



MACHC MEIP Maritime Environment Infrastructure Programme Letter to Members October 2016

21 October 2016

Dear MACHC Member

Following on from my Letter 13 April, in which I informed Members of the work undertaken to date by the MEIPWG, and our intention to progress the MACHC 16 action to undertake a “Think piece”, I would like to inform members that we met on 22 August to discuss this issue.

You will recall that MACHC 16 agreed the following action for the MEIPWG:

1. MEIP Chair to prepare a ‘think piece’ which lists potential options for the way ahead for the MEIP with the aim to facilitate decision making in the next MACHC. The ambition level is central to this piece: how and with what data to integrate and fit in with other complementary initiatives for spatial data infrastructures, an example being the “Eye on the Earth” project of PAIGH. Essentially this is to set out the purpose and direction of the MEIP.
2. Member states are invited to share their thoughts on the future of the MEIP via correspondence/e-mail before next MACHC.

Background of MEIP

At the 2011 MACHC, MSDI was a strong theme of the conference which included excellent presentations and discussions. At the time, many of the nation’s attending were struggling just to attain Phase 1 participation in their Capacity Building schemes, let alone populate, manage and maintain an approved and strictly structured marine database.

The Chair put forward a proposal to establish what he called an MEIP – a Marine Economic Infrastructure Program, the purpose of which was to baseline the region’s current infrastructure status and identify key areas for improvement through collaborative work intra-MACHC and with various industries. A working group was created to establish the TORs (agreed at 2012 MACHC) of the MEIP and to start work on the baseline. Industry were invited to assist as deemed appropriate.

A viewer was developed – to achieve the graphic ‘baseline’ and subsequent ‘identification’ of key areas of improvement. There has been more focus on the creation and population of this viewer and less and less on the real intent.

Initially no-one was talking about raw or proprietary data; the intent was to identify which parts of the region had GIS information of sufficient quality and content so as to fulfil or support ‘economic infrastructure’ and in so doing highlight the areas that didn’t. That would, theoretically, identify the areas in most need of modern GIS data collection i.e. survey.

WG Discussion points

The MACHC ENC on-line viewer has been developed that largely contains ENC data. Whilst this gives an indication of coverage it doesn’t fully identify the gaps as described above.

The MEIPWG feel that whilst the initial aspirations (not where there is good data, but where there isn’t) have not been fully covered. However, the content of the viewer and the ability to view additional information via WMS has demonstrated that it is possible to identify gaps in coverage.

The fulfilment of the TORs is still our ambition.

We believe that the work of the MICC and MEIP has some synergy and could be amalgamated and we will raise the possibility of the MICC WG taking over the MEIP core responsibilities. This will be discussed during the MACHC MEIP/MICC meeting in Belem

An alternative is that another organisation such as IC-ENC (they showed an interest at MACHC 15) is given the responsibility to maintain the viewer. IC-ENC are involved with the current viewer as they provide the base files and updates.

The WG felt that the inclusion of the GeoSur land mapping data via WMS is a really good step forward and believe we should be looking to link in with other data bases such as the IHO ENC catalogue via WMS and also GEBCO data.

We feel that there are many websites that now offer viewing access to their data (INEGI, UN-GGIM to name just two) and anyone using the MACHC ENC online viewer can include the data in the viewer via WMS.

We believe that we need to publicise the availability of the online viewer so that anyone can combine data from different sources to view what is available and know where they have to go to obtain the data. This would be in preference to managing large data sets within the viewer. We also don't want to duplicate effort and increase maintenance work.

The WG also feel that the Technical visit reports that are available on the IHB website and National Development Strategies would be useful information to be made available for the MACHC region. I have undertaken to contact OECS to see if they would grant approval for the technical reports to be made available. This can also be discussed with Members during the MACHC meeting.

The MICC ENC gap assessment work using AIS data has proved to be another useful dataset that has identified areas of potential improvement and links in well with the MEIP concept.

We also see the results of any risk assessment activity as being useful data that should either be included or at least linked to the MEIP ENC online viewer.

After assessing all of these issues we would like to seek member's views on the way forward and propose the following items for discussion at MACHC17.

