

G E B C O

GENERAL BATHYMETRIC CHART OF THE OCEANS



Thirty Eighth Meeting of the GEBCO Guiding Committee (GGC38)

IHO, Monaco - Hybrid

20 – 22 April 2022

Meeting Report

1 OPENING REMARKS AND ADMINISTRATIVE ARRANGEMENTS

.1 Opening Remarks and Introductions

The Chair opened the meeting and welcomed all of the participants. He explained the format of the meeting and why the emphasis would be on good governance and strategy. He noted that there were a number of new members of the GEBCO community and that the last two+ years have been very challenging. He reflected on the fact that the sequence of meetings had been adapted as a consequence but that this had also caused its own challenges. He finished by explaining that he saw the coming year as a transition year, where get back into a more normal rhythm and take the opportunity to reset and regroup. In doing so it was an opportunity to consider the strategic environment that we are operating within and challenge ourselves to focus on activity that will deliver output.

.2 Welcoming Remarks by Host

IHO Secretary General welcomed the participants to the meeting and those attending in person to Monaco. He reemphasised the importance that the IHO places on GEBCO and drew attention to the fact that 2 of the 3 IHO Strategic goals speak directly improving the use and access of data for the benefit of society and engagement in international activities. He suggested that GEBCO had never been more relevant to the broader Ocean Science community and we must work hard to maintain our position. He recognised the role that the SB2030 project had played in increasing the data holdings and wished the meeting every success.

.3 Opening remarks by parent bodies

Julian Barbieri (**JB**) provided opening remarks on behalf of IOC. He agreed with the importance that the IHO places on GEBCO and explained how the work is essential the aims of the UN Decade and the broader UN 2030 Agenda.

.4 Working Arrangements

The IHO Sec introduced himself and went through the working and administrative arrangements for the meeting. He noted that it was being held in hybrid format so explained the procedures we would employ for confirming decisions and actions.

.5 Administrative Arrangements

Covered in previous agenda item.

.6 Adoption of the Agenda and approval of report from GGC37 and GGC IS 01 2022

Decision 1. GGC38 meeting agenda adopted

Decision 2. GGC37 and IS01 22 meeting reports approved

.7 Review of Action Items from GGC37

Action Items from previous GGC meeting were reviewed with actions identified that would be covered in the following agenda items.

2 REPORTS FROM PARENTAL AND SUBORDINATE BODIES

.1 IHO update - [Report](#)

IHO Director SINAPI gave an update on behalf of the IHO. He noted the four new members of the GGC, Proposed governance review and strategic priorities. He gave an update on key IHO activities and initiatives including Empowering Women in Hydrography project and the IHO-IOC NF GEBCO Training Programme. He made reference to the Crowdsourced Bathymetry Working Group (CSBWG) initiative and the work done to complete Publication B-12. He also recapped Monaco Ocean week including the ARGO collaboration. He restated the reporting cycle to IRCC14 and the importance of the role of RHCs and CSB coordinators for supporting GEBCO. Finally he the preparation for The 3rd IHO Assembly (A3) and the opportunity to celebrate GEBCO's 120th birthday. He ask GGC38 to note the report which was duly done.

.2 IOC update

Julian Barbieri (**JB**) welcomed the new GGC members. He recapped on IOC strategic priorities including their new high-level objectives. He noted the importance of the value chain and how IOCs work plan is arranged around this. He gave an update on the progress of the UN Decade and its implementation plan, noting 31 global programmes of which Seabed 2030 was one. He offered thoughts on what the Decade could do for ocean mapping and where GEBCO would fit into this. He covered some recent IOC strategic developments including the Pilot State of the Ocean Report to be presented to the IOC Executive Council. He advised that IOC would be revising their capacity development strategy in 2023 and that GEBCO would be considered within this. He advertised the development of the UN Decade Tsunami Programme which references collaboration with GEBCO/SB2030. He finished with an overview of IOC Executive Council item 3.4 Ocean observations in Areas under national jurisdiction – he noted the cross disciplinary nature of this and the importance of working with DOALOS.

Action 1. Consider how to further influence the Ocean Observation Community as to the inclusion of seabed mapping and report back to GGC39

.3 Financial update, including funds status report - [Report](#)

The IHO Secretary (**IHO Sec**) gave an explanation of the three funds that the IHO administers on behalf of GEBCO and SB2030, as well as the current balances of each.

Jamie McMichael Phillips (**JMP**), Director SB2030 note that the Seabed 2030 Grant is provided in US Dollars and should be accounted for in US Dollars. He noted that in any event the figure provided for Seabed 2030 funds is inaccurate and does not seem to have taken account of any committed expenditure that has yet to be processed for payment¹. IHO Sec explained that the SB2030 funds are held in USD.

