

**NOC Association Steering Board
28th November 2019**

Professor Icarus Allen (IA), Plymouth Marine Laboratory
Dr Simon Brockington (SB), Department for Environment, Food and Rural Affairs
Dr Mark James (MJ), Marine Alliance for Science and Technology for Scotland
Professor Jonathan Sharples (JS), University of Liverpool
Professor Angela Hatton (AH), National Oceanography Centre
Professor Ed Hill OBE (EH), National Oceanography Centre
Professor Martin Solan (MS), University of Southampton
Professor David Thomas (DT), Bangor University
Professor Rob Upstill-Goddard (RU), Challenger Society
Professor Andy Watson (AW), University of Exeter

Jackie Pearson (JP), Secretary, National Oceanography Centre

Item 1 – Welcome and apologies

- 1.1 Apologies were noted from Julie Pringle Stewart and EH welcomed SB to his first meeting. Three members are attending in an *ex officio* capacity. These are SB for the Marine Science Coordination Committee (MSCC) (NB. Colin Moffatt will attend when he is in London, otherwise, it will be SB.) MJ for Marine Alliance for Science and Technology for Scotland (MASTS) and RU as President of the Challenger Society.
- 1.2 EH invited any items for AOB and AW advised that he wanted to talk about NOC and its role in Integrated Carbon Observation System (ICOS).
- 1.3 EH welcomed IA to the Board and congratulated him in his new role as CEO of Plymouth Marine Laboratory.

Item 2 - Minutes and actions from May 2019

- 2.1 **Action 4.4.** AH talked about the Ship Tracking Advisory Group (STAG) which tries to find more effective ways of planning expeditions around the globe. At the last meeting, MFAB Chair Professor Carol Robinson, DT and AH attended. It would not be feasible to plan ship-based expeditions around the world as are undertaken by the US. There is concern about the community's understanding of how ship time is costed. The group is considering long term planning, how the UK can work better internationally and how to use ships in the most effective way. There is discussion with the Cruise Programme Board about how we can work more effectively with the academic community.
- 2.2 **Action 6.6** RU advised this item is on the next Challenger Council meeting which is on 9th December.
- 2.3 **Action 10.8** The Board agreed that the ToR can be published on-line and to advertise their availability to the community. **Action: JP**
- 2.4 **Action 11.4** MJ confirmed that the conversation had taken place.

- 2.5 Para. 6.2 amend '*suggested NOC writes to*' to '*suggested NOC Association writes to*' although this action has been superseded.
- 2.6 JP asked the Board to send any final comments by COP Friday 6th December. After this the minutes will be considered final and published on the NOC Association web page. **Action: JP**

Item 3 – New Chair and members of the Steering Board

- 3.1 EH spoke about the decision to appoint Professor Gideon Henderson (GH) as Chair of the NOC Association. Ultimately, GH was appointed as the Chief Scientific Advisor of Defra. As it was not possible for him to also take on the role of Chair, GH stepped down from the NOCA. GH wrote some observations about the NOC Association which are included in these papers. Thus we had to find a new chair and following consultation with members, DT emerged as a strong candidate. DT is well known in the marine science community and holds senior leadership roles in Bangor University. As Chair of this Board, DT will also act as Observer on the new NOC Board. DT is willing and available to take on this role, so EH proposed him as the new Chair and invited any objections. EH invited DT to leave the room first. No objections were received.
- 3.2 In terms of general membership, we have tried to achieve a balance based on regional distribution, scientific expertise and gender. We are now have considering using a more transparent and open process and aim to use the same method as was used recently for refreshing the membership of the Marine Facilities Advisory Board. Broadening the diversity of the board could be achieved by, for example, encouraging early career researchers to apply. Indeed, we should encourage applicants from all stages in their career and could highlight this opportunity to the Royal Society, Future Earth and the Challenger Society. Information from NOC Association AGMs does not always make it back to colleagues, so we need to ensure that this is well disseminated and should also encourage colleagues to apply. SB suggested that applicants be encouraged to apply by letter and he agreed to circulate the opportunity via his networks too. The length of service should be added to the advertisement as well as the caveat that NOC staff are not eligible to apply. MS asked whether it would be appropriate for there to be representation from the FCO to give input to the research needs, assuming this fits the terms of reference. SB said that just need to ensure the call is as wide as possible. Update the current advertisement and share with DT & AH. **Action JP**
- 3.3 There should be a selection panel, led by the Chair and membership should reflect equality and diversity. **Action: DT, JP**
- 3.4 We should aim to appoint the new members in time for the next Board meeting in May and suggest a closing date as the end of February 2020.

