

IOC-IHO/GEBCO Guiding Committee XXII

INTERGOVERNMENTAL OCEANOGRAPHIC
COMMISSION
(of UNESCO)

INTERNATIONAL HYDROGRAPHIC
ORGANIZATION



General Bathymetric Chart of the Oceans (GEBCO)

Twenty-second Meeting of the GEBCO Guiding Committee
3 December, 2005

at

**Center for Coastal and Ocean Mapping, University of New
Hampshire, Durham, NH, USA**

IOC-IHO/GEBCO Guiding Committee XXII

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ANNEXES

1. Agenda
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1. OPENING OF THE MEETING

1. The Twenty-second Meeting of the joint IOC-IHO General Bathymetric Chart of the Oceans Guiding Committee (GC XXII) was held at the Center for Coastal and Ocean Mapping, University of New Hampshire, Durham, NH on 3rd December 2005.
2. Those present, in addition to Dave Monahan, the Chairman, were Bob Anderson (guest), Robin Falconer, Chris Fox, Colin Jacobs (Bathymetric Editor), José Frias, Mike Loughridge, Hans-Werner Schenke, and Bob Whitmarsh (Permanent Secretary).

2. CONDUCT OF THE MEETING

3. **2.1 Adoption of the Agenda.** The Chairman presented an Agenda which was adopted (Annex 1).

3. ROLES AND DUTIES

4. **3.1 Bathymetric Editor.** The Chairman introduced Mr Jacobs who, following the resignation of Mr Hunter at the Aguascalientes meeting in July, had agreed to take on Mr Hunter's role. The Chairman reported that after some initial correspondence he had visited the National Oceanography Centre, Southampton in October 2005 and had met Mr Hunter's Head of Division who was very supportive of GEBCO. It had been agreed that Mr Jacobs would take over from Mr Hunter. The Chairman continued that Mr Jacobs was well suited because he had had a lot of international experience. He had discussed new Terms of Reference with Mr Jacobs including the adoption of a new job title to replace that of Bathymetric Editor. Mr Jacobs was willing to travel and even to visit CCOM again if required to work with the students.
5. After visiting Southampton the Chairman said that he and Mr Jacobs had visited the Proudman Oceanographic Laboratory in Liverpool to meet Ms Weatherall and her line manager, Juan Brown.
6. Dr Loughridge commented that he feared that the GC may not have given enough guidance to Mr Hunter in the past and he hoped that the new Terms of Reference would address the issue of how to keep Mr Jacobs fully employed. In answer to Dr Fox, Mr Jacobs confirmed that in principle he would work full-time for GEBCO but he noted that Mr Hunter had felt isolated from the rest of his divisional colleagues so he planned to take part in some contractual, and mostly bathymetric, surveys. When pressed to describe the job as he saw it, Mr Jacobs said that the job needed updating and he wanted to be able to work independently. Dr Fox commented that there were lots of sources of data even if Mr Jacobs should concentrate on Europe alone. He continued that such data would need to be found, quality controlled and then gridded using software such as CUBE. He ended by saying that Mr Jacobs was very welcome to visit NGDC. Mr Jacobs replied that ultimately it was up to the Guiding Committee to decide what he should do.
7. Mr Anderson opined that GEBCO's image could be improved if its officers carried business cards with the GEBCO logo on them.
8. Dr Schenke noted that 10 years ago he had convened a meeting at the Bundesamt für Seeschifffahrt und Hydrographie (BSH) in Germany, attended by Eric Moussa from Ifremer and Mr Hunter, which had been very productive. He suggested that a similar meeting should be held again to review data sources in Europe. The Secretary suggested that such a meeting could be included within the workshop programme of GEBCO's Bremerhaven meeting in June 2006 and could include representatives from Spain, Germany, France, Portugal, the United Kingdom etc. **[Action Permanent Secretary, Dr Smith]**. Dr Schenke continued that CUBE was mainly used in HIPS/Fledermaus to clean up shallow-water data. It needed to be established whether CUBE was suitable for deep ocean data; possibly this was a job for a Nippon Foundation student **[Action Project Manager]**. The Chairman said he agreed and noted that CUBE worked best for regular

datasets. He said he was trying to persuade Brian Calder at CCOM to change the software to include irregular data sets. Dr Fox noted that gridding shallow-water data was a good way to overcome the concerns of Hydrographic Offices because it reduced the resolution of the data. The Chairman noted that Dr Smith was on sabbatical at CCOM until mid-2006. He said that the blending of single-beam, multibeam and altimetry data, perhaps using CUBE, was high on Dr Smith's job list.

