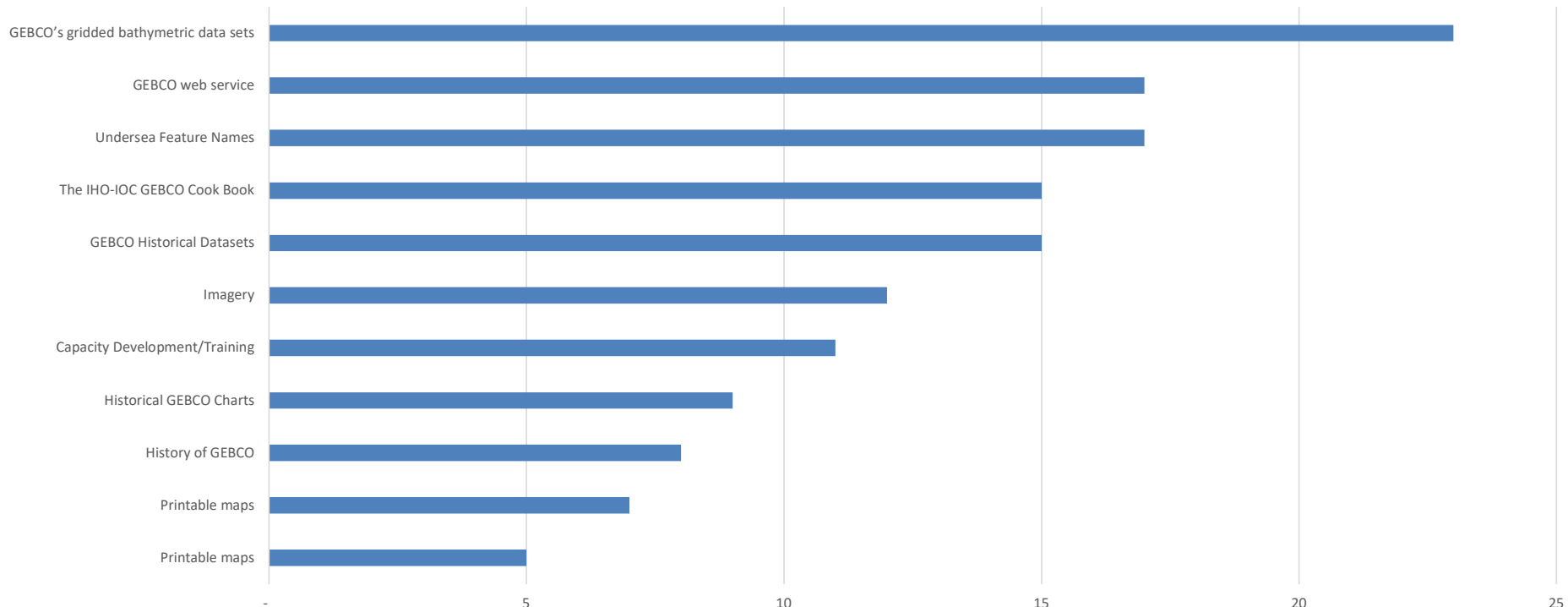


Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

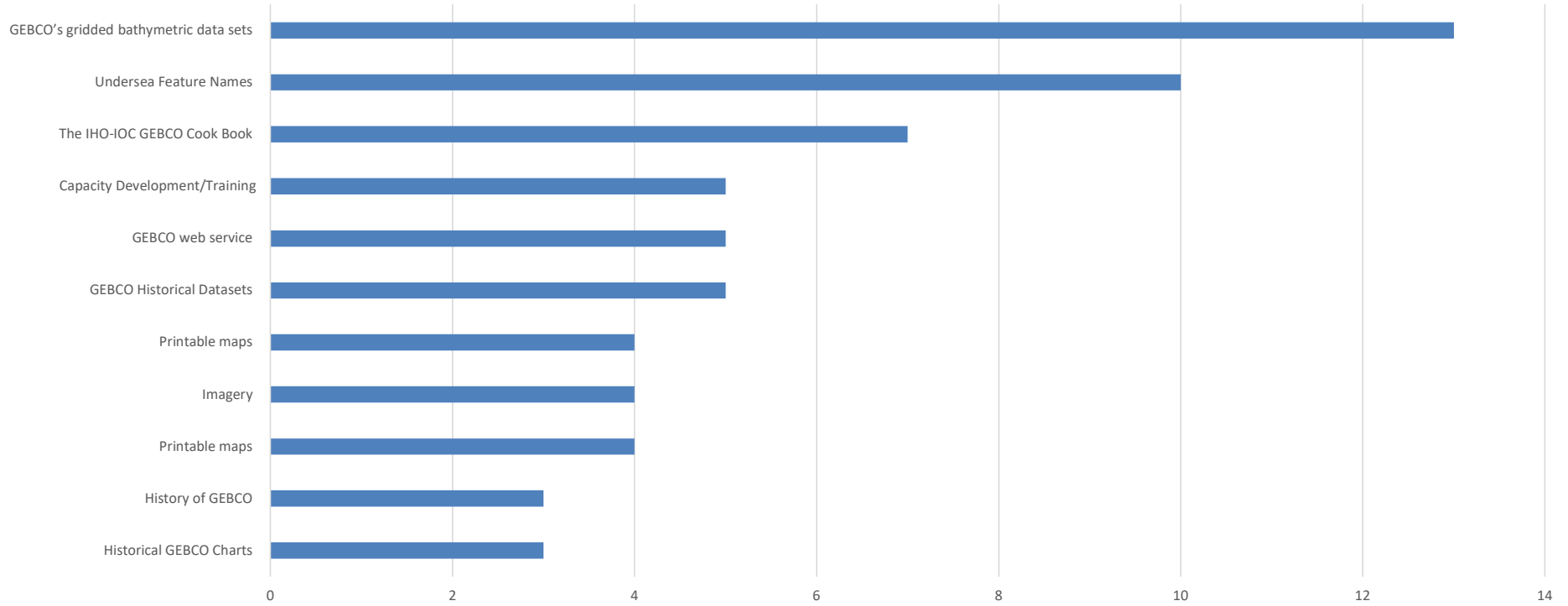
Q3 -Q13: Please specify which products/service of the GEBCO project are especially beneficial for your Programme/Subsidiary Body. (For the details of each product, please refer to GEBCO website links provided under each products)



	Printable maps	Printable maps	History of GEBCO	Historical GEBCO Charts	Capacity Development/Training	Imagery	GEBCO Historical Datasets	The IHO-IOC GEBCO Cook Book	Undersea Feature Names	GEBCO web service	GEBCO's gridded bathymetric data sets
■ Respondents	5	7	8	9	11	12	15	15	17	17	23

Responses from Member States, including national agencies engaged in or using GEBCO products

Q3 -Q13: Please specify which products/service of the GEBCO project are especially beneficial for your Programme/Subsidiary Body. (For the details of each product, please refer to GEBCO website links provided under each products)



	Historical GEBCO Charts	History of GEBCO	Printable maps	Imagery	Printable maps	GEBCO Historical Datasets	GEBCO web service	Capacity Development/Training	The IHO-IOC GEBCO Cook Book	Undersea Feature Names	GEBCO's gridded bathymetric data sets
■ Respondents	3	3	4	4	4	5	5	5	7	10	13

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q3-13. Please specify which products/service of the GEBCO project are especially beneficial for your Programme/Subsidiary Body. (For the details of each product, please refer to GEBCO website links provided under each products)

Q14. Other (please specify)

Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Data for Bathymetric Charts
Marine and Coastal Research Institute - INVEMAR	Colombia	
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	
IBCM, GEBCO since ~1980	Israel	Greatest needs in my area
GEBCO	Italy	
INEGI Editor principal proyecto IBCCA	Mexico	
Director de información topográfica INEGI	Mexico	
IODE/MEXICO	Mexico	
Geophysics Institute, National Autonomous University of Mexico	Mexico	
UNINMAR UNAM	Mexico	
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	

Q3-13. Please specify which products/service of the GEBCO project are especially beneficial for your Programme/Subsidiary Body. (For the details of each product, please refer to GEBCO website links provided under each products)

Q14. Other (please specify)

Review Group members	County	Comment
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Online Training Basic Course in Hydrography
GRASP / PERÚ	Peru	
Portuguese Hydrographic Office (IHPT)	Portugal	
Marine Geohazard/KIGAM/Koreas	Republic of Korea	
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	access to additional ship sounding data
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

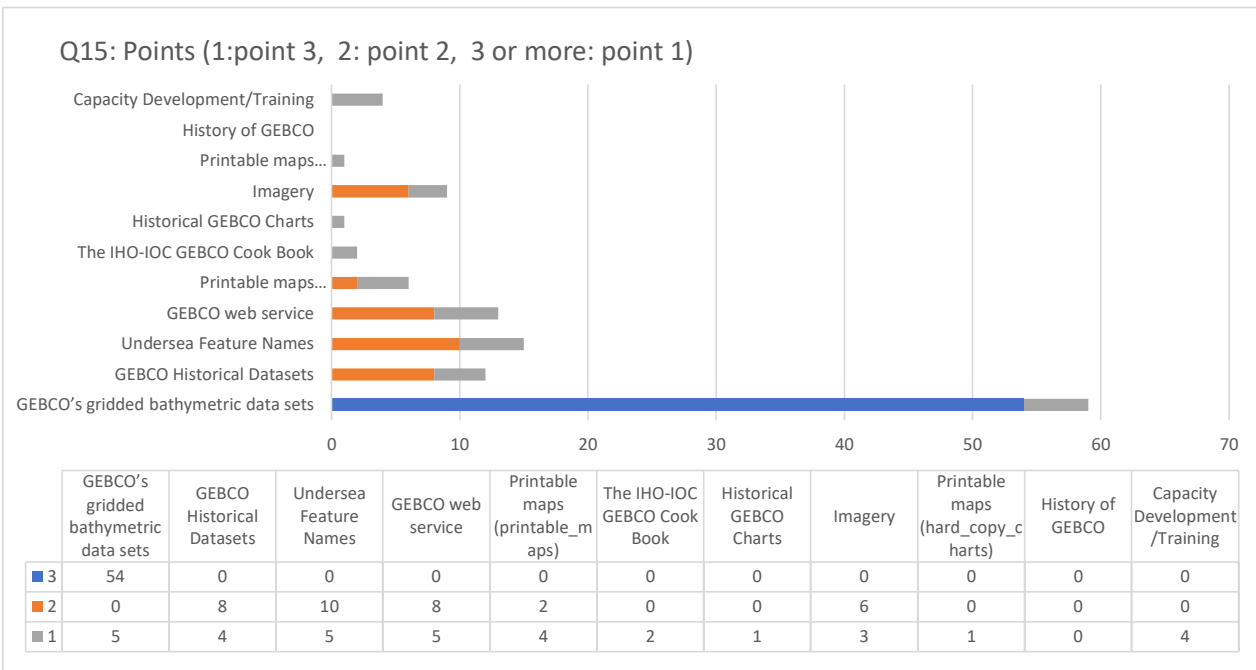
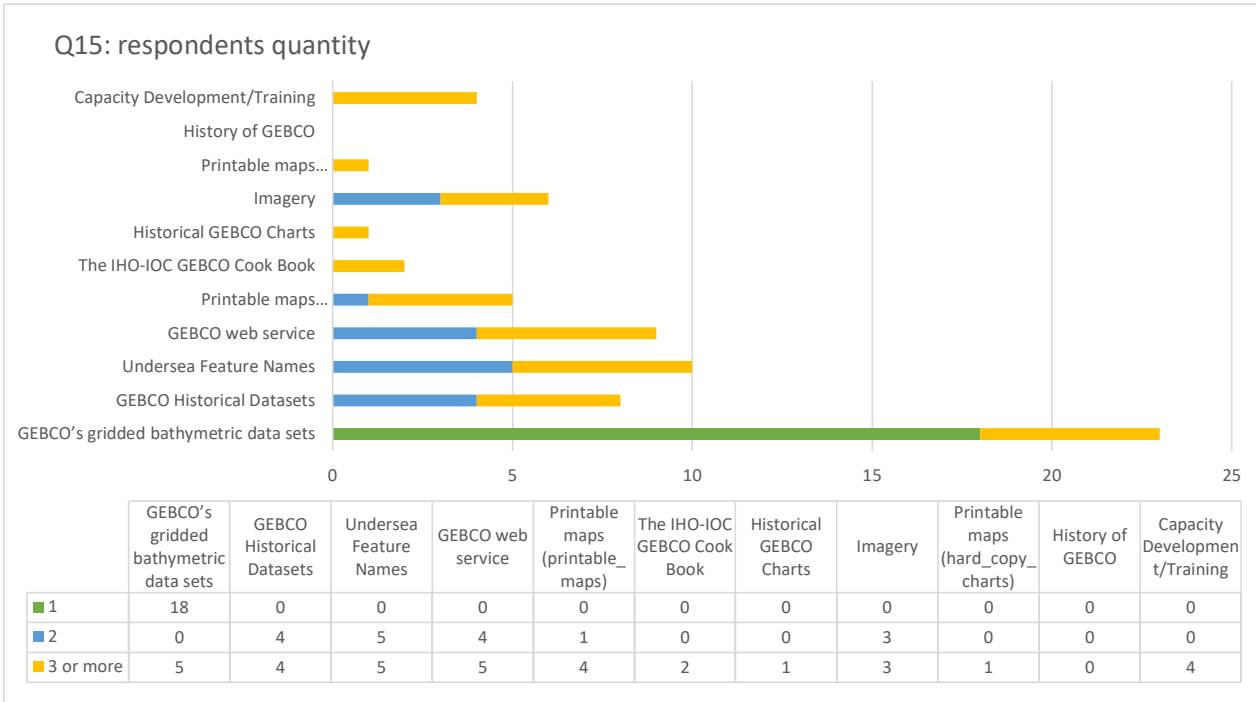
Q3-13. Please specify which products/service of the GEBCO project are especially beneficial for your Programme/Subsidiary Body. (For the details of each product, please refer to GEBCO website links provided under each products)

Q14. Other (please specify)

Review Group members	County	Comment
Brazil	Brazil	
CHILE	CHILE	
China	China	
ECUADOR	Ecuador	
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	Bathymetric data download in XYZ format
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	
Nicaragua	Nicaragua	
Peru	Peru	
Republic of KOREA	Republic of Korea	
Romania	Romania	