.4 Digital Atlas Manager - [Report](#)

Helen Snaith (**HS**) gave an update on the GEBCO Digital Atlas. She recounted that over a quarter of a million downloads of the latest version of the grid had been made in the reporting period. She noted the popularity of the new grid imagery and that the Global Centre is now a CSB Trusted Node. She reported on the various updates to the website and that they were implementing GEBCO collaborative tools utilising google drive. She finished by providing statistics on visits to the website, noting a general increase in traffic with the majority of visitors coming for data.

Kim Picard (**KP**) asked whether there are any further stats on data downloads? HS replied that they could look at IP addresses to get a geographical view if required. JMP thanked BODC for all the work that has been done and reported that SB2030 are also investing in technical support for CSB data logger installation.

Action 2. Generate stats on geographic distribution of downloads using IP addresses

.5 DCDB update, including relevant CSBWG and ASMIWG issues - [Report](#)

Jennifer Jencks (**JJ**) gave an update on DCDB and CSBWG. She highlighted a number of new data contributors, namely; US academic research fleet (47 surveys), NOAA fleet, Fugro, LDEO MGDS and Caladan/Five deeps project. She noted that CSB continues to flow from Rosepoint, farsounder, PGS and MacGregor. She reported that the estimated global seafloor coverage held in the DCDB archive is calculated to be 12% and that this figure is much lower from that reported through SB2030 – highlighting the amount of non-public data included in the GEBCO grid. DCDB enhancements included the map viewer with a mixture of new and updated functionality including the grid extract tool that allows users to develop custom geotiffs. She covered the CSB data ingest pipeline work that has been undertaken and referenced the CSBWG activity, specifically that B-12 had been finalised.

.6 SCUFN - [Report](#)

Yasuhiko Ohara (**YO**), SCUFN Vice Chair, gave an update on SCUFN activity. He noted the sessions that have been held and noted they were held in two sessions due to a large backlog. He reported that they have two membership vacancies that they are in the process of recruiting for. In terms of activity, he stated that they have had 343 proposal, of which 140 had been accepted and 36

¹ Post meeting note, this issue was investigated and resolved

not accepted. The SCUFN Secretary has asked all submitting parties to share the bathy data to GEBCO/DCDB. He mentioned that a key challenge is the increasing pressure from some parties for political statements by observers and formal interventions via diplomatic channels. Finally he noted that SCUFN welcomes the report from ACUF and Marine regions, and the next meeting is to be held in Monaco Nov28-Dec2 2022.

Action 3. GGC consider how to support SCUFN with increasing political pressure and clarify the nature of support required of GGC.

.7 TSCOM

George Spoelstra (**GS**) introduced the background and purpose of TSCOM. He noted that they have just started a process of asking stakeholders what they want from the group and reported on the change of leadership. He acknowledged the desire to have an in person meeting but dates venue were yet to be decided. He noted the desire to expand the membership of the group to try and get a better geographic balance.

In terms of work items undertaken during the reporting period, TSCOM provided feedback and review on STRM+15 and the work of the metadata working group and cookbook editorial board were noted. The main activity for the GEBCO Website Working Group is the migration to new platform. He reiterated the importance of looking at a shared google workspace for GGC and Sub-Committees. The collaboration with DCDB was noted, specifically the planned virtual workshops and DCDB industry day which will be moved to 2023. The creation of the opportunistic mapping resources working group was reported. The objective being to develop, test and deliver resources that promote acquisition of seabed data by the seafloor mapping community in areas identified as gaps in the current coverage following the A+B+C=100% paradigm. He reflected that in taking stock of the various activities ongoing in this space, it was obvious that the goal should not be to agree on one technical solution, rather to focus on working from the same data source. It was reported that the Undersea Feature Detection Project has been initiated but is still in concept design phase. He also noted Deep Argo Float validation activity but again noted it is at a very early stage. New work items include multi-resolution grids and Map Projections with the aim to perform a literature review in 2022 and set up test bed to implement findings in 2023. Finally he asked the GGC to endorse the discontinuation of B-9 GEBCO digital atlas.

IHO Secretary General noted that the IHO is working with the Deep Argo collaboration but suggested the work be handed over to TSCOM. He also noted that the IHR would be a good place for publishing any scientific papers that arise from this work.