9. Dr Falconer returned to the issue under discussion by saying that he saw Mr Jacobs' role as connecting people in GEBCO together. He was pleased that Mr Jacobs had access to some funds from the NOCS but he thought that GEBCO might contribute funds too. He considered that Mr Jacobs had the time and skills to visit and interact with organisations at many different levels. When Dr Schenke noted that Dr Hall was funding Mr Cherkis to collect data in the area around Fiji Dr Falconer responded that this should be done circumspectly else confusion could result.
10. Mr Anderson said that he expected Mr Jacobs to assemble new data sets which would be incorporated into the GDA but he was unclear as to who would decide when a new GDA would be issued. Mr Jacobs suggested that he and Ms Weatherall would jointly make a recommendation to the Guiding Committee. After a short discussion the Chairman concluded that it was up to the BODC to decide because they would pay for the CD-ROMs **[Action Ms Weatherall]**.
11. The Chairman read out Mr Jacobs' draft Terms of Reference (Annex 2) which indicated that he should report to the Chairman of the Sub-Committee on Digital Bathymetry. Dr Falconer replied that that was logical if Mr Jacobs' role was only that of a data scout but if he has a wider role then he should report to the Chairman of the Guiding Committee. All agreed that the latter alternative was the correct approach. Dr Falconer continued that it was better to begin with a clearly laid out system of management at the outset. He suggested, and it was agreed, that Mr Jacobs should report to the Guiding Committee on a quarterly basis to begin with, so as to get off to a good start **[Action Mr Jacobs]**.
12. The Chairman concluded by saying that the Guiding Committee wished to extend its grateful thanks to Mr Hunter for his work over some 17 years in support of GEBCO.
13. **3.2 Personality List.** (*logically this item is placed here although in reality it was discussed after Item 4.4*). The Committee discussed inviting Cristian Rodrigo, formerly in the Chilean Hydrographic Department and involved in the compilation of the IBCSEP, to become a scientific adviser. Dr Falconer, who had met Mr Rodrigo, noted that he was now working in the Chilean Antarctic Institute (Instituto Antartico Chileno; INACH) in Punta Arenas. He undertook to write to Mr Rodrigo to invite him to the meeting in Bremerhaven **[Action Dr Falconer]**. Dr Smith enquired whether GEBCO was also making contact with universities in Chile because he had such a contact. If, he enquired, the Year 3 students were to concentrate on the SE Pacific for their mapping project perhaps they would need advisors from that part of the world. He added that he was unhappy at 'inviting' Mr Rodrigo because that made GEBCO sound like a 'closed shop'. Dr Schenke added that he supported better contacts with Chile because he said there were good scientists there.
14. Brief mention was made of Brazil, because a lot of multibeam data had been collected offshore Brazil for UNCLOS purposes, but no contact names were proposed.
15. Dr Falconer also noted that it would be advantageous to involve someone from Australia in GEBCO. Dr Smith said that Tony Withers had worked at CCOM and had also offered to send data to the NGDC on his return to Australia. He agreed to pass this information to Dr Falconer **[Action Dr Smith]**. Dr Schenke reported that Phil O'Brien from Geoscience Australia was keen to supply data to the IBCSO and that a lot of bathymetric data, which had been collected during UNCLOS surveys, existed in grid form.