Item Four - NOC independence

- 4.1 Following Treasury approval, NOC announced independence on 1 November. NOC has set up a trading subsidiary which had its first meeting on 27 November 2019. Funding has transferred from NERC to NOC. All staff are now employees of the new organisation. Although salaries of new staff are more generous, new appointments don't have the same terms and conditions. The ships remain in ownership of NERC for which NOC has three years secure funding from NC.
- 4.2 There is no intention to change the character of NOC which remains a scientific organisation whose purpose is public benefit. NOC has two charitable objectives: advancement of knowledge of the ocean and related education (i.e. our role in supervising students and public outreach). We must also generate income. This is the direction that the Plymouth Marine Laboratory (PML) took almost 20 years ago and PML is still very much a scientific organisation.
- 4.3 NOC has appointed the new G7 co-ordinator and the post-holder, Dr Katherine Hill, will be based in NOC and starts in January. Dr Hill will work in Paris and BEIS and we hope that she will come and present at the NOC Association. The post is for funded by BEIS for two and a half years and may possibly continue through the UN Decade of Ocean Science for Sustainable Development.

Item Five - Update on ship charter; bidding for ship-time – enhancing clarify about opportunities

- 5.1 The budget for the UKRI ships comes in two parts – the 'owner' and the 'ready to go' budget. The ready to go budget is used to maintain the ships and the National Marine Equipment Pool and is the cost of enabling the ship to go to sea to undertake science. The cost varies, is dependent on the location of the expedition and funded via the relevant science budget.
- 5.2 NOC must manage a flat cash budget and with no accounting for inflation, a funding gap is opening up which will be £0.75M by 20/21. We are working with NERC to manage the costs and this is being overseen by the Cruise Programme Executive Board (CPEB). The CPEB has representatives from NOC and NERC and is chaired by the NERC Director of Strategic Partnerships. The Board has two representatives from the science community: Professor Carol Robinson, Chair of the Marine Facilities Advisory Board and Professor Paul Tyler, University of Southampton.
- 5.3 In managing the funding gap, NERC science takes priority and has three options:
 1. Tell NOC what capability NERC no longer wants.
 2. Give NOC permission to find suitable charter opportunities to fill gaps in programme.

3. If one and two fail, NERC will, in the short term, bridge the gap which it has to do because NOC, as a charity, cannot operate in a deficit situation.
- 5.4 NMF has secured two charters in this financial year which have not caused any issue for expedition programming. One of the charters is an American scientific expedition based in the Atlantic.
- 5.5 AW noted that NERC science has priority but asked what happens if the expedition programme is full? EH: either capability would have to be reduced or NERC would become the de facto charterer and would need to bridge the funding gap to support the full programme.
- 5.6 There has been underutilization of our ships to date and gaps in the programme. Recently, we dealt with a clash situation, however, NMF was able to move the expedition, but it may not always be able to do this.
- 5.7 Hopefully, the community will continue to apply for proposals that require ship time. It was noted, however, applying for ship time is off putting because of the challenging nature of responsive mode grants. This is thus an opportunity for the new NOCA to play a role in encouraging the community to start submitting proposals again and to persuade NOC or UKRI to address this issue in their funding models as this is currently a problem.
- 5.8 MS asked whether there were any ethical issues relating to charters? NOC has an ethics policy and the issue is considered by NOC and the CPEB. It is the CPEB that decides. So far, there have been no issues.
- 5.9 The NOC hopes that the NOCA Board will encourage the community to bid for ship time and that the community understands that this funding model may result in expeditions having to be moved.
- 5.9.1 SB asked if it would be possible to conduct fisheries surveys on UKRI ships. EH: UKRI ships are multi-role global class but historically, have not conducted fisheries research. DT added that there is already an active group of organisations involved in fisheries. MJ talked about forward planning expedition locations over a five year period. DT suggested looking at the way that Germany operate her fleet. They know where her ships will be for the next decade. IA added that the AMT often has berths free and these are made available to the community every year.
- 5.9.2 MS the way this is communicated is important. There should be a document to explain the mechanism to apply for ship time. This needs to be fed back to the NERC Science Board. Presently, scientists are using strategic thinking which is based on flawed intelligence. We should highlight this at the next AGM of the NOC Association and the information should be in NERC handbook. The exceptions that may be applied to ship time are not listed which needs attention. Perhaps a 30 minute webinar on this topic would help. It would be good to profile the top five myths about applying for ship time. This activity should come from NERC so DT suggested inviting NERC to the NOCA AGM to cover this. **Action: DT/JP**