Action 4. IHO to liaise with TSCOM re. transfer of lead on Deep ARGO project

.8 SCRUM

Aileen Bohan (**AB**) gave an update on SCRUM activity and recapped the importance of SCRUM. she noted that their website had links to various resources including the GEBCO2021 grid review with web app and new youtube content. She noted that they had managed to have good representation at the majority of IHO/IOC Regional meetings and she asked for feedback from those who attended. In terms of work items undertaken in the reporting period she highlighted the GEBCO2022 grid review, Prioritisation discussion with TSCOM and Seabed 2030, participation in the WITS seminar, and the contribution to the IOC state of the ocean report. In terms of her work plan she noted reinvigorating the work with the IBCs, the importance of which was well noted by the GGC, especially when thinking about life after SB2030.

.9 SCOPE

Tim Kearns (**TK**) gave an update on SCOPE activity. He went through 2021 activities, including 2 symposiums, social media activity and asset developments. Looking ahead to 2022, he noted the planned symposium, social media execution, asset deployment, and strategic planning.

He went through the changes to leadership and membership noting that several new members added in 2021. It was clarified that these were actually observers and non/voting members as per the ToRs and RoPs. He indicated that he saw further growth as a priority. In taking over the Chair role, he wished to thank Dr Hyo Sung for the work she had undertaken over the years, and thank Dr Eunmi Chang for performing the role of Acting Chair in the interim period.

In terms of work items and opportunities he noted the need for an engaged and active community, and that he saw the need for ‘action pods’ to increase output. He noted that on occasion external engagement could be employed to help with this.

Looking ahead to 2022, key focal areas are to be the finalization and implementation of a GEBCO wide communication strategy, further refinements to the GEBCO website, development of an update GEBCO world map, development of education materials and the Map the Gaps Symposium.

The IHO SG suggested that the 120th anniversary be a focus, especially with A3 in mind. He raised the History of GEBCO noting that the intention was for it to be updated in time for A3. Eunmi Chang reported that the initial groups have been discussed but not set up yet. Only initial discussions have been had.

David Millar (**DM**) suggested that the UN Decade has a communications advisory group and that SCOPE should liaise with them going forward.

Action 5. Liaise with UN Decade Comms. Advisory group to explore synergies

.10 NF related activities and programmes - [Report](#)

Robin Falconer (**RF**) provided a brief on the report. He reported that the program is in its 18th year. In addition to the five students currently at UNH, 102 scholars, from 43 countries have been through the course. COVID -19 has significantly disrupted the program in 2020, 2021 and 2022 with international travel restrictions and lockdowns at the University of New Hampshire. Through a combination of online remote teaching and flexibility of scheduling the course has been able to continue, albeit with a different experience for some of the students.

In 2020/21 The Nippon Foundation Ocean Affairs Department selected the training program as one of three capacity building programs for external review. The intent was to examine the impact of the programs and how well they contribute to NF’s overall strategy of strengthening human resources to address global ocean issues. The Training program received the highest possible rating and the reviewing organization said it was one of the most outstanding programs they have ever reviewed.

He noted that there has been a planned refresh of the training programme and management committee of the course at UNH, but this work has been paused to allow the work on establishing SCET to be completed. He stated that once established, considerations should be given to how the

two endeavours could be aligned. Finally, the report suggested that the GGC express to The Nippon Foundation the gratitude of the GGC for the Nippon Foundation's continued support of the GEBCO Project, in particular of the UNH Training Course, and of the Nippon Foundation – GEBCO Seabed 2030 project;

Action 6. Write to Nippon Foundation to Express Gratitude of the GGC for their continued support

3 DOCUMENTS AND PUBLICATIONS

.1 Document Review Status

The various leads and/or contributors gave the following updates were provided:

B-6 – Standardisation of undersea feature names. The latest edition 4.2.0 of Publication B-6 was published in October 2019. Work is currently underway to update this publication with a decision as to whether this will be by way of a Revision or new Edition to be decided.

B-8 – Gazetteer of Undersea Feature Names. Work in 2021 included (1) resolving reported issues or enhancement requests, bringing the number of outstanding issues to zero, (2) providing maintenance releases and (3) beginning development on Gazetteer v5.0 which will provide interoperability with the Beta-Gazetteer developed by the Korean Hydrographic and Oceanographic Agency.

Significant changes are needed in the current GEBCO Gazetteer in order to support the KHOA Beta-Gazetteer integration and simplify future development. Face-to-face meetings between GEBCO Gazetteer developers and KHOA Beta-Gazetteer developers took place at SCUFN 35.1 (March 2022). The agreed-upon goals for 2022 work include:

- Supporting KHOA's developers as they develop and test the Beta-Gazetteer integration using well known authentication and integration standards (OAuth, REST APIs)
- Updating the API, fixing reported bugs and adding requested enhancements
- In-depth testing
- Updating the user interface to use a modern and more maintainable framework

B-9 – GEBCO Digital Atlas. Publication B-9 has been redundant for some time given the digital nature of the GEBCO Global Gridded Product. It has been decided that this publication should be withdrawn and not replaced.