16. **3.3 GDA Manager's Terms of Reference.** The Chairman noted his concern that often the GDA Manager emailed him to make decisions on marketing matters when he considered that she should be making the decisions herself. Dr Falconer countered that sometimes difficult issues needed to be decided and that the problem was compounded by GEBCO's lack of a consistent view or policy on such matters. The Chairman suggested that a single member of the Guiding Committee should take responsibility for this area of GEBCO's activities but no volunteer was forthcoming. Mr Anderson proposed, and it was agreed, that in Items 3 and 11 of the Terms of Reference that 'gridders' should be replaced by 'Chairman of the Sub-Committee on Digital Bathymetry' [**Action Permanent Secretary**].
17. A short discussion followed of the copyright situation of the GDA and NGDC data; the Chairman pointed out that the gridded data set in the GDA was not copyrighted and that NERC/BODC no longer insisted necessarily on always collecting funds from the sale of the GDA CDs. Dr Falconer proposed, and it was agreed, that Mr Jacobs and Ms Weatherall be asked to write a position paper on the issue of copyright and charging for GEBCO products in time for the Bremerhaven meeting [**Action Mr Jacobs, Ms Weatherall**].
18. **3.4 The Guiding Committee.** The Chairman began the discussion by noting that the Terms of Reference of the Guiding Committee were very old and were no longer always useful. For example, the attendance record of some members was very poor and a mechanism was needed to remove those who did not contribute to the work of the Committee. He stated that his objective was to create a different structure of the Committee with properly elected members and a means to remove non-players. At present the IHO candidate members were nominated by individual Hydrographic Offices and elected by member states in a rather protracted process; on the other hand the IOC members were simply appointed, in a way that was not transparent.
19. Dr Fox reported that he had recently talked to Admiral Maratos, President of IHO, who had indicated that he that he was unhappy with the present structure and that he wished to hold a dialogue with the Guiding Committee to discuss reorganisation. Admiral Maratos had hoped that IHB's proposed plan would lead to a dialogue but it had not. Dr Fox thought that the GC should tell the IHO that the current system of appointing members was too cumbersome; he did not think that the GC had too many members. Dr Schenke wished to include the IOC in any such discussions.
20. Dr Loughridge stated that it was hard to get a balance between the IHO and IOC membership. He considered that the IOC members were more active whereas the IHO members attended fewer meetings and were members for a shorter time. He continued that there was a further problem in the one member/one country rule and that therefore getting the best candidate elected was often left to chance. For example, the UK and the USA are currently represented in the GC but if either member resigned it was not clear from where the replacement would come. He concluded that as far as his personal situation was concerned he would remain a member until the election of the Director of the NGDC as an ex-officio member had been ratified by the two parent bodies. [Dr Loughridge subsequently resigned on 3rd January 2006].
21. Dr Falconer summarised the current situation with the two parent bodies by noting that the IHB had proposed changes in the committee structure of ocean mapping 18 months ago. He had hoped that a dialogue would have then ensued but it had not, partly because of IOC's severe budget problems and the distraction of the SE Asian tsunami and because perhaps the IHO was less interested in GEBCO. However, he continued, the parent bodies' temporary loss of interest in GEBCO was unlikely to continue. He considered that GEBCO should engage with senior persons in both the IHO and the IOC to work out a new way forward with the clear understanding that if this was unsuccessful GEBCO would continue to exist independently.

