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09 MAR 1993

IOC/INF-911
Paris, 30 November 1992
English only



**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(OF UNESCO)**

**IOC Editorial Board for the International Bathymetric Chart
of the Mediterranean and its Geological/Geophysical Series
Informal Meeting, Trieste, 12-13 October 1992**

SUMMARY REPORT

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1. **OPENING OF THE MEETING**

The Chairman, Prof. Carlo Morelli, opened the informal meeting of the IOC Editorial Board for the IBCM and its Geological/Geophysical Series, on Monday 12 October, at 09:45. The Session took place in the Esperia room of the Centro Congressi - Stazione Marittima, Molo Bersaglieri 3, 34100 Trieste, Italy.

Dr. Alexei Suzyumov welcomed the participants on behalf of the Secretary IOC, Dr. Gunnar Kullenberg.

The List of Participants is given in Annex II. The Chairman, Consultative Group on Ocean Mapping (CGOM) Mr. Desmond P.D. Scott had sent a letter suggesting some matters which might be brought to the attention of the Editorial Board, and apologizing for being unable to attend due to the lack of financial support available for informal meetings such as this.

2. **ADOPTION OF THE AGENDA**

The Provisional Agenda was adopted with small changes due to the late arrival of certain participants.

The Agenda is given in Annex I.

3. **CONDUCT OF THE MEETING. DOCUMENTATION**

Dr. J.K. Hall was appointed rapporteur. Prof. Morelli served as Chairman.

4. **STATE OF PREPARATION AND PUBLICATION OF THE IBCM GEOLOGICAL/GEOPHYSICAL SERIES**

4.1 **BOUGUER GRAVITY ANOMALIES SERIES**

Prof. Jannis Makris announced that he had written a 12 page text for the long-awaited Bouguer Gravity explanatory brochure. This was given to Dr. John Hall for editing and eventual publication.

There was a discussion on methods of digitizing the Bouguer sheets. Consideration was given to the idea of digitally scanning the original contour line films. The resulting digital files would serve as an archive and would be used to digitize these contours through raster to vector conversion.

An alternative strategy was to use the original gridded data set derived from the corrected observations.

4.2 **SEISMICITY SERIES**

Regretfully there has been no progress in the publication of either the explanatory brochure or the 300 page catalogue, and description of the relocation and reanalysis techniques used in preparing this catalogue. Mr. Scott, Chairman of the Consultative Group on Ocean Mapping, had written to the Chairman reporting that he had accomplished the task of translating into English the existing French text which Prof. Bonnin had prepared.

Prof. Bonnin had then replied that this text was out of date and required rewriting but this had not yet been accomplished. The Editorial Board asked the brochure editor, Dr. Hall, to discuss the matter with Prof. Bonnin and, if no new text is provided within 3 months, to publish the existing text and catalogue as it stands.

The Chairman reminded the members of the Editorial Board that this work was conducted by Prof. Bonnin under contract with the IOC. He also informed the Board that Mr Scott had not received any orders as a result of the October 1991 Strasbourg meeting of the Council of Europe at which Prof. Bonnin had expected to exhibit and publicize this series.

4.3 PLIO-QUATERNARY/MESSINIAN SEDIMENTS SERIES

The Chief Editor, Captain Andrey Popov, presented four proof sheets (1, 2, 6, 7) and six dyeline sheets for this series for approval by the Editorial Board. The Board agreed to the request of the Chief Editor to print two summary schemes on sheet 5 and to remove the unneeded land topography around these insets. Other proposed changes and corrections on sheets 2 and 3 were brought to the attention of the compilers and the Board, and Prof. Genesseeux promised to discuss them with colleagues in Paris and to send the updated sheets within a few weeks to the Chief Editor. Capt. Popov stated that he expected to be ready also to print proofs of all sheets in 1993, and to print the full PQ series in 1994.

The Board asked the Chief Editor to print 2000 copies of this series at 1:1 Million and 3000 copies of the 1:5 million summary sheet. Dr. Hall agreed to print 4000 copies of an expanded explanatory brochure of about 20 pages upon receipt of 1:5 million summary map and the brochure text. Prof. Genesseeux expected to complete the text in French in time for the informal Paris meeting at the end of February 1993. The Board requested the assistance of IOC in translation of the text into English.