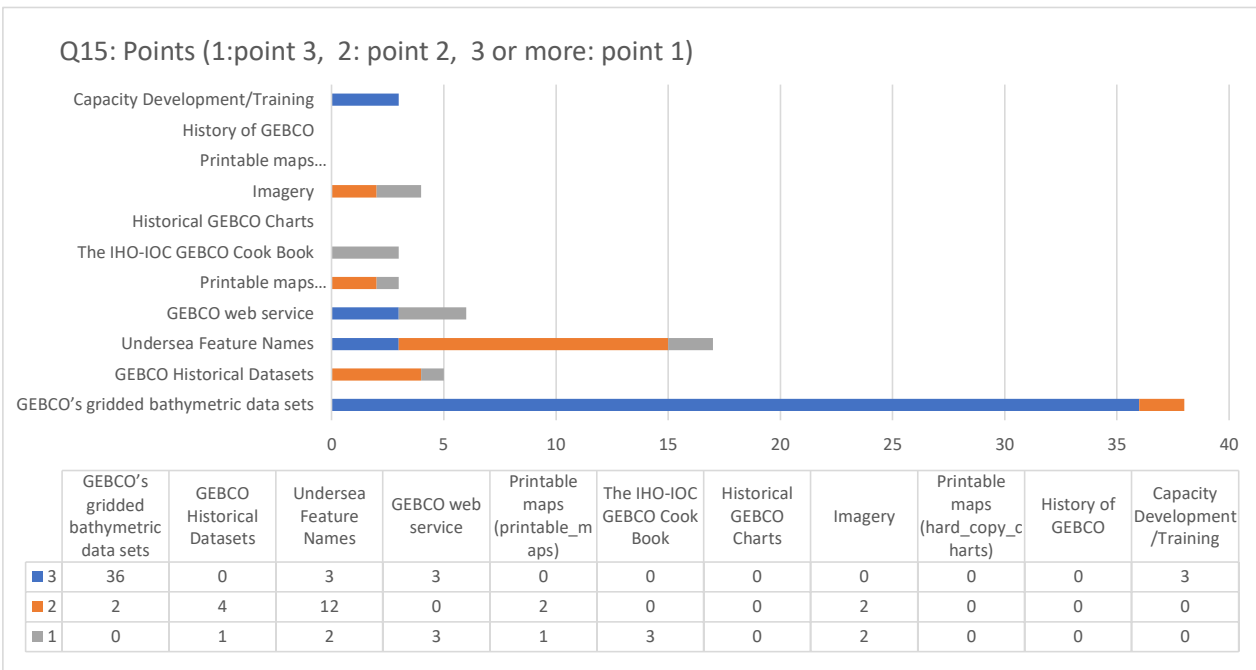
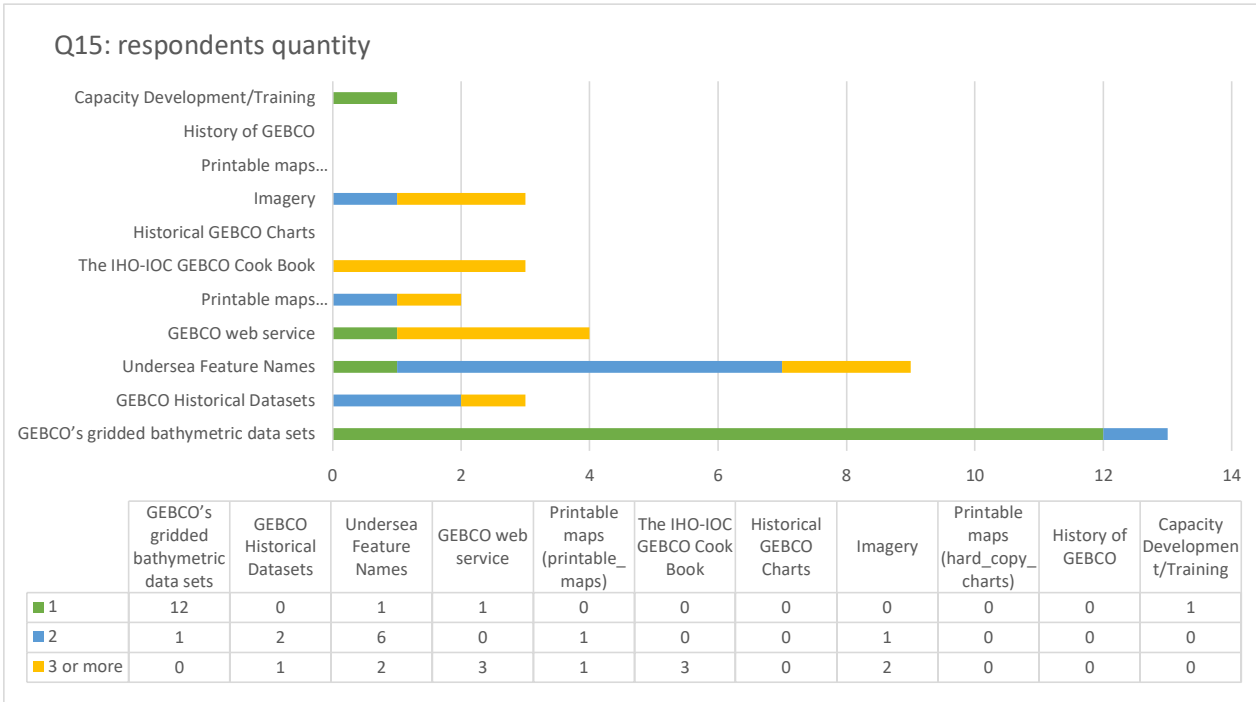
Q15: Please specify in order of priority which existing products of the GEBCO project your Programme/Subsidiary is most likely to use (a maximum of 3 Programmes/Subsidiaries must be included in this answer, ranked in order of importance - no 1, no 2, no 3

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others



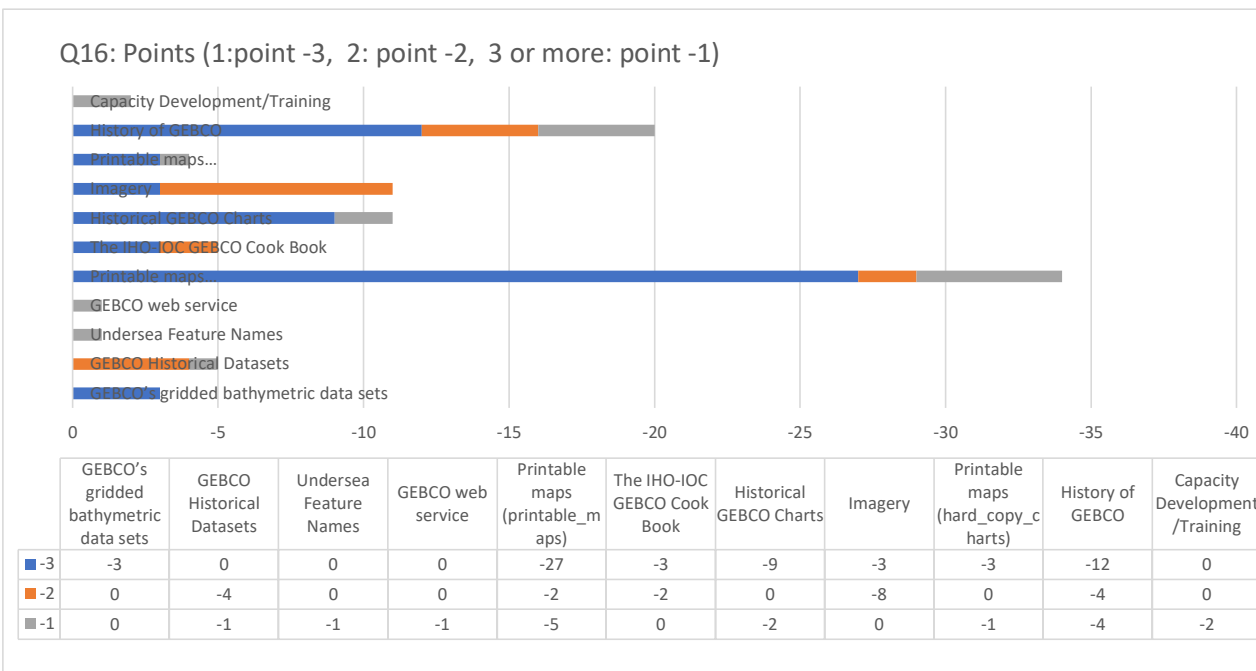
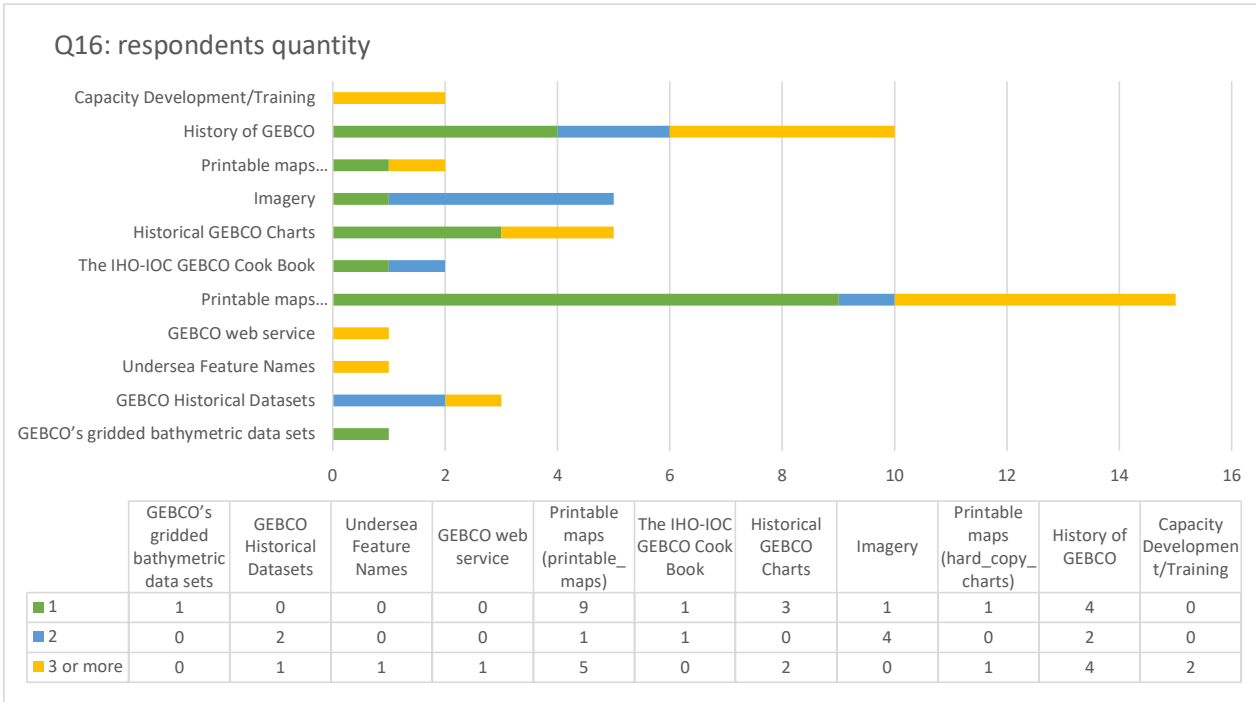
Q15: Please specify in order of priority which existing products of the GEBCO project your Programme/Subsidiary is most likely to use (a maximum of 3 Programmes/Subsidiaries must be included in this answer, ranked in order of importance - no 1, no 2, no 3

Responses from Member States, including national agencies engaged in or using GEBCO products



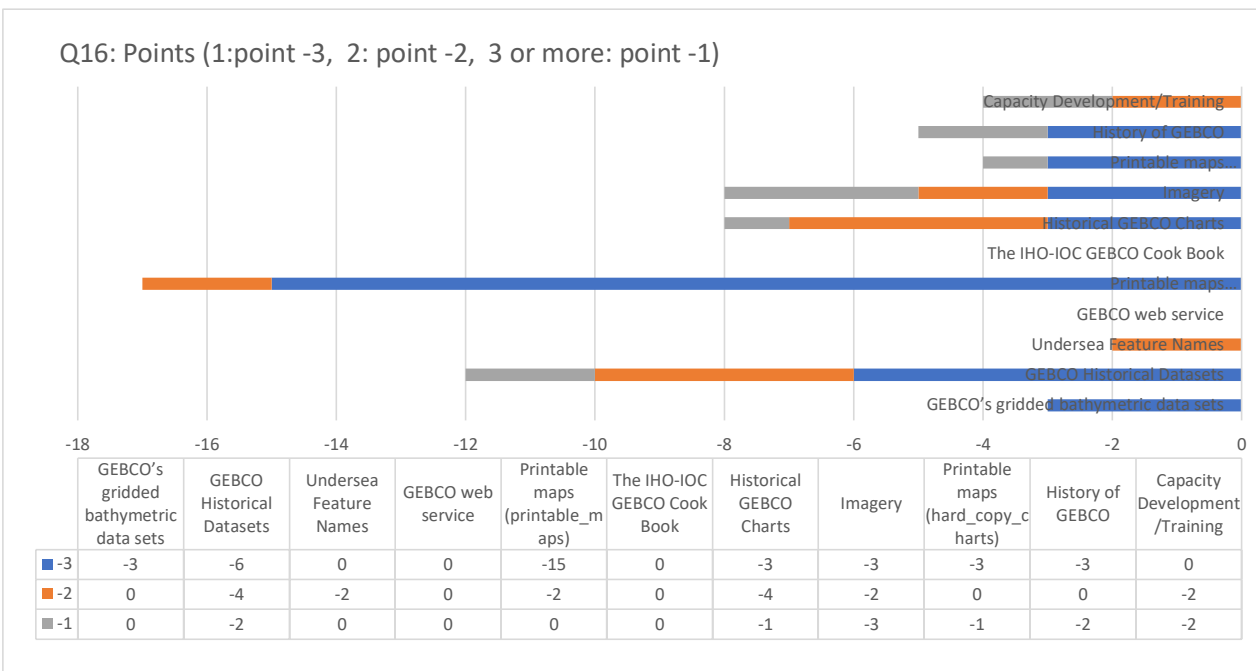
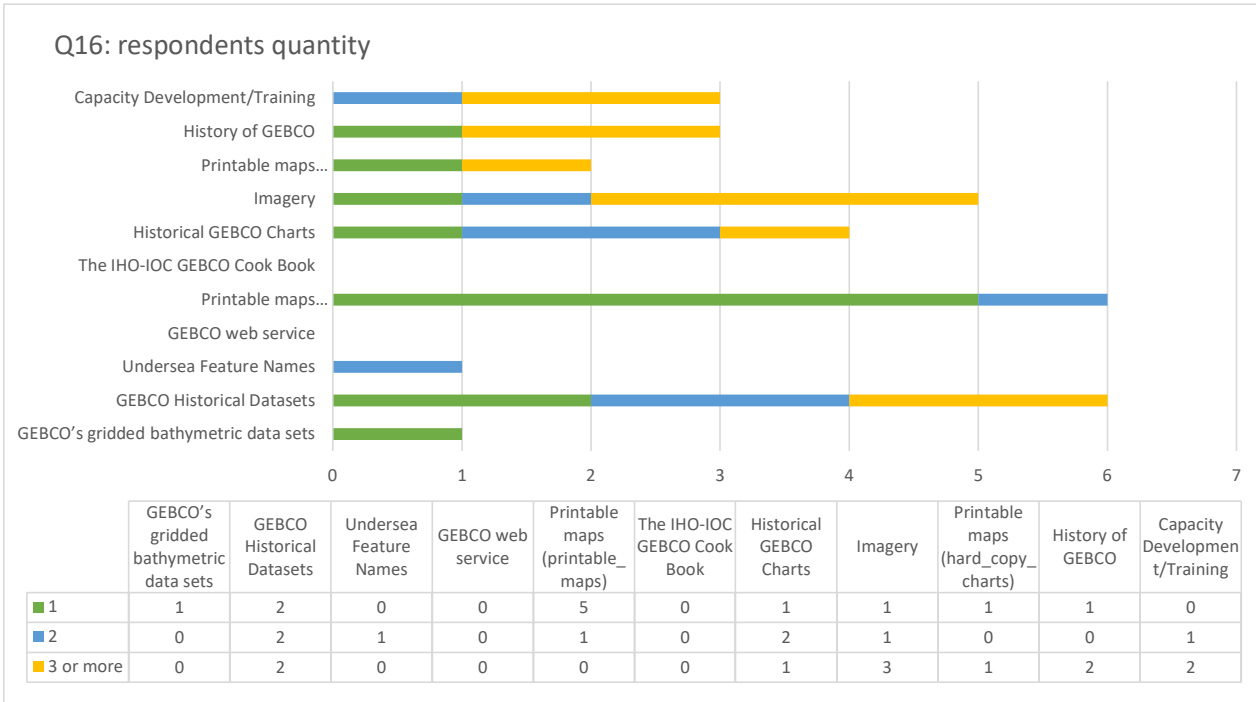
Q16: Please specify in order of priority which existing products of the GEBCO project your Programme/Subsidiary is least likely to use (a maximum of 3 Programmes/Subsidiaries must be included in this answer, ranked in order of importance - no 1, no 2, no 3

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others



Q16: Please specify in order of priority which existing products of the GEBCO project your Programme/Subsidiary is least likely to use (a maximum of 3 Programmes/Subsidiaries must be included in this answer, ranked in order of importance - no 1, no 2, no 3

Responses from Member States, including national agencies engaged in or using GEBCO products



Regarding questionnaire Q17- Q26:

Please answer the following questions: Describe which GEBCO products could be improved from a technical point of view? (e.g. this may be in relation to accessibility, format, coverage, spatial resolutions, additional services...)

