**1.1. IHO-IOC GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) Work Plan 2023-2024**

**1.1 TSCOM Tasks**

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| B | Ensure conduct of TSCOM meeting in 2023-2024 (IHO Task 3.6.1) |
| C | Ensure effective operation of IHO DCDB (IHO Task 3.6.2) |
| D | Develop and maintain tools to facilitate the contribution of bathymetric data to the IHO DCDB (IHO Task 3.6.3) |
| E | Maintain IHO bathymetric publications (IHO Task 3.6.6) including: B-4, B-9, B-10 and B-11 |
| F | Develop the on-line function of B-4 (Information concerning recent bathymetric data) (IHO Task 3.6.6) |
| G | Support SCOPE in its outreach and education about ocean mapping (IHO Task 3.6.7) by development and dissemination of IHO-IOC GEBCO products such as the Global Gridded Product and Printed World Map |
| H | Ensure IHO-IOC GEBCO Web site is kept current and updated regularly (IHO Task 3.6.8) |
| K | Provide technical support, advice, and review to Seabed 2030 Project Director, RDACCs and GDACC |
| L | Provide support and advice to developing and validating emerging technologies for compiling and disseminating bathymetry |

| **Task** | **Work item** | **Priority** H-high M-medium L-low | **Milestones** | **Start**  **Date** | **End**  **Date** | **Status** P-planned O-ongoing C-completed | **Contact Person(s)**  **\* indicates leader** | **Related Pubs/Standard** | **Funding Bid (€)** | **GGC Decision** |
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| B | Ensure conduct of TSCOM meeting | H | Report of TSCOM meeting to GGC | 2022 | 2024 | P | Chair TSCOM |  |  |  |
| C | Ensure effective operation of IHO DCDB | H | Conduct review | Continuous |  | O | Director DCDB |  |  |  |
| D1 | Document dataflow processes | H | Cookbook instructional chapter | Continuous |  | O | Chair TSCOM  Director DCDB  Director Seabed 2030 |  |  |  |
| D3 | Conduct DCDB Industry Day and Data Contribution Workshop | H | Conduct virtual workshop and industry day | 2020 | 2023 | P | Chair TSCOM  Director DCDB |  | 15k (2023) | Approved by GGC38 |
| E1 | Maintain IHO bathymetric publications | M  H |  | Continuous |  | O | All members of GEBCO GC through the Chair | B-4 - Information concerning recent bathymetric data  B-9 - GEBCO digital atlas (discontinued as of 2022)  B-11 - GEBCO Cookbook |  |  |
| E2 | Add and update instructive chapters in IHO-IOC GEBCO Cook Book | H | Maintain B-11  Add section related to Seabed 2030  Investigate e-Publication format for B-11  Seek instructive chapters on contributing data, metadata requirements, platforms for viewing gaps and coverage, CSB, etc. | Continuous  2019  2020  Continuous | 2022  2022  2030 | O  O  P  O | Chair TSCOM  Chair, Cookbook editorial board | B-11 GEBCO Cookbook | 5k | Approved by GGC38 |
| F | Develop, review, and maintain the on-line function of B-4 | M | Conduct review | Continuous |  | O | Director DCDB |  |  |  |
| H3 | Review, Update and Maintain IHO-IOC GEBCO and Seabed 2030 Websites | M | Update website with meeting documents  Validate members and contact information for SCRUM, TSCOM, and SCOPE  Review and maintain all working links  Provide technical and content review of both websites  Set up Google workspace for GGC and Sub committees.  Investigate possible integration of SCOPE website into main GEBCO website | 2019  2019  2019  2019  2022  2022 | 2024  2024  2024  2024  2023  2023 | O  O  O  O  P  P | BODC  Chairs TSCOM, SCRUM, SCOPE  Chair TSCOM, BODC  Chairs TSCOM, SCRUM, SCOPE  Chair TSCOM, BODC  Chairs TSCOM, SCOPE, BODC |  | 7.5k  1.5k  5k | Approved by GGC38  Approved by GGC38  Approved by GGC38 |
| K1 | Support Seabed 2030 | H | Provide scientific expertise and outreach  Proposal for Discrete Global Grid Systems  Proposal to optimize use of map projections | 2018  2022  2022 | 2030  2023  2023 | O  P  P | Chair TSCOM,  Chair TSCOM  Chair TSCOM |  |  |  |
| K2 | Travel to assist gathering technical needs from RDACCs and GDACC | H | Attend RMCs for RDACCs | 2019 | 2024 | O | Chair TSCOM |  | 4k | Approved by GGC38 |
| K3 | Provide oversight and review of Seabed 2030 web services, methodologies and applications in accordance with TSCOM ToRs | H | Conduct regular reviews and participate in technical meetings | 2019 | 2030 | O | Chair TSCOM |  |  |  |