The Board expressed its appreciation to colleagues Profs. Genesseeux and Burollet for their impressive contribution to the compilation of this difficult series.

4.4 UNCONSOLIDATED SEA-BED SURFACE SEDIMENTATION SERIES

The Board welcomed Dr. E.M. Emelyanov in his first participation in an IBCM meeting after more than a decade of work on the project. Dr. Emelyanov presented the 1:1M series which had been previewed in 1989 at a scale of 1:5 million. The Board held a discussion concerning possible subdivision of the pelitic muds in the deep basins (as exemplified in sheet 10), and the problem was referred to a meeting of sedimentologists. Dr. Emelyanov reviewed the historical development of the series. Despite many efforts (at the Lucerne meeting in 1984 and later) to integrate unpublished western data, the series was finally based upon data from USSR expeditions and some published western results. Gaps in nearshore data were noted for Algeria, Morocco, Libya, France and the northern and eastern Adriatic. Prof. Genesseeux noted that the French nearshore data had been sent to Prof. Kuprin two years ago and that it was likely that the material had been lost in the post. Some members immediately suggested possible sources of data for these gaps, as well as more recent data for large area compilations, and solutions were promptly found for most gaps.

Dr. Emelyanov expressed his willingness to make available a "passport format" of his sample database (location, depth, type, cruise) in hopes that more extensive co-operative projects could be fostered with western institutions. The Board supported this initiative. Dr. Hall agreed to assist financially with this undertaking which will move the mainframe database in Kaliningrad down to a more accessible and user friendly PC environment.

Dr. Emelyanov, in conjunction with his sheet colleagues Kuprin and Shimkus, has prepared a 100 page explanatory text in Russian. Dr. Emelyanov requested from IOC up to \$1000 in assistance for translation of the text into English in machine readable form, and redrafting of figures with caption translation. Dr. Suzyumov agreed to bring this to the attention of the Secretary IOC.

During these discussions Profs. Maldonado and Brambati were present and contributed to the critical review.

The Chief Editor reported that proofs for all sheets could also be printed in 1993, with the complete series, if approved, being printed in 1994. All the platemaking work will be done manually as all compilational materials are in analogue form.

4.5 MAGNETIC ANOMALIES SERIES

To the great satisfaction of the Board, Prof. Makris presented the provisional magnetic anomaly maps recently completed by his colleague at Hamburg, Mr. J. Wang. These maps, continuation of the aeromagnetic compilation of Europe, are at a reference altitude of 3000 m, have 25nT contours and are reduced to a pole. This compilation extends west to 23°E.

Certain areas are still not covered. These include the eastern Aegean (where only vertical component observations exist), Albania, former Yugoslavia, Bulgaria and Lebanon. The missing data for Israel will be provided by Dr. Hall in November from a dataset on a 500 m grid produced by Dr. M. Rybakov of the Institute for Petroleum Research and Geophysics (IPRG) in Israel. Colleagues were asked to help in locating new data for the missing areas.

Dr. Suzyumov was asked to deliver the magnetic tapes for the magnetic compilation for the western Mediterranean produced under IOC contract by Dr. Galdeano of the Institut de Physique du Globe in Paris.

The Chief Editor stated that he expected to be able to produce proof prints of this series from the compilations of Prof. Makris in 1994, with final printing in 1995. However, Prof. Makris agreed to be ready to supply these magnetic sheets for proofing and publication one year earlier if necessary, due to possible delays in the updating of the recent sedimentation series.

Prof. Makris stated that he expected to present the updated draft of the magnetic map at the informal IBCM meeting to be held in Paris during the IOC Assembly at the end of February 1993. Delivery of the explanatory brochure at this time would be warmly welcomed by the Board.