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q17. GEBCO's gridded bathymetric data sets		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	Blank
Dirección General Marítima DIMAR CIOH	Colombia	All is right
Marine and Coastal Research Institute - INVEMAR	Colombia	Ease the procedures to deliver new information and improve the commitment of oficial entities and private offshore exploration companies to put available high resolution grids.
Danish Hydrographic Office	Denmark	Shallow biased LAT grids
Navy of Ecuador	Ecuador	I think you need to get more bathymetric data from country members, for example, in my country we have conducted several bathymetric surveys which could be added in the GEBCO database.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	It would be valuable to be able to see and download higher spatial resolution areas if available (even if it's only for some places in the world). The nearshore region are sometimes skewed, especially where the coastline is very indented and in areas with lots of islands like in the Aegean sea. The shoreline definition should be improved.
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	This is the only product used by NCEI/WDS for DEMs and updates as new source data are available is improvement. The updated 2020 dataset is very useful. Spatial resolution could be improved. Spatial resolution could be improved mainly in bays and shallow waters (
IBCM, GEBCO since ~1980	Israel	Outreach to Middle Eastern countries
GEBCO	Italy	It would be ideal having a more straightforward way to access the valuable service provided for area-based grid download at: https://download.gebco.net/ . The latter should be the first link searchable and discoverable in the webpage. Given the large size of the global GEBCO grid, which requires hours to download, the typical user would start with downloading an area of interest. Therefore, this should be the primary service.

Q17. GEBCO's gridded bathymetric data sets		
Review Group members	County	Comment
INEGI Editor principal proyecto IBCCA	Mexico	perform higher resolution bathymetry at 1:200000 scales
Director de información topográfica INEGI	Mexico	accessibility, format, coverage, spatial resolutions
IODE/MEXICO	Mexico	spatial resolution
Geophysics Institute, National Autonomous University of Mexico	Mexico	Improvement of the quality and spatial resolution of coastal bathymetry. In the case of Mexico, we have made some comparisons of GEBCO 2020 with bathymetry from the Secretary of Navy, and we have seen that the coast of Mexico is still not well represented.
UNINMAR UNAM	Mexico	It would be great to have availability of regional data sets
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Spatial Resolution, (Coastal)
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Datos batimétricos de las zonas costeras del Pacífico y mar Caribe en Nicaragua. Hasta el momento no hay muchos datos sobre estas zonas. (Bathymetric data of the coastal areas of the Pacific and Caribbean Sea in Nicaragua. So far there is not much data on these areas.)
GRASP / PERÚ	Peru	We think that the resolution of the charts in the coastal zone can still be improved.
Portuguese Hydrographic Office (IHPT)	Portugal	Better spatial resolution. Take into account other criteria for extracting data - for example, by range of heights/depths.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	spatial resolutions
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Response from data users limited - more formats available, would be good to also have certain areas ready to download, as well as choosing your own and worldwide extent. e.g UK, Europe, Asia etc. etc.
NOAA Pacific Marine Environmental Laboratory	United States	1. Improvement in spatial resolution, but it takes time and efforts. 2. Higher-quality dataset for the polar regions
Scripps Institution of Oceanography/USA	United States	the final product is a mix of different gridding styles
Institute of Oceanography	Viet Nam	format coverage

Responses from Member States, including national agencies engaged in or using GEBCO products

Q17. GEBCO's gridded bathymetric data sets		
Review Group members	County	Comment
Brazil	Brazil	Improve spatial resolution in the GEBCOS's gridded bathymetric data sets and the occurrence of artefacts near coast in the South Hemisphere
CHILE	CHILE	YES
China	China	<ul style="list-style-type: none"> • Spatial resolutions; • The Grid data sets around 180 degree do not match well, with an abrupt boundary when the central longitude has been changed. • Outliers should be moved especially in the combined area.
ECUADOR	Ecuador	REMOTE AVAILABILITY
National Institute of Oceanography and Fisheries - Egypt	Egypt	coverage and spatial resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	More data coverage
Ministry of Earth Sciences, Government of India	India	<p>The data accessibility is very user friendly and easily accessible. However, the accuracy of the coastal bathymetry has to be improved for coastal inundation and circulation modeling.</p> <p>The Grid view software provided along with GEBCO data is to be further user friendly</p>
Kazakhstan	Kazakhstan	spatial resolution
Republic of Mauritius	Mauritius	<p>Resolution/accuracy - Through Seabed2030 & IOC countries - Multi-Resolution (GMRT style) include coastal using Satellite derived Bathymetry;</p> <p>Accessibility - Forum for discussion among users Short tutorials (e.g in YouTube, on how e.g downloading, using with QGIS & ArcGIS), provide gebco color ramp in ArcGIS/QGIS</p>
Nicaragua	Nicaragua	spatial resolution
Peru	Peru	GEBCO gridded bathymetric data sets could be improved from a technical point of view in relation to accessibility and spatial resolutions.
Republic of KOREA	Republic of Korea	Currently providing good enough
Romania	Romania	coverage, spatial resolution

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q18. GEBCO Historical Datasets		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	Blanket
Dirección General Marítima DIMAR CIOH	Colombia	All is right
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Propose more visual comparisons between the versions at several different
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	There is no option to download an area of interest for previous releases of the GEBCO grid, or this is not easily findable, the user is required to download the previous global grids available (2014 and 2019 in the current setting), which may take hours to do. This section could be improved, providing WMS and download area-based subsets also for previous releases.
INEGI Editor principal proyecto IBCCA	Mexico	digitalizar the data
Director de información topográfica INEGI	Mexico	best interoperability data
IODE/MEXICO	Mexico	coverage
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	A tab would be great to find these
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Format

Q18. GEBCO Historical Datasets		
Review Group members	County	Comment
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Al parecer no existen datos para Nicaragua (Apparently there are no data for Nicaragua)
GRASP / PERÚ	Peru	We want to improve our participation
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	accessibility
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	Response from data users limited - more formats available, would be good to also have certain areas ready to download, as well as choosing your own and worldwide extent. e.g UK, Europe, Asia etc. etc.
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	spatial resolutions, additional services

Responses from Member States, including national agencies engaged in or using GEBCO products

Q18. GEBCO Historical Datasets		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	NO NEED
China	China	No comments.
ECUADOR	Ecuador	REMOTE AVAILABILITY
National Institute of Oceanography and Fisheries - Egypt	Egypt	accessibility, format and resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	Good for the comparison of the changes in the bathymetry and evolution of the final products
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO Historical Datasets could be improved from a technical point of view in relation to an additional service with tools to make easily comparisons.
Republic of KOREA	Republic of Korea	Currently providing good enough service
Romania	Romania	as detailed as possible, in order to be usable to estimate coastal zone evolution

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q19. Undersea Feature Names		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	blanketing
Dirección General Marítima DIMAR CIOH	Colombia	Update the B6 Publication. The concepts of some feature are very simples
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think you need to get more undersea feature names from country members, for example, in my country is possible that we have discovered new features, or some of them need a name.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Propose GEOJson format to export the data. Shape file format needed.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	The gazetteer is easily accessible via the web map application provided and hosted by the International Hydrographic Organization Data Centre for Digital Bathymetry (IHO DCDB) co-located with the US National Center for Environmental Information (NCEI). However, in the current setting, there are no web services that allow displaying Undersea Feature Names on top of the latest release of the GEBCO grid. These two services should be re-joined and merged into one web portal.
INEGI Editor principal proyecto IBCCA	Mexico	greater dissemination and importance of names in work for the delimitation of maritime areas
Director de información topográfica INEGI	Mexico	aplication of de rules name for lengguages arabe chino, español, ingles frances.
IODE/MEXICO	Mexico	no information to answer this question

Q19. Undersea Feature Names		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Promote more have a contact tab in case new names from features can be submitted I have personally submitted twice names for the Gulf of California and the Gulf of Mexico and received no response, it would be nice to receive response
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Coverage
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Falta el levantamiento batimétrico y su definición en Nicaragua (The bathymetric survey and its definition are missing in Nicaragua)
GRASP / PERÚ	Peru	We want to improve our participation
Portuguese Hydrographic Office (IHPT)	Portugal	Most efficient feature name selection method. To be able to extract features from a specific area.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	increase utilization
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	should include well known tectonic names such as tectonic plates, failed ridges, subduction zones, etc.
Institute of Oceanography	Viet Nam	format coverage

Responses from Member States, including national agencies engaged in or using GEBCO products

Q19. Undersea Feature Names		
Review Group members	County	Comment
Brazil	Brazil	Update/add features metadata; provide isobath maps (100m); provide a geotiff image with all feature names
CHILE	CHILE	YES
China	China	Not only the names, it is recommended that the feature's bathymetric data could be viewed and downloaded.
ECUADOR	Ecuador	REMOTE PROCESS TO REGISTER
National Institute of Oceanography and Fisheries - Egypt	Egypt	good
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	More detailed geographic delineation by polygons
Ministry of Earth Sciences, Government of India	India	1. Undersea feature categorization with each oceanic basin/region can be included in the site 2. Additional services: An online application and updation module to keep track or show recent publications in the area will be helpful
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	Web services (WFS)
Nicaragua	Nicaragua	Na
Peru	Peru	GEBCO Undersea Feature Names products could be improved from a technical point of view in relation to new data full coverage that will increase the number of sea bottom features.
Republic of KOREA	Republic of Korea	UFN gazetteer would appear directly on this menu page. (Many users are un-know that gazetteer can only be opened after downloading)
Romania	Romania	to be more exhaustive

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q20. GEBCO web service		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	service1
Dirección General Marítima DIMAR CIOH	Colombia	All is right
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	It is a simple and good WMS, but right now is not accessible at the indicated URL: https://www.gebco.net/data_and_products/gebco_web_services/web_map_service/mapserv? It would be ideal having a direct access to the WMS, which is the most used GEBCO Product and this should be merged with the download service. Having too many different links and ways of accessing electronic resources is not ideal for the user.

Q20. GEBCO web service		
Review Group members	County	Comment
INEGI Editor principal proyecto IBCCA	Mexico	create web services for the IBC regional projects and the areas of interest of the seabed authority and UNCLOS
Director de información topográfica INEGI	Mexico	create wms for region o country and the project IBC's
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Not yet there: no link to https://www.gebco.net/data_and_products/gebco_web_services/web_map_service/mapserv? Once available we can tell more on improving
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	accessibility
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios, está bien (No comments, okay)
GRASP / PERÚ	Peru	It's a good website
Portuguese Hydrographic Office (IHPT)	Portugal	Extend the type of products accessible by web.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	increase user-friendly functions
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	More help and guidance, webinars?
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of	United States	-

Q20. GEBCO web service		
Review Group members	County	Comment
Oceanography/US A		
Institute of Oceanography	Viet Nam	additional services

Responses from Member States, including national agencies engaged in or using GEBCO products

Q20. GEBCO web service		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	YES
China	China	No comments.
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	good
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	"It is very useful and it is good if it is provided in 3D domain Direct link for the imageries of high resolution bathymetry can be given in the website"
Kazakhstan	Kazakhstan	additional services
Republic of Mauritius	Mauritius	Accessibility Tutorial on how to use with QGIS/ArcGIS & Adding to geoportal as baselayers
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO web service products could be improved from a technical point of view in relation to improve the update data services.
Republic of KOREA	Republic of Korea	Currently providing good enough
Romania	Romania	better defined, with examples

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q21. Printable maps		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	maps1
Dirección General Marítima DIMAR CIOH	Colombia	We do not use this product
Marine and Coastal Research Institute - INVEMAR	Colombia	Availability of different maps for each ocean or sea (e.g. Caribbean)
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Propose more maps with more resolution.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	This is a nice tool, ideal for self-printing large paper maps and should be maintained, as it is an easy product to realize. Currently, the printable map refers only to the 2014 grid, which has become obsolete since there have been two more recent GEBCO releases in 2019 and 2020.
INEGI Editor principal proyecto IBCCA	Mexico	them and make them geopdf
Director de información topográfica INEGI	Mexico	are not used
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	update to portable holographic projections to be of use to presentations, teaching in remote locations and inspire technology development, consider 4D
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	*

Q21. Printable maps		
Review Group members	County	Comment
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios, está bien (No comments, okay)
GRASP / PERÚ	Peru	We want to improve our participation
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	various printable formats
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	spatial resolutions,

Responses from Member States, including national agencies engaged in or using GEBCO products

Q21. Printable maps		
Review Group members	County	Comment
Brazil	Brazil	Improve resolution; Insert more undersea feature names
CHILE	CHILE	YES
China	China	Seldom use. No comments
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	We are not using these products
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO Printable maps products could be improved from a technical point of view in relation to allow print on demand service.
Republic of KOREA	Republic of Korea	need to be update
Romania	Romania	It is quite well as it is now

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q22. The IHO-IOC GEBCO Cook Book		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	cookbook1
Dirección General Marítima DIMAR CIOH	Colombia	All is right
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	Could be more software agnostic
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	The IHO-IOC GEBCO Cook Book is a valuable instrument, which can be considered the core of the potential for GEBCO to develop capacity building training programmes. The Cook Book probably needs to transform into a more contemporary style and organized as an e-pub or as webpages readable through an app. More importantly, the numerous authors who have provided input and contributions to the chapters in the course of the Cookbook's life are the added value of the GEBCO community and can be considered at the heart of a network of human resources that has the ability to train on acquisition, processing and interpolation of bathymetric datasets with a knowledge-based approach.
INEGI Editor principal proyecto IBCCA	Mexico	update periodically
Director de información topográfica INEGI	Mexico	the document
IODE/MEXICO	Mexico	no information to answer this question

Q22. The IHO-IOC GEBCO Cook Book		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Add best practices section Translate to other languages to access communities that are not fluent in English language and terms
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Good
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios (No comments)
GRASP / PERÚ	Peru	It is a good reference book
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	accessibility
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	More help and guidance, webinars?
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	needs a section on data flagging/editing
Institute of Oceanography	Viet Nam	format

Responses from Member States, including national agencies engaged in or using GEBCO products

Q22. The IHO-IOC GEBCO Cook Book		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	NO
China	China	<ul style="list-style-type: none"> • Update some new methods, such as “Satellite-Derived Bathymetry” part; • DTMediting software is not working well for larger files.
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	good
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	It is very useful in development of our own merged products. It is good if GEBCO provides more details on bringing different bathymetry sources to common benchmark
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO products could be improved from a technical point of view in relation to additional translation services.
Republic of KOREA	Republic of Korea	need to be updated (2018)
Romania	Romania	To be updated to the trends in data processing and software

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q23. Historical GEBCO Charts		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	charthist
Dirección General Marítima DIMAR CIOH	Colombia	We do not use this product until now
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	The Historical GEBCO Charts are important resources related to historic cartography that have to be treasured as the legacy of GEBCO. Right now, they are searchable and accessible as images through the IHO website. In the future, would be ideal for the GEBCO user to re-join all these electronic sources into one single portal.
INEGI Editor principal proyecto IBCCA	Mexico	it is required to digitize it since in the historical documentation are very coincidental the reference point of the Greenwich meridian
Director de información topográfica INEGI	Mexico	it is required to digitize it since in the historical documentation are very coincidental the reference point of the Greenwich meridian
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Expand to other geographical regions
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	*

Q23. Historical GEBCO Charts		
Review Group members	County	Comment
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios (No comments)
GRASP / PERÚ	Peru	It is a good query database
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Accessibility
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	format, additional services, coverage

Responses from Member States, including national agencies engaged in or using GEBCO products

Q23. Historical GEBCO Charts		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	NO
China	China	Seldom use. No comments
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO Historical GEBCO Charts products could be improved from a technical point of view in relation to allow print on demand service.
Republic of KOREA	Republic of Korea	I think it's an unnecessary menu
Romania	Romania	To be as detailed as possible, with references

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q24. Imagery		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	image123
Dirección General Marítima DIMAR CIOH	Colombia	We do not use this product
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Propose visual of more location.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	The attractiveness of the imagery provided in this section of the GEBCO web page are the 3D globe views produced from the 2014 GEBCO grid. The remaining links to images provided by US governmental organizations are less functional to the project and the user. Imagery could be more effectively incorporated into printable maps to provide the user with a unique repository of impressive images of the global ocean seafloor provided by GEBCO.
INEGI Editor principal proyecto IBCCA	Mexico	greater resolution
Director de información topográfica INEGI	Mexico	more resolution
IODE/MEXICO	Mexico	Resolution
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Higher resolution and detail in specific regions

Q24. Imagery		
Review Group members	County	Comment
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	*
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios (No comments)
GRASP / PERÚ	Peru	They are good products.
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	various viewing formats
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	No
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	spatial resolutions,

Responses from Member States, including national agencies engaged in or using GEBCO products

Q24. Imagery		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	YES
China	China	No comments
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	accessibility, coverage and spatial resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO products could be improved from a technical point of view in relation to improve coverage and spatial resolutions, as well as print on demand services.
Republic of KOREA	Republic of Korea	need to be update
Romania	Romania	Better resolution

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q25. Hard copy charts		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	None
Dirección General Marítima DIMAR CIOH	Colombia	We do not use this product
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	This is a nice tool, ideal for self-printing large paper maps. No longer exists a mailing service of hard-copy maps and is not required since now off-the-shelf printing services are widely available to user.
INEGI Editor principal proyecto IBCCA	Mexico	digitize
Director de información topográfica INEGI	Mexico	no uses this product, convert to digital
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	Is there a tab or link?
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	*
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	NO hay comentarios (No comments)
GRASP / PERÚ	Peru	They are good products.