Action 7. Propose withdrawal of B-9

B-10 – The history of GEBCO. Publication of B-10 was last published in 2003 to coincide with GEBCO's 100th anniversary. Work is currently underway to produce a new Edition in 2023 to coincide with the 120th anniversary.

B-11 IHO/IOC Manuals and Guides – GEBCO Cookbook. The last IHO-IOC GEBCO Cookbook update was published in October 2019. Christie Reiser (NOAA) was selected as the new Chief Editor/Chief of the Editorial Board in October 2021 after Karen Marks retired. The GEBCO Cookbook Editorial Board was formed in February 2022, which reports to the TSCOM. The Editorial Board was formed to maintain/update the B-11 materials/chapters. The Editorial Board plans to publish the next revision of B-11 as a smart e-pub in a new format with an associated DOI. The Editorial Board is drafting the ToRs and will submit to TSCOM for review by May 2022. The Editorial Board is reaching out to existing/new authors to update existing material and call for new

chapters with a goal to publish a revision to existing chapters by the end of 2022 and adding new material in the following revision by the end of 2023.

- .2 ToRs and RoPs review, to include annual check of GGC ToRs and approval of any proposed amendments to subordinate body ToRs

The IHO Sec reported that since no requests for changes to the ToRs or RoPs of Sub-committees or the GGC had been received, and noting that the governance review would be discussed in a later agenda item, that no action be taken and the ToRs and RoPs are considered fit for purpose and still in force.

Decision 3. GGC/SCs ToRs and RoPs confirmed

4 EDUCATION AND TRAINING

- .1 Nippon Foundation – GEBCO Training Programme update

Rochelle Wigley (**RW**) gave an update on the NF GEBCO Training Programme. She noted some of the travel challenges due to COVID and how this had effected some of the students' experiences. She provided an outline of the training programme and provided an update on the funds received to date. In terms of this year's applications she reported that the number was rising with over 40 received already this year. She reemphasised the point made by RF relating to the breadth of the Alumni in terms of how they are involved in the wider community and finished by noting the role of Map the Gaps as the representative body for the Alumni.

- .2 Update on establishment of SCET including [ToRs and RoPs](#)

Kim Picard (**KP**) gave an update on the work undertaken to establish SCET to date. She went through the proposed activity plan both in terms of initiation/governance activities and future programme activities. The Draft ToRs and RoPs were presented to the group for consideration. It was noted that the current wording of the ToRs allows for a very broad (and potentially very large) membership. The IHO Sec noted that this could be problematic in terms of being quorate in the future. It was agreed that rather than change the wording at this stage, the ToRs and RoPs be endorsed and the leadership team of SCET would be mindful of this point when appointing their initial members, noting that there is provision for co-opting expert contributors to broaden the representation.

Decision 4. SCET TORs and RoPs endorsed, SCET established – noting the issue over limitation of membership to be reviewed under the governance review

Action 8. Propose creation of SCET to IRCC and IOC Exec Council with submission of associated ToRs and RoPs for endorsement

- .3 Election of SCET officials

IHO Sec reported that he had received one nomination each for the Chair and Vice Chair positions. He proposed the election of these office holders to the GGC which were subsequently appointed by unanimous support.

Decision 5. Mr Paul Brett and Dr Rochelle Wigley elected as SCET Chair and Vice Chair respectively

Action 9. Chair SCET to identify initial members

Action 10. Chair of SCET to report feedback from IRCC to GGC39

5 GEBCO GOVERNANCE REVIEW

- .1 Governance review - proposed scope, methodology, timescales and deliverables - [Presentation](#)

IHO Sec provided a brief on the work undertaken to date on the proposed GEBCO Governance Review. He reported that in December 2021, an informal meeting between the IHO, IOC and GEBCO Chair/Vice Chair was held to discuss areas of mutual interest and implications of emerging initiatives. In doing so it was acknowledged that a routine review of governance is not only good practice, but would likely help to ensure GEBCO remained relevant during this period of change. In considering how to move forward, it was noted that there was a strong need to ensure that the work of GEBCO continued to support the strategic objectives of IHO and IOC.

He explained that following this meeting, he had been tasked with developing a proposal for such a governance review to be presented to GGC38 for discussion and approval. In doing so, a significant amount of research and preliminary analysis has been undertaken and a proposed scope and methodology developed. He provided an update on the proposal. The core elements of the review are stakeholder mapping and engagement, mapping of the existing organization and functional structure, a review of the legal structure and framework, a gap analysis of existing governance instruments, a review of the financial status and the identification of findings and recommendations. He proposed that the GGC commission the review with the IHO Sec acting as Chair and JB of IOC acting as Vice Chair of a dedicated project team.