22. Dr Schenke then disclosed that he had received indirectly a document ('Report from the CBC Chairman on the Structure of the Inter-regional Coordination Committee (IRCC) to the 7th SPWG Meeting', dated 5-7 December 2005) which the IHB had sent, without using the normal Circular Letter system, to all IHO countries and which proposed a new structure for ocean mapping. He did not understand why this had been done without consulting GEBCO.
23. The Chairman noted that this document reverted to the plan presented in April 2004 at the Portovenere meeting. The Permanent Secretary reminded the Committee of the abortive attempt, stopped by a lack of IOC funds, to hold a joint meeting with CGOM in the Autumn of 2005.
24. Mr Anderson said that in his opinion a war of words was futile; what was needed was face to face dialogue. The Chairman agreed. There was a need to distinguish clearly between the IHB (the Secretariat) and the IHO (the Organization). He recalled that when presented in a Circular Letter with the original plan for re-organisation only two member countries of IHO had responded and only one of these had been in favour.
25. The Chairman returned to Dr Falconer's original proposal and asked for the Committee's opinion. Drs Loughridge and Schenke opined that the discussions should be held with Dr Bernal (IOC) and Admiral Maratos (IHB) and Dr Falconer added that GEBCO should come to the table with positive new ideas about the way forward. The Chairman concurred and said that he sensed that the meetings should take place sooner rather than later.
26. Dr Falconer proposed that the GEBCO delegation should consist of the Chairman, Dr Schenke and Dr Fox and that the meeting should take place before the June 2006 meeting in Bremerhaven. Dr Schenke considered that the Chairs of both GEBCO Sub-Committees should attend and that therefore Dr Smith should be included too. The Permanent Secretary suggested that, as his position still had to be ratified by the parent bodies, Dr Fox should attend as Director of the NGDC and not as a member of the GC. It was then agreed that the Chairman, Drs Schenke, Smith and Fox should decide on a plan for the future re-organisation of Ocean Mapping, as it affected GEBCO, and then meet with Dr Bernal and Admiral Maratos before June 2006 **[Action Chairman, Drs Schenke, Smith and Fox]**.
27. Dr Frias then added his own views. He stressed that the GC needed to decide what it wanted to do and to make a plan. It also needed new Terms of Reference and more active members because he considered that the IHO members were ineffective. He suggested that the IHO members should be required to report to the IHO on GEBCO. He regretted that GEBCO had lost its ability to communicate with the IOC. Formerly the Chairman of GEBCO used to report to the IOC General Assembly but this no longer happened. He reported that two weeks ago at an IBCCA meeting he had learnt that the IHO was planning to re-structure itself and that Capt. Gorziglia had said that the IHB proposal to re-structure Ocean Mapping was temporarily in abeyance. Dr Schenke added that GEBCO should not accept any Terms of Reference handed down by either the IOC or the IHO. Dr Frias continued that GEBCO's planning should start from a new Mission Statement, bearing in mind some of Dr Goodwillie's critical comments in Aguascalientes.
28. The Chairman regretted that although the relationship with IOC and IHB used to work well, since the IHB understood that GEBCO, as the representative of more than one international organization, needed freedom to operate in its own way, this had changed in the last two and a half years. He undertook to collate ideas from recent GEBCO meetings with a view to collating a new Mission Statement **[Action Chairman]**.
29. **3.5 Updating the grid.** *(logically this item is placed here although in reality it was discussed after 4.1)* Dr Smith discussed how the GDA grid might be updated. He said that some members of the SCDB wanted to build a 0.1' grid which would include blended soundings and satellite altimetry derived data too. But, he continued, if the grid is then re-contoured the contours will move and

there will be edge-matching problems. The problem was how the work would be shared among the Bathymetric Editor, the GEBCO Digital Atlas Manager, the members of the SCDB and others. He commented that the new Terms of Reference for the Bathymetric Editor made it sound as though the Bathymetric Editor would do all the work himself. Dr Fox replied that GEBCO had a reputation for generating good contours so that, after the GDA has been updated, the revised contours will need to be quality controlled. Dr Smith responded that a more modern approach was required even though he was unsure of the role of the SCDB in this process.

30. Dr Falconer said he realised that the peer-review question had yet to be resolved and suggested that perhaps regional experts could be used. Dr Smith commented that in the past peer-review had not always worked well. The Chairman concluded that the Bathymetric Editor cannot be expected to handle all the peer-reviewing. He said that regional experts had been used in the past, and some of them were still active, but he felt that any one of the Committee could successfully review a data set. He speculated that perhaps a parallel might be drawn with the way that open-source software was constructed (i.e. there was a core of data to which others could add) or that GMT was developed. Dr Smith replied that the required GEBCO model might well be opposite to the way that open source software worked in that bathymetric data would get out of the control of its originator. GEBCO wanted to build something over which those close to the source of the data had control. Dr Fox concurred that 90% of the time some peer-reviewing would be required. Dr Falconer said that he found Dr Smith's comments interesting. Perhaps the psychology of marine earth scientists was different; they wanted to publish papers but not give away their maps. He expressed his frustration that so much data was available yet the 'owners' of the data were not committed to placing it in the public domain. Dr Smith agreed and proposed that GEBCO might only distribute a limited resolution data set while attributing every pixel to, and supplying metadata that mentioned, the original source. Mr Jacobs ended the discussion by noting that most cruises are paid for with public funds so that, in principle, the data should be made freely available.

