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ANNEXES

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1. OPENING OF THE MEETING

1. The Twenty-third Meeting of the joint IOC-IHO General Bathymetric Chart of the Oceans Guiding Committee (GC XXIII) was held at the at the Deutsches Schiffahrts Museum (German Maritime Museum), Bremerhaven, Germany on 19th and 20th June 2006.
2. Those present, in addition to Dave Monahan, the Chairman, were, at least part of the time, Bob Anderson, Etienne Cailliau, Norman Cherkis, Robin Falconer, Chris Fox, José Frias, Guenter Giermann, Hugo Gorziglia, John Hall, Hyun Chul Han, Michel Huet, Colin Jacobs, Kie-Suk Lee, Paolo Lusiani, Ron Macnab, Taisei Morishita, Walter Reynoso-Peralta, John von Rosenberg, Bill Ryan, Hans-Werner Schenke, Shereen Sharma, Steve Shipman, Walter Smith, Karlapati Srinivas, Shin Tani, Lisa Taylor, Albert Theberge, Paola Travaglini, Dmitri Travin, Nataliya Turko, Gleb Udintsev, Pauline Weatherall and Bob Whitmarsh (Permanent Secretary), Kunio Yashima and You Sub Jung.
3. The Chairman began the meeting at 09.04.

2. CONDUCT OF THE MEETING

2.1 Adoption of the Agenda

4. The Chairman presented an Agenda which was adopted (Annex 1).
5. Capt Gorziglia stated that there were a number of issues, not all in the Agenda, that the IHB wished the Guiding Committee to consider. It was timely to do so because of the quinquennial International Hydrographic Conference (IHC) that would take place in May 2007.
6. First, he reminded the Committee that he had requested a Report from GEBCO to the XVIIth IHC. This was needed by 1st October 2006. If no proposals were forthcoming then the Conference would be unable to consider any resolutions pertaining to GEBCO. The content of the Report should include, names of Chairman and Vice-Chairman, Committee membership, dates of meetings, agenda items (main topics discussed), conclusions and proposals for adoption by the XVIIth IHC.
7. Second, IHB was preparing a Work Programme and budget for 2008 until 2012. He reminded the Committee of two earlier requests, in letters dated 21 September 2005 and 27 March 2006, for a spreadsheet of GEBCO's plans and budget. All IHO bodies had been asked to complete this by 1st August 2006.
8. Third, he noted that the IHO was undergoing a restructuring process following the decision at the Third Extraordinary Hydrographic Conference in 2005 to amend the IHO Convention. GEBCO was included in the amended structure (as shown in a slide) together with its relationship with the IBCs. The IHO Capacity Building Committee Chairman had been tasked with the provision of a draft structure to the Inter Regional Coordination Committee (IRCC), under which it had been decided that GEBCO and its Sub-Committees fell. The IHO Strategic Planning Working Group (SPWG) planned to make decisions about GEBCO but needed advice that had been requested by 1st July 2006. Capt. Gorziglia expressed the opinion that GEBCO is not an international organization, but a project under the supervision of the IHO and the IOC, and that the IHO members of the Committee should represent the organization and not themselves as individuals.
9. Finally Capt Gorziglia reported that in May 2006, the SPWG had agreed that the IRCC would

have within its ToR : "Establish, coordinate and enhance the cooperation of hydrographic activities amongst States on a regional basis, and between regions, especially on matters associated with Capacity Building; Promulgation of Radio Navigational Warnings; General Bathymetry and Ocean Mapping, Education and Training, and the implementation of the World-wide Electronic Navigational Chart Database suitable for the needs of international shipping." The draft scheme of the proposed structure was explained.

10. Dr Fox asked why the new structure involving GEBCO omitted to show the IOC. Capt. Gorziglia said that he had met representatives of IOC but was waiting for the Guiding Committee's response. The Chairman responded that IHO could not plan GEBCO's future alone and had to listen to the views of the IOC too. There would be a chance to explore such views shortly when the Committee convened with members of CGOM..
11. Capt. Gorziglia continued that he was concerned about two further issues. First, there was an opportunity to review the Terms of Reference and Rules of Procedure of the Guiding Committee. He advised that GEBCO should adhere to the format of other IHO Working Groups and Commissions. Second, he regretted that the IHB had not been made aware beforehand of the Guiding Committee meeting held at the University of New Hampshire in December 2005. He reiterated that the IHB wanted to work more closely with GEBCO and that there was a need for straightforward communication between the two parties.
12. The Chairman agreed that it was timely to review the Committee's Terms of Reference. On the other hand he did not agree that communications were intentionally poor; he suspected that not all messages were arriving at their destinations because he did not recall seeing some of the letters to which Capt. Gorziglia had referred.
13. Cdr Lusiani interjected that he had been a member of the SPWG and that he was convinced that the Committee had to respond to IHO to strengthen the work of GEBCO. He noted that some Hydrographic Offices did not consider GEBCO as part of the IHO and hence were less willing to collaborate; he considered that there would be better collaboration if GEBCO was more clearly connected to the IHO. He continued that during the restructuring of the IHO all its committees were being reorganised to some degree and GEBCO had to accept that it too had to change. Lastly, he noted that all members of the SPWG had agreed that the IHO and IOC had to work together to reorganise GEBCO.
14. Dr Yashima said that the Committee should respond to the IHO/IOC proposed new structure of ocean mapping but it was important to ensure that any new organisation maintained or improved the efficiency of ocean mapping. He said that the objectives of GEBCO and the IBCs were very different so that any changes had to be implemented with great care.
15. Cdr Lusiani responded by saying that the discussions in the SPWG had not been about the work of GEBCO but about its organisation. The 'modality' of the direction of funding in IHO was changing and GEBCO needed to change to benefit from the new budget arrangements.
16. In answer to a question from Ing. Gen. Cailliau the Chairman acknowledged that time was short but he reminded the Committee that deliberations had been going on for over a year. Capt. Gorziglia reiterated that it was up to the Committee to respond to IHB queries but if it did not it would be extremely difficult for IHO to consider the allocation of resources to GEBCO activities.
17. The Committee then met in closed session. Seven members and the Permanent Secretary were present.