5. PROBLEMS RELEVANT TO THE BATHYMETRY OF THE MEDITERRANEAN

5.1 UPDATING OF THE BATHYMETRIC PLOTTING SHEETS

Rear-Admiral G. Angrisano, Director IHO, reported that since the Fifth Session in June 1991 no sounding data have been submitted.

The Board discussed how technological developments were making obsolete the practice of maintaining these plotting sheets, now that the original spatially dispersed transit and deep ocean survey tracks had for the most part been digitized.

5.2 PREPARATION OF THE SECOND EDITION

The Board unanimously agreed that a second edition of the IBCM was required, and should be planned for the 1995-1996 period¹.

The Board enthusiastically received Dr. Hall's proposal to produce the new edition in a shaded hypsometric format, provided that Dr. Hall will be able to produce examples successfully as part of his MEDMAP-DTM Project in Israel. Dr. Hall expected to have results in time for next formal IBCM-EB session (EB-IBCM-VI).

Rear-Admiral G. Angrisano expressed his concern about the departure without replacement from Monaco in March 1992 of the IBCM Secretary, Mr. Dimitry Travine. Mr. Travine had also been responsible for the bathymetric information gathering for the Western Mediterranean Basin. Following this, the IHB is willing to help in collecting the bathymetric data from IHO Member States with a view to preparing the second edition of the IBCM.

Rear-Admiral Angrisano expressed his regrets at the probable delay in producing the second edition from 1994 to 1996, and would like to impress upon the members of the Board the need for a concrete workplan in time for the 1993 formal session. Dr. Hall will work on this workplan.

5.3 ADDITIONAL SOURCES OF DATA

Dr. Hall, in concert with Chief Editor, Captain Popov, proposed giving financial support to the HDNO in order to digitize sounding data they hold in areas with sparse coverage. The Board strongly supported this proposal and would like to enlist the assistance of the IOC, the IHB, and the Commanding Officers of the HDNO in facilitating this work which should greatly improve the second edition.

The assistance of former IBCM Secretary, Mark Maliavko (who recently left HDNO but seems to be willing and capable to assist the programme in certain cases), in liaison activities to this end is and will be gratefully acknowledged.

¹The CGOM has recommended that the bathymetric contours be digitized (and incorporated into the GEBCO Digital Atlas-GDA); the traditional chart series could then be printed from the digital dataset.

6. PUBLICITY AND DISTRIBUTION

The Chairman noted with regret that sales of IBCM products were minimal. Although past distribution problems had been overcome, publicity efforts were lacking. The Board discussed various ways to correct the situation. Prof. Burollet suggested submission of the material to be included in the Plio-Quaternary explanatory brochure to the French professional magazine *Geochronique*. Rear-Admiral Angrisano suggested preparation of an appropriate advertisement which the IHB could include in their periodicals, the *International Hydrographic Review* and the *International Hydrographic Bulletin*. Dr. Hall renewed his promise to send announcements of IBCM products to appropriate professional news magazines such as *Geotimes*, *Episodes*, etc. The above proposals were welcomed.

Dr. Suzyumov reported that he had spoken with Prof. François Doumenge regarding a future IBCM exhibit at the Musée Océanographique in Monaco which annually received about a million visitors. Prof. Doumenge indicated that such an exhibit would soon be mounted.

The Chairman expressed the hope that Dr. Suzyumov would exhibit the promotional props prepared by the former IOC Ocean Mapping Officer Mr. V. Sedov, in which the 10 sheets can be joined together, at the 1993 IOC Assembly in Paris.

The Chairman noted that there was absolutely no mention of the IBCM products in the 1992 UNESCO catalogue of Scientific Maps and Atlases. Dr. Suzyumov was asked to take the appropriate actions to rectify this grave omission.

The Chairman informed the Board that an Italian Publisher, F.R. Grandi Opere Sp. A., had written to the Secretary IOC requesting permission to reproduce the various IBCM series at approximately 1:10M scale in a chapter written by Prof. Morelli. The Board agreed to this request recognizing it as good publicity for IBCM, on condition that the Chairman would prepare an appropriate acknowledgement and that the publisher would supply to the Board either 10 copies of the book or 30 offset copies of the chapter in question.