[Dr Smith joined the meeting]

4. DEALING WITH OTHERS

31. **4.1 GOOGLE.** Dr Smith reminded the Committee that he had held a meeting with Google people after Dr Falconer had set up the initial contact (Earth bathymetry and topography can be seen at maps.google.com and at earth.google.com). During the meeting he had become aware that Google had 'acquired', without his permission, the Smith & Sandwell bathymetry via a private company. He had been able to tell Google about the advantages of GEBCO's GDA versus the Smith & Sandwell bathymetry and had been able to impress on them the advantage of having access to the SCUFN Gazetteer of undersea feature names via Dr Schenke. Dr Smith concluded that the SCDB would be willing to give technical assistance with loading the GDA into a Google web site.
32. Dr Fox responded that he had worked out how the GDA could be loaded into Google Earth assuming that there is no copyright problem with the GDA. He wondered whether GEBCO should ask Google for support in exchange for donating the GDA. He continued that he was in favour of exploiting the link with Google, even though no formal contract yet existed, and stated that he was willing to make the GDA with superimposed names accessible to the Committee within two weeks. Dr Schenke cautioned that the SCUFN database was in need of some maintenance **[Action Dr Schenke]**.
33. Dr Falconer asked how, if Google was made aware that GEBCO needed funds, the financial arrangements would work. Dr Fox replied that he did not know but he had a good channel of communication via NOAA's Head of Strategy Planning who knew a high-level contact in Google. Dr Falconer suggested that Dr Smith should pass all his contact information to Dr Fox including those of Russell Shoji who had been the first phone contact **[Action Dr Smith]**. He continued that Dr Fox should also be given a list of projects that Google might be persuaded to fund **[Action**

Permanent Secretary]. In reply to a suggestion from Mr Anderson that Google should be asked to fund a project to deal with placing feature names on charts at different scales, the Chairman said that this had already been done by others.

34. The Permanent Secretary noted that, to make the maximum impact, it was important that the addition of the GDA to a Google web site should be coordinated with the release of the GDA grid on the GEBCO web site. Dr Fox responded that Google should be told that the GDA is upgraded periodically and suggested that they be asked to pay a subscription.
35. In conclusion it was agreed that Mr Jacobs would collaborate with Ms Weatherall to speed up the release of the GDA grid on the web [**Action Mr Jacobs**] and that the Permanent Secretary would communicate with Dr Goodwillie about his offer to write an EOS article about GEBCO and the grid [**Action Permanent Secretary**].

[Mr Jacobs and Mr Anderson departed]

36. **4.2 National Geographic Maps.** Dr Smith explained the history of this item. He noted that Ms Weatherall had been emailed on 15th March 2005 by Mr Horner of National Geographic Maps (NGM) with a request to buy a copy of the GDA for the internal use of NGM. He had cautioned that NGM was a for-profit business and that he personally had had bad experiences (in 1994 and 1998) with NGM over attribution. He said that he did not know the current state of Ms Weatherall's interaction with NGM. On the other hand he reported that someone from NGM had recently given a keynote talk at UNH and that he and the Chairman had spoken to this person and he had then emailed Ms Weatherall asking her to obtain further information from NGM. Dr Loughridge confirmed that he too had had attribution problems in the past. Dr Falconer said that he was not too worried about attribution in this case but more about the quality of any resulting product and whether funds could be raised from NGM.
37. Dr Schenke remarked that he subscribed to the National Geographic magazine and liked the way they had treated the Antarctic map. He suggested that eventually the magazine might be interested in Martin Jakobsson's new World Map too. He said that the inclusion of feature names from the GEBCO Gazetteer was not a problem. Dr Loughridge noted that the magazine had a circulation of 80 million but he was still concerned about any map being properly attributed to GEBCO. Dr Smith felt that GEBCO might not be best served by NGM because, for example, all their world maps had recently used the *ad hoc* Robinson projection to which the GEBCO GDA, on a Mercator projection, could not be matched quantitatively. He considered that it might be better to wait until Ms Weatherall had more information.
38. The discussion ended inconclusively.
39. **4.3 Membership of GEO.** Dr Fox reported that GEO continued to grow and that GEBCO had been invited to join by submitting a letter (which the Chairman had done in early April 2005). The official GEBCO representatives were himself and Dr Schenke as alternate. He noted that to be a full member one had to attend a meeting but there was no urgency to do so; meetings were held every six months. Dr Fox also said that he had discovered from Adml. Maratos that the IHB were joining and that he knew that IOC was already a member.
40. **4.4 GEBCO web site.** The Permanent Secretary reported on recent changes to the GEBCO web site which included changes to the keywords on the index page, persuading webmasters of more sites to add live links to the GEBCO site and updating the Personality List. The Committee asked the Permanent Secretary to obtain hit statistics for the GEBCO site [**Action Permanent Secretary**].
41. **4.5 Logo.** The Committee considered various suggestions for logos that had been submitted by Dr Jakobsson. After a very short discussion the Chairman cut short the deliberations because he said it

