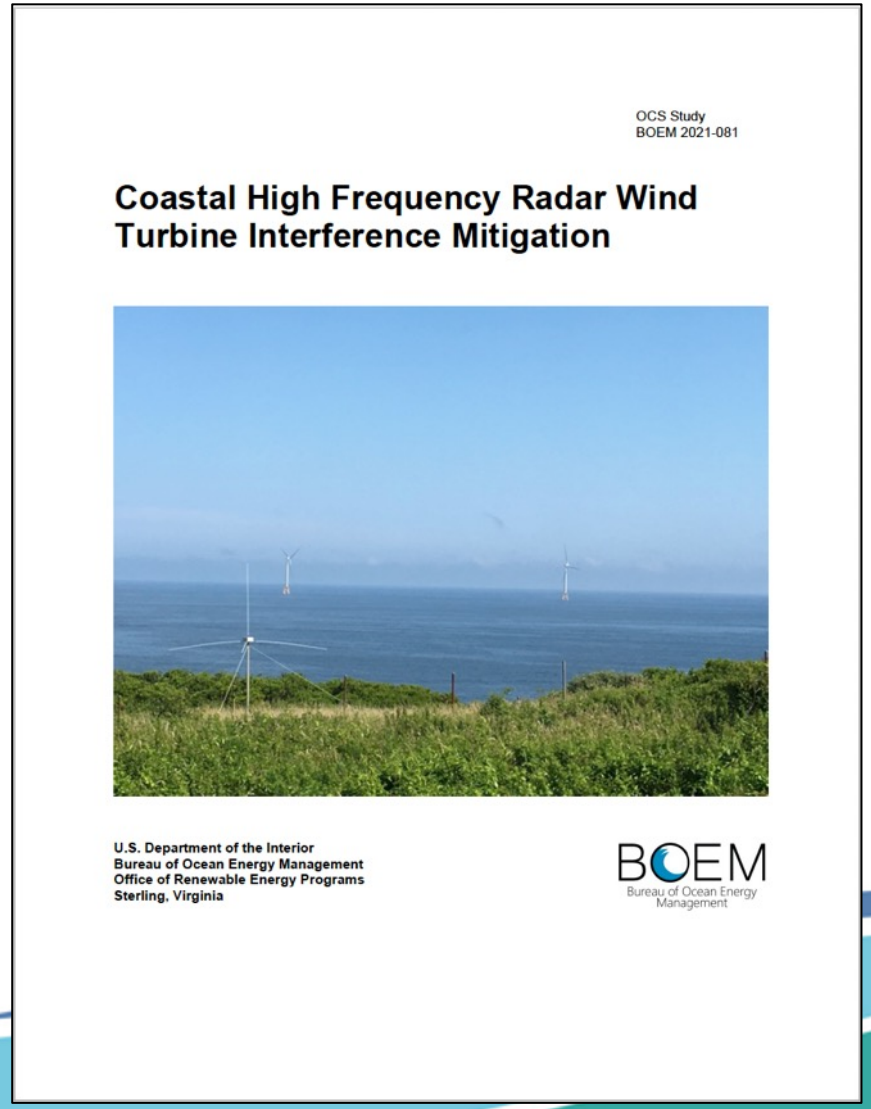
https://eurogoos.eu/high-frequency-radar-task-team/

Challenges and Concerns

- Aging Infrastructure



- Wind Turbine Interference



Future Plans and Opportunities

- Future plans and developments, for example
  - Continue working with OceanOps to automate the Report Card updating
  - Work with operators to expand measurements of the instruments and platforms

ATTRIBUTE REPORT OUT

Global in scale	
Observe one or more EOV or ECV	
Observations are sustained	
Community of Practice	
Maintain Network Mission and Targets	
Delivers data that are free, open and in a timely manner	
Ensures metadata quality and delivery	
Develops and follows Standards and Best Practices	
Undertakes capacity development and technology transfer	
Environmental stewardship awareness	

Good
Satisfactory
Needs Improvement

Asks from OCG

- Requests, for action, support, guidance from OCG