Q25. Hard copy charts		
Review Group members	County	Comment
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	-
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	format, additional services, coverage

Responses from Member States, including national agencies engaged in or using GEBCO products

Q25. Hard copy charts		
Review Group members	County	Comment
Brazil	Brazil	Improve resolution; Insert more undersea feature names
CHILE	CHILE	NO
China	China	No comments
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	resolution
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	We did not use these products
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO products could be improved from a technical point of view in relation to print on demand services.
Republic of KOREA	Republic of Korea	need to be update
Romania	Romania	More available

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q26. History of GEBCO		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	I think this does not need to be improved
OTNDC	Canada	None
Dirección General Marítima DIMAR CIOH	Colombia	We almost do not use this product
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	no comments
Navy of Ecuador	Ecuador	I think it is ok.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	no opinion
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	The History of GEBCO is illustrated by the centenary anniversary book, edited for the celebrations held in 2003. This is a valuable source of information about the history of the project. It consists of a pdf file scanned from the original paper source. Since the graphic content is limited, a smaller size file could be produced to make the download faster.
INEGI Editor principal proyecto IBCCA	Mexico	it's ok
Director de información topográfica INEGI	Mexico	used only for reference
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	It is very important and should be presented in a more friendly way to attract young
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Good

Q26. History of GEBCO		
Review Group members	County	Comment
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hay comentarios (No comments)
GRASP / PERÚ	Peru	It is a good reference book
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	-
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	n/a
NOAA Pacific Marine Environmental Laboratory	United States	Probably most of them.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	format, additional services, coverage

Responses from Member States, including national agencies engaged in or using GEBCO products

Q26. History of GEBCO		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	NO
China	China	It should be updated the information about Seabed2030 project.
ECUADOR	Ecuador	NO COMMENTS
National Institute of Oceanography and Fisheries – Egypt	Egypt	good
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	no opinion
Ministry of Earth Sciences, Government of India	India	Not used
Kazakhstan	Kazakhstan	don't use
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	na
Peru	Peru	GEBCO products could be improved from a technical point of view in relation to published an ebook , in order to easely spread this important information.
Republic of KOREA	Republic of Korea	need to be updated (too old, 2003)
Romania	Romania	To be updated for more recent years

Legend of the numbers within the Q27 tables:

- 6: GEBCO's gridded bathymetric data sets**
- 7: GEBCO Historical Datasets**
- 8: Undersea Feature Names**
- 9: GEBCO web service**
- 10: Printable maps**
- 11: The IHO-IOC GEBCO Cook Book**
- 12: Historical GEBCO Charts**
- 13: Imagery**
- 14: Hard copy charts**
- 15: History of GEBCO**

Q27: In your opinion, from the improvements listed above (questions 6-15), which ones (if any) could not be done without IOC?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q27:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	In my opinion, none can be done without IOC
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	I do not know. I believe, the IHO had given big contributions
Marine and Coastal Research Institute - INVEMAR	Colombia	1. GEBCO's gridded bathymetric data sets
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	I think any.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	
IBCM, GEBCO since ~1980	Israel	How about bringing all IBCs to the performance levels of IBCM which we completed, with many overlays, about 20 years ago.

Q27:		
Review Group members	County	Comment
GEBCO	Italy	IOC is one of the two parental organizations of GEBCO and its patronage goes beyond funding opportunities that can provide to the GEBCO project. Improved bathymetric gridded datasets can be achieved only through the commitment of Member States that can be mobilized by the cultural values embodied by IOC, which entail scientific data and information exchange and accessibility.
INEGI Editor principal proyecto IBCCA	Mexico	All
Director de información topográfica INEGI	Mexico	for my opinion the proyect IBCCA not contribuye, not to point 6,7 and 15.
IODE/MEXICO	Mexico	Printable maps
Geophysics Institute, National Autonomous University of Mexico	Mexico	I think that, to a greater or lesser extent, in the development of all products it is necessary for the IOC to be involved.
UNINMAR UNAM	Mexico	6, 7, 9
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	6,7,8,9
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Son pocos los datos con que se cuenta actualmente, por lo que tener información sería de gran utilidad. Aplicaría en todos los incisos. (There is little data currently available, so having information would be very useful. It would apply in all sections.)
GRASP / PERÚ	Peru	We believe that the IOC should always be present as the governing body for ocean activities
Portuguese Hydrographic Office (IHPT)	Portugal	N/A
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Bathymetric chart and undersea feature names
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Unknown
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	?
Institute of Oceanography	Viet Nam	format, additional services, coverage.

Responses from Member States, including national agencies engaged in or using GEBCO products

Q27: In your opinion, from the improvements listed above (questions 6-15), which ones (if any) could not be done without IOC?		
Review Group members	County	Comment
Brazil	Brazil	6, 8
CHILE	CHILE	6, 8 AND 9
China	China	All the above improvements require close engagement of IOC.
ECUADOR	Ecuador	GEBCO's gridded bathymetric data sets
National Institute of Oceanography and Fisheries - Egypt	Egypt	1- GEBCO's gridded bathymetric dataset 2- Imagery 3- GEBCO historical data sets 4- undersea feature names
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Question 6. IOC could emphasize the necessity of member states to provide data to GEBCO and the Nippon Foundation - GEBCO Seabed 2030 Project
Ministry of Earth Sciences, Government of India	India	Ans: 6-9, 11 and 12
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	GEBCO's gridded bathymetric data sets - Improve Accuracy & Resolution
Nicaragua	Nicaragua	All
Peru	Peru	No one
Republic of KOREA	Republic of Korea	Enough
Romania	Romania	

Q28: Who do you consider are (would be) users of GEBCO products in your Programme/Subsidiary Body/ or national authorities?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q28:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	geologists and cartographers
OTNDC	Canada	I do not know
Dirección General Marítima DIMAR CIOH	Colombia	The Hydrographic Offices, the Universities, and other institutions of government
Marine and Coastal Research Institute - INVEMAR	Colombia	Scientific researchers (marine biologists, geologists) guided by the Laboratory of Information Systems. Ship's rent agencies on service for institutional research projects.
Danish Hydrographic Office	Denmark	chart adequacy analysis
Navy of Ecuador	Ecuador	The main user is the Oceanographic Institute of my Navy because we need your information for UNCLOS purposes, and to process data to improve our ocean mapping products.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Researchers and students mainly, tsunami service providers
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	DEM developers, tsunami modelers (propagation, turbidity currents, etc.), modeler, student, risk management officer, researchers in oceanography, tectonics, volcanism, engineering and coastal dynamics.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Hydrographers, marine geologists, marine biologists, oceanographers, coastal and offshore engineers.
INEGI Editor principal proyecto IBCCA	Mexico	mexico are the secretariats of marine, communications and transport, energy and mines, fisheries, research organizations and other state government agencies
Director de información topográfica INEGI	Mexico	in Mexico would be INEGI plus the secretariats of marine, communications and transport, energy and mines, fisheries, researchers public organizations and other units of the state government
IODE/MEXICO	Mexico	Ocean modellers
Geophysics Institute, National Autonomous University of Mexico	Mexico	People who are dedicated to the numerical modeling of ocean processes, as well as the study of the ocean in general.

Q28:		
Review Group members	County	Comment
UNINMAR UNAM	Mexico	Ministries of Environment, Economy, Education, Navy Universities (Schools of Science, Earth Sciences, Engineering)
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	All in CENDO (NODC MX), making tools for National Authorities. Only Few in Subsidiary body and Several thechnician in National Authorities.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Gobierno de Nicaragua, Instituto Nicaragüense de Estudios Territoriales (INETER) También, la Empresa Portuaria Nacional (EPN) Fuerza Naval (Government of Nicaragua, Nicaraguan Institute of Territorial Studies (INETER) Also, the National Port Company (EPN) Naval Force)
GRASP / PERÚ	Peru	Initially the investigators and then the national authorities
Portuguese Hydrographic Office (IHPT)	Portugal	Users of hydrographic and cartographic information. Oceanography and Marine Geology Researchers.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Researchers
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Researchers and developers
NOAA Pacific Marine Environmental Laboratory	United States	Tsunami Modelers, Tsunami Warning Center Personnel
Scripps Institution of Oceanography/USA	United States	marine scientists
Institute of Oceanography	Viet Nam	Researchs Institute, University, DOST...

Responses from Member States, including national agencies engaged in or using GEBCO products

Q28: Who do you consider are (would be) users of GEBCO products in your Programme/Subsidiary Body/ or national authorities?		
Review Group members	County	Comment
Brazil	Brazil	Directorate of Hydrography and Navigation; Universities; research institutions; Marine and Oceanography consulting companies
CHILE	CHILE	MODELERS
China	China	1. University teachers and students 2. Scientists 3. Government agency 4. Individual
ECUADOR	Ecuador	UNIVERSITIES
National Institute of Oceanography and Fisheries - Egypt	Egypt	National Institute of Oceanography and Fisheries - Egypt Marine geophysics department
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Scientists
Ministry of Earth Sciences, Government of India	India	Programs by various agencies and individuals Ans: Operational and R&D based organizations, modelers, All research scholars, scientists and marine survey team etc.
Kazakhstan	Kazakhstan	hydrometeorological services
Republic of Mauritius	Mauritius	Department for Continental Shelf, Maritime Zones & Exploration Environment / Disaster management / Meteorological Services
Nicaragua	Nicaragua	NTWC, TSP CATAAC
Peru	Peru	Because we are the Peruvian Hydrographic Office ,all out technical personnel.
Republic of KOREA	Republic of Korea	Researcher, student, map printer, cartographer
Romania	Romania	research institutes, universities, local and central administrative bodies, NGO's

Q29: For what activities the users (would) use GEBCO products? How the users (would) use GEBCO products?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q29:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	professional and technical consultations
OTNDC	Canada	I still do not know
Dirección General Marítima DIMAR CIOH	Colombia	Bathymetric charts, data for coastal inundation modeling caused by tsunamis or storm surges
Marine and Coastal Research Institute - INVEMAR	Colombia	Users need basemaps to plan oceanographic campaigns, also as guidance for prior identification of possible marine habitats in order to get an environmental assessment.
Danish Hydrographic Office	Denmark	chart adequacy analysis
Navy of Ecuador	Ecuador	For UNCLOS purposes, and to improve our ocean mapping products.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Tsunami modeling for tsunami warning purposes; plot of topo-bathymetric figures; use of GEBCO data to fill in the areas not covered by higher bathymetric acquisition (merging several datasets).
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Developing DEM for use in inundation modeling. Student : study and understand the marine environment Modeler : modeling wave propagation Risk management officer : risk mitigation Tsunami simulations and regional hazard models, oceanography, Deep/ML (training datasets with different resolutions). Tsunami propagation and inundation modeling, tsunami inundation and evacuation maps.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Applications: marine geo-hazard assessment, coastal erosion, marine spatial planning, resource management, integrated coastal zone management, bottom-sea interaction, surface, intermediate and bottom-water circulation models, tsunami-wave propagation, sea-level rise, habitat mapping.
INEGI Editor principal proyecto IBCCA	Mexico	for the planning of the determination of areas of interest of geological research and biodiversity, for analysis of marine area delimitations (EEZ and PC)
Director de información topográfica INEGI	Mexico	for the planning of the determination of areas of interest of geological research and biodiversity, for analysis of marine area delimitations (EEZ and PC)
IODE/MEXICO	Mexico	Extraction of information to generate seabed information for ocean and nearshore modelling

Q29:		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	A very important use that we have of GEBCO data is in numerical models, mainly for the simulation of tsunamis, wind waves, storm surges and ocean currents.
UNINMAR UNAM	Mexico	Cruises (seafloor exploration and sampling), moorings, current modeling/forecasting) Education Outreach (museums special exhibits) virtual reality materials
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Coastal Zone Management and Marine Spatial Planning, Coastal and MPA,
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Si obtenemos datos, generaríamos mapas batimétricos, cartas náuticas de las zonas costeras de Nicaragua a fin conocer las profundidades del lecho marino para la navegación segura de las embarcaciones. (If we obtain data, we would generate bathymetric maps, nautical charts of the coastal areas of Nicaragua in order to know the depths of the seabed for the safe navigation of vessels.)
GRASP / PERÚ	Peru	Mainly for the study of the seabed and for the development of numerical simulations
Portuguese Hydrographic Office (IHPT)	Portugal	GEBCO's gridded bathymetric data sets: - Nautical Cartography - Mapping non-surveyed areas in deep waters; - Representation of the seabed of large geographic areas (small scales); - Missions planning; - Oceanographic data Modelling Undersea Feature Names: - Nautical Cartography; - Thematic Cartography.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	analyzing the seabed morphology
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Research in climate change, biotoxins, analytical chemistry, aquaculture, disposal and dredging sites, marine economics, engineering, fisheries, seabed mapping, bioacoustics and noise, ocean modelling and taxonomy. Over 400 live projects at any given time.
NOAA Pacific Marine Environmental Laboratory	United States	Creating modeling grids for global tsunami propagation simulation. I will obtain GEBCO data from GEBCO map portal, and integrate it with other datasets to create modeling grids.
Scripps Institution of Oceanography/USA	United States	geology and geophysics
Institute of Oceanography	Viet Nam	research activities, orientation to search for marine minerals, seabed topography,

Responses from Member States, including national agencies engaged in or using GEBCO products

Q29: For what activities the users (would) use GEBCO products? How the users (would) use GEBCO products?		
Review Group members	County	Comment
Brazil	Brazil	The GEBCO products would assist on decision making processes and researches on geomorphology, undersea geotechnics, marine geology and construction of gravimetric, wave, circulation and tide models
CHILE	CHILE	TSUNAMI TRAVEL CHART
China	China	1. As base map 2. Geomorphology research 3. Scientific research 4. Education
ECUADOR	Ecuador	SPATIAL MANAGEMENT
National Institute of Oceanography and Fisheries - Egypt	Egypt	preparing of the survey plans during the acquisition
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	For overview and detailed maps. For expedition planning. For terrain analyses. For the interpretation of results in a spatial context. For modelling.
Ministry of Earth Sciences, Government of India	India	(i) Indian National Centre for Ocean Information Services (INCOIS) is the national agency under Government of India using GEBCO data for the coastal inundation modeling from Tsunami and storm surge, further these data were extensively used in the coastal vulnerability mapping (ii) Both operational and research community use GEBCO data. Tsunami-, storm surge-, wave- and ocean general circulation models are widely using the GEBCO bathymetry data as model input. (iii) For pre-planning a geophysical survey, habitat mapping, topographic map preparation, safety and navigation etc.
Kazakhstan	Kazakhstan	bathymetry for modeling/ like forcing
Republic of Mauritius	Mauritius	Delimitation of Extended Continental Shelf to UNCLCS Desktop studies to determine Foot of Slope Characterizing the seafloor/benthic mapping Slope, Aspect, Ruggedness, Hillshading Produce maps of Maritime zones with undersea feature names numerical modelling Bathymetry data input for hydrodynamic models Marine Spatial Planning Geoportal of datasets - include Gebco as baselayer (WMS), but also contours
Nicaragua	Nicaragua	Tsunami Warning, Tsunami Hazard estimation
Peru	Peru	Activities as Small Scale Bathymetries as Peru Chile trench , Nazca Ridge , Mancora Bank ,, more precisely Narrowing the Peru Chile trench because the Nazca ridge and others