was clear to him that it would be better to engage a professional logo artist rather than to leave the design to a group of scientists.

42. **4.6 Work Plan.** The item was passed over.

5. FINANCES

43. **5.1 Travel and subsistence support by GEBCO.** The Chairman introduced the item by noting the relatively large number of requests for financial support which had been made for both the Aguascalientes meeting and the current meeting. The sums involved threatened to substantially deplete GEBCO's resources and he sought the Committee's advice for a set of criteria to be applied on future occasions. Dr Falconer noted that previously both the IOC and the IHB had provided support on a first come, first served basis. Dr Fox reported that the RIDGE Program [which has a regular annual income from national subscriptions] had a special pot for such requests and applicants were treated equally. Dr Loughridge added that previously employers had also helped out with travel funds but this source had apparently dried up around 2003.
44. Dr Falconer proposed that the Committee should not set up firm rules because inevitably they would not fit every case. Instead he proposed that the Chairman should be assisted in his decisions by the Vice-Chairman and by the Chairmen of the Sub-Committees on Digital Bathymetry (SCDB) and Undersea Feature Names (SCUFN). Dr Smith agreed with Dr Falconer although he saw that there would be a problem with the people who were denied funding. Dr Schenke concurred with the two previous speakers and noted that partial support from GEBCO might be used as leverage to obtain complementary funding from employers. Drs Fox and Loughridge also agreed, provided funds were used to finance just those individuals who would contribute to the discussions, but they were concerned about GEBCO's lack of a regular income with which to cover the costs. Dr Loughridge suggested that the decisions could even be made by others with the Chairman having the last word.
45. The Chairman concluded that in future decisions on travel assistance should be made by the Vice-Chairman and the Chairmen of SCDB and SCUFN together. He proposed that decisions would be passed on to the Chairman who would communicate the results to applicants and the Permanent Secretary would be kept informed throughout. Dr Smith commented that the Chairman should not be the point of contact and that deadlines were also required both for submissions and for the decisions.
46. Finally, the Committee agreed to adopt the following procedure, subject to available funds and to deadlines to be chosen by the Travel Support Sub-Committee,
- a) all applications for support of travel and subsistence to be sent to the Chairman or Permanent Secretary,
 - b) requests to be considered by a Travel Support Sub-Committee consisting of the Vice-Chairman and the Chairmen of SCDB and SCUFN,
 - c) the Sub-Committee decides who to support on the basis of the applicants expected contribution to the meeting,
 - d) the Permanent Secretary informs each applicant of the outcome of their request.
47. The Travel Support Sub-Committee will report annually to the Guiding Committee.
48. It was also agreed that the Permanent Secretary would announce the new arrangements in a Second Circular for the Bremerhaven meetings in June 2006. He should explain that applicants should give the full cost of their travel, although GEBCO would prefer applications for partial funding (assuming that the balance would come from other sources), that individuals should spell out their

expected contribution to the meeting and that employers were expected to pay their employees' travel and subsistence costs in full [**Action Permanent Secretary**].