Proposed items for discussion at MACHC

Different Options:

1. Retain current TORs as the aspiration to identify gaps in data and coverage or identify new TORs
2. Amalgamate the MEIP with the MICC (I will be stepping down as MEIPWG Chair at the MACHC meeting so this could be quite timely) or retain as two separate entities noting duplication and overlap of work
3. Include new data streams such as GEBCO and IHO catalogue via WMS and publicise MEIP on line viewer more widely
4. Investigate viability of Including access to IHO Technical Visit reports and OECS reports

Ambition Level

1. Work towards existing TORs or change direction
2. Do we want to expand what we are doing and if so with what resource
3. Future direction

Complementary initiatives

1. Do we want to work with or separately from other initiatives
2. Is it easier to just focus on our areas of expertise and knowledge

I would also like to thank those members and supporters from Industry who provided input and background information to assist our discussions. The majority of comments received are included at ANNEX 1 to this letter so that members get a flavour of the different viewpoints received.

We would also like to inform members that Brazil has informed us that they will be including their ENC .000 files for the MACHC region in the open viewer.

I look forward to hearing from you and seeing you at MACHC in Belem.

Best wishes
Chris Thorne
MEIP Chair

ANNEX 1 – COMMENTS FROM CONTRIBUTORS

The following are contributions made by various different parties that have been considered in our assessment. They are not in any particular order:

Comment number 1

Some thoughts for the open version of the portal. MEIP may consider to include data/metadata from:

- 1) The IHO ENC Catalog (via WMS) so that those ENCs that are not available will have at least the contours indicated.
- 2) The IHO INTogIS (via WMS)
- 3) GEBCO and/or IBCCA

Comment number 2

For this initiative to have true value, my opinion is that all data that is in it should be subject to the same access controls/use permissions etc. (whether revenue generating or not), and it is this which leads to my comments (personal!) re our progress and in particular on the updating regime to be applied:

1. Good progress has been made with the technology underpinning the MEIP??? Well done NOAA
2. Medium progress has been made with populating it with the ENC base (chosen because it is the most readily available data ??? apparently!), there is still a mixture of national policies: No ENCs, Some ENCs, All ENCs.

Unfortunately the new addition of Password, Non-Password adds a further complication (although I note and understand the rationale for introducing it)

3. No progress has been made (to my knowledge) to populate it with other types of information. Please correct me if it has.

- a. Supplementary question 1: Does the NOAA technology support the display of non-ENC data?
- b. Supplementary question 2: Should the updating regime of the supply of ENCs to the MEIP align to the updating cycle of any (all?) other data placed in the MEIP?

4. There is a mixed supply route to NOAA for the ENCs for which the Producer has given permission to be included in the MEIP; most are by IC-ENC, some are by individual nations. This must be considered when setting a MEIP updating frequency policy (i.e. the supply route should consolidate down to one, or all suppliers must accept the responsibility to conform to the update regime)

5. A pragmatic updating regime has been set (once every 6 months) ??? this can change but we must balance the justification of more frequent updating by the value this will give the (intended) user-base.

- a. Supplementary question 3: To me, and not to criticise the work to date, it is unclear which MEIP potential user-base/user-bases we are focussing our effort. It seems that the end goal is vague, with a general view that more data = more users = good economic impact for the MACHC region. The only thing I can say for sure is that the only data we have managed to include in the MEIP so far is a navigation product, whilst at the same time we have categorically stated the system is not to be used for navigation! So, the question is, what updating frequency do the intended users require from the MEIP?

- b. MEIP User feedback is limited (so far) to a concise set of comments from NL coastguard ??? we have a chicken and egg situation, how can we get feedback if it is not widely available to users?!? The removal of the password will have a positive affect here.

- c. General note: An update can be provided and ingested at short notice (witness the 24 hour turn-around from permission to display of the Colombian Band 3 cells during the MACHC!). E.g. in the event of an incident (e.g. oil spill) that requires the most up-to-date ENC data to be displayed in the MEIP

being used by an environmental protection agency, a full update can be provided on this ad hoc basis swiftly, which might mitigate some of the concerns over the current 6 month regime.

6. The updating regime should be the same across the geographic region of operation ??? it would be counter-productive to require a metadata feature defining geographically the ???last updated to date?????imagine the confusion and consequences on uptake.

7. If there is justification from the intended (non-navigation) users of the MEIP that shows there is the need to update the MEIP ENC base data as frequently as that on board vessels for navigation use, then IC-ENC can action this. This will become a requirement in IC-ENC???'s new technology so as to give NOAA permission to access IC-ENC???'s online repository in an automated manner. For information, this will naturally be simplified with the establishment of the IC-ENC North America office in NOAA???'s Washington base, cementing the NOAA/IC-ENC interaction.