Q29: For what activities the users (would) use GEBCO products? How the users (would) use GEBCO products?		
Review Group members	County	Comment
Republic of KOREA	Republic of Korea	Mapping, Numerical modeling development
Romania	Romania	Planning, research

Q30: What kind of products are (would be) used/needed?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q30:		
Review Group members	Country	Comment
Naval Hydrography Service (SHN)	Argentina	Printable maps
OTNDC	Canada	really wish I had an idea
Dirección General Marítima DIMAR CIOH	Colombia	Gridded data
Marine and Coastal Research Institute - INVEMAR	Colombia	Actually the institute uses the bathymetric grids available, it would be better with high resolution bathymetric grids and regional maps for the areas of interest.
Danish Hydrographic Office	Denmark	GEBCO gridded bathymetry
Navy of Ecuador	Ecuador	Bathymetric data, but I think we need more gravimetric data.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	topo-bathymetric netCDF grid files mainly; accurate coastlines
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIB E-EWS	Bathymetric data and elevation data at the coastal line, (i.e. high-resolution coastal bathymetric data.)
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Mainly the gridded bathymetric datasets, raw datasets, sound velocity profiles.
INEGI Editor principal proyecto IBCCA	Mexico	charts from coastal areas and more regional Pacific IBC projects needed
Director de información topográfica INEGI	Mexico	bathymetric charts and more regional Pacific IBC projects needed
IODE/MEXICO	Mexico	high resolution bathymetry
Geophysics Institute, National Autonomous University of Mexico	Mexico	High spatial resolution bathymetric data both in the open sea and on the coast.
UNINMAR UNAM	Mexico	Data, metadata, images, would love to have 4D and holographic projections, virtual reality

Q30:		
Review Group members	County	Comment
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	GEBCO's gridded bathymetric data sets Undersea Feature Names
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Datos de profundidades Imágenes DEM de las costas de Nicaragua (Depth data DEM images of the coasts of Nicaragua)
GRASP / PERÚ	Peru	The gridded database
Portuguese Hydrographic Office (IHPT)	Portugal	Web service: be able to download data (WFS). GEBCO's gridded bathymetric data sets Undersea Feature Names (shapefile and excel files, S-100PS in the future).
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Bathymetric data and undersea feature names
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Mostly GeoTiff layers, APIs, WFS etc.
NOAA Pacific Marine Environmental Laboratory	United States	GEBCO bathymetry data sets
Scripps Institution of Oceanography/USA	United States	need the full resolution multibeam data that has been EDITED by the GEBCO scientists
Institute of Oceanography	Viet Nam	https://www.gebco.net/data_and_products/gridded_bathymetry_data/ https://www.gebco.net/data_and_products/history_of_gebco/

Responses from Member States, including national agencies engaged in or using GEBCO products

Q30: What kind of products are (would be) used/needed?		
Review Group members	County	Comment
Brazil	Brazil	Digital terrain model; shape files; georeferenced images/maps
CHILE	CHILE	DIGITAL BATHYMETRY
China	China	1. GEBCO's gridded bathymetric data sets 2. Undersea Feature Names 3. The IHO-IOC GEBCO Cook Book
ECUADOR	Ecuador	GEBCO's gridded bathymetric data sets
National Institute of Oceanography and Fisheries - Egypt	Egypt	1- GEBCO's gridded bathymetric dataset 2- Imagery 3- GEBCO historical data sets 4- undersea feature names
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	data grids
Ministry of Earth Sciences, Government of India	India	Gridded data (i) Mainly the GEBCO gridded bathymetry data with highest resolution available and direct access to the imageries of global bathymetric maps. (ii) More printable and imagery maps for general use (eg. to identify fishing zones)
Kazakhstan	Kazakhstan	bathymetry
Republic of Mauritius	Mauritius	GEBCO's gridded bathymetric data sets Web services (WMS/WFS) Undersea Feature Names
Nicaragua	Nicaragua	Near coast high resolution bathymetry
Peru	Peru	Small Scale Bathymetry , large coverage
Republic of KOREA	Republic of Korea	Numeric data
Romania	Romania	Mostly digital products regarding bathymetry, coastal line

Q31: Please explain your needs and requirements to GEBCO products (for example, mapping in a specific maritime area, type of products, resolution of products, web services, etc.).

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q31:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	Our needs are mapping in a specific maritime area
OTNDC	Canada	I personally do not have needs
Dirección General Marítima DIMAR CIOH	Colombia	All is right
Marine and Coastal Research Institute - INVEMAR	Colombia	Short trainings, even online courses to use and generate bathymetric products.
Danish Hydrographic Office	Denmark	Arctic area – IBCAO
Navy of Ecuador	Ecuador	I think we need updated bathymetric data, and gravimetric data from the submarine ridges near the Ecuadorian EEZ (especially near Galapagos Islands).
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Tsunami modeling and mapping its impact in deep ocean (low resolution: from 2 min to 30 s resolution) and at a coastal level (high resolution: down to 10 m resolution) all over the world, and especially in the North East Atlantic and Mediterranean region.
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Improved extent and quality of data in shallow-water areas. (i.e. coastal bathymetry of at least 10 m spatial resolution.) Mapping surrounding of main coastal cities, specially e.g. areas known to be under natural-hazard-triggered environmental disasters.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Multi-resolution grids based on water depth.
INEGI Editor principal proyecto IBCCA	Mexico	our needs require the formalization of the regional Pacific IBC project. and creation of the coordination group to draw up Pacific Ocean letters between Mexico USA, France and Guatemala and Canada
Director de información topográfica INEGI	Mexico	our needs require the formalization of the regional Pacific IBC project. and creation of the coordination group to draw up Pacific Ocean letters between Mexico USA, France and Guatemala and Canada
IODE/MEXICO	Mexico	mapping of the nearshore of coastal waters in Mexico

Q31:		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	Increase the spatial resolution of the shoreline bathymetry data, to at least 30 m.
UNINMAR UNAM	Mexico	WTA region, Mexican EEZ, 10 to 100 m resolution shelf data, 1min or better resolution for slope and abyss and upper trench
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Best resolution of Coastal bathymetric data sets.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	323 kilómetros lineales en el litoral Pacífico y 480 kilómetros lineales en el mar Caribe. (323 linear kilometers on the Pacific coast and 480 linear kilometers in the Caribbean Sea.)
GRASP / PERÚ	Peru	Bathymetric implementation needs, such as the "Nazca Ridge", or recent ones such as the rocky outcrops in northern Peru: "Calavera" and "Oso de Tierra" outcrops.
Portuguese Hydrographic Office (IHPT)	Portugal	Access to source data sets (gridded bathymetry). Regional grid – Atlantic (North and/or South).
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Bathymetric map: East Asia region Bathymetric data: 100 m x 100 m resolution
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Mapping specific areas, bathymetry data, historical GEBCO datasets incase of checks etc.
NOAA Pacific Marine Environmental Laboratory	United States	Simulating tsunami propagation in open ocean. Although GEBCO datasets don't have enough resolution to resolve tsunami inundation on land, they provide offshore wave conditions for our high-resolution computation of tsunami inundation.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	mapping in a specific maritime area, seabed topography

Responses from Member States, including national agencies engaged in or using GEBCO products

Q31: Please explain your needs and requirements to GEBCO products (for example, mapping in a specific maritime area, type of products, resolution of products, web services, etc.).		
Review Group members	Country	Comment
Brazil	Brazil	Python library; increase and encourage mapping on the south hemisphere; improve map resolution in areas near the coast
CHILE	CHILE	MAPPING SOUTH EAST PACIFIC
China	China	1. Resolution higher than 15 second 2. Identification layers
ECUADOR	Ecuador	MARINE SPATIAL PLANNING
National Institute of Oceanography and Fisheries - Egypt	Egypt	mapping in the shallow areas of the Mediterranean sea and Red Sea. products required mainly are gridded bathymetric data sets with high resolution.
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Best possible representation of the seabed for scientific analyses.
Ministry of Earth Sciences, Government of India	India	Work undertaken includes identification of geohazard potential zones and map geomorphological features along the continental margin. In this regard, GEBCO datasets should take an initiative to resolve/include small canyons/slides/ fractures/ridges etc. from published datasets.
Kazakhstan	Kazakhstan	mapping in a specific maritime area, because most of the web services don't have data about the Caspian sea o Aral
Republic of Mauritius	Mauritius	Needs - GEBCO's gridded bathymetric data sets (Gridded 15 sec & WMS) Undersea Feature Names (In ESRI Shapefile format)
Nicaragua	Nicaragua	High resolution bathymetry for Pacific and Caribbean coast of Central America
Peru	Peru	Activities as Small Scale Bathymetrys as Peru Chile trench , Nazca Ridge , Mancora Bank ,, more precisely Narrowing the Peru Chile trench because the Nazca ridge and others
Republic of KOREA	Republic of Korea	Although it is called the latest depth data set, it is difficult to distinguish which part is the latest data, and it would be necessary to specifically inform the part where the depth information is updated.
Romania	Romania	Detailed information about the evolution of the coastal area

Questions 32 to 35:

Traditionally, GEBCO's data sets and maps have shown the bathymetry of areas at the water depths of 200m and deeper of the world's oceans. In addition to those data sets and maps, the GEBCO project has been working to improve its gridded bathymetric data sets in the shallow waters (at the depth of less than 200m to the coastal zone), in cooperation with IHO.

Q32: As for the shallow water bathymetry, who do you consider are (would be) users of GEBCO products and for what activities the users (would) use GEBCO products in your Programme/Subsidiary Body?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q32:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	geologists and cartographers
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	The HO, the Universities, and the Research centers
Marine and Coastal Research Institute - INVEMAR	Colombia	Scientific researchers and studentes on marine biology, geology and fisheries engineers.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	I think we do not need data from shallow waters, because we can get it with our vessels, but we do not have data from LIDAR surveys.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	To account for specific amplification or attenuation effects that occur close to the shore, an accurate shallow water bathymetry is essential for tsunami modeling.
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	DEM developers, tsunami modelers (propagation, turbidity currents, etc.), modeler, student, risk management officer, researchers in oceanography, tectonics, volcanism, engineering, marine biology, and coastal dynamics.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	If the spatial resolution of the data is sufficient (at < 200 m water depth several applications require resolution << 50 m), bathymetry can be used for a wide-scope spectrum of applications. These including: sedimentology studies, especially those related to the coastal sediment budget

Q32:		
Review Group members	County	Comment
		(coastal erosion); seafloor classification (including valuable habitats providing ecosystem services); tsunami velocity of propagation towards the coast, modelling of height of tsunami waves to the coast; resource exploration and management (including submarine water resources, minerals, hydrocarbons).
INEGI Editor principal proyecto IBCCA	Mexico	the state units of the three areas of government: national, state and municipal, public biodiversity conservation organizations, tourist academy specialized in the oceanographic fields, geology of the marine subsoil and nautical
Director de información topográfica INEGI	Mexico	all the state units of the three areas of government: national, state and municipal, public biodiversity conservation organizations, tourist academy specialized in the oceanographic fields, geology of the marine subsoil and nautical
IODE/MEXICO	Mexico	It would be used for coastal engineering; harbour dynamics and modelling
Geophysics Institute, National Autonomous University of Mexico	Mexico	A high resolution bathymetry on shore contributes much to the improvement in the quality of the numerical forecast output. We have experience in the numerical modeling of tsunamis, and clearly better results are obtained when there is more detail on the coast, which is important both for the generation of flood maps and for the elaboration of evacuation plans.
UNINMAR UNAM	Mexico	oil and gas industry, communication industry, governmental sectors, fishermen, conservation environmental agency, tourism industry, early warning systems for hurricane, tsunami, seismics and erosion, science and education
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Coastal Zone Management and Marine Spatial Planning, Coastal and MPA,
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Si, estos datos son de aguas poco profundas, menos de 200 metros y corresponden a las zonas costeras antes mencionadas. (Yes, these data are from shallow waters, less than 200 meters and correspond to the aforementioned coastal areas.)
GRASP / PERÚ	Peru	Initially the investigators and then the national authorities
Portuguese Hydrographic Office (IHPT)	Portugal	Mission planning, mapping (contouring, for example) of non-surveyed areas in shallow waters.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Researchers, Analyzing the morphological variation
GlobalHAB	Spain	A

Q32:		
Review Group members	County	Comment
Centre for Environment, Fisheries and Aquaculture Science	UK	Cefas conduct a lot of research on coastal environments etc. and would use shallow water bathymetry data for a wide range of research, see above for areas (question 18)
NOAA Pacific Marine Environmental Laboratory	United States	Modelers, Warning Center Staff, Emergency management, researchers, and harbor masters.
Scripps Institution of Oceanography/USA	United States	not interested in the shallow water bathymetry
Institute of Oceanography	Viet Nam	Marine compay, serving marine research and planning

Responses from Member States, including national agencies engaged in or using GEBCO products

Q32: As for the shallow water bathymetry, who do you consider are (would be) users of GEBCO products and for what activities the users (would) use GEBCO products in your Programme/Subsidiary Body?		
Review Group members	County	Comment
Brazil	Brazil	Directorate of Hydrography and Navigation; students; research institutions; marine and oceanography consulting companies. Activities related to improvements on nautical charts, research on geomorphology. undersea geotechnics, marine geology, gravimetric, wave, circulation and tide models
CHILE	CHILE	SCIENTITS GRIDS
China	China	1. Fishing vessel 2. Scientific research institutions 3. Government service agency
ECUADOR	Ecuador	MARITIME PROJECTS
National Institute of Oceanography and Fisheries – Egypt	Egypt	National Institute of Oceanography and Fisheries - Egypt Marine geophysics department
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Anybody operating on the shelf.
Ministry of Earth Sciences, Government of India	India	(i) Accurate coastal inundation and circulation modeling (ii) Typically in shallow water areas for geophysical survey planning and biological- oceanographic data are collected and analysed. Bathymetric data of area helps to collect sediment grab samples and shallow water gravity cores etc. for various oceanographic studies.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Department for Continental Shelf, Maritime Zones Administration & Exploration Environment / Disaster management / Meteorological Services/ Mauritius Oceanography Institute/ Coast Guard
Nicaragua	Nicaragua	Tsunami warning and hazard estimation
Peru	Peru	The Peruvian Hydrographic office is in charge of the medium and big scales, we have much less requirements on this zone .
Republic of KOREA	Republic of Korea	Researcher, Student, Industry, Teacher.
Romania	Romania	research institutes, universities, local and central administrative bodies, NGO's

Q33: How the users (would) use GEBCO products?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q33:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	professional and technical consultations
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Source data
Marine and Coastal Research Institute - INVEMAR	Colombia	Base maps for identification of areas of interest on habitat mapping, environmental assessment, and fisheries resources. Further research on alternative energies.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Tsunami modeling; plot of topo-bathymetric figures and hazard maps; use of GEBCO data to fill in the areas not covered by higher bathymetric acquisition (merging several datasets).
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Developing DEM for use in inundation modeling. Student : study and understand the marine environment. Modeler : Tsunami Hazard assessments, tsunami inundation and propagation modeling, tsunami inundation and evacuation maps, Students : study and understand the marine environment. Modelling: increased focused on local hazard, use of numerical HPC hi-res inundation modelling. Research related to non-local processes: resonance, improve regional hazard model, sensitivity analysis. Tsunami Hazard assessments, tsunami inundation and propagation modeling, tsunami inundation and evacuation maps.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Gridded bathymetric datasets integrated in their workflows.
INEGI Editor principal proyecto IBCCA	Mexico	geographic information systems for desktop and mobile, app etc. in support of different applications
Director de información topográfica INEGI	Mexico	digital geographic information systems for desktop and mobile, app etc. in support of different applications mediante los sistemas de información geográficas digitales para escritorio y móviles, app etc. en apoyo a los diferentes aplicaciones
IODE/MEXICO	Mexico	combined with a knowledge of sea waves, bathymetry of shallow waters could be used for predicting sea heights on te coast; currents; etc.