49. **5.2 Charitable status.** The Chairman raised the topic because he had received an email from Mr Anderson who had located a source of U.S. funds for charitable organisations engaged in education. In discussion Dr Smith pointed out that GEBCO probably needed to seek a legal opinion because as an international and intergovernmental body US tax law, which at first sight might class GEBCO as a charity, might not apply. Dr Fox suggested, and it was agreed, that Dr Hall should be asked to help with this problem [**Action Chairman**].
50. **5.3 BODC.** The Chairman reported on his visit to the Proudman Oceanographic Laboratory (POL) in Liverpool, UK where he met Ms Weatherall, Dr Juan Brown (Head of BODC), Dr Cramer and Mr Jacobs. They discussed whether to sell or give away the GDA. Dr Brown had no problem with providing the grid for free but felt that it was reasonable to request payment for the added value of the GDA on CD-ROM. It appeared that POL was happy to receive recognition for its association with the GDA rather to receive funds. The Permanent Secretary pointed out that sales of the GDA were useful because they provided GEBCO with its only regular source of funds. Dr Smith raised the question of copyright and said that the goal should be to protect the GEBCO 'brand'. In answer to a further question the Chairman stated the GEBCO was getting close to giving away the grid of the GDA for free.
51. The Chairman continued that Dr Cramer mainly works on GEBCO matters in his own time. Dr Falconer opined that he and Ms Weatherall work together on GEBCO affairs as one Full-time Equivalent person. He thought that it was important to keep Dr Cramer involved.
52. Dr Fox stated his intention to visit BODC. He said that he had also met Dr Carbotte who was Dr Goodwillie's manager at Lamont-Doherty Earth Observatory. The Chairman suggested that either Dr Carbotte or Dr Bill Ryan, who was in the same group, should be invited to come to the Bremerhaven meetings. [**Action Dr Fox**]. Dr Loughridge added that Steve Miller, Dr Carbotte's opposite number at Scripps Institution of Oceanography, who had had a lot to do with bathymetry over the years, might also be a good contact.

6. BUSINESS WITH IOC AND IHO

53. **6.1 IHO 5-year Work Plan.** It was reported that the IHO had sent out a Circular Letter requesting input to the next Work Plan by June 2006.
54. **6.2 IHO Circular Letter on a Hydrographic Dictionary Working Group.** The idea was suggested, and rejected, that GEBCO should nominate a representative on the Working Group.
55. **6.3 Meeting CGOM in 2006.** The Chairman noted that the Guiding Committee had been unable to meet CGOM in 2005 because of IOC's financial problems and lack of travel support. Dr Falconer noted that it would be important to meet CGOM in June 2006 even if senior GEBCO people met Dr Bernal (IOC) and Adml Maratos (IHO) beforehand. Dr Schenke noted that it was difficult to communicate with Dr Giermann, Chairman of CGOM. He continued that GEBCO should be prepared to combine with the IBC's although it was important to ensure that SCDB's activities remained separate from the IBC's.
56. **6.4 Update on the GEBCO proposal for a SCOR Working Group.** Dr Schenke informed the Committee that SCOR Executive Committee remained in favour of bathymetry, after the GEBCO proposal had been rejected, because it had set up a SCAR/SCOR Working Group on the Southern

Ocean of which he was a member. After a short discussion it agreed to raise the question of a revised proposal at the Bremerhaven meeting [**Action Permanent Secretary**].