- .2 Discussion and approval

It was noted by the GGC that whilst this was clearly a much needed and worthwhile endeavour this was a significant undertaking and that we should be cautious not to make it too detailed or over burdensome. The IHO Sec assured the GGC that the approach would be in more in the spirit of creating a repeatable continuous improvement process rather than just a standalone report.

Action 11. Propose creation of Project Team to IRCC and IOC Exec Council with submission of associated ToRs and RoPs for endorsement and undertake governance review

Action 12. Undertake governance review

6 GEBCO CODE OF CONDUCT UPDATE

- .1 Update on the development of the GEBCO Code of Conduct

Marzia Rovere (MZ), GGC Vice-Chair, provided an update on the work undertaken on the GEBCO Code of Conduct. She noted the support of M Rovere, J Jencks, R Obino, J Cheveaux, Dir SB2030, and the Head of Engagement and Development Seabed2030. She recapped that the task given to the team was to create a GEBCO wide Code of Conduct covering standards of respect and tolerance; individual status within GEBCO in relation to host national organisations and industry stakeholders; governance issues in relation to leadership positions and potential conflicts of interest. She reported that, a first version had been drafted with a second shorter version developed that included examples of behaviours and disciplinary measures and procedures.

The latest draft comprises a foreword which establishes the inspiring principles and an ethical conduct section subdivided into:

- I. General Conduct
- II. Conflicts of interest
- III. Proper Use and Protection of GEBCO brand and assets
- IV. Outside Communication
- V. Harassment, Discrimination and Bullying
- VI. Whistleblowing

JB reported that the latest draft has subsequently been reviewed by the UNESCO Ethics Committee who have provided feedback on the document. The key observations from this committee were that it is currently very long and detailed and it would benefit from being made higher level, shorter and simpler. He noted the specific recommendation was that much of the document could be re-cast into a GEBCO Charter that clearly set out expected behaviours and conduct.

.2 Discussion and next steps

The Chair thanked MR for the work undertaken and noted that in terms of the review by the ethics committee, IHO has deferred to the expertise of IOC. He asked the group whether the proposed Charter could be progressed in parallel with the governance and strategic reviews? After a thorough discussion, the GGC decided to turn the Code of Conduct into a GEBCO Charter under the leadership of MZ and the existing team.

Action 13. Turn Code of Conduct into GEBCO Charter

It was also noted that this work should be done in close collaboration with the Governance Review Project Team and the Strategic Plan Drafting Team to avoid overlaps.

Action 14. Consider components of Code of Conduct in Governance review

7 GEBCO COMMUNICATIONS AND OUTREACH STRATEGY

.1 Review of GEBCO Communications, Education and Outreach activities

Tim Kearns (**TK**) introduced the topic and gave an update SCOPE activities. He recapped that SCOPE evolved from a TSCOM working group into a full Sub-committee. In doing so, initial work had been done to engage a 3rd part consultant to develop a GEBCO Communications and Outreach Strategy. Whilst progress had been made work had been paused to give time for identifying exactly what the strategic goals of GEBCO are.

In the interim, he had undertaken a SWOT analysis from a communications perspective of GEBCO which he shared with the group.

Strengths:

- Great commitment
- GEBCO depth of experience
- Diversity
- Support of GEBCO

Weaknesses:

- Lack of time
- Volunteer based
- Lack of strategy
- Membership is limited

Opportunities:

- Diversification
- External experts
- Public awareness
- A willing coalition

Threats

- Competing work
- Budget
- Availability of people's time
- Follow-through completing work

.2 Development of future strategy and activities

TK suggested that the time for an emphasis on strategic rather than tactical and suggested four core activities:

- Outreach and public engagement strategic plan
- Communications matrix
- Communications plan
- GEBCO Brand Identity

He summarised by noting that SCOPE doesn't have all the answers or all the skills. As a consequence he noted that external support may be required and that this would require financial support from the budget.

The chair reflected that much of TKs presentation reaffirmed the need to focus on the strategy and governance review. He noted that a greater skillset is required and that communication is a skill in itself and we need access to these professionals.

JMP noted that SB2030 are happy to play a role in SCOPE and he introduced Kira Coley (**KC**) as the new head of communications. KC added that she is happy to support the work of SCOPE, especially on the development of a strategy.

Action 15. SCOPE to engage with SB2030 comms lead to discuss collaboration/support

David Millar (**DM**) noted that the strategy and governance review is about finding gaps and overlaps, and this is somewhere that communications/SCOPE must be considered.