The Board requested Dr. Hall to reprint 500-1000 copies of the explanatory brochure for the IBCM, for publicity matters. Dr. Hall agreed under the provision that the original plates could be used for this task.

As a matter of principal, commercial distribution of the English language versions of the IBCM series will be ensured by the Chairman CGOM, Mr. Scott.

7. ANY OTHER BUSINESS

7.1 INTEGRATED INTERPRETATION PROPOSAL

Prof. Makris informed the Board that he had received numerous enquiries regarding availability of the IBCM overlay sheet data in digital form from commercial and academic institutions eager to use these data for interpretation of Mediterranean geological history and structure.

Prof. Makris felt that the Board had a responsibility to reap the fruits of its extensive labors, and that an all out effort should be made to secure financial and collegial support for a thorough interpretation of all the multidisciplinary data that had been compiled.

The Board supported this recommendation and suggested that a proposal be prepared for submission within the framework of the European Community. As a result, meetings were held on 13 October and thereafter with ICSEM colleagues to draw up a list of participating geologists and geophysicists, and to fashion a workplan and budget.

The Board requested Prof. Makris to submit a draft proposal which would be discussed at the time of the Paris meeting.

7.2 DIGITAL VARIANTS IN LIGHT OF TECHNOLOGICAL ADVANCES

At various times during the meetings the obvious impact of technological advances was discussed. Dr. Hall suggested CD-ROM disks as a medium for digital data exchange and archiving. Dr. Michael Max of the Circum-Atlantic Project briefed the Board on a recent court decision which upheld the copyright on digital material which was misused by industry and required payment of royalties for use of the data. Dr. Max quoted prices of \$6,000 for the manufacture of a master and 5,000 CD-ROM disks, with around 600 Mbytes of storage.

Dr. Hall agreed to try to prepare a digital version of the unconsolidated sediment sheet 10 on a grid of 0.25 minutes in time for the next formal Editorial Board meeting. He also reported that a DTM on the same grid had been almost completed before other pressing business interfered.

7.3 CIRCUM-ATLANTIC PROJECT

Dr. Hall reported to the Board on meetings he had with members of the Circum-Atlantic Project (CAP) at the USGS in December 1991. The head of this project, Dr. Michael Max of Naval Research Laboratory (USA), was invited to address the Board about this project, which, because of the offsets in the mid-Atlantic Ridge and the projection used, includes the entire Mediterranean area. Dr. Max explained that the project intended to prepare a GIS-like digital system with layers of geological and geophysical data information for use in interpretation and data management. The CAP would also publish paper map sheets showing this data. Dr. Max will again bring IBCM activities to the attention of his Editorial Board and will contact the Board in the future regarding possible avenues of co-operation.

8. DATE AND PLACE OF THE NEXT SESSION

The Board accepted the suggestion of the Chairman that an additional extraordinary informal meeting be held in conjunction with the Seventeenth Session of the IOC Assembly in Paris, 25 February-11 March 1993.

Then the Board confirmed Jerusalem as the venue for its next formal session. Dr. Hall reported that he had secured support which would allow expansion of this meeting to include field work in the four seas in and around Israel. Due to the relative remoteness of the venue, dates of 16-23

October 1993 were chosen. Travel funds and per diem, as always, are expected from IOC for this formal meeting.

Dr. Suzyumov informed the Board about an unfavorable financial situation of the IOC's Ocean Mapping programme and agreed to bring the subject to the attention of the Secretary IOC.

9. ADOPTION OF THE SUMMARY REPORT

The Board adopted the Summary Report and thanked Dr. Hall, Rear Admiral Angrisano, and Dr. Suzyumov for their efforts in the absence of Mr. Travine.

10. CLOSURE OF THE SESSION

The Chairman closed the session at 11:45 on October 13.