Item Six - How the UK will contribute to the UN Decade of Ocean Science for Sustainable Development (Decade)

- 6.1 There are a series of workshops and a planning meeting in January 2020. Part of the vision of the 'Decade' is to be transformative to 2030. In essence, we want to transform how we observe the Ocean. NOC is the lead because of the high level of NC funding although this isn't the same as delivering science.
- 6.2 The question is how these ideas can be turned into fundable science programmes. Peter Liss and EH have engaged with the Royal Society on this and there is a meeting planned in February to get the Science Committee together but this needs funding.
- 6.3 Industry has an important part to play in the Decade; there is both social and corporate responsibility.
- 6.4 RU advised that the Royal Society (RS) (through the Global Environmental Research Committee, GERC) is assembling a steering committee to discuss which SDGs the UK should be addressing. The results will be presented to a town meeting.
- 6.5 The MSCC International Working Group (IWG) which is chaired by the FCO and will include the RS, is considering setting up a UK group which would bring the RS, Government and industry players together. This group would then consider the UK's contribution to the Decade.
- 6.6 MJ advised that there are NGOs and philanthropic organisations and there should be an open arms policy to enable these groups to engage.
- 6.7 There needs to be a secretariat for the 'Decade' in the UK. NOC has a small amount of resource which currently supports the MSCC, the Decade and the IOC but there is a need to find extra resource. There needs to be a programme leader plus a small secretariat. MJ asked whether the Board could make a formal approach to the FCO about this? SB agreed that this is the right next step and noted that the issue is not about funding but more about how we approach the right departments. This is the next obvious move for this and Defra would be able to give some steer on this. The benefits of the initiative need to be articulated well.

Item seven - Improving community understanding about the role of NC in underpinning UK marine science

- 7.1 The colour for CCAP on Chart One of the associated paper needs to change from blue to red.
- 7.2 MS: it would be good for the graph to be redrawn by subject area, for example, biogeochemistry. There have been problems adding data to BODC and then finding it but this isn't isolated to BODC. There needs to be engagement and data should be more easily available. EH agreed that it would be good for the chart to be focused on disciplines.

- 7.3 There was a suggestion to run a NC conference. There is a perception that NC is all about robotics and sensors. It would be good to enhance the web site with information about NC. Points of contact are on the [CLASS](#) website. It would be interesting to obtain the statistics behind the NC web pages to see how many people are looking at them. EH liked the ideas posed by the Board and suggested NC be a topic for the next AGM. **Action: JP**

Item Eight - MSCC Update – given by Dr Simon Brockington

- 8.1 The MSCC meets every six months. The roadmap strategy is in progress but has suffered delays following Minister Coffey's new appointment and the calling of a general election. The European Strategy was published a month ago.
- 8.2 The strength of the MSCC lies in its working groups (WG). The WG on research vessels needs to be reinvigorated and a move to charter opportunities is a positive way forward. We must continue to reinvigorate the MSCC and are keen to address any criticism.
- 8.3 Defra is interested in the ocean carbon cycle; it is important to understand this in terms of policy. Several Government targets are towards net zero emissions. It is important to know if impacts on the benthic environment have affected the Ocean's ability to take up carbon. Other areas of focus: Official Development Assistance (ODA) funding; a need to coordinate around Whitehall and a devolved agenda at the MSCC.
- 8.4 With MSCC, everyone hopes for us to do more and to be more effective. We are now recruiting a new Secretary. Anne has done the administrative side exquisitely well. In addition to this element of this role, the role will also need to link into policy teams. The post holder will come to London regularly and will be talking to policy leads and will need to link up with Dr Katherine Hill, the new post holder for the G7 Marine Science Coordinator.
- 8.5 AH said it was good to see that the MSCC is moving forward, making many positives advances now, compared to the past.

Item nine – The 10th Annual Meeting of the NOC Association

- 9.1 Logistics
- Suggest date in May 2020
 - Although invitations go to heads of schools, they should encourage colleagues to attend
 - Have fewer presentations and enable discussion.

There is a concern that the membership of the Association is not always feeding information back to colleagues.

9.2 Suggested agenda items

National Capability - Presentation/live broadcast on NC that includes myth busting. Work with UKRI's Mike Webb/Sophie Hodgson on this.

Early Career Researchers (ECRs) Highlight opportunities; presentation from an ECR to show what worked well. Examples of best practice.

Workshops - Principal Scientific Officer workshops for research expeditions.