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| L1 | Develop template for seafloor mapping route optimization application  Monitor and advice (on) use of metadata based on outcome of metadata working group | H | Conduct requirements survey  Prototype and document web app  Optimal use of metadata schema | 2019  2022 | 2023  2030 | O  O  O | Chair TSCOM |  | 10k | Approved by GGC38 |

**1.2 Remarks**

**B.** Ensure conduct of TSCOM meeting in 2023-2024 (IHO Task 3.6.1)

TSCOM is expecting to have one (face to face) meeting in 2023. Possibly aligned with the activities of the GEBCO symposium/week. In addition to the face to face meeting, at least one virtual meeting will be held early summer 2023.

**D**. Develop and maintain tools to facilitate the contribution of bathymetric data to the IHO DCDB (IHO Task 3.6.3)

The DCDB industry day will be organized in 2023. To prepare, DCDB will organize one or more (virtual) Data Contribution Workshops early 2023.

**E.** Maintain IHO bathymetric publications (IHO Task 3.6.6) including: B-4, B-10 and B-11

An e-pub version of the GEBCO cookbook is expected in 2023

**K.** Provide technical support, advice, and review to Seabed 2030 Project Director, RDACCs and GDACC

Seabed 2030 has requested TSCOM to investigate options for use of multi resolution grids and to optimize the use of map projections in the GEBCO grid. TSCOM has the intention to set up two separate working groups for this. First milestone for both working groups will be a literature review by the end of 2022/early 2023. In 2023 the intention is to set up a test bed to gain practical experience with the various option. No budget is needed for 2022 but for 2023 a budget request will be put forward to GGC.

**L .** Provide support and advice to developing and validating emerging technologies for compiling and disseminating bathymetry

In order to avoid duplication of efforts (both for the development of tools and actual survey work), the development of tools, applications and data layers needs to be coordinated and stream-lined. Goal is to create an environment within GEBCO and Seabed 2030 that is easy accessible by all stakeholders (on-line and off-line). Currently multiple initiatives are underway or have been completed without or with little coordination between them. This is far from ideal. In 2022 various meetings took place to improve this. As a result a first step is made to investigate the creation of a data layer based on the A+B+C=100% paradigm where A is what we have, B is what is available or on its way but not yet published and C is not surveyed. Proposal is that TSCOM will take the lead for this and the outcome will be made available through Seabed 2030 (with respective budgets utilized). In 2022 a draft report is circulated on this topic. It is expected that a final version of the report, outlining the data layer, will be available early 2023.

At the time of GCC39 $ 3.600 has been spent out of the total of 10k Euro budget.

**1.3 TSCOM Meetings (IHO Task 3.6.1 refers)**

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| **Date** | **Location** | **Activity** |
| 1-4 October 2012 | IHB, Monaco | XXVIIIth Meeting |
| 7&9 October 2013 | Venice, Italy | XXIXth Meeting |
| 11-13 December 2014 | Mountain View, California, USA | XXXth Meeting |
| 5-7 October 2015 | Kuala Lumpur, Malaysia | XXXIIth Meeting |
| 10-12 October 2016 | Viña del Mar, Chile | XXXIIIth Meeting |
| 13-14 November 2017 | Busan, Korea | XXXIVth Meeting |
| 5-6 November 2018 | Canberra, Australia | XXXVth Meeting |
| 4-5 November 2019 | Portsmouth, NH, USA | XXXVIth Meeting |
| 11&14 January 2021 | Remote VTC | XXXVIIth Meeting |
| 9&19 November 2021  September 2022  26 October 2022 | Remote VTC  Remote VTC  Southampton, UK | XXXVIIIth Meeting  Intermediate meeting  XXXIXth meeting |

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