57. **6.5 Future support of GEBCO by the IOC.** The Chairman reported that there was not much sign that IOC was going to continue to support GEBCO. He was still awaiting a reply to a fax he had sent on the subject [subsequently it appeared that the fax had not reached Dr Bernal]. Dr Schenke said that he too had sent a letter to Dr Bernal and was awaiting a reply; he promised to copy the letter to the Committee [**Action Dr Schenke**]. The Chairman said he would write again [**Action Chairman**].
58. A discussion followed about the IOC's involvement in a large programme for capacity building relevant to tsunamis in Indian Ocean coastal areas. Dr Schenke was concerned that GEBCO had not been consulted and essentially had been ignored; IOC should be asked about this too. Dr Loughridge thought that part of the explanation lay in a big gulf in IOC between the tsunami and Ocean Mapping Programmes. Dr Fox added that he had been told that deep water bathymetry was not so important for tsunami modelling.
59. **6.6 Permanent Secretary's Honorarium.** The Chairman outlined the present situation whereby, although the IOC had paid the Permanent Secretary a small honorarium in the past, it had reneged on this payment in 2005. The Committee registered its disgust at this state of affairs and the Chairman agreed to write to Dr Bernal again, once it had been established whether or not the original fax had arrived [**Action Permanent Secretary, Chairman**].

7. ANY OTHER BUSINESS

60. The Permanent Secretary informed the Committee of the problems he was having incorporating Powerpoint presentations into the Summary Report for 2005. He alerted them that he proposed to set new guidelines for the submission of Annex material to the 2006 Summary Report.

8. CLOSURE AND DATE OF THE NEXT MEETING

61. Dr Schenke briefly outlined the arrangements for the meeting in Bremerhaven, Germany in June 2006. He noted that a First Circular had been sent out by the Permanent Secretary. He summarised the Programme and local arrangements and informed the Committee that other interested groups had been invited from within Germany.
62. There being no other business the Chairman closed the meeting at 17.39.

ANNEX 1

**Twenty-second Meeting of the GEBCO Guiding Committee
in the Center for Coastal and Ocean Mapping/Joint Hydrographic Center, University
of New Hampshire, Durham, NH, USA
3rd December, 2005**

AGENDA

1. ROLES AND DUTIES

- 1.1 Introducing Colin Jacobs, our new Bathymetric Editor (TOR and title)
- 1.1 Personality List (Departing members, New members, Chile, Australia)
- 1.2 GDA Manager TOR
- 1.3 Structure of GC (Terms of reference; Chairs of sub committees; Making the Director, Boulder an ex officio member of the GC; GC membership (ref Jones and Yashima); Terms of office)

2. DEALINGS WITH OTHERS

- 2.1 Digital earth and Google Updates
- 2.2 National Geographic update
- 2.3 GEO membership
- 2.4 GDA grid on the web
- 2.5 GEBCO web site

3. PROJECTS

- 3.1 SSPARR project (Anderson)
- 3.2 Patching in new data to the GDA (Fox)
- 3.3 World Map
- 3.4 Logo
- 3.5 Any other items on Work Plan

4. FINANCES

- 4.1 Financial support for travel
- 4.2 Charitable status
- 4.3 Sell or free
- 4.4 BODC

5. BUSINESS WITH IHO/IOC

- 5.1 IHO 5 year work plan
- 5.2 IHO WG on hydro dictionary
- 5.3 CGOM meeting in June 2006 (strategy, preparation)
- 5.4 SCOR WG Update

5.5 Future support of GEBCO by IOC
5.6 Perm. Sec. Honorarium

6. NEXT YEARS MEETING

6.1 Summary Report

ANNEX 2

Terms of Reference of the GEBCO ‘Bathymetric Editor’* (*title to be changed)

1. Projects Responsibilities

- 1.1 Make maps
- 1.2 Make data sets
- 1.3 Encourage others to contribute to maps
- 1.4 Work on individual specific problems in Ocean Mapping
e.g. combining multibeam and single, shallow water
- 1.5 Be a member of different project groups e.g. World Bathymetry Map
- 1.6 Write – publish – present papers, posters on bathymetry
- 1.7 Liaison with BODC, NGDC, UNH, others
- 1.8 Supervise students on projects
- 1.9 Act as trouble shooter
- 1.10 Anything else that contributes to global bathymetry

2. Expectations (Chair to BE)

- 2.1 I expect you to work independently
- 2.2 To have ideas for new projects and to turn some of them into actions
- 2.3 To communicate
- 2.4 To only call me when you need me
- 2.5 Participate in a suitable number of SOC projects
- 2.6 To help bring GEBCO up to date

3. Formal Communication / Reporting Link

- 3.1 To the Chair of the Guiding Committee