Here is a personal idea of how I would proceed if it was down to me (fortunately it is not ???):

Pause (not cancel) the implementation of the new non-password viewer

- o Why? I think the intended benefits of getting a much wider uptake of the MEIP by using a free-for-all approach of uncontrolled access to anyone who clicks on a link are outweighed by the detriment of a further fracturing of MEIP ENC permissions???.making a unified MACHC region policy all that much further away.

- o Note, keep the YES/NO question alive though, collate the answers and keep it as a fall-back position if needed.

?? Select 10 organisations who we believe adequately represent the potential MEIP user-base

- o These must be credible organisations, preferably operating multi-nationally or at least across substantial parts of the MACHC region

?? Offer them password protected access (i.e to the whole set of available data) for six months, on the proviso that they complete a structured feedback report following this period.

?? Feedback will include reference to the updating frequency they require of the ENC base data.

?? Feedback will include their views on the benefits to the region of the MEIP, and what else needs to be included in it to give maximum benefit.

- o A cost / benefit approach can be encouraged, i.e. feedback statements as to the quantitative economic value a fully populated, updated and functioning MEIP will give the region.

?? Analyse the results with conclusions/proposals to the next MACHC

Why have I devoted time to a lengthy and full answer on the MEIP conundrum?

IC-ENC is happy to assist ENC supply to the MEIP. So far, so straightforward. IC-ENC also has an ongoing action, set by its members (which make up the vast majority of this MICC group!) which is running in parallel to the MEIP work; developing appropriate sales rules/conditions/mechanisms etc for non-SOLAS use of ENC data. One such perceived use is for non-navigation use in online viewers! Therefore I am keen for both streams of work not to cut across each other, but become complementary to each other. I do freely admit that ENC producers???' requirement/goal to generate revenue from ENCs in this way will add a further complicating factor to the MEIP list of policy requirements!

Comment number 3

The objective of the MEIP is “to support the Spatial Data Infrastructure (SDI) activities of the MACHC”. Chair MEIP WG formulated the future direction on 12 December 2015 as “a facility that will eventually allow anyone to know and view what data is available in the MACHC region”.

The resources available to the MEIP WG do not allow for an ambitious approach: no budget, limited availability of WG members.

The objective is not to create an SDI by itself, but rather to support SDI activities. SDI activities in the MACHC region are:

1. various instances of the ENC Online viewer (NOAA; MACHC open; MACHC protected)
2. MICC viewer (AIS data, priority ports)
3. GEBCO products (possibly including IBCCA)
4. Caribbean Marine Atlas version 2 (ref. email Mike Osborne, 27 May 2016)
5. GeoSUR terrestrial SDI, available through PAIGH (ref. MEIP Letter 26 May 2016)
6. IHO ENC Catalogue/INToGIS (ref. email Alberto Costa Neves, 3 June 2016)
7. national contributions (like INSPIRE web services for the NL parts of the Caribbean Sea)

The facility should allow for discovery of data in the mentioned SDIs, and subsequently for display of the discovered data. It could very well take the form of an online registry, identifying all relevant administrative (contact, data policies, used data standards) and qualitative metadata (coverage, uncertainty, time). Subsequently, the registry could provide the link to the view service. Such a portal could be created with very limited resources.

The MEIP WG and its registry would then function as a coordinating body for SDIs in the region; much like the CBC tries to coordinate the CB activities for the region.

MEIP should work closely with MICC, as the MICC provides the data sets for the mentioned activities #1 and #2. However, the focus of the two groups is different: MICC focuses on nautical products and MEIP on data sets.

Thank you for the update which demonstrates considerable progress I feel in the last few months. I am confident that this is likely to be the collective view of the IHO MSDI Working Group, which - as most of you will know - I and John Pepper helped establish and to which we are now an expert contributor and secretary, respectively.