2.2 Joint meeting with CGOM

18. The Committee resumed the meeting in open session together with the following members of CGOM, Guenter Giermann, Werner Bettac, Ron Macnab, Gleb Udintsev, Carlo Morelli and Shi Suixiang plus Dmitri Travin (CGOM Secretariat).
19. The Chairman said that he wanted to continue the discussion of the points raised by Capt Gorziglia before resuming the formal Agenda. He said that he particularly wanted to hear from IOC as GEBCO's other parent body.
20. Dr Giermann, Chairman of CGOM, responded that CGOM is an Advisory Body of IOC with members acting as experts in a private capacity. He said that the job of CGOM is to produce seven International Bathymetric Charts (IBCs) plus four new charts that are being initiated. CGOM reports every two years to the IOC General Assembly at which time the Member States are asked to approve or reject recommendations from the group. CGOM acts as a forum for the exchange of expertise and experience on technical matters to do with the IBCs. It also encourages IOC Regional Bodies to suggest new IBCs. IBCs were always considered to include overlays of other marine scientific parameters besides bathymetry so that they are for the benefit of the whole scientific community. This concept began with the IBCM in the 1950's but was later taken over by the IOC.
21. Dr Giermann continued that the membership of CGOM was determined by the Secretariat and governing body of IOC. It consisted of the Chairmen and Chief Editors of the IBCs as well as the Chairman of GAPA and the Chairman of the GEBCO Guiding Committee. IOC was represented by the Executive Secretary or Dr Travin and the IHO by Capt Gorziglia. The Permanent Secretary GEBCO and Ing en Chef Huet of IHB were also considered to be members. The group works as an open committee and also invites experts as guest members. Dr Giermann stressed that the membership of the group and the organisational structure within which it operated were not matters for the group but were the responsibility of the Science Section of IOC.
22. Dr Giermann then addressed the question of a new structure for CGOM and changes to its Terms of Reference. He referred to the original Terms of Reference which were developed in 1984 and amended in 1997. IOC Member States had felt that CGOM should act as a 'shuttle' for the exchange of bathymetric information between regional groups and the IOC. GEBCO was also mentioned at that time because it was felt that closer cooperation was needed over digital data and the exchange of data with GEBCO and *vice versa*. For this reason the GEBCO Guiding Committee was set up jointly between IOC and IHO. He added that he was aware of the discussions on a new structure for ocean mapping but he considered that as CGOM Chairman he was not supposed to comment on this.
23. The Chairman thanked Dr Giermann for his exposition on CGOM and asked for comments. Dr Falconer asked for clarification as to whom in IOC was responsible for discussing structural changes. Dr Giermann replied that the Executive Secretary and his staff should be discussing such changes with the IHB. Eventually they would have to draft a resolution on any new structure for Member States to consider. This resolution would have to be sponsored by a Member State to the Assembly or Council. The same procedure applied within the IHO. The IOC has about 130 Member States and they all have to agree. The problem in the past had been that UNESCO wanted to produce geomorphological charts different from those which IHO would produce. He noted that geology and geophysics were not in the IHO mandate and therefore problems in determining the membership and Terms of Reference of the GEBCO Guiding Committee were to be expected.
24. Dr Giermann then expressed the opinion that in view of the IOC budgetary problems the Guiding Committee should continue with the present mechanisms until they can be changed while

continuing to discuss the matter at Secretariat level within IOC and IHB.

25. Dr Travin interjected that a new organisational structure had been submitted to the IOC Executive Council two years ago (Resolution 37.5 2004). Only a few Member States had responded, mostly negatively. The question could be raised again at the IOC Assembly in 2007 but it was not up to the IOC Secretariat to decide on the structure because all decisions have to be taken by a consensus of 160 Member States. He continued that although a new structure was not yet approved by the IOC Member States there was an urgent need to modify the Terms of Reference of the Guiding Committee and that the Committee should work on this as soon as possible. In response to a question about time-scales, Dr Travin noted that IOC had to finish its resolutions to Member States by 31st December 2006 in time for the next Assembly in June 2007.
26. The Chairman summarised that there appeared to be two views about the need for new Terms of Reference for the Committee. He said he was hearing that the IOC did not favour too many changes. Dr Travin replied that a lot of clarification was needed. Dr Giermann replied that he was unwilling to discuss the subject further but he did agree that the Committee's Terms of Reference needed to be updated. He suggested that draft Terms of Reference, including membership, should be submitted as Resolutions to the IOC and IHO Member States. He stressed that GEBCO had to remain as an Advisory Group.
27. Cdr Lusiani commented that he understood that a reorganisation of GEBCO was urgently required but he recognised that the deadlines left little time. However, he wondered whether it was possible to present a resolution on the reorganisation at the next IOC Assembly. Dr Travin confirmed that this would be possible.
28. Capt Gorziglia noted that a proposal to the IHO Member States had elicited 18 replies the majority of which said there was a need to improve GEBCO. He was expecting the Committee to provide a response to these comments.
29. Dr Travin said that he did not believe that there was a lack of communication between CGOM and the Committee simply because there were many members in common between the two groups. He was in favour of using existing mechanisms to strengthen cooperation. Dr Giermann commented that the lack of communication seemed to occur in the field. He had heard many scientists complain that they could not get hold of IBC data and IBC people complain they could not get hold of data from the GDA. He also agreed that there was no lack of communication at the level of IHO, IOC and the Committee.
30. The Chairman thanked those who had commented. Capt Gorziglia concluded that the issue of structural changes was less urgent than re-writing the Terms of Reference of the Committee. Dr Travin concurred. Capt Gorziglia added that the IHO deadline established for proposals was strict and determined by IHO's regulations.
31. Dr Schenke asked why there was no link shown to IOC in the organisational diagram presented by IHB. He added that any changes to the Terms of Reference of the Sub-Committees should first be discussed by those committees before the Guiding Committee. He proposed that a Working Group should be set up to discuss the changes. Capt. Gorziglia responded that there was no link to IOC because the diagram was only about IHO but he agreed absolutely that GEBCO was a joint project between IOC and IHO.
32. Ing Gen Cailliau asked if the Committee's new Terms of Reference had to be approved at a high level in IOC and IHO or just by the Committee itself. Dr Giermann repeated that he could not get involved in discussions about structure but he reiterated that a Resolution should be drafted for Member States after discussions with the IOC and IHO Secretariats to which Terms of Reference

and Rules of Procedure could be added as Annexes. It was in order for the Committee to start the discussion. He noted that Capt Gorziglia's viewpoint was rooted in the reorganisation of IHO itself. However, as far as IOC was concerned, the Terms of Reference could initially be very short and be developed later by the two Secretariats.

33. The session ended for lunch. The Committee met in closed session to decide on the objectives and membership of a Working Group to revise the Committee's Terms of Reference. After lunch the Committee reverted to its Agenda.

3. WHAT HAVE WE BEEN DOING?

3.1 Ongoing projects

3.1.1 Sub-Committee on Digital Bathymetry (SCDB).

34. Dr Smith reported on the meetings of the Sub-Committee on Digital Bathymetry held over three days the previous week. The meetings had been attended by at least 27 people including four alumni from the PCOB course at UNH. Highlights had included the success reported by Mr Pharaoh in obtaining shallow-water data from electronic nautical charts and the Science Day meeting. During the Science Day people from 16 countries had heard 17 oral presentations and viewed 16 posters covering topics as diverse as history, web-based data exchange and gravity inversion. Dr Smith said that he hoped to publish the presentations and to organise other Science Days in future. Data had been contributed by eight Hydrographic Offices and it was important now to urgently demonstrate that these contributions had made a significant difference to GEBCO's work. The SCDB had set up a small Working Group to do this and planned to distribute its results in an IHO Circular Letter and also in GEBCO's report to the IHO in 2007.
35. Dr Smith continued that the GDA grid, and patches to the grid, were now available over the internet. He reported that the SCDB had set up a Working Group to investigate data exchange portals and web-based services. The question of whether GEBCO should provide a one-stop shop for bathymetry was a question for the Guiding Committee. The SCDB had also discussed how raw or detailed GEBCO data holdings should be. Regarding the nature of the next grid for the GDA, some users were satisfied that it was based on 25-year old soundings whereas others wanted higher resolution bathymetry near coasts. The SCDB also discussed whether in future the grids should be fixed or variable and the size of the grid. To an extent this depended on the resources available.
36. Dr Smith concluded that three actions were required,
- i. to demonstrate that ENCs do provide valuable input to GEBCO
 - ii. to set up a Working Group to investigate the information technology implications of any new grid
 - iii. to revise the 1 arc-minute grid and future grids.
37. He stated that the SCDB had no clear recommendations to make to the Guiding Committee.
38. Finally Dr Smith commented that the SCDB's Terms of Reference were too detailed and prescriptive in mentioning scales, grids and contours because modern digital products can be easily produced at any scale and in any form. He regarded the SCDB as a group of experts who were making progress on difficult technical problems and who needed to ignore the limitations of the past. Questions remained as to how much detail to include in future grids, whether copyright considerations concerning the GDA inhibited the submission of data to NGDC and to whether GEBCO properly understood its customers and audience.
39. ***3.1.1.1 Report of the Bathymetric Editor.*** Dr Smith noted that the Bathymetric Editor had

reported at length to the SCDB and that highlights had already been given to the Committee.