Action 16. SCOPE Review Comms strategic plan in light of other work ongoing within GEBCO

8 FUNDING STRATEGY

.1 Update from the Fundraising WG on the funding strategy

DM presented an update on the work of the Fundraising WG. He went through the background and the intent of the work and noted that it was commenced so as not to lose momentum whilst permanent leadership of SB2030 was agreed. He recapped that an outline plan was presented to GGC36 but noted that there key skillsets that were missing as related to legal, tax etc. GGC36 agreed

a budget agreed of 22,000 euros and two independent consultants were hired; one to focus on fundraising strategies and the other was on legal, tax and governance considerations. An update provided to GGC37 but work has now been completed. He gave an overview of the contents of the report with a key component being the value proposition. He reflected that much of this report could be used for the strategy work and drew attention to the linkage to the communications component. He went through key issues and opportunities:

- Global fundraising for GEBCO is challenging but possible many targets, many organisations
- Significant effort required in establishing a global fundraising infrastructure but could yield significant benefits
- Private fundraising has not been done by GEBCO before and as comes with strategic and

He proposed next steps being to circulate the doc for information and as an output of the GGC35 action. He reiterated that it can be used by the group to inform the governance and strategic reviews.

.2 Discussion and next steps

The chair thanked DM for the work that has been completed and noted that the document would be shared but that there are some sensitive components that needed to be redacted. He explained that this related to specific individuals or entities that may be targets for funding, and that this should not be in the public domain. He also noted that the focus of the report is on private investment and that he has been investigating the opportunities for government/sovereign states. He further added that whilst no specific activities were identified, the pretext was to investigate what it would take to go from 10s of thousands to 100s millions Euros in the future. Director Sinapi noted that this represented the completion of a GGC task, and now it can be used as a tool for the further Governance and strategic activity.

Decision 6. GGC noted the completion of the fundraising team task

Action 17. Document to be redacted for sensitivities and distributed for information to the GGC

9 SEABED 2030

Progress brief on activities of Seabed 2030 Project against agreed Business Plan, including funding state, Center activities, outcomes from interaction with IOC and IHO Secretariats and endorsement of Work Plan 2021-2022:

- .1 Present Year 4 report and budget for GGC approval, highlighting main deliverables and communications – [Report](#)

JMP provided a summary of year four activity by going through each of the five work packages. These are summarised below:

WP1 – Data. Published ocean map coverage stands at 20.6% and there will be steady growth when the next version of the Grid is published in Jun 22. IBCAO 4.1 and IBCSO 2.0 have published for the Arctic and Southern Oceans respectively. Extensive engagement with data donors.

WP2 – Process improvements. The Surveying System Bathy Data Uploader has been developed in collaboration with Kongsberg with a Beta version in testing. Statistics routines developed on Amazon Web Services are being utilised and will allow better tracking of progress towards the target

coverage. Collaboration continues with Scripps on SRTM15+ base grid improvements as well as the University of New Hampshire (UNH) to develop their Web App Visualisation tool.

WP3 – Innovation. A technology strategy white paper is being written and expected to be delivered in Year 5. There has been recent progress on gridding statistics improvements across the centres, demonstrations of a new generation of CSB loggers (UNH) have been undertaken, as well as establishing the Global Centre as a CSB Trusted Node (data receiver). Finally, the proof of concept of autonomous data gathering on Saildrone’s Pacific crossing (TOTT) was successful.

WP4 – Mapping activities. A number of data gathering initiatives have been undertaken or are ongoing, including the Ocean Frontier Mapping Project. In addition, existing and new partnerships have led to the collection of SDB data as well as planned/completed CSB activities in South Africa, Greenland, Palau and in the South West Pacific. Fugro transit data donations have exceeded the 2 million sq km milestone. Seabed 2030 is also collaborating in the NIWA- Nippon Foundation Tonga Eruption Site Mapping Project (TESMaP) that will see a blend of crewed and uncrewed technology conduct extensive research around the Hunga Tonga–Hunga Ha’apai area..

WP5 – Management. There has been extensive virtual and face-to-face engagement over the period with highlights including representation at COP 26, the Paris Peace Forum, the Southern Ocean Decade & Polar Forum, the One Ocean Summit and Monaco Oceans Week. The SB2030 management team has been further bolstered with the recruitment of a Head of Partnerships and Head of Communications and Decade Initiatives. The next phase of Wind in The Sails (WITS) survey and global prioritisation work is being finalised and a report will be shared in due course.