Q33:		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	GEBCO bathymetric data are commonly used as input data in numerical models of several ocean processes.
UNINMAR UNAM	Mexico	To assess risk, to generate models and forecast, educate and develop capacity
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Para las embarcaciones de poco calado y en las zonas portuarias las de mediano y gran calado. (For shallow draft vessels and medium and deep draft in port areas.)
GRASP / PERÚ	Peru	They are a very good reference for research, especially in the banding of numerical simulations, when the products require it.
Portuguese Hydrographic Office (IHPT)	Portugal	Building products to support hydrography and cartography, based on GEBCO information. To support Oceanographic data Modelling.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Download the data from GEBCO website
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	Again, please see question 18 for areas for which GEBCO products would be used for visualization, mapping and research
NOAA Pacific Marine Environmental Laboratory	United States	Create high-quality model grids.
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	image, digital format, popular formats, easy to use

Responses from Member States, including national agencies engaged in or using GEBCO products

Q33: How the users (would) use GEBCO products?		
Review Group members	County	Comment
Brazil	Brazil	In the process of Nautical chart creation; improvement on gravimetric, wave, circulation and tide models; fieldwork planning
CHILE	CHILE	DO NOT KNOW
China	China	1.Voyage; 2.Marine ecological research; 3.sea level assessment
ECUADOR	Ecuador	AS A REFERENCE
National Institute of Oceanography and Fisheries - Egypt	Egypt	preparing of the survey plans during the acquisition
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Morphological interpretations
Ministry of Earth Sciences, Government of India	India	Gridded data for modeling Ans: For the preparation of bathymetric grid for the numerical models and research.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Numerical Modelling - Climate change, Tsunami, Storm/Surge, oil spill trajectory, hydrodynamic, Erosion and sedimentation, EIA for engineering work in the coastal areas, Sea-level rise Benthic habitat in lagoon Energy alternatives – design for setting up wind/wave farm or pipeline for Deep Ocean Water Application
Nicaragua	Nicaragua	Integrating them in the software used for tsunami warning and hazard estimation
Peru	Peru	We do not have that information
Republic of KOREA	Republic of Korea	Download the data, print the map
Romania	Romania	As base maps, computations

Q34: What kind of products concerning the shallow waters would you like the GEBCO project to produce?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q34:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	This area is the responsibility of Hydrographic offices. So GEBCO have to work together with they
Marine and Coastal Research Institute - INVEMAR	Colombia	A special guide or Cook Book for shallow waters, including LIDAR technology, or radar derived bathymetry.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	LIDAR.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	topo-bathymetric netCDF grid files mainly; accurate coastlines
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Access to any data collected for shallow water regions, not just the gridded bathymetric products. Shallow water data are critical (particularly at local level), then enhanced attention to shallow waters (including the provision of raw data) would be more than welcome from the tsunami scientific community
IBCM, GEBCO since ~1980	Israel	Satellite Derived Bathymetry
GEBCO	Italy	Multi-resolution bathymetric grids based on water depth.
INEGI Editor principal proyecto IBCCA	Mexico	who have, but in greater detail, shape names and bathymetry
Director de información topográfica INEGI	Mexico	ones it has but in greater detail, shape names and bathymetry
IODE/MEXICO	Mexico	include type of sediment
Geophysics Institute, National Autonomous University of Mexico	Mexico	High spatial resolution (30 m) gridded bathymetric data sets.
UNINMAR UNAM	Mexico	Data, metadata, images, would love to have 4D and holographic projections
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	GEBCO's gridded bathymetric data sets of better resolution.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Mapas batimétricos y/o cartas náuticas. (Bathymetric maps and / or nautical charts.)

Q34:		
Review Group members	County	Comment
GRASP / PERÚ	Peru	The high-resolution bathymetric charts , such as the "Nazca Ridge", or recent ones such as the rocky outcrops in northern Peru: "Calavera" and "Oso de Tierra" outcrops.
Portuguese Hydrographic Office (IHPT)	Portugal	Gridded bathymetry and contouring.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	High resolution spatial bathymetric data and backscatter images
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	GeoTiff files of bathymetry, as part of the GEBCO grid. If user defined area includes shallow water either grid will included detailed bathymetry of this or both products will be downloaded in zip file - so that users do not need to download two separately located products
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	coastal, islands

Responses from Member States, including national agencies engaged in or using GEBCO products

Q34: What kind of products concerning the shallow waters would you like the GEBCO project to produce?		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	DATA SETS
China	China	Higher resolution gridded bathymetric data sets
ECUADOR	Ecuador	GEBCO's gridded bathymetric data sets
National Institute of Oceanography and Fisheries - Egypt	Egypt	1- GEBCO's gridded bathymetric dataset 2- Imagery
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	High-resolution data grids
Ministry of Earth Sciences, Government of India	India	Can have separate high resolution Gridded data for coastal region Ans: GEBCO gridded bathymetry data with high resolution and with better representation of steep bathymetric gradients.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	DEM + Bathymetry 5 m resolution High resolution
Nicaragua	Nicaragua	High resolution bathymetry for Pacific and Caribbean coast of Central America
Peru	Peru	We have vey little requirements on shallow waters , we have requirements in deep waters.
Republic of KOREA	Republic of Korea	Bathymetric map
Romania	Romania	At least coastal line evolution

Q35: Please explain your needs, requirements and challenges to GEBCO products (for example, mapping in a specific maritime area, type of products, resolution of products, web services, etc.).

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q35:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	Our needs are mapping in a specific maritime area
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	
Marine and Coastal Research Institute - INVEMAR	Colombia	Recently we had to acquire bathymetry on estuaries and river mouths, and some other areas with reef influence, these really shallow and dynamics environments present a challenge to get good resolution and quality on the data.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	Maybe we can request GEBCO to conduct LIDAR surveys, but we do not have this kind of technology in our country.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Tsunami modeling and mapping its impact at harbor scale (high resolution: down to 10 m resolution) all over the world, and especially in the North East Atlantic and Mediterranean region.
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	These data (including high-resolution coastal bathymetric gridded data) are needed to create seamless bathymetric and topographic DEMs for modeling. All data for the improvement of bathymetric and topographic DEMs are needed.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Multi-resolution bathymetric grids based on water depth; improved WMS and integrated tools providing information such as feature names, complete metadata information for each grid cell, assessment of data quality (accuracy), prioritization of underlying datasets.
INEGI Editor principal proyecto IBCCA	Mexico	it is necessary to draw up the bathymetric charts of the Pacific region, as well as the production of information at 1:200 000 scale as mentioned in the TECHNICAL Manual of COVEMAR, and their respective web services
Director de información topográfica INEGI	Mexico	it is necessary to draw up the bathymetric charts of the Pacific region, as well as the production of information at the 1:200 000 scale as mentioned in the COVEMAR technical manual, and their respective web services

Q35:		
Review Group members	County	Comment
IODE/MEXICO	Mexico	mapping of the coasts of Mexico at high resolution.
Geophysics Institute, National Autonomous University of Mexico	Mexico	High spatial resolution (30 m) offshore for bathymetry data.
UNINMAR UNAM	Mexico	If you ask me on my science, I would like to explain my needs: High resolution maps of the deep sea habitats in the MPAs in the Mexican deep ETP Benthic habitat and the deep sea SW Gulf of Mexico and N Caribbean Sea; recognition of geomorphology, bathymetric data to better understand biodiversity connectivity, distribution.
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Best resolution of Coastal bathymetric data sets.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	En las zonas costeras de Nicaragua Zonas costeras en el litoral Pacífico con 323 kilómetros y 480 kilómetros lineales en el mar Caribe. (In the coastal areas of Nicaragua Coastal areas on the Pacific coast with 323 kilometers and 480 linear kilometers in the Caribbean Sea.)
GRASP / PERÚ	Peru	Technical advice on improving the aforementioned products, question 23.
Portuguese Hydrographic Office (IHPT)	Portugal	Regional grid – Atlantic (North and/or South). Access to source data sets (gridded bathymetry).
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Area: East Asia Region High-resolution data: 10 m x 10 m Backscatter images: 10 m x 10 m Biological habitat: 25 m x 25 m scale
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	See previous questions. Wide range of user requirements, needs and challenges depending on area of research
NOAA Pacific Marine Environmental Laboratory	United States	Accurate bathymetry in shallow water regions over the coral reef, inside harbor and waterway
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	mapping in a specific maritime area, type of products

Responses from Member States, including national agencies engaged in or using GEBCO products

Q35: Please explain your needs, requirements and challenges to GEBCO products (for example, mapping in a specific maritime area, type of products, resolution of products, web services, etc.).		
Review Group members	Country	Comment
Brazil	Brazil	Encourage mapping on the south hemisphere; Availability of public domain data to improve the dataset of bathymetry along the Brazilian margin and gravimetric, wave, circulation and tide models
CHILE	CHILE	DATA SET 50 MTS GRID
China	China	1.200m resolution gridded data in the shallow area 2.Clearly description about the source data
ECUADOR	Ecuador	RISK MANAGEMENT
National Institute of Oceanography and Fisheries - Egypt	Egypt	mapping in the shallow areas of the Mediterranean sea and Red Sea. products required mainly are gridded bathymetric data sets with high resolution.
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Mapping in the Southern Ocean
Ministry of Earth Sciences, Government of India	India	GEBCO can be improved by adding high spatial resolution of at least 100-200 m for coastal shallow marine environment of continental shelf region
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	GEBCO grid is not suitable for coastal areas
Nicaragua	Nicaragua	High resolution bathymetry for Pacific and Caribbean coast of Central America
Peru	Peru	We have a requirement on the Titicaca Lake (Peru Bolivia), but it is navigational lake.
Republic of KOREA	Republic of Korea	Need to refine the resolution of coastal depth data
Romania	Romania	NW Black Sea, any product in relationship with bathymetry and sea bottom; very shallow areas

Q36: Does your country and/or organization have any concern about accessing and/or sharing data collected within in EEZs? (Please describe)

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

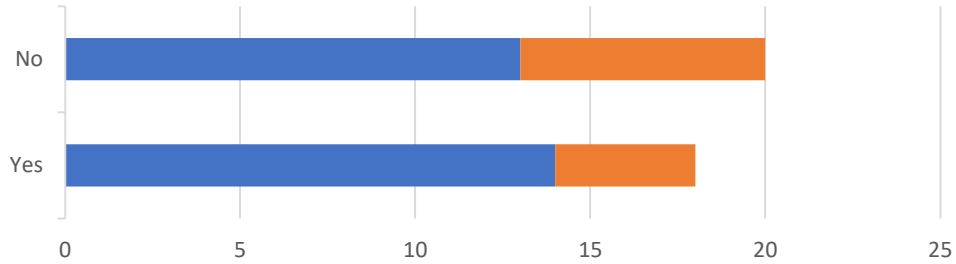
Q		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	No, it doesn't
OTNDC	Canada	Would really have to check with IOC NODC for Canada
Dirección General Marítima DIMAR CIOH	Colombia	DIMAR approved the collection of data in the EEZ by ships in the innocent pass. DIMAR only required must be informed. The territorial and adjacent area must behave the authorization of DIMAR, too
Marine and Coastal Research Institute - INVEMAR	Colombia	This issue is managed by the Maritime National Directorate, DIMAR, in behalf of the Colombian Ministry of Defense.
Danish Hydrographic Office	Denmark	Survey permit must be requested prior to data acquisition Data can be distributed after acceptance from the Defense based on specific area and intended use
Navy of Ecuador	Ecuador	I think we do not have problems sharing data.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Yes, as some EEZs are included in the North-East Atlantic and Mediterranean basins, where tsunamis are monitored by the warning centers involved in the the ICG/NEAMTWS.
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	No
IBCM, GEBCO since ~1980	Israel	Yes. Our areas are mapped with multibeam, generally available only at 200m spacing (but exists at 20m and less),,
GEBCO	Italy	No specific concern other than resolution that might hinder groups of researchers from completing and publishing their scientific work. Concerns related to national security in specific and spatially limited areas.
INEGI Editor principal proyecto IBCCA	Mexico	INEGI is responsible for preserving, disseminating and producing geographic information on Mexico's national territory, and makes available EEZ bathymetric charts from the Gulf of Mexico, the Caribbean and Californian Seas and the Pacific
Director de información topográfica INEGI	Mexico	No, INEGI is responsible for preserving, disseminating and producing geographic information on Mexico's national

Q		
Review Group members	County	Comment
		territory, and makes available EEZ bathymetric charts from the Gulf of Mexico, the Caribbean and California Seas and the Pacific
IODE/MEXICO	Mexico	No, as it is from my knowledge. Need to ask Foreign Ministry.
Geophysics Institute, National Autonomous University of Mexico	Mexico	No
UNINMAR UNAM	Mexico	I believe that only in those areas where oil and gas is being exploited would be a limitation, otherwise we have not had any problem in our international scientific cruises in partnership.
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Secretaria de Marina are in Mexico the data holder.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Por Seguridad nacional, deberá tener un protocolo de solicitud para acceder a la información. (For national security, you must have a request protocol to access the information.)
GRASP / PERÚ	Peru	There are data restrictions, we have printed navigation charts published in these areas, although the data is not freely available.
Portuguese Hydrographic Office (IHPT)	Portugal	IHPT share processed data (bathymetric models).
Marine Geohazard/KIGAM/Koreas	Republic of Korea	It will be possible with the funding agency's permission, which is the government
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	No
NOAA Pacific Marine Environmental Laboratory	United States	No.
Scripps Institution of Oceanography/USA	United States	-
Institute of Oceanography	Viet Nam	Paracels, Spratlys

Responses from Member States, including national agencies engaged in or using GEBCO products

Q36: Does your country and/or organization have any concern about accessing and/or sharing data collected within in EEZs? (Please describe)		
Review Group members	County	Comment
Brazil	Brazil	According to the Brazilian internal law, data acquired in the Brazilian Jurisdictional Area from Foreign Institution in partnership with Brazilian universities and others Institutions must be delivered to Brazil. Data acquired for the Brazilian Submissions analysis on the CLCS should wait for the end of their analysis to be shared.
CHILE	CHILE	TO BE CONSIDERED ON A CASE BY CASE MODE
China	China	Yes. EEZ is the zone where coastal nations have jurisdiction over natural resources. The sharing of data collected with EEZ need to be subject to the national data policy of the coastal nations. There's might be potential interests conflict.
ECUADOR	Ecuador	NOP
National Institute of Oceanography and Fisheries - Egypt	Egypt	No
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Generally not
Ministry of Earth Sciences, Government of India	India	Collecting/sharing data pertaining to EEZ is restricted As per Government norms.
Kazakhstan	Kazakhstan	No
Republic of Mauritius	Mauritius	The Mauritius Ocean Observatory E-platform, a centralised database, is being set-up to share data of the maritime zones for Marine Spatial Planning purposes.
Nicaragua	Nicaragua	No
Peru	Peru	Our country is a strict observer of international law, the marine investigation of the Peruvian maritime domain is allowed by our constitution.
Republic of KOREA	Republic of Korea	No, It was restricted by national law
Romania	Romania	To be available official data regarding the coastal line

Q37-Q38: Are there any products of ocean mapping activities from which your Programme/Subsidiary Body (would) benefit other than those currently developed under GEBCO data and products?