40. **3.1.1.2 Report of the Digital Atlas Manager.** Dr Smith noted that the Digital Atlas Manager report had already been given to the SCDB. It was agreed that no further report was needed.
 41. **3.1.1.3 Shallow water bathymetry.** The Chairman noted that this item had already been covered by the SCDB report.
 42. **3.1.1.4 Grid.** The Chairman noted that this item had already been covered elsewhere.
- 3.1.2 *Sub-Committee on Undersea Feature Names (SCUFN).***
43. Dr Schenke reported that in the last year SCUFN had met on 3-6 October 2005 in Monaco and that Minutes were available from a link on the GEBCO web site. The SCUFN XVII was attended by 9 members, the Secretary (Ing en chef Michel Huet), the ACUF Secretary Mr Trent Palmer, as advisor, and four observers. At this meeting 112 proposed names had been considered of which 57 had been accepted, 15 rejected and 6 were put in reserve. The meeting had resulted in 52 actions for all SCUFN members which reflects the high workload on the committee.
 44. He noted that a request for travel funds, to support the attendance of IOC committee members, had been sent to IOC in December 2005 but he still awaited a reply. New Terms of Reference were formulated by an ad-hoc group of SCUFN members and will finally be discussed at SCUFN XIX following the current Guiding Committee meeting. Currently, there was no limit on the membership of the committee but he was attempting to strike a balance between IHO (presently 7) and IOC (4) members. The IOC had proposed Dr Hyun-Chul HAN from the Republic of Korea as a new member and, following formal approval of his candidature by the GEBCO Guiding Committee, Dr Schenke welcomed him to the committee.
 45. Dr Schenke continued that there were some items of business left over from earlier SCUFN meetings which were nearly executed at SCUFN XVIII. Six undersea features proposed by NIWA from their 'Gazetteer of Seafloor Features in the New Zealand Region', and documented on bathymetric charts, were approved by correspondence. There had not been time to consider some feature names that had been proposed in St Petersburg (2004). The Committee is continuing to harmonise their own and ACUF's Gazetteers of undersea feature names. Work at NGDC was proceeding well on developing a web-based map interface and an on-line proposal form already existed in different languages for the submission of new feature names to SCUFN. The new IHO/IOC GEBCO Gazetteer Viewing software is operational. Placement of undersea feature names on GDA-CE maps was developed at the BODC and is available for testing. 73 unnamed seamounts had been identified in the Central Pacific Ocean. They will be verified with the help of predicted bathymetry. Rules were being set up for the transliteration of names in the Cyrillic alphabet. Dr Schenke reported that Mr. Trent Palmer had made a presentation on geographical names at the ABLOS Conference in October 2005 in Vienna. The committee was looking into publishing the guidelines on feature names in IHO Publication B6 in Russian and Japanese. Dr Schenke concluded that it was absolutely necessary that SCUFN should meet annually.
 46. The Chairman thanked Dr Schenke for the progress that had been made by SCUFN, particularly on technical matters. The Chair reminded the meeting that, by its own rules, SCUFN can consider names only if they are outside waters under the jurisdiction of states. He also drew the meeting's attention to Rule I.E that stated that "In the event of a conflict, the persons and agencies involved should resolve the matter."
 47. The Permanent Secretary asked how SCUFN was going to meet in future and whether SCUFN wished to combine its meetings with those of the Guiding Committee. Dr Schenke replied that SCUFN preferred to meet immediately before the GC and not separately.
 48. Dr Hall asked whether the bathymetry that accompanied successful requests for approval of feature names was passed on to the gridgers. Dr Schenke replied that this was not in SCUFN's

Terms of Reference but that it could be suggested. Ms Taylor noted that all accompanying documents could now be found on the web (<http://www.iho.shom.fr/> > Committees > SCUFN > Document List). The Chairman noted that the Bathymetric Editor could therefore obtain the bathymetry to which Dr Hall had referred.

3.1.3 Nippon Foundation/GEBCO Training Project.

49. Dr Falconer, Chairman of the Project Management Committee, informed the Committee that two PMC meetings had been held in Bremerhaven as well as intersessional meetings. Normally the committee aimed to convene in December at UNH to meet the current intake of students. After giving a brief history of the project and its beginnings he noted that 7 students had been trained in Year 1 (2004-2005), five in Year 2 and six students were expected to start Year 3.
50. The PMC had noted a trend away from candidates with university backgrounds, and towards backgrounds in hydrographic offices, and hoped that a balance could be restored. Dr Falconer continued that those present could help with recruitment by spreading news of the PCOB course by word of mouth. It had also been difficult to find data for the students to work on for their mapping projects. The committee had had very useful meetings with the alumni in the last few days.
51. Dr Falconer noted that the Nippon Foundation was expected to fund a fourth year of the PCOB course but they were also looking for some new aspects and changes.
52. Dr Travin congratulated GEBCO on its achievement in running the course at UNH but asked why, if the IOC Secretariat was one of the parent organisations, it was not involved in the selection of students. Dr Falconer replied that neither IOC nor IHB had been formally involved. Mr Monahan, who made the initial selection of the students, was a faculty member of UNH and the Project Manager acting on behalf of GEBCO. It was appropriate for him to make the selection because the candidates had to meet UNH criteria. The final selection was made by UNH, Mr Monahan and a representative of the Nippon Foundation, who had the final say. Dr Travin repeated that he thought IOC should have been involved.
53. Capt Gorziglia said that he thought that it was fortunate that most candidates were from Hydrographic Offices because that ensured that their training would be exploited. He then announced that the Hydrographic Office of Japan and the IHB had been in contact informally with the Nippon Foundation about setting up another project which aimed to build capacity at a more basic level to improve safety to navigation. He reported that Mr Unno (NF) had suggested that the two projects should be combined but Capt Gorziglia said Mr Unno needed to realise that the objectives were different. The IHO wanted to bolster countries currently without a Hydrographic Office. He suggested that the UNH alumni could even be used as instructors for this purpose.
54. Dr Falconer noted this interesting idea and said that the PMC had already talked about the alumni taking on a training role. He asked Capt Gorziglia what connections existed between his proposed project and the human capacity building aims of the IOC. Dr Travin replied that many such connections existed in the fields of tsunami studies, inundation maps etc.
55. Dr Udintsev drew attention to the importance of quality control of data. He emphasised that it was just as important to have people well trained in marine geology and geophysics, as well as hydrography, especially where data were sparse. In his view, teaching hydrography was not enough and neither was using predictive bathymetry a solution. He asked what was the objective of the Nippon Foundation in funding the course at UNH. He said he was concerned that GEBCO would repeat the mistakes of 40 years ago. He said that he wanted to ensure that the students had a good geomorphological understanding of the seafloor. There was a need to improve the global coverage of bathymetry as well as ingest detailed surveys. Dr Falconer assured Dr Udintsev that the students did indeed get training in sparse data mapping with some emphasis on geomorphology.