Impact mitigation What about a theme that covers mitigation of impacts? e.g. impacts for biodiversity, impacts from climate change. A positive looking future? Most meetings discuss the negative impacts of human activity and/or climate change, yet there is tremendous potential to identify ways in which working with nature will bring about systematic positive mitigation. Nature-based solutions have been promoted as a means to protect, sustainably manage and restore natural or modified ecosystems while providing multiple benefits for health, the economy, society and the environment. The ideology and narrative supporting implementation of interventions, however, has received little scientific attention.

NERC's delivery plan

What are the new challenges faced by the marine environment?

Suggestions for speakers

- (i) MS: Should we get perspectives from outside the marine/terrestrial environment? e.g. Elena Bennett from Canada could talk about managing resources. See: <https://www.mcgill.ca/nrs/academic-0/bennett>
- (ii) AH: Sustainable Management of UK Marine Resources Champion.
- (iii) EH: NERC's new Director of Strategic Partnerships, Dr Iain Williams, who will be in post from January 2020. Dr Williams will have oversight of NERC's NC portfolio.
- (iv) RG: agreed to speak to Dr Lidia Carracedo [*post meeting note: this was with reference to Dr Carracedo's work as the Early Career Network Coordinator for the Challenger Society*]
- (v) MS: other possible topics include migration to the coast and artificial intelligence. Suggested speakers: Migration to the coast, Sir Paul Collier, see <https://www.bsq.ox.ac.uk/people/paul-collier> Artificial intelligence –Yoshua Bengio, Montreal. Yoshua is using artificial intelligence techniques to make visualisations of flooding related to climate change that are localised to the individual. Images are generated from database of flood images. See the project here: <https://mila.quebec/en/ai-society/visualizing-climate-change/>

- (vi) How to dispel myths about applying for and accessing ship time. Mike Webb to be contacted. **Action: JP**
- (vii) Case studies on international leverage of funds; what international issues are driving agendas.

Dates to avoid

W/b 18th May 2020 - CLASS Annual Science Meeting
14th and 15th May 2020 - European Maritime day

AoB

AW wanted to discuss the Integrated Carbon Observation System (ICOS). ICOS is pan-European research infrastructure; NERC was the stakeholder, now this is UKRI. The network stations are run by PML and NOC. The marine stations are: the Porcupine Abyssal Plain (PAP) Sustained Observatory, the Western Channel Observatory and the UK - Caribbean Voluntary Observing Ship (VOS) line. Currently, the UK- Caribbean VOS line is suspended because the Climate Linked Atlantic Sector Science (CLASS) programme does not have the funding to run it.

It was funded until last year by a succession of short-term grants. There had been an expectation that this element of ICOS would be absorbed into NC but it wasn't costed so has been suspended. AW is appealing to ensure that this does not drop off the NC radar at NOC as this is an important data set. If it should stop for a long period, this would cause a problem. AW has discussed this with AH who has provided assurances that this will not drop off the agenda.

AH: NOC does not receive funding for this from ICOS; rather, NOC pays to be part of it. The Caribbean line was suspended because Exeter could not do the carbon measurements and there was an issue with data quality due to contamination. It is not NOC's intention to suspend this. NOC will take this on when the next tranche of NC is commissioned and AH agreed that keeping the line going is important.

AW The ocean carbon cycle continues to be important and a paper is about to be submitted on this. The UK makes a major contribution to understanding the carbon cycle.

EH commented that this is an example of a critical issue. There are many examples of sustained observations that 'fall over' from time to time, for the lack of only small amounts of money. The UK has yet to solve this problem. For example, the Permanent Service for Mean Sea Level (PSMSL). We do not have funding for this at the moment. The UK Tide Gauge Network is another example. Currently, the gauges are not generating climate quality data. The other issue is underway measurements from research ships. Taking measurements of carbon and sea surface temperature from the ocean, turning swath systems on to map the sea bed - these activities do not incur huge cost. NC has been the only way to fund these areas and this is a continuing, perennial problem. The UK is about to host the 2020 UN Climate Change Conference (UNFCCC COP 26) and yet these problems still exist. Technological

innovation needs to be mapped by business innovation. The UK needs to take some leadership here.

Previously Professor Peter Liss was on the Advisory Group to CLASS and it was agreed that Professor Rachel Mills should be invited to report to the Board on CLASS so this will be an item on the agenda at the next meeting.

EH closed the meeting by thanking AW for his sterling work for the Board over many years. MJ will continue as *ex officio* member, representing the Marine Alliance for Science and Technology for Scotland (MASTS).