	Yes	No
Series1	14	13
Series2	4	7

Series1: Responses from IOC programmes, IOC Regional Subsidiary Bodies and others
 Series2: Responses from Member States, including national agencies engaged in or using GEBCO products

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

<p><i>Q37-38. Are there any products of ocean mapping activities from which your Programme/Subsidiary Body (would) benefit other than those currently developed under GEBCO data and products?</i></p>		
<p>Q39. Other (please specify)</p>		
Review Group members	Country	Comment
Naval Hydrography Service (SHN)	Argentina	
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Modeling numeric for research
Marine and Coastal Research Institute - INVEMAR	Colombia	Data provided by private offshore exploration companies.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	Datasets from national bathymetric acquisition campaigns from European countries (Portugal, Turkey, France,...), and data available for free provided by the SHOM (https://data.shom.fr) including the high resolution topo-bathymetry provided by the Litto3D® project (https://diffusion.shom.fr/pro/amenagement/altimetrie-littorale.html)
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	
IBCM, GEBCO since ~1980	Israel	
GEBCO	Italy	Multi-resolution bathymetric grids, sharing of open-source technology related to acquisition and processing of bathymetric data.
INEGI Editor principal proyecto IBCCA	Mexico	exploratory and research studies of the waters of the EEZ of Mexico that carry out hydrographic and bathymetric surveys, for example the maintenance of dredging of port entrances to remove sediments for navigation of vessels.
Director de información topográfica INEGI	Mexico	exploration and research studies of mexico's EEZ waters conducting hydrographic and bathymetric

Q37-38. Are there any products of ocean mapping activities from which your Programme/Subsidiary Body (would) benefit other than those currently developed under GEBCO data and products?		
Q39. Other (please specify)		
Review Group members	County	Comment
		surveys, such as maintaining the dredging of port entrances to remove sediments for boat navigation.
IODE/MEXICO	Mexico	
Geophysics Institute, National Autonomous University of Mexico	Mexico	
UNINMAR UNAM	Mexico	Data, metadata, images, new layers For outreach and education: 4D and holographic projections, virtual reality
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	https://www.ngdc.noaa.gov/mgg/bathymetry/relief.htm http://ccom.unh.edu/ http://ccom.unh.edu/theme/chart-future Global Multi-Resolution Topography (GMRT) https://www.gmrt.org/GMRTMapTool/ http://ig.utexas.edu/marine-and-tectonics/plates-project/ data: http://www-udc.ig.utexas.edu/external/plates/data.htm
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Identificación de Objetos peligrosos para la navegación
GRASP / PERÚ	Peru	
Portuguese Hydrographic Office (IHPT)	Portugal	Products resulting from regional projects (for example, EMODnet). Scientific Oceanographic Campaigns/Projects.
Marine Geohazard/KIGAM/Korea s	Republic of Korea	
GlobalHAB	Spain	a
Centre for Environment, Fisheries and Aquaculture Science	UK	Defra DEM DEM data UKHO datasets etc. EO data
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	an archive of the raw edited data that go into the GEBCO gridded products
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

<i>Q37-38. Are there any products of ocean mapping activities from which your Programme/Subsidiary Body (would) benefit other than those currently developed under GEBCO data and products?</i>		
Q39. Other (please specify)		
Review Group members	County	Comment
Brazil	Brazil	
CHILE	CHILE	
.China	China	SRTM PLUS, the IBCSO and IBCAO data.
ECUADOR	Ecuador	
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	"Ans: ETOPO products. Identification of various seabed features and Delineating fishing zones (based on the frequent activity, seasonal or regular) etc.
Kazakhstan	Kazakhstan	Eumetsat web page data
Republic of Mauritius	Mauritius	Bathymetry mapping of the maritime zones is carried out through the Mauritius Hydrography Services.
Nicaragua	Nicaragua	
Peru	Peru	
Republic of KOREA	Republic of Korea	None
Romania	Romania	

Q40: Beyond the IOC consultation process, please suggest any mechanism to identify user needs and requirement to GEBCO data and products and to provide them to GEBCO from the viewpoint of your Programme/Subsidiary Body (this may also include mechanism for strengthened cooperation with GEBCO).

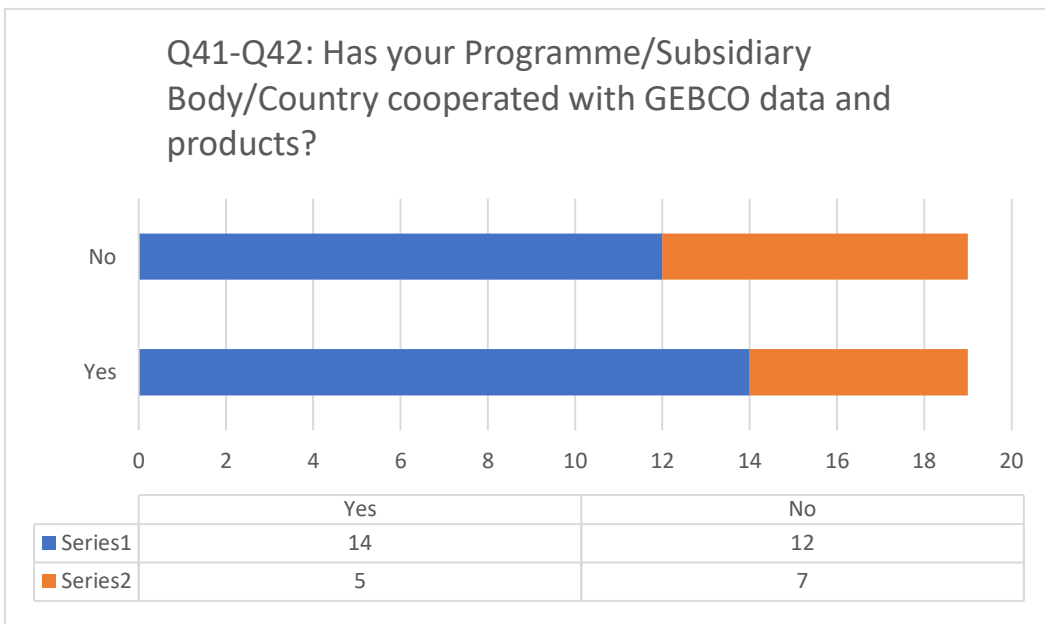
Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q40:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Some of the budgets of the Seadeb2030 project would be assigned for the hydrographic campaign in deep water with one or more HO. The empty areas are in the deep waters
Marine and Coastal Research Institute - INVEMAR	Colombia	Virtual meeting with the Head of the Laboratory of Information Systems, and users directly involved in the use of bathymetric information and other GEBCO products.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	In my country I am the only GEBCO member (as a former GEBCO student, year 10), I can be the contact point with the oceanographic institute with the aim to sign any MOU to strengthen the cooperation with GEBCO.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Online consultation to local government (e.g. coastal municipalities)
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Expand the survey to DNAs (Designated National Agencies), NODCs (National Oceanographic Data Centres), RNODCs (Responsible National Oceanographic Data Centres) and WDCs (World Data Centres – Oceanography), ocean experts, IOC community at large. Integrate bathymetry as one of the ocean observing parameters of the IODE Programme. Integrate with the IOC Oceanographic Data Exchange Policy for the ocean research and observation community.

Q40:		
Review Group members	County	Comment
INEGI Editor principal proyecto IBCCA	Mexico	communication with the divisions of UN, IODE, IHO and other organizations
Director de información topográfica INEGI	Mexico	with the divisions of UN, IODE, IHO and other organizations
IODE/MEXICO	Mexico	Strength cooperation with GEBCO
Geophysics Institute, National Autonomous University of Mexico	Mexico	I think the questionnaires are a good method, but the IOC links in each country should seek to reach a greater number of users. Another option is to make an open GEBCO user registry, so that they can provide feedback with their needs.
UNINMAR UNAM	Mexico	I would suggest contacting UNINMAR directly http://uninmar.icmyl.unam.mx/ leonfalvarez@gmail.com; leon@cmarl.unam.mx
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	National consultation process is necessary.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Comunicación directa escrita o virtual en español. (Direct written or virtual communication in Spanish.)
GRASP / PERÚ	Peru	At the moment, no
Portuguese Hydrographic Office (IHPT)	Portugal	Quick questions on the GEBCO website, targeted by product type.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	-
GlobalHAB	Spain	A
Centre for Environment, Fisheries and Aquaculture Science	UK	webinars, workshops etc. engagement and events
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

Q40: Beyond the IOC consultation process, please suggest any mechanism to identify user needs and requirement to GEBCO data and products and to provide them to GEBCO from the viewpoint of your Programme/Subsidiary Body (this may also include mechanism for strengthened cooperation with GEBCO).		
Review Group members	Country	Comment
Brazil	Brazil	
CHILE	CHILE	
China	China	Use some social media to promote GEBCO science, events and products, build relationship with UNGGIM(United Nations Global Geospatial Information Management) to publicize gebco products and data requirments.
ECUADOR	Ecuador	TRAINNING
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	Wider online publicity, feedback forms etc.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Setting up a forum for users to provide information and address user needs and requirement to GEBCO data and products
Nicaragua	Nicaragua	Na
Peru	Peru	Survey is the most appropriate
Republic of KOREA	Republic of Korea	None
Romania	Romania	All time open consultation, based on predefined issues (for registered users only) on the web site



Series1: Responses from IOC programmes, IOC Regional Subsidiary Bodies and others
 Series2: Responses from Member States, including national agencies engaged in or using GEBCO products

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q41-42. Has your Programme/Subsidiary Body/Country cooperated with GEBCO data and products?

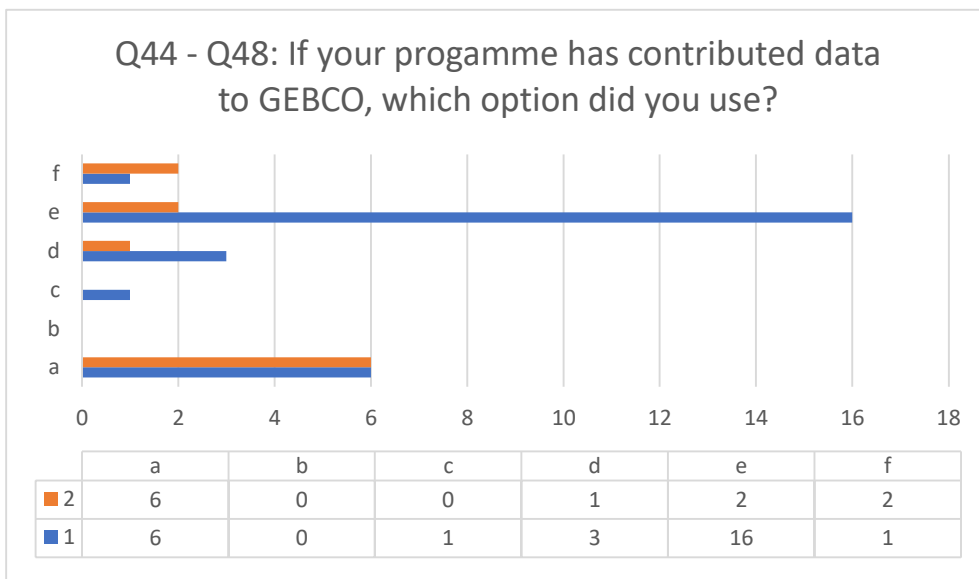
Q43. Other (please specify)

Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	With information
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Depth data of Antarctic surveys did by Colombia
Marine and Coastal Research Institute - INVEMAR	Colombia	
Danish Hydrographic Office	Denmark	IBCAO
Navy of Ecuador	Ecuador	Not yet. We would like to contribute with data for GEBCO use only.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Some members of ICG/CARIBE-EWS have offered to share coastal bathymetric data surveyed. Also, some ICG/CARIBE-EWS Member States (e.g. USA) are active with GEBCO. But not all ICG/CARIBE-EWS Member States.
IBCM, GEBCO since ~1980	Israel	Years of participation and producing bathymetry for all our adjacent seas. This includes contributions to IBCAO from ice islands and hovercraft SABVABAA
GEBCO	Italy	Contributions from EMODnet bathymetry, which is incorporated into GEBCO as a regional mapping initiative; voluntary contributions to IHO-DCDB from areas outside European seas, GEBCO guiding committee and sub-committees.
INEGI Editor principal proyecto IBCCA	Mexico	With the world atlas of the oceans, with the edition of the bathymetric charts of the Gulf of Mexico and the Caribbean Sea and member of the committee names of the forms of underwater relive since 1984
Director de información topográfica INEGI	Mexico	With the world atlas of the oceans, with the edition of the bathymetric charts of the Gulf of Mexico and the Caribbean Sea and member of the committee names of the forms of underwater relive since 1984

Q41-42. Has your Programme/Subsidiary Body/Country cooperated with GEBCO data and products?		
Q43. Other (please specify)		
Review Group members	County	Comment
IODE/MEXICO	Mexico	
Geophysics Institute, National Autonomous University of Mexico	Mexico	
UNINMAR UNAM	Mexico	I am not quite sure if our Navy has cooperated with GEBCO
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Secretaria de Marina de Mexico, agreement with gebco.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	
GRASP / PERÚ	Peru	
Portuguese Hydrographic Office (IHPT)	Portugal	As a partner of the European project EMODnet-Bathymetry. Also, directly to DCBD.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	submitting the data to DCDB if the undersea naming proposals are accepted
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	
NOAA Pacific Marine Environmental Laboratory	United States	I am not sure.
Scripps Institution of Oceanography/USA	United States	yes we have an MOU
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

<i>Q41-42. Has your Programme/Subsidiary Body/Country cooperated with GEBCO data and products?</i>		
Q43. Other (please specify)		
Review Group members	County	Comment
Brazil	Brazil	Directorate of Hydrography and Navigation has contributed with bathymetric data located offshore brazilian coast above 100 m depth.
CHILE	CHILE	
China	China	NMDIS participates GEBCO, SCUFN and SCRUM meetings every year. More than 100 undersea feature names had been proposed and submitted to GEBCO.
ECUADOR	Ecuador	
National Institute of Oceanography and Fisheries - Egypt	Egypt	satellite imagery
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	Naming of undersea features
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	
Nicaragua	Nicaragua	
Peru	Peru	GEBCO produce bathymetric charts of our Maritime Dominion without cost.
Republic of KOREA	Republic of Korea	none
Romania	Romania	



- a Contributing data for public accessData contributed sent to the International Hydrographic Organization Data Center for Digital Bathymetry (IHO DCDB)
- b Contributing data for public accessDiscovery metadata, spatial footprints and the retrieval URL for online Data provided to IHO DBCP
- c Contributing data for public accessDiscovery metadata, spatial footprints and the retrieval URL for online Data provided to IHO DBCP
- d Contributed data for GEBCO's use onlyData provided to GEBCO via GEBCO's data holding centre at the British Oceanographic Data Centre (BODC)
- e Other (please specify) => Please see another table
- f No answer

1 : Responses from IOC programmes, IOC Regional Subsidiary Bodies and others
 2 : Responses from Member States, including national agencies engaged in or using GEBCO products

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

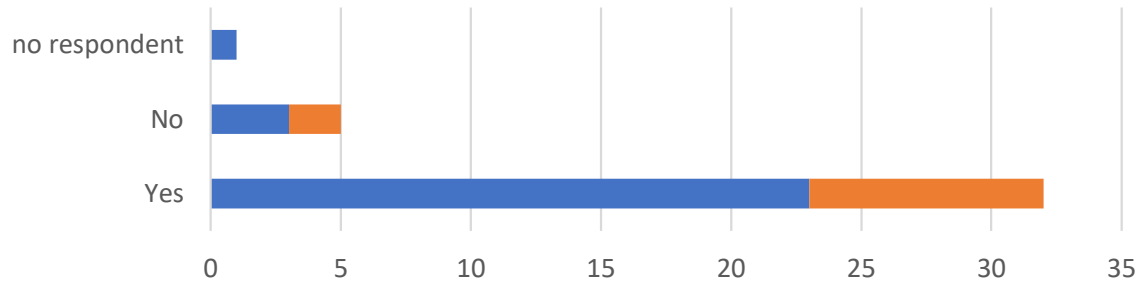
<i>Q44-47. If your programme has contributed data to GEBCO, which option did you use?</i>		
Q48. Other (please specify)		
Review Group members	Country	Comment
Naval Hydrography Service (SHN)	Argentina	
OTNDC	Canada	None
Dirección General Marítima DIMAR CIOH	Colombia	
Marine and Coastal Research Institute - INVEMAR	Colombia	None
Danish Hydrographic Office	Denmark	Not sure about the specific options used in past deliveries
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	No contributed data
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	N/A
IBCM, GEBCO since ~1980	Israel	
GEBCO	Italy	
INEGI Editor principal proyecto IBCCA	Mexico	data for public accessDiscovery metadata, spatial footprints of bathymetric charts of the IBCCA regional project and the EEZ of the Pacific Ocean, Caribbean and California seas and the Gulf of Mexico
Director de información topográfica INEGI	Mexico	Contributory data for public accessDiscovery metadata, spatial traces of bathymetric charts from the IBCCA regional project and the Pacific Ocean EEZ, Caribbean and California mares and the Gulf of Mexico
IODE/MEXICO	Mexico	no information to answer this question
Geophysics Institute, National Autonomous University of Mexico	Mexico	N/A
UNINMAR UNAM	Mexico	We could contribute data to GEBCO from UNAM cruises

<i>Q44-47. If your programme has contributed data to GEBCO, which option did you use?</i>		
Q48. Other (please specify)		
Review Group members	County	Comment
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	No hemos aportado datos
GRASP / PERÚ	Peru	None
Portuguese Hydrographic Office (IHPT)	Portugal	
Marine Geohazard/KIGAM/Koreas	Republic of Korea	
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	Not contributors
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

<i>Q44-47. If your programme has contributed data to GEBCO, which option did you use?</i>		
Q48. Other (please specify)		
Review Group members	County	Comment
Brazil	Brazil	
CHILE	CHILE	
China	China	
ECUADOR	Ecuador	
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Data provided to Seabed 2030 Regional Centres
Ministry of Earth Sciences, Government of India	India	Naming of undersea features
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	None
Nicaragua	Nicaragua	not contributed
Peru	Peru	
Republic of KOREA	Republic of Korea	
Romania	Romania	N/A

Q49-50: Do you consider there is any potential possibility that your Programme/Subsidiary Body will contribute to GEBCO data and products?