3.1.4 Finance.

56. The Permanent Secretary gave a brief report on the status of the two accounts held at the University of Southampton on behalf of GEBCO (Annex 2). The first is the Southampton GEBCO Fund, which is administered by Southampton University. The second is the Nippon Foundation Fund, also administered by Southampton University, which pays for the course run at UNH.
57. Finally, the Permanent Secretary reported that the IHB GEBCO Centenary Fund, which had been administered by the IHB, was closed in October 2005 with a small balancing loss which was covered by the IHB.

3.1.5 Funding.

58. Dr Hall reported that the Finance Working Group had been inactive in the past year. The Margaret Kendrick Blodgett Foundation had donated \$20k towards the publication of the new World Map. He reported that he had also given \$25k in a contract with UNH to fund Mr Cherkis to conduct a data scouting visit to the SW Pacific in October 2006. The Chairman thanked Dr Hall for his generous contributions.

3.1.6 Regional issues.

59. Mr Macnab reminded the Committee that he had been asked in Aguascalientes in 2005 to coordinate regional mapping but he had not been given any Terms of Reference. He showed his concept of the world ocean divided into seven regional areas which were, or would be, covered by the IBCAO, IBCSO, IBCNA and the IBCSA and eventually by maps of the Indian Ocean and the North and South Pacific Ocean. He said that he continued to recover data from Dr Fisher's maps of the Indian Ocean. There was strong interest in a new map of the North Atlantic but fewer resources were available elsewhere in the world.
60. Capt Gorziglia reported that the latest meeting of the IBCSEP had been held in Guayaquil, Ecuador but the chart had yet to be printed. He stated it was still being worked out how to best exchange data between countries in the same region. No data had been received at the IHB. Dr Travin regretted that the Chief Editor of the IBCSEP, although invited, had not attended CGOM. The Chairman added that one of the UNH alumni was a member of IBCSEP and had already produced one map sheet in the area. Mr Macnab commented that this illustrated how important it was for ocean mappers not to work independently. In answer to a question about whether there was a single coordinator for each sheet in his proposed world scheme he replied that he envisaged a Regional Team who would have ownership of a digital database rather than a single regional map.
61. Dr Frias informed the Committee that the IBCCA Editorial Board had last met in May 2006. They were in the process of converting their data into digital form; 13 out of 16 sheets were now digital. Sheets 1-10 and 1-16, the responsibilities of Venezuela and Columbia, remained to be compiled. They were working with Mr Cherkis and hoped to finish by the end of 2006. He added that Cuba would buy a multibeam system in 2007. He promised to update the IBCCA web pages, to circulate a CD and to print a brochure to show the progress that had been made [**Action Dr Frias**]. He concluded that, although the original intention had been to print a set of maps, efforts were now being concentrated on producing digital files. These would be in S57 format and should lead to the provision of new products.
62. In answer to a question from the Chair, Dr Travin reported that eight sheets of the IBCEA had been printed but then budgetary problems had stopped work three years ago. Attempts were being made to finish the job with the help of the Spanish and Portuguese Hydrographic Offices.
63. Finally Dr Hall mentioned that now he had published a book on the Levant (Eastern Mediterranean) he intended to return to working on the IBCM with a smaller grid size.

3.2 Mapping projects

3.2.1 GEBCO World map.

64. Mr Anderson recalled that Dr Jakobsson had proposed, in December 2004, the publication of a printed World Map based on the GDA as a project for PCOB students. As a result two UNH/NF/GEBCO students, Hugo Montoro and Abubakar Mustapha, had worked in Stockholm in the summer of 2005. The Editorial Board had met in April 2006 to finalise the map. The plan was to print 5000 paper copies and 5000 laminated copies but the means of circulation had still to be worked out. A draft version was on display and Mr Anderson sought the comments of those present. He noted that the colours on the proof copy were not ideal, because of deficiencies in the printing process, but was sure that this could be rectified. Dr Fox offered to help with the distribution.

3.2.2 North Atlantic map.

65. Mr Macnab noted that the North Atlantic was covered by a dense network of soundings. Mr Ben Hell, a PhD student in Stockholm University, was combining data sets and using them as a test bed for new software tools that he was developing. The HDNO had indicated where the Russian Navy could contribute to the project. Mr Anderson was attempting to extract soundings from the US Navy. He explained that it was probable that a variable sized grid would be used. Otherwise the same methodology would be used as for the IBCAO. He concluded that the project was still in its infancy.
66. Mr Anderson added that, although the US Navy appeared to be receptive to declassifying some data, which might be provided in a decimated form, there was a need to better specify the project and to obtain the endorsement of the IOC as a means of helping with data release. Dr Travin responded that although there was presently no formal IOC endorsement, because of a lack of funds, the Executive Secretary could write a letter of support. Mr Anderson responded that, although this would be helpful, the project had to push ahead regardless to make use of the PhD student.
67. Mr Macnab pointed out that both Stockholm University and CCOM, UNH had offered to provide a base from which the project could operate. Dr Falconer said that he realised the advantage of having official support for such a project but it already lay within the remit of GEBCO. He suggested that the project should be endorsed by the Committee with the Bathymetric Editor as the GEBCO link person. Dr Travin objected that the Committee could not formally endorse such a project to which Dr Falconer replied that it was important to be realistic because he knew that the Guiding Committee's support would help. Capt Gorziglia then suggested that IOC and IHO Member States be involved. The Chairman said that the bottom line was to enable North Atlantic data to be released. It was obvious that a huge number of organisations perceive GEBCO to be an entity in its own right. He concluded the Committee had to be realistic and that it was the perception in the outside world that mattered and not the bureaucratic procedures involved.

3.2.3 GOMaP.

68. The GOMaP project was briefly discussed. The Permanent Secretary reported an exchange of emails that he had had in January 2006 with Dr Vogt, originator of the GOMaP project, in which Dr Vogt had suggested that 'One way to keep the [GOMaP] concept alive and international policymakers/politicians apprized is for GEBCO to create even a half-time position, and, much cheaper until a real program gets launched, sponsor a workshop to follow up on the one we had in Mississippi in 2000 --which was largely US, with three UK [and two Canadian] representatives but no other nations.'
69. Dr Hall thought that the goals of GOMaP were valid and that they should be included in GEBCO's vision. Dr Fox noted that GOMaP was a very ambitious project and thought that GEO/GEOSS provided a better model to achieve the same ends. Capt. Theberge noted that there were occasions when GEBCO, IOC and IHO could encourage such work. For example, GEBCO

could endorse opportunities to collect data along routine annual tracks to and from survey areas. Dr Hall replied that that had been one of the conclusions of SCOR Working Group 107. Mr Macnab reported that he had reviewed 30 years worth of BIO cruises and that he had discovered that less than 10% had contributed soundings. Therefore a huge amount of data was being missed.