In our MSDI WG capacity we have the following observations:

- 1) It is clear that providing ENCs to the MEIP Viewer is the easiest and in some cases the most appropriate route for many Member States. However, as a general rule ENCs are not best suited as geographical content for a marine base map which is a key objective for the MEIP (and other regional Marine SDI initiatives).
- 2) The preferred route is for HOs to provide hydrographic data as source content or for third parties such as OceanWise to engineer HO data (under licence) into data products which are not purposed for navigation. The content is more appropriate for wider applications and boundary and scale issues inherent in charting are addressed. An example of suitable content is OceanWise [Marine Themes](#), which has the following feature catalogue available online (e.g. [Obstruction, Snag or stump](#)).
- 3) Not only will the use of non-navigational content be fit for purpose for most users, in addition the MEIP Viewer will be less likely to be misused, which is an understandable concern to all HOs.

For examples of the types of marine base maps that the MEIP Viewer could aspire to, please see maps.oceanwise.eu. The website is built using OpenLayers and the OGC Web Services are provided using GeoServer. These are both provided as Open Source software and hence are licence free. The

website includes land mapping Web Service from other providers e.g. Google and OpenStreetMap and could contain official land mapping data from Member States, where available.

I also have another interest which is as UK representative on the UN-IOC Caribbean Marine Atlas Phase 2 (CMA2) initiative. I have been promoting (within IHO and UN-IOC circles) the idea that the MACHC provides the Hydrographic Data Themes to the CMA2. This would set the MACHC up as the provider of these datasets which will be good for MACHC members and demonstrate practically that the HO community is serious about providing hydrography data “not just for charting”. It will also promote greater collaboration between the hydrographic and oceanographic communities which has to be good for everyone involved.

As a consequence, please may I now request that the MEIP Viewer WMS end points are made available to the CMA2, so that they can be used as foundation layers in the CMA2 web portal. How would I facilitate this? If this could be achieved by the MACHC for CMA2 then I believe this would be an excellent model which could be followed by other RHCs and other UN-IOC initiatives as well as initiatives such as the PAIGH.

I have been attending the MACHC since 2010 and witnessed the birth of the MEIP, its subsequent kidnapping and now it’s attempt to re-establish it’s true identity.

Comment number 4

In my 2011 MACHC Trip Report I wrote the following for internal review: these are the actual words verbatim:-

“MSDI was another strong theme of the conference; this was championed by ESRI and while the presentation and discussion was excellent, one could not deny that many of the nations attending are struggling just to attain Phase 1 participation in their Capacity Building schemes, let alone populate, manage and maintain an approved and strictly structured marine database.

The Chair also had a similar proposal to establish what he called an MEIP – a Marine Economic Infrastructure Program, the purpose of which was to baseline the region’s current infrastructure status and identify key areas for improvement through collaborative work intra-MACHC and with various industries. A working group is to be created to establish the TORs of the MEIP and to start work on the baseline. Industry were invited to assist as deemed appropriate.”

The first and previous MEIP Chair seemed to have a bit of a time understanding exactly what it was that the MEIP was supposed to do; more and more focus on the creation and population of a viewer and less and less on the real intent. Initially no-one was talking about raw or proprietary data; the intent was to identify which parts of the region had GIS information of sufficient quality and content so as to fulfil or support ‘economic infrastructure’ and in so doing highlight the areas that didn’t. That would, theoretically, identify the areas in most need of modern GIS data collection i.e. survey.

Regarding no clear TORs for the MEIP; they were part of the 2012 MACHC documentation.

My humble opinion only, but here’s what I see as the deal:

- We shouldn’t be talking about data, only coverage to an agreed survey standard (MSDI ‘lite’)
- Coverage doesn’t need permits and passwords and proprietary data need not be disclosed for the purpose of the MEIP
- Coverage can however come with some metadata in order to specify the geodetic reference frame; type of data and IHO Order/Catzoc to which it has been attained; year of acceptance etc.

- The viewer is totally un-necessary as this could easily be supported by the likes of Google or even ArcGIS; a lot of license money has been expended on a product no-one wants to populate
- If these issues are overcome then maybe the viewer would still be a useful tool but ArcGIS would I think be perfectly capable of fulfilling this
- The MEIP can easily get back on track if the data issue is removed and the clear intent stated that the lack of modern coverage is what the MEIP actually has to concentrate on. In other words, not where there is good data, but where there isn't.
- The areas suffering from a lack of sufficient geospatial data quality are those which the MEIP should be focusing on in order to start a pipeline of OECS-type similar survey priority projects.
- Success in determining and arguing these cases will achieve the TORs that the MEIP is currently struggling to define.

Were the MEIP to be pushing out recommended survey priorities based on economic need then there would be a clamour to retain it and get it to help focus on particular problem areas.