

### General Comments

The paper provides a good overview of High Frequency radar and how it can be used to answer scientific and societal questions related to the coastal ocean. They then discuss the measurements of HFR (currents, waves and winds). They then document the long list of projects that have contributed to the development of HFR in the Mediterranean. Lastly, they lay out the future challenges and prospects for HFR technology in the region.

### Specific Comments

I would like to hear from the authors on how HFR compares to other measurements in the Mediterranean in terms of priority and significance. Also, can the authors document more “happy ending stories” line 957. Can they explain more on SASEMAR? Are there other stories like this one?

### Technical Comments

- |          |   |
|----------|---|
| Line 53  | Can the authors expand on what they mean by Mediterranean framework, do they mean region? If not please expand and clarify  |
| Line 58  | what is meant by a restless navigable route   |
| Line 60  | remove the such as, there are only 3 chokepoints just state the 3   |
| Line 63  | can the biological productivity be mapped in Figure 1 rather than bathymetry?   |
| Line 75  | It is hard to see the dots representing the HFR stations, can they be made larger?  |
| Line 79  | 7% of the world's biodiversity while only covering 0.7% of the ocean's surface area   |
| Line 90  | “impact assessment” can the authors expand upon this phrase?  |
| Line 99  | 470 million   |
| Line 105 | enhanced maritime safety and improved ecological decision support sounds like US IOOS challenges. Are these challenges documented in Europe as well?                              |
| Line 110 | remains a priority  |
| Line 124 | for societal benefit  |
| Line 125 | can you add a sentence joining this paragraph with the previous eg “For instance, two programs that contribute to the wealth of data collected in the Med include SMOS and ARGO.” |

Line 134      areal and endurance coverage

Line 136      thereby providing

Line 157      the title of the section is Mediterranean Oceanographic Network, line 185 uses the term Mediterranean observing system. Any significance in the difference in terms?

Line 166      what is meant by boots?

Line 183      Should that read MONGOOS HFR Network?

Figure 2      what is the meaning of the double sided arrow between mongoos and Med HFR working group?

Line 186      coastal observing systems should not be capitalized

Line 211      consider removing “not only” and “but also”

Line 240      remove “on”

Line 241      add “the Geometric Dilution...”

Line 250      remove very

Line 253      meaning of ADC?

Line 290      change to ionospheric

Line 300      For this section would you consider a figure like this

	Beam Forming	Direction Finding
Phased Array	WERA	WERA
Compact	?	CODAR SeaSonde

Line 319      directions of arrival

Line 321      consider this as a good reference for this sentence  
                 B. M. Emery, "Evaluation of Alternative Direction-of-Arrival Methods for Oceanographic HF Radars," in *IEEE Journal of Oceanic Engineering*, vol. 45, no. 3, pp. 990-1003, July 2020, doi: 10.1109/JOE.2019.2914537.

Line 322      consider using phased-array rather than extended arrays

Line 323	what is meant by “peaky”? Can a better term be used or more explanation given?
Line 324	remove very
Line 325	remove careful
Figure 3	do the plots cover the same period?
Figure 4b	remove x axis 45-180 degrees and wrap 0-45 next to 360. The resolution of the figure is poor, increase it.
Line 390	Lagrangian
Line 399	please provide reference for these statistics
Line 407	have also been documented
Line 408	please provide a summary sentence or paragraph on this section, introducing the next section
Line 445	new paragraph after reference
Line 453	asset
Line 489	what is Mc-WAF?
Line 490	please explain intermediate rings more
Line 515	location-specific
Figure 5	missing x axis tick marks on the figures, standardize the colors HFR is red, buoy blue, other black. Fig 5d is faint.
Line 537	please provide a summary sentence or paragraph on this section, introducing the next section
Line 553	remove also
Line 557	why is this sentence needed?
Line 570	provided

Line 572        showed that

Line 576        should tense be past, showed comparisons

Line 585        and iii) other

Figure 6        cc should be subscript to match figure. What is the red dashed line in subplot a?  
The RMSE of 60 degrees seems high, please explain.

Line 599        replace know-how with operational experience

Line 600        replace minor with reduced

Line 605        Is Med HFR group working with Ocean Best Practices  
<https://www.oceanbestpractices.org> ?

Line 608        does the numbering in the list denote a hierarchy? if not replace with symbols.

Line 617        is there a reference for the EuroGOOS HFR Task Team?

Line 622        consider removing “for the development of operational ocean monitoring via  
HFR systems”

Line 625        spell out EU, is there a reference for JERICO-NEXT?

Line 627        replace within with “with”

Line 631        which set the basis

Line 635        remove “the achievement of”

Line 637        can the authors comment how the European standard format compares to the  
American standard? Are there any differences?

Line 638        spell out or explain SDC and INSPIRE

Line 639        replace “to be mandatorily” with “are consistently applied to HFR data as  
defined by the EuroGOOS”

Line 646        is there a link for the EU HFR Node that can be provided

Line 660        can anything be said about data users, statistics on data use?

Line 668        does this rule apply to only HFR or all ocean measurements? please explain

Line 697	should the items in the list be capitalized?
Line 740	replace inexistent with nonexistent
Line 745	replace Served as with For
Table 2	spell out PdE and MIO, consider adding a column for the country and removing country from the Institution column. Should there be an order for the table? Alphabetical by country? frequency? Authors can decide.
Figure 8c	should Phased array be replaced with beam forming if comparing to direction finding?
Figure 9b	the 14(23%) is cutoff at the bottom, please correct
Line 785	serve the marine industry
Table 3	INTERREG is mentioned often, can this be explained. Would the authors consider replacing the table with a Gantt chart to show the information? <a href="https://pythonawesome.com/a-convenient-but-aesthetic-way-of-creating-a-gantt-chart-with-python/">https://pythonawesome.com/a-convenient-but-aesthetic-way-of-creating-a-gantt-chart-with-python/</a>
Line 792	the first two project have the acronym explained in the title, the remaining ones do not. Please be consistent.
Line 840	remove “which are also” and “in this section”
Line 850	The project’s overall objective was
Line 890	in title it is CALYPSO-FollowOn, on the next line the – is missing? Also missing years of the project
Line 910	can you add a summary sentence or paragraph on this section, something to tie together all the projects?
Line 913	Equal to other
Line 915	remove “not only”
Line 916	move “strengths, weaknesses, opportunities and threats” to beginning of sentence. remove potential.
Line 920	pursuit of permanent funding like those of other programs?

Line 930      what kind of licenses? radio frequency? equipment installation? please state

Line 950      For this paragraph, is this process happening for other measurements? if so please list.

Line 957      replace happy-ending with success

Line 969      Additionally pilot

Line 982      to mitigate noise and clutter

Line 988      can easily be detected, triggering alerts for operators

Line 989      spell out AIS, reference  
[https://hfradar.msi.ucsb.edu/brian\\_emery/files/reports/2013\\_sbir\\_phase2\\_final\\_report.pdf](https://hfradar.msi.ucsb.edu/brian_emery/files/reports/2013_sbir_phase2_final_report.pdf)

Line 1016     replace “keep down” with “reduce”

Line 1046     remove very

Line 1084     replace “build-up” with utilize

Line 1085     what is meant by first order, can this be further explained?

Line 1092     examples illustrated here might