Sustained outreach and engagement activities means the number of MoUs and active supporters are growing:

- 6 new MoUs this period – 23 in total
- 7 MoUs under negotiation

NF Alumni Engagement included:

- Ocean Frontier Mapping Project
- Scoping a secure remote data processing facility
- Head of Engagement is chair of 2022 Alumni Seminar² organising committee

Key media activity includes:

- ‘In-depth’ periodic newsletters
- Press releases widely circulated
- 102 media items

He summarised by highlighting three key points from the reporting year of the project; the importance of partnerships, the Paris peace forum presentation and successful inclusion as a UN Ocean Decade flagship project.

The chair asked about access to data holdings we know exist but are not available from the data owners. It was noted that often the owners are governments, and finding out who has the ability to share data from 20 years ago is very difficult. DM explained the complexities of the data ownership and why it is a difficult activity to tackle. JB noted the IOC activity looking at UNCLOS as relates to MSR and that this would be discussed at the IOC Exec Council.

² Post meeting note – Seminar has been deferred to 1-3 August 2023

Action 18. IHO to liaise with IOC to discuss how GEBCO can contribute to the conversation re. UNCLOS and MSR

It was also noted that often the answer is no, because it is the easiest and safest default answer to give when it is unclear who has the authority. It was then reported that even getting the area polygon is difficult because it is commercially sensitive in itself. Helen Snaith (**HS**) noted that we also don't have the data that was gathered to support the UNCLOS claims. The group were reminded of the ongoing work of TSCOM and SCRUM on how to visualise data gaps to assist in survey planning and seeking embargoed data.

Action 19. TSCOM working with SCRUM/DCDB to visualize the A+B+C=100% focussing on embargoed data

.2 Presentation of draft Year 5 Work plan and proposed funding bid - [Report](#)

JMP continued with an update and presentation on planned activity for Year 5 of the project. He highlighted upcoming key data collection activity that the project is partnering on including TESMap, work following the Tonga Eruption in collaboration with NIWA and the Nippon Foundation. Further specifics can be found in the report.

The Chair thanked JMP for the comprehensive update. He went on to ask about the nature of engagement with umbrella or industry associations. DM reported that Fugro reached out to the industry associations that they are members of and subsequently reported at their annual meetings. He noted that we could follow up on this activity if required. Steve Hall (**SH**), Head of Partnerships for SB2030, reported that he was going to use his previous contacts from the Society for Undersea Technology as an entry point into industry associations.

Director Sinapi commended JMP for the achievements of the project so far and noted the role of SB2030 as an accelerator for GEBCO. He acknowledged the importance of the next generation of data loggers for CSB and the support that SB2030 had provided. He also reminded the GGC of the importance of IRCC14 in promoting the message of SB2030 or CSB through the Regional Hydrographic Commission coordinators.

Shereen Sharma (**SS**) gave a brief specifically on the data collection being undertaken through Ocean Frontier Mapping fund. JMP noted that the small funds available are used for alumni travel and subsistence, to pay vessel operators for incremental mapping days (not full mission ship) time. Potentially, the need for this sort of financing may decline as more data gatherers come onboard with support to SB2030, GEBCO and the UN Ocean Decade. However this is aspirational and we are not in that space yet. KP noted that the Ocean Frontier was a good dynamic name and noted how this type of naming could be used alongside other in use names. She asked if the sort of support for NF alumni could be extended to other early career professionals. JMP explained that because the source is from XPRIZE winnings, the scope for extending funding without alumni involvement is limited. The Chair noted that SCET could work with SB2030 to explore how the concept could be expanded.

Following a lengthy discussion it was agreed that the Chair would consider what how the GGC could be kept better informed of SB2030 developments, and whether this should involve SB2030 membership of the GGC.

Action 20. Consider how to keep the GGC better informed of SB2030 developments and approvals

Finally, SS provided a second brief focusing on activities of the Alumni. She covered the development of the SeaKoMaP Solution where Alumni could assist in processing data via “Blue Insight” – a Kongsberg cloud based data processing environment. She covered the collaboration with UKHO and Teledyne Caris for the development of AI noise cleaning tool and gave a look ahead to the Alumni Conference.

Decision 9. The GGC endorsed the Year 5 Work Plan and budget SB2030

10 GEBCO WORK PLANS AND FUNDING

.1 GGC Subordinate bodies’ Work Plans 2022-2023

- .1 Approve funding requests and Work Plans of Subordinate bodies, including outputs/deliverables for next period

The IHO Sec introduced the process of allocating budget against the SCs work plans. He explained that the balance currently being carried is larger than normal because of the underspend caused by COVID. He explained that the annual income to the budget is relatively modest, so in reviewing the SCs budgets, we must avoid funding activity that commits us to ongoing maintenance costs.

- .1 SCUFN – [Approved Work Plan and Budget](#)

The SCUFN Secretary presented the work plan and associated budget lines.