	Yes	No	no respondent
Series1	23	3	1
Series2	9	2	0

Series 1 : Responses from IOC programmes, IOC Regional Subsidiary Bodie

Series 2 : Responses from Member States, including national agencies engaged in or using GEBCO products

Q51: Please suggest any potential approach to promote and increase the contribution of bathymetric data collected through scientific activities to GEBCO.

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q51:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Capacity building program
Marine and Coastal Research Institute - INVEMAR	Colombia	Virtual meeting with the Head of Laboratory of Information Systems and other representatives of INVEMAR.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	Maybe a virtual meeting with the Oceanographic Institute, but with my presence, as a contact point.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	International initiatives that raise awareness about the importance to release these datasets. For example, with local entities or research programmes that have gathered shallow bathymetry. Probably very fine resolution will be restricted but certain raw data sets can be shared at the end.
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	A better and sounder method for acknowledgment of the data sources, including a DOI Digital Object Identifier (DOI) assignment mechanism for suitably-archived, publishable datasets in the GEBCO compilation or the use of external DOIs created by recognized organizations such as SEANOE in Europe.
INEGI Editor principal proyecto IBCCA	Mexico	events to participate in national forums and conventions that allow us to know the potential of the information that is carried out
Director de información topográfica INEGI	Mexico	subsidized events to participate in national forums and conventions to learn about the potential of information
IODE/MEXICO	Mexico	Organize meetings with National Authorities related to this activities.

Q51:		
Review Group members	County	Comment
Geophysics Institute, National Autonomous University of Mexico	Mexico	The problem that I have seen is that several users do not want to share their bathymetry data due to the fact that they have generated it with funds from external projects, in addition to many times they want to make scientific publications with this data. More collaborations with the IOC should be established that motivate these researchers to share their information.
UNINMAR UNAM	Mexico	virtual workshops and meetings capacity development sessions
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Secretaria de Marina and itCONACYT agreements in México.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	La mayoría de las zonas costeras no se tienen datos (Most of the coastal areas have no data)
GRASP / PERÚ	Peru	There is great interest in collecting bathymetric data, for research, we have a unit with high-tech equipment.
Portuguese Hydrographic Office (IHPT)	Portugal	GEBCO's participation as a partner in regional projects, building specific products for those projects.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	Increasing the undersea naming proposals
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	Not widely known how to contribute, more requests for this to occur, advertise how to get involved, more engagement
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	need a central archive on edited/flagged data
Institute of Oceanography	Viet Nam	bathymetric data collected through scientific activities or project

Responses from Member States, including national agencies engaged in or using GEBCO products

Q51: Please suggest any potential approach to promote and increase the contribution of bathymetric data collected through scientific activities to GEBCO.		
Review Group members	County	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	
China	China	Under sea feature grids will be provided to IHO DCDB.
ECUADOR	Ecuador	TSUNAMI ASSESSMENT
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	Outreach activities to the scientific community
Ministry of Earth Sciences, Government of India	India	Ans: Capacity building programs
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Platform to show surveys carried out and planned surveys. This will avoid duplication in surveys. IHO-IOC to promote contribution of bathymetric data with Member States
Nicaragua	Nicaragua	
Peru	Peru	Through the IHO
Republic of KOREA	Republic of Korea	The process needs to be improved to make it easier to provide data
Romania	Romania	Via EMODnet

Q52: Please suggest any potential needs of capacity-development in relation to GEBCO products from the viewpoint of your Programme/Subsidiary Body.

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q52:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	1. Subsidiary deep water survey 2. Capacity building program
Marine and Coastal Research Institute - INVEMAR	Colombia	Scientific researchers require training and support to show the importance of bathymetric information for most of the research projects, and generate the capacity to acquire, process and generate GEBCO based products.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	DEM development
IBCM, GEBCO since ~1980	Israel	N/A
GEBCO	Italy	Training programmes on seafloor mapping and interpretation.
INEGI Editor principal proyecto IBCCA	Mexico	support for courses and transfer and capacity building for users in Mexico
Director de información topográfica INEGI	Mexico	Financial supports for courses and transfer and capacity building for users in Mexico
IODE/MEXICO	Mexico	Developing ocean mapping products for science, education and general outreach
Geophysics Institute, National Autonomous University of Mexico	Mexico	Before developing capacities, I consider that it is very important to establish collaborations that allow the sharing of data for the improvement of GEBCO products.
UNINMAR UNAM	Mexico	capacity development ocean literacy for high school teachers and students to inspire youth to join cruises and data use to generate maps, models co-design with governmental sectors

Q52:		
Review Group members	County	Comment
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Local capacity building to improve formation of human resources.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Capacitación sobre equipos para levantamiento batimétricos, capacitaciones, actualización de software para levantamiento de datos batimétricos Equipos (ecosonda multihaz) y accesorios (Training on equipment for bathymetric survey, trainings, software update for bathymetric data survey Equipment (multibeam echo sounder) and accessories)
GRASP / PERÚ	Peru	We lack the budget to carry out the data collection work.
Portuguese Hydrographic Office (IHPT)	Portugal	As already mentioned, the increase in the resolution of the seabed model.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	-
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

Q52: Please suggest any potential needs of capacity-development in relation to GEBCO products from the viewpoint of your Programme/Subsidiary Body.		
Review Group members	County	Comment
Brazil	Brazil	To promote webinars about GEBCO cookbook topics.
CHILE	CHILE	
China	China	GEBCO products to be publicized through other UN committee, such as UNGGIM(United Nations Global Geospatial Information Management)
ECUADOR	Ecuador	GEBCO's gridded bathymetric data sets
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	Ans: Capacity development is highly required
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Training on management of bathymetry data & metadata (using GIS platform (arcgis, qgis, arcgis enterprise) + metadata standards)
Nicaragua	Nicaragua	
Peru	Peru	We have being benefited by the GEBCO Capacity building programme, DIPLOMA New Hampshire Bathymetric Course
Republic of KOREA	Republic of Korea	Actively proceeding with capacity-building activities in the IOC / IHO (e-Learning ect.)
Romania	Romania	

Q53: Please suggest any further points to be considered in the review of contributions to GEBCO data and products from the viewpoint of your Programme/Subsidiary Body.

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q53:		
Review Group members	County	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	Support the bathymetric international projects
Marine and Coastal Research Institute - INVEMAR	Colombia	No comments
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	
IBCM, GEBCO since ~1980	Israel	Keep up the good work of Seabed 2030
GEBCO	Italy	Some of the web services, GEBCO products and portal need some refreshment to make them more user-friendly. Improvements are desirable to obtain quick and easy access to the content; simple, straightforward navigation without many loops into different, but similar pages; make sure navigation links are 100% usable; make it obvious to the users where hypertext is; include Internal Search Functionality.
INEGI Editor principal proyecto IBCCA	Mexico	resources are required to acquire computer goods and software, since 194 that inegi was endorsed in the IBCCA project we have not received anything and it has been under own resources due to the requirement of the bathymetric information of our users
Director de información topográfica INEGI	Mexico	resources are required to acquire computer goods and software, since 194 that inegi was endorsed in the IBCCA

Q53:		
Review Group members	County	Comment
		project we have received nothing and it has been under own resources due to the requirement of the bathymetric information of our users
IODE/MEXICO	Mexico	Promoting education and training in ocean mapping
Geophysics Institute, National Autonomous University of Mexico	Mexico	Establish partnerships that give collaborators the assurance that the data are shared not be used for purposes that are against the project that generated the data.
UNINMAR UNAM	Mexico	Create a generation of young users inspired to better know their oceans
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	*
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Los levantamientos deben ser coordinados con la institución (INETER) a fin de solicitar las autorizaciones pertinentes del gobierno de Nicaragua. (The surveys must be coordinated with the institution (INETER) in order to request the pertinent authorizations from the Nicaraguan government.)
GRASP / PERÚ	Peru	At the moment we do not have any
Portuguese Hydrographic Office (IHPT)	Portugal	Find a way to mandate international registration of all hydrographic surveys on the ocean as a prerequisite before any further requests to the countries in whose waters such surveys occurs.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	-
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	
Institute of Oceanography	Viet Nam	

Responses from Member States, including national agencies engaged in or using GEBCO products

Q53: Please suggest any further points to be considered in the review of contributions to GEBCO data and products from the viewpoint of your Programme/Subsidiary Body.		
Review Group members	Country	Comment
Brazil	Brazil	No proposals
CHILE	CHILE	
China	China	Improving the data quality assessment reports.
ECUADOR	Ecuador	REMOTE AVAILABILITY
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	
Ministry of Earth Sciences, Government of India	India	Legacy data and spot soundings in different scales/datums to be considered for GEBCO data.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	No comments
Nicaragua	Nicaragua	
Peru	Peru	The opportunity to provide data is not closed, it seems an issue that must be dealt with bilaterally, since the needs are diverse.
Republic of KOREA	Republic of Korea	none
Romania	Romania	

Q54: What is the single greatest recommendation you would like GEBCO to consider in order to improve the success of its provision of scientific information to you or stakeholders?

Responses from IOC programmes, IOC Regional Subsidiary Bodies and others

Q54:		
Review Group members	Country	Comment
Naval Hydrography Service (SHN)	Argentina	-
OTNDC	Canada	
Dirección General Marítima DIMAR CIOH	Colombia	GEBCO must work together with CSB WG IHO.
Marine and Coastal Research Institute - INVEMAR	Colombia	Make more evident the need of support and commitment of official institutions to provide better information that allow new discoveries for science. And offer a series of seminars that strength the knowledge about bathymetry, acquisition techniques and results.
Danish Hydrographic Office	Denmark	
Navy of Ecuador	Ecuador	You should create a network with former GEBCO students. We can be a "bridge" between our organization and GEBCO.
ICG/NEAMTWS Working Group 1 - Hazard Assessment and Modelling	France	
Working Group on Hazard Assessment for the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)	ICG/CARIBE-EWS	Access to any data collected for shallow water regions, not just the gridded bathymetric products.
IBCM, GEBCO since ~1980	Israel	Find 3+ billion dollars to support Sail Drone/ Ocean Infinity and other mass mapping missions. These quantities of money are frittered away every week on projects of far less importance to man-kind.
GEBCO	Italy	Improve the metadata format and catalogue.
INEGI Editor principal proyecto IBCCA	Mexico	Mandatory actions before the ICO and IHO to regulate the information of the hydrographic surveys of ships to deposit and generate better bathymetric data in NODCs, today more with the use of UAS
Director de información topográfica INEGI	Mexico	

Q54:		
Review Group members	County	Comment
IODE/MEXICO	Mexico	Encouraging the mapping of areas that are insufficiently surveyed
Geophysics Institute, National Autonomous University of Mexico	Mexico	Increase contact with end users, both for the detection of needs and for the establishment of collaborations for data sharing that help improve GEBCO products.
UNINMAR UNAM	Mexico	The inherent value of adding new data, involving new expertise and addressing omissions
CENDO / Sec. Relaciones Exteriores / MEXICO	Mexico	Integration of coastal data information system.
Nicaragua/Instituto Nicaragüense de Estudios Territoriales	Nicaragua	Mantener las coordinaciones con el enlace Nacional (INETER) para gestionar las autorizaciones pertinente ante la Presidencia. (Maintain coordination with the National Liaison (INETER) to manage the pertinent authorizations before the Presidency.)
GRASP / PERÚ	Peru	Have a product dissemination program that reaches the users' knowledge.
Portuguese Hydrographic Office (IHPT)	Portugal	GEBCO should be the global data center that brings together all the organizations/institutions that make information available at regional level. In this regard, we recommend greater coordination with those organizations (e.g. EMODNet, SEABED 2030, etc.) so that the products made available have the same sources/resolution, i.e. that they are a common solution.
Marine Geohazard/KIGAM/Koreas	Republic of Korea	High resolution and correct bathymetric data
GlobalHAB	Spain	
Centre for Environment, Fisheries and Aquaculture Science	UK	availability and promotion of WFS and APIs
NOAA Pacific Marine Environmental Laboratory	United States	
Scripps Institution of Oceanography/USA	United States	have a mission statement that says the ultimate goal of GEWBCO is to have all sounding data free and open just like GNSS data or climate data
Institute of Oceanography	Viet Nam	improve the success of its provision of scientific information of data depth, image, resolution, format, popular format for users

Responses from Member States, including national agencies engaged in or using GEBCO products

Q54: What is the single greatest recommendation you would like GEBCO to consider in order to improve the success of its provision of scientific information to you or stakeholders?		
Review Group members	County	Comment
Brazil	Brazil	Improve spatial resolution on the GEBCO's gridded bathymetric data sets in the South Hemisphere areas
CHILE	CHILE	
China	China	It is recommended GEBCO awareness training course to be organized to increase the visibility of GEBCO data and products. For example, NMDIS would like to seek the possibility of hosting that through IOI-China Regional Center for Western Pacific and OceanTeacher Global Academy (OTGA) RTC-Tianjin.
ECUADOR	Ecuador	LOOK FOR SHALLOW WATER BATHYMETRU PROJECTS
National Institute of Oceanography and Fisheries - Egypt	Egypt	
IOC Working Group on User Requirements and Contributions to GEBCO Products	Germany	An increase of data coverage
Ministry of Earth Sciences, Government of India	India	Update geomorphological features from published literatures.
Kazakhstan	Kazakhstan	
Republic of Mauritius	Mauritius	Better promotion of data and products (specially when updated)
Nicaragua	Nicaragua	speed up the generation of high resolution bathymetry data for areas near the coasts
Peru	Peru	Please consider that we are a naval institution and our dealings with stakeholders business are limited. The cooperation received through your Capacity Building programme always was well known appreciated.
Republic of KOREA	Republic of Korea	It is necessary to consider the contributor's benefits.
Romania	Romania	To approach the coastal areas