3.2.4 Nippon Foundation students' map.

70. The Chairman reported that all seven of the Year 1 students had made a map adjacent to their home country for their mapping project. The Year 2 students had elected to jointly produce a map offshore the area affected by the December 2004 tsunami because recently there had been five research cruises to the area but no effort had been made to combine the results. The students had plotted areas with known new multibeam echo-sounder data but had been unsuccessful in obtaining the data from the recent cruises and he asked for suggestions to free up its release.

3.2.5 Distribution.

71. Ms Weatherall reported that about 200 copies of the GDA CDs had been distributed by BODC per annum over each of the last three years.
72. ***3.2.5.1 Marketing and GDA licenses.*** There was no discussion of this Agenda item.
73. ***3.2.5.2 Issue of a new GDA.*** There was no discussion of this Agenda item.
74. ***3.2.5.3 Launching the GDA grid on the internet.*** Ms Weatherall reported that BODC had recently made the GDA grid freely available over the internet. Dr Fox asked how many people were downloading the grid. Ms Weatherall replied that it was too early to tell but all downloads were logged.
75. ***3.2.5.4 Mirror sites.*** There was no discussion of this Agenda item.
76. ***3.2.5.5 Copyright and charging for GEBCO products.*** There was no discussion of this Agenda item.

3.3 Recent projects

3.3.1 Tsunamis and GEBCO.

77. There was no discussion of this Agenda item.

3.3.2 SCOR proposal.

78. The Committee decided not to proceed with this item for the time being.

3.3.3 GEOSS/GEO.

79. There was no discussion of this Agenda item.

3.3.4 National Geographic Maps.

80. Dr Smith reported that he was the most recent point of contact with NGM and that he and the Chairman had had a meeting on the subject. He stated that he was unsure whether NGM was the best channel for publishing the new World Map.

3.3.5 Google.

81. Dr Smith reported that Google had still to decide on the future of Google Ocean and that GEBCO had still to address some technical issues. Dr Fox was the GEBCO contact with Google.

4. PEOPLE WHO HAVE BEEN DOING IT

4.1 Guiding Committee membership

82. The Chairman reminded members that Dr Loughridge had decided to resign in the intersessional period.
83. Dr Udintsev remarked that the recent letter to members from Meirion Jones, which had announced his own retirement from the Committee, had made a strong impression on him because Dr Jones had made a very important contribution to GEBCO. Dr Udintsev said that he thought that, in the unfortunate circumstances surrounding his appointment, GEBCO should make a formal apology to Dr Jones. The Chairman noted Dr Udintsev's concerns but responded that Dr Jones had been inactive in GEBCO affairs for the last four years and had mentioned his desire in the letter to 'move on'. The Secretary said that he would write to Dr Jones on behalf of the Committee **[Action Permanent Secretary]**.
84. The Chairman also noted that Dr Jones had been an IOC-sponsored member and asked Dr Travin how he would be replaced. Dr Travin replied that normally Member States would be asked to propose candidates. The Chairman responded that GEBCO would be very pleased if Dr Jakobsson were proposed. Dr Travin thought this an excellent idea and that the appropriate Swedish representative should write formally to IOC.
85. Cdr Shipman noted that there had been a specific action on the Permanent Secretary, after the Aguascalientes meeting in 2005, to inform the Parent Bodies of the Committee's decision to ask Dr Fox to join the Committee in an ex-officio capacity. Subsequently the IHO had nominated Dr Fox as one of their own members. The Permanent Secretary noted the confusion that this had caused and informed the Committee that subsequently he had been expressly asked by the Chairman not to proceed with the action on him. The Chairman added that he was unwilling to review action items from previous meetings because he believed it interrupted the flow of the Agenda to which Mr Macnab responded that he considered it important to review actions if only to monitor progress.
86. Dr Udintsev returned to his own situation as a member and his imminent retirement from the Committee. He reminded the Committee that he was now 'rather old' and said that his association with GEBCO had been one of the brighter episodes in his life. From childhood he had been interested in the oceans but the outbreak of World War II had blocked this. He recalled that he had first gone to sea on a scientific expedition in 1947. He had completed a PhD on the Sea of Okhotsk and then led a geomorphological group working in the NW Pacific. At this time he had developed a close working relationship with Bruce Heezen and others working at the (then) Lamont Geological Observatory. It was through Bruce Heezen that he had been invited to join GEBCO and to work on the first maps of the North Atlantic. Next he became active in building marine geological and geophysical equipment that was used in the Indian Ocean. From this work, in cooperation with GEBCO, grew the idea of publishing Geological and Geophysical Atlases (eventually known as the GAPA Atlases). He later became involved in scientific drilling through the DSDP while Co-Chief Scientist on Leg 38 off Iceland but maintained his interest in map production. Eventually he had to move, after 30 years, from the Shirshov Institute, via the Institute of the Physics of the Earth, to the Vernadsky Institute where he had been for 8 years. He noted that in spite of the Cold War (the post-war era up to the late 1980's), he had had good scientific cooperation with overseas scientists and even now maintained many contacts. He concluded that his career had brought home to him the importance for society of studying the oceans and he hoped that he would still be able to continue to work at sea. Now, spurred by an invitation from Desmond Scott to recount the Russian contribution to GEBCO, he was writing his memoirs which he will present to GEBCO.
87. Finally he recommended Dr Nataliya Turko, with whom he had worked for 30 years, to the Committee. He considered her to be the best Russian candidate to replace him and asked the Committee to support her candidature.
88. The Chairman thanked Dr Udintsev for his great contribution to GEBCO. He said that he too remembered the scientific cooperation that went on during the Cold War and how Dr Udintsev

had fought for the concept of plate tectonics within the Soviet Union. He was glad to hear that Dr Udintsev was writing his memoirs and hoped that this would keep him in touch with GEBSCO for years to come.

89. The Chairman then asked Dr Travin about how to proceed with a replacement for Dr Udintsev on the Committee. Dr Travin replied that the IOC Executive Secretary had already received a letter from the Russian government and that the IOC had approved Dr Turko. The Chairman congratulated Dr Turko on her appointment to the Committee and welcomed her.
90. The Chairman noted that he did not believe that he should be Chairman for ever and stated that he was willing to stand down whenever a successor was in place. Dr Falconer remarked that at present the existing Terms of Reference of the Committee made no mention of how any succession should take place but that the new Terms of Reference would cover this.

4.2 Other appointments

4.2.1 Appointment of new Bathymetric Editor.

91. The Chairman noted the appointment of Mr Jacobs, with effect from January 2006, as the new Bathymetric Editor.

4.2.2 Personality List.

92. The Permanent Secretary explained how he kept the Personality List up to date and passed on updates to the GEBSCO web master at NGDC.