ANNEX I

AGENDA

1. **OPENING OF THE MEETING**
2. **ADOPTION OF THE AGENDA**
3. **CONDUCT OF THE MEETING, DOCUMENTATION**
4. **STATE OF PREPARATION AND PUBLICATION OF THE IBCN GEOLOGICAL/
GEOPHYSICAL SERIES**
5. **PROBLEMS RELEVANT TO THE BATHYMETRY OF THE MEDITERRANEAN**
6. **PUBLICITY AND DISTRIBUTION**
7. **ANY OTHER BUSINESS**
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9. **ADOPTION OF THE SUMMARY REPORT**
10. **CLOSURE OF THE SESSION**

ANNEX II

LIST OF PARTICIPANTS

1. MEMBERS

Prof. P. BUROLLET
134, Parc de Cassan
95290 L'Isle Adam
FRANCE
Tel.: (33) 34 69 27 46

Rear-Admiral G. ANGRISANO
Director
International Hydrographic Organization
7, av. Président J.F. Kennedy
B.P. 445
98011 Monaco Cédex
PRINCIPAUTÉ DE MONACO
Tel.: (33) 93 50 65 87
Telex: 479 164 MC INHORG
Fax: (33) 93 25 20 03

Prof. F. DOUMENGE
General Secretary
International Commission for the Scientific
Exploration of the Mediterranean Sea (ICSEM)
16, Bld de Suisse
MC 98030 Monaco Cédex
PRINCIPAUTÉ DE MONACO
Tel.: (33) 93 30 38 79
Telex: REMONA 469 037 MC
Fax: (33) 92 16 11 95

Prof. F. FABRICIUS
Lehrstuhl für Geologie
Technische Universität München
Lichtenbergstrasse 4
D-8046 Garching
GERMANY
Tel.: (40) (89) 3209 3181
Telex: TUME D 522 854

Prof. M. GENNESSEAUX
Université Pierre et Marie Curie
Département de Géologie Dynamique
4 Place Jussieu
75230 Paris Cédex 05
FRANCE
Tel.: (33) 1 43 36 25 25 Poste 5176
Telex: PARIS UPMC SIX 200 145

Prof. J.K. HALL (Rapporteur)
Geological Survey of Israel
Marine Geology, Mapping and Tectonics Division
30, Malchei Israel Street
Jerusalem 95501
ISRAEL
Tel.: (972) 2 314 211 (Office)
(972) 2 346 455 (Home)
Telex: 26 144 BXJM IL (for ext. 7357)
Fax: (972) 2 346 590

Prof. J. MAKRIS
Institut für Geophysik
Universität Hamburg
Bundestrasse 55
2000 Hamburg 13
GERMANY
Tel.: (40) 41 233 969
Telex: 214 732 UNIHHD
Fax : (40) 41 234 921

Prof. C. MORELLI (Chairman)
Istituto di Miniere e Geofisica Applicata
Facolta d'Ingegneria dell'Università
Piazzale Europa, 1
34127 Trieste
ITALY
Tel.: (39) 40 52 465
Telex: 460 014 FYSICA I

Captain A. POPOV
Head Department of Navigation and Oceanography
8-11 Liniya V.O. B-34
199034 Saint-Petersburg
RUSSIA
Tel.: (7) 512 2774636
Telex 121531 NAVIO SU

2. REPRESENTATIVES AND OBSERVERS

Dr. E.M. EMELIANOV
Atlantic Branch of the Institute of Oceanology
of the Russian Academy of Science
1 Prospekt Mira
236000 Kaliningrad Oblastnoy
RUSSIA

Mr. D. TRAVINE
Institute of Biology of Southern Seas
of the Academy of Sciences of Ukraine
2, av. Nakhimov
335057 Sevastopol
UKRAINE
Tel.: (7) 52 41 10
Telex: 187 124 IBSS SU
Fax (Satellite): 871 140 23 43
E-Mail - OMNET: IBSS.SEVASTOPOL

3. SECRETARIAT

Dr. A. SUZYUMOV (Technical Secretary)
Office of IOC and Marine Science
Related Issues
UNESCO
7, place de Fontenoy
75700 Paris
FRANCE
Tel.: (33) 1 45 68 39 65
Telex: 204461 PARIS
Fax: (33) 1 40 56 93 16
E-mail OMNET: IOC.SECRETARIAT