Decision 10. The GGC approved the SCUFN Work Plan and budget allocations

- .2 TSCOM – [Approved Work Plan and Budget](#)

The TSCOM Chair presented the work plan and associated budget lines. A question was asked regarding overlap with the work of other SCs, but the process of refreshing the plan was explained by the Chair which reassured all that all activities had been de-conflicted.

Decision 11. The GGC approved the TSCOM Work Plan and budget allocations

- .3 SCRUM – [Approved Work Plan and Budget](#)

The SCRUM Chair presented the work plan and associated budget lines. A discussion was had around the role of the RHC coordinators and the involvement of IOC. A question was posed as to whether the RHC coordinator initiative could be replicated in the three IOC regions.

Action 21. IOC to follow up on how to approach GEBCO presence at IOC regional commissions

Action 22. Chair to report to IRCC the need to consider involvement of IOC (IBC) at relevant RHCs

Decision 12. The GGC approved the SCRUM Work Plan and budget allocations

.4 SCOPE – [Approved Work Plan and Budget](#)

The SCOPE Chair presented the work plan and associated budget lines. The plan was approved with the exception of the work relating to brand identity as it was felt this could/should only be done when it was scoped better following the delivery of the GEBCO Strategy.

Decision 13. GGC approved the SCOPE Work Plan and budget allocations noting the deferral of the Brand Identity activity until the work is better scoped

.2 **GGC Work Plan 2022-2023**

- .1 Approve GGC funding requests and Work Plans including outputs/deliverables for next period

It was agreed that the GGC work plan will be refreshed post meeting taking into account the updated and approved sub-committee work plans. In doing so, appropriate lines would be added to cover the delivery of the governance review and development of the strategy. In addition, 8000 Euros would be added to the Governance line to assist with T&S for the Expert Advisory Panel.

Action 23. Update GGC Work plan and budget

11 GEBCO STRATEGY NEXT STEPS

In developing the plan for the GEBCO Governance Review, it was noted that one of the gaps was for a GEBCO Strategic Plan that clearly sets out the connections between the strategic objectives of the parent organisations, the future direction of GEBCO and the work of the subordinate bodies, initiatives and activities.

With this in mind, two strategy discussion sessions were held alongside the plenary sessions with the aim of 1) confirm the need for such a strategy, and 2) discuss the scope and next steps. There was strong support for the initiative amongst GGC members and observers, and it was generally acknowledged that such a strategic plan would have to include internal and externally facing components.

The Chair reported on the outcome of the two sessions and recommended to the GGC that they approve the creation of a drafting team under the leadership of GGC Members:

Dr Geoffroy Lamarche (Chair)

Mr David Millar (Vice Chair)

Action 24. Propose creation of Drafting Team to IRCC and IOC Exec. Council with submission of associated ToRs and RoPs for endorsement

12 SECRETARY RESPONSIBILITIES

- .1 Confirm responsibilities

The responsibilities of the Secretary will remain the same pending the outcome of the governance review.

Decision 14. The GGC confirmed the current duties undertaken by the Secretary but noted the impact of the governance review

13 GGC MEMBERSHIP - [Document](#)

- .1 Identification of individuals, whose terms are due to complete within the next two years

The IHO Sec reviewed the Membership list and noted that the terms of Mr Shin Tani, Mr David Millar and Dr Karolina Zwolak end in 2023.

- .2 Details of nominations to fill 1 vacancy

The IHO Sec advised the GGC that the process of appointing a new IHO representative to the GGC was in progress and that it was expected that this official would be in position by the next GGC39.

- .3 Discussion on role of Director Seabed 2030 within GGC

The Chair recognizes the important role and driving force of Seabed 2030 as the biggest incentive for raising awareness for GEBCO and ocean mapping and for improving the GEBCO grid coverage. At least for the next 8 years, Seabed 2030 will continue to have that role. As such the chair feels that GGC and with that the GEBCO products, would benefit from having the director of Seabed 2030 participating at GGC meetings in a more formalized role and suggests for GGC to consider having director Seabed 2030 as ex-officio member of the GGC, similar to the director of DCDB. Since we will, start a governance review process after GGC38, this review can address this proposal and report back to GGC39.

14 NEXT MEETING

- .1 Dates and venue for GGC39

To be agreed post meeting.

- .2 Draft Agenda for GGC39

To be developed post meeting and circulated in due course

15 ANY OTHER BUSINESS

Nil

16 Review of Action Items from GGC38

[See list of agreed actions](#)

17 CLOSURE OF THE MEETING

The chair closed the meeting and thanked all for their participation. He reflected on two key pieces of work in the Governance review and development of a GEBCO Strategy and reiterated his position that he saw the coming year very much as a transition year as we reset ourselves post COVID to tackle the challenges ahead.