5. WHERE ARE WE GOING?

5.1 Organisational drivers.

93. There was no discussion of this Agenda item.

5.2 Technological drivers.

94. There was no discussion of this Agenda item.

5.3 Societal drivers.

95. There was no discussion of this Agenda item.

6. WHAT DO WE NEED TO DO TO GET WHERE WE ARE GOING?

6.1 Organisational

6.1.1 New Mission Statement.

96. There was no discussion of this Agenda item.

6.1.2. New Strategic Plan.

97. There was no discussion of this Agenda item.

6.1.3 New Terms of Reference.

98. In answer to a question from Ms Taylor, Dr Falconer summarised the current views of the Working Group that has been meeting at lunch and in the evenings. There was a particular problem regarding the structure of ocean mapping and GEBSCO's relationships with IOC and IHO. He stated that both parent organisations welcomed the proposal to bring the IBCs and

GEBCO closer together and the WG might propose that they fell under a single committee. The new Terms of Reference were being drafted, by the end of June, to complement this sort of structure. In the new structure the overarching committee, which would meet at least every two years, was expected to include Sub-Committee Chairmen and representatives from at least NGDC and BODC and it might appoint the Sub-Committees and their members. SCUFN, IBCs and other similar committees would remain. He concluded that the new Terms of Reference would be brief and written in a high-level language with the hope that they would serve for many years to come. They would include annual reporting to the parent bodies, work plans and budgets.

6.1.4 Guiding Committee membership.

99. See Section 4.1.

6.1.5 Role of leaders of Sub-Committees in relation to the Guiding Committee

100. There was no discussion of this Agenda item.

6.1.6 Duties of Sub-Committee on Digital Bathymetry.

101. There was no discussion of this Agenda item.

6.1.7 Other Working Groups.

102. There was no discussion of this Agenda item.

6.1.8 GEBCO Reform: A Time for Action.

103. Mr Macnab gave a presentation which expressed his concerns about GEBCO. He asked whether GEBCO was REAL meaning Relevant (is it doing the right things?), Effective (is it doing it right?), Accountable (is it run by a cabal?) and Legitimate (does it adhere to its institutional mandate?).
104. Mr Macnab said that he considered the keys to future success lay in GEBCO having vision (which was up to the Guiding Committee to formulate), leadership (the leaders should be elected, not self-perpetuating, and with fixed terms) and membership (the Committee needed to make formal decisions and recommendations if it was to influence governments and Member States).
105. He recognised that there was a desire for independence within the Committee but his opinion was that an entirely independent GEBCO would be a retrograde step.
106. Dr Fox said that he agreed with much of the presentation. He asked Mr Macnab for his view of how ocean mapping should be organised. Mr Macnab replied that he thought ocean mapping needed to be broken up into regions. There was a need for more data and for planning guidelines. Dr Fox asked how coordination between CGOM and GEBCO should be improved. Mr Macnab replied that CGOM was already in favour of greater cooperation.
107. Dr Falconer alluded to the Terms of Reference of the Committee and said that it was hoped to produce a new draft by the end of June but this would not address the IBCs and their links to GEBCO. Mr Macnab responded that CGOM had not discussed that subject either because it had no authority to do so. He continued that if GEBCO wanted to address this subject it should discuss it with IOC senior staff. An inconclusive discussion of the structure of ocean mapping then took place with Capt Gorziglia in which it appeared that IHB and IOC had been working to different proposed organisational structures. Dr Falconer concluded that the Committee could consider the structure of ocean mapping after the new Terms of Reference had been agreed.

6.2 Technological

6.2.1 Tsunamis and GEBCO.

108. There was no discussion of this Agenda item.

6.2.2 SCOR Proposal.

109. See Section 3.3.2.

6.2.3 GEOSS/GEO.

110. There was no discussion of this Agenda item.

6.2.4 Grid.

111. See Section 3.1.1.4.

7. HOW DO WE TELL THE WORLD AND EACH OTHER THAT WE ARE GETTING SOMEWHERE?

7.1 GEBCO logo.

112. The Chairman presented six preliminary black and white sketches prepared by Tyra Wells, a commercial artist. The Committee was not enthusiastic about any of the sketches. At the suggestion of the Permanent Secretary the Committee unanimously adopted the logo, which had been prepared by the German hosts of the meeting, as GEBCO's new logo. This was based on the original Centenary logo but with the figures '100' removed. The Committee thanked Ms Wells and also Mrs Jakobsson, who had prepared some other sketches for consideration in Aguascalientes in 2005, for their efforts.

7.2 The GEBCO URL.

113. The Permanent Secretary reported on statistics prepared by Ms Carla Moore of NGDC on the hit rate of the GEBCO web site. Hits varied between 15,000 and 20,000 per month but had shown a steady increase over the last 15 months. Of the resolved numerical addresses 32% were .net or .com, 11% .gov or .edu (i.e. addresses based in the USA). Only hits from UK, Japan, Germany, France, Canada, Italy and Australia exceeded 1%. Hits peaked around 1000 hrs (GMT-7) each day and on Tuesdays each week.

7.3 Outreach.

114. Dr Falconer emphasised the importance of outreach activities. He recalled that GEBCO had once had an Outreach Working Group but the members had been too busy to make any progress. He suggested that the Committee should look for one or more volunteers to report back at the next meeting. Dr Fox noted that he had been a member of the original WG and that NGDC was still willing to assist, as it has done in printing a cut-out-and-paste globe of the world ocean. Cdr Lusiani agreed to lead a revitalised WG [**Action Cdr Lusiani**]. It was also recognised that an effective web presence was essential for GEBCO to reach out to the public and that BODC, as well as NGDC, had a part to play in this.

7.4 Umbrellas.

115. Mr Anderson reminded the Committee that a year ago it had been decided to print the IBCAO map on a set of umbrellas. The minimum number had had to be large to cover costs but even now he had enough requests to place a second order. Orders had to be placed in boxes of 25 and, if ordered by the end of July, would be ready by November 2006. He suggested that a future print run might include Antarctica in time for the IPY.

7.5 GEBCO on other web sites.

116. There was no discussion of this Agenda item.

7.6 'History of GEBCO' book.

117. There was no discussion of this Agenda item.

7.7 Special issue of Marine Geophysical Researches.

118. Dr Hall reminded the Committee that Prof. Peter Clift had agreed to edit a Special Issue of the MGR on bathymetry. Five articles had been submitted, he had written an introduction and the issue had appeared in May 2006. Dr Smith offered a pdf file of the article he co-authored with Dr Karen Marks to any interested persons.

7.8 Editorial Board of Hydro International.

119. The Committee joined the Chairman in congratulating Dr Hall on being elected to the Editorial Board of Hydro International.

7.9 EOS article about GEBSCO and the grid.

120. The Permanent Secretary reported that Dr Goodwillie had volunteered to write an article for EOS about the GEBSCO grid which had just been released over the internet. Dr Smith noted his surprise at this development and felt that there should have been some consultation before going ahead with this project.

7.10. XVIIth International Hydrographic Conference.

121. See Section 2.1.

7.11 IOC 'Heads of Subsidiary Bodies' and 'Executive Council' meetings in Paris.

122. It was agreed that Mr Tani would travel to Paris to represent GEBSCO at the 'Heads of Subsidiary Bodies' meeting.

8. DATES AND PLACES OF THE NEXT MEETING(S)

123. Mr Anderson proposed that it would be appropriate to meet near one of the Earth's poles during the IPY in 2007. Ms Taylor opined that it was helpful for all the Committees/Sub-Committees to meet at the same time. Dr Smith was sympathetic to this idea, and noted that traditionally the Guiding Committee and SCDB had met at the same time, but he stated that he also realized that an independent SCDB meeting might facilitate a smaller, more focused discussion of technical matters.
124. Dr Ryan offered that the Lamont-Doherty Earth Observatory, New York, USA would host the next Guiding Committee and/or Sub-Committee meetings in 2007 or thereafter. Dr Goodwillie would be the local host.
125. Ing. Gen. Cailliau also noted that SHOM/Ifremer were willing to host GEBSCO in Brest, France in 2008. Dr Srinivas informed the Committee that discussions had already taken place regarding hosting GEBSCO meetings at NIO, Goa in 2008. No decision was taken about the venue for the 2008 meetings.
126. The Chairman thanked Dr Ryan for his firm offer of a venue in 2007 and proposed that at least the Guiding Committee would meet at LDEO. Dr Smith said that LDEO was a very attractive venue for the SCDB because of the work and multibeam processing carried out there. Dr Schenke stated that SCUFN would decide on their venue for 2007 during their upcoming meeting in Bremerhaven.
127. The Permanent Secretary noted some timing constraints that Dr Goodwillie had given him regarding a meeting at LDEO and others noted the dates of the International Hydrographic Conference and the IOC Assembly. The conclusion was that the Guiding Committee should meet at LDEO in September 2007.

128. The Chairman asked Ing. Gen. Cailliau and Dr Srinivas to explore possible dates for meetings in 2008 and to report back to the Committee. **[Action Ing. Gen. Cailliau, Dr Srinivas]**

9. CLOSURE OF THE MEETING

129. The meeting ended with Dr Falconer thanking the host of the meeting, Dr Schenke, on behalf of GEBCO. He also thanked Mrs Inge Schenke for looking after the spouses and the excellent team of young helpers who had provided such effective support during the meeting. Dr Schenke in turn thanked the Director of the Museum and his staff for the use of their splendid facilities.
130. The Chairman ended the meeting at 1510.

ANNEX 1

Twenty-third Meeting of the GEBCO Guiding Committee German Maritime Museum, Bremerhaven, Germany 19th-20th June, 2006

AGENDA

1. OPENING OF THE MEETING

2. CONDUCT OF THE MEETING

3. WHAT HAVE WE BEEN DOING?

3.1 ONGOING PROJECTS

3.1.1 Sub-Committee on Digital Bathymetry (Smith)

3.1.1.1 Bathymetric Editor (Jacobs report)

3.1.1.2 Digital Atlas Manager (Weatherall)

3.1.1.3 Shallow water bathymetry

3.1.1.4 Grid (Carron)

3.1.2 Sub-Committee on Undersea Feature Names (Schenke)

3.1.3 Nippon Foundation/GEBCO Training Project (Falconer)

3.1.4 Finance (Whitmarsh)

3.1.5 Funding (Hall/Cherkis). PS Honorarium for 2006 and; Charitable status of GEBCO; Centenary Fund, International Year of Planet Earth and Outreach funds

3.1.6 Regional Issues WG (Macnab)

3.2 MAPPING PROJECTS

3.2.1 GEBCO World Map (Jakobsson Report)

3.2.2 North Atlantic Map (Macnab)

3.2.3 Go MAP

3.2.4 Nippon Foundation students' map

3.2.5 Distribution

3.2.5.1 marketing and GDA licences (Weatherall)

3.2.5.2 issue of a new GDA (Weatherall)

3.2.5.3 Launching the GDA grid on the internet via BODC (Weatherall, Jacobs)

3.2.5.4 Mirror sites

3.2.5.5 issue of copyright and charging for GEBCO products (Weatherall, Jacobs)

3.3 RECENT PROJECTS

3.3.1 Tsunamis and GEBCO.

3.3.2 SCOR proposal.

- 3.3.3** GEOS/GEO (Fox)
- 3.3.4** National Geographic Maps
- 3.3.5** Google

4. PEOPLE WHO HAVE BEEN DOING IT

4.1 GUIDING COMMITTEE MEMBERSHIP

- 4.1.1** Chris Fox.
- 4.1.2** Resignation of Meirion Jones.
- 4.1.3** Other resignations
- 4.1.4** Chair successor

4.2 OTHER APPOINTMENTS

- 4.2.1** Appointment of new Bathymetric Editor
- 4.2.2** Personality List.

5. WHERE ARE WE GOING?

5.1 ORGANIZATIONAL DRIVERS

- 5.1.1** IHB/IOC/GEBCO relationship
- 5.1.2** CGOM Outcomes

5.2 TECHNOLOGICAL DRIVERS

- 5.2.1** Distribution of GEBCO data and products
- 5.2.2** Interoperability
- 5.2.3** Web Map Services
- 5.2.4** Developing GeoMapApp.
- 5.2.5** Customised maps

5.3 SOCIETAL DRIVERS

- 5.3.1** Capacity Building
- 5.3.2** UNCLOS (Tani)

6. WHAT DO WE NEED TO DO TO GET US WHERE WE ARE GOING?

6.1 ORGANIZATIONAL

- 6.1.1** New Mission Statement if needed
- 6.1.2** New Strategic Plan if needed
- 6.1.3** New Terms of Reference if needed
- 6.1.4** GC membership (including no-show/inactive members)
- 6.1.5** Role of leaders of Sub-Committees in relation to Guiding Committee
- 6.1.6** Duties of Sub-Committee on Digital Bathymetry
- 6.1.7** Other Working Groups?

6.2 TECHNOLOGICAL

- 6.2.1** Tsunamis and GEBCO (Smith et al).
- 6.2.2** SCOR proposal (Sharman).
- 6.2.3** GEOSS/GEO (Fox).
- 6.2.4** GRID (Carron).

7. HOW DO WE TELL THE WORLD AND EACH OTHER THAT WE ARE GETTING SOMEWHERE?

- 7.1** Development of a GEBCO logo
- 7.2** GEBCO URL. web site statistics (Whitmarsh)
- 7.3** Outreach
- 7.4** Umbrellas
- 7.5** GEBCO on other websites.
- 7.6** 'History of GEBCO' book.
- 7.7** Special issue Marine Geophysical Researches Volume 27, No. 1, 2006 (J Hall)
- 7.8** J Hall on Editorial Board of Hydro International
- 7.9** EOS article about GEBCO and the grid
- 7.10** IHO Reports to the XVIIth International Hydrographic Conference.
- 7.11** IOC 'Heads of Subsidiary Bodies' and 'Executive Council' Meetings in Paris.

8. DATES AND PLACES OF NEXT MEETING(S)

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ANNEX 2

Report on GEBCO Finances to the GEBCO Guiding Committee 19th-20th June 2006

GEBCO funds are held in two separate accounts which are held by Southampton University, of which one is in dollars and the other in Sterling.

1. Southampton GEBCO Fund (Annex 1)

administered by Southampton University (Project HK997700)

The major part of the income to this fund this year has come from BODC, being the half share of the income from the sale of the GDA-CE CDs.

Expenditure from this account has largely been used to support the attendance of GEBCO members to meetings.

2. The Nippon Foundation Fund (Annex 2)

administered by Southampton University (Project HK997702)

Income to, and Expenditure from, this fund are in US Dollars, but the fund also earns some interest which is paid annually in Pounds Sterling. Therefore a statement is supplied in both \$ and £. Although the Southampton books are held in Sterling the balance, when converted back to dollars, is computed using the same exchange rate that was used to convert dollars to pounds sterling in the first place so that the fund is not exposed to currency fluctuations.

3. The IHB GEBCO Centenary Fund

This fund, which was administered by the IHB, was closed in October 2005 with a small balancing loss which was covered by the IHB.

Summary (including expected income and expenditure)

Southampton GEBCO Fund (as at 19/5/06)	£51,241.35 equiv to at £1 = US\$1.820	\$93,259
Nippon Foundation Fund (as at 19/5/06)	£378,716 equiv to at £1 = US\$1.820	\$689,263
	Total	\$782,522

Bob Whitmarsh,
GEBCO Permanent Secretary
25 May 2006

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ANNEX 3

GEBCO PERSONALITY LIST

(Last Revised 4 September 2006)

JOINT IOC-IHO GUIDING COMMITTEE FOR GEBCO

Dr Robin K.H. Falconer (Vice-Chairman)	Ingénieur général Etienne Cailliau
Lic. José Luis FRIAS Salazar	Dr Chris Fox (Director, IHO Data Center for Digital Bathymetry)
Dr Martin Jakobsson	Commander Paolo Lusiani
Dr Hans-Werner Schenke	Mr David Monahan (Chairman)
Dr Nataliya Turko	Dr Kunio Yashima

SUB-COMMITTEE ON DIGITAL BATHYMETRY (SCDB)

Dr Walter H. F. Smith (Chairman)
Dr Michael Carron
Mr Norman Z. Cherkis
Dr Andrew Goodwillie
Mr Alexis E. Hadjiantoniou
Dr John K. Hall
Dr Michael S. Loughridge
Mr Ron Macnab
Capt. Andrey Popov
Mr William Rankin
Dr Hans-Werner Schenke
Dr George Sharman
Mr Shin Tani

SUB-COMMITTEE ON UNDERSEA FEATURE NAMES (SCUFN)

Dr Hans-Werner Schenke (Chairman)
Dr Galina Agapova
L Cdr Harvinder Avtar
Mr Norman Cherkis
Lic José Luis FRIAS Salazar
Dr Hyun-Chul HAN
Ing.en Chef Michel Huet (Secretary)
Dr Yasuhiko Ohara
L. Cdr. Rafael PONCE Urbina
Lic. W. Reynoso
Capt Vadim Sobolev
Mrs Lisa Taylor
Capt. Albert E. Theberge
Adviser/Observer:
Mr. Trent Palmer
Dr D. Travin

Ad Hoc STRATEGY PLANNING COMMITTEE

Members to be appointed

EDUCATIONAL GDA WORKING GROUP

Dr George Sharman (Chairman)

Dr Michael Carron

Mr Norman Z. Cherkis

Dr. Andrew Goodwillie

Mr Alexis E. Hadjiantoniou

Dr Meirion T. Jones

Dr Michael S. Loughridge

Mr Shin Tani

Prof. Bob Whitmarsh (Secretary)

FINANCE WORKING GROUP

Mr Norman Cherkis

Dr John K. Hall

OUTREACH WORKING GROUP

Dr Robin Falconer

Dr Chris Fox

Dr Andrew Goodwillie

WORKING GROUP ON REGIONAL PROBLEMS

Mr Ron Macnab (Chairman)

Members to be appointed

NIPPON FOUNDATION/GEBCO TRAINING PROJECT MANAGEMENT COMMITTEE

Dr Robin K.H. Falconer (Chairman)

Mr Robert Anderson

Dr José FRIAS Salazar

Dr Martin Jakobsson

Dr Michael Loughridge

Mr David Monahan (Project Manager)

Dr Hans-Werner Schenke

Dr Walter Smith

Mr Shin Tani

Prof. Bob Whitmarsh (Secretary)

NIPPON FOUNDATION/GEBCO TRAINING PROJECT SCHOLARS

Mr Clive Angwenyi (2005)

Dr Srinivas Karlapati (2005)

Lt Cdr Hugo Montoro (2005)

Mr Taisei Morishita (2005)

Lt Cdr Abubakar Mustapha (2005)
Lt Cdr Walter Reynoso (2005)
Ms Shereen Sharma (2005)

GEBCO PERMANENT SECRETARY

Prof. Bob Whitmarsh

GEBCO BATHYMETRIC EDITOR

Mr Colin Jacobs

GEBCO DIGITAL ATLAS MANAGER

Ms. Pauline Weatherall

REPRESENTATIVES OF THE IOC SECRETARIAT AND THE I.H. BUREAU

Dr Dmitri Travin, Intergovernmental Oceanographic Commission
Captain Hugo Gorziglia, Director, International Hydrographic Organization
Commander Steve Shipman, International Hydrographic Bureau

SCIENTIFIC ADVISORS

RADM Christian Andreasen
Dr. David L. Divins
Commander Luis GONZAGA Campos
Ing. prin. Laurent Louvart
Dr Larry A. Mayer
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ANNEX 4

Acronyms

ABLOS	Advisory Board on the Law of the Sea
BIO	Bedford Institute of Oceanography, Halifax, Canada
BODC	British Oceanographic Data Centre, Liverpool, UK
CCOM	Center for Coastal and Ocean Mapping
CGOM	Consultative Group on Ocean Mapping
DSDP	Deep Sea Drilling Project
ENC	Electronic Navigational Chart
EOS	Newsletter of the American Geophysical Union
GAPA	Geological/Geophysical Atlas of the Pacific and Atlantic
GC	Guiding Committee
GDA-CE	GEBCO Digital Atlas – Centenary Edition
GEO/GEOSS	Group on Earth Observations/ Global Earth Observation System of Systems
GOMaP	Global Ocean Mapping Program
HDNO	Head Department Naval Oceanography, St Petersburg, Russian Federation
IBC	International Bathymetric Chart
IBCAO	International Bathymetric Chart of the Atlantic Ocean
IBCCA	International Bathymetric Chart of the Central Atlantic
IBCEA	International Bathymetric Chart of the Eastern Atlantic
IBCM	International Bathymetric Chart of the Mediterranean
IBCSA	International Bathymetric Chart of the South Atlantic
IBCSEP	International Bathymetric Chart of the South East Pacific
IBCSO	International Bathymetric Chart of the Southern Ocean
IHB	International Hydrographic Bureau
IHC	International Hydrographic Congress
IHO	International Hydrographic Organization
IOC	Intergovernmental Oceanographic Commission
IPY	International Polar Year
LDEO	Lamont-Doherty Earth Observatory
MGR	Marine Geophysical Researches
NF	Nippon Foundation
NGDC	National Geophysical Data Center, Boulder, USA
NGM	National Geographic Mapping
NIO	National Institute of Oceanography, Goa, India
NIWA	National Institute of Water and Atmospheric Research, New Zealand
PCOB	Postgraduate Certificate in Ocean Bathymetry
PMC	Project Management Committee
SCDB	Sub-Committee on Digital Bathymetry
SCOR	Scientific Committee on Oceanic Research of the International Council for Science
SCUFN	Sub-Committee on Undersea Feature Names
SHOM	Service Hydrographique et Océanographique de la Marine (French Hydrographic and Oceanographic Service)
SPWG	Strategic Planning Working Group, IHO

ToR	Terms of Reference
UNH	University of New Hampshire, Durham, USA
URL	Uniform Resource Locator (unique name of a web site)
WEND	World-wide Electronic Navigational Chart Database
WG	Working Group