

**FINAL REPORT OF SECOND MEETING OF  
ADVISORY BOARD ON LAW OF THE SEA (ABLOS)**

**DATE AND VENUE**

The meeting was held at the International Hydrographic Bureau, Monaco, 10-11 October 1995.

Present:	Commodore N.R. GUY (Chairman)	IHO
	Cdr. C. CARLETON	IHO
	Dr. T. KATSURA	IHO
	Mr. A.J. KERR (Secretary)	IHO
	Professor P. VANICEK	IAG
	Mr. B. HARSSON	IAG
	Professor C. RIZOS	IAG
	Mr. J.A. WEIGHTMAN	IAG
	Mr. I. LAMONT	Observer
	Mr. D. RIO	Observer
	Mr. S. KASUGA	Observer
	Dr. F. MADSEN	Observer
	Mr. HAIQING LI	IOC

Note: A list of all members and observers is attached as Annex A.

**1. WELCOME**

The President of the Directing Committee of the IHB, RAdm. C. ANDREASEN welcomed the participants. The Chairman welcomed Dr. KATSURA as a full member and welcomed all members and observers.

**2. ADMINISTRATIVE ARRANGEMENTS**

Mr. A.J. KERR outlined the administrative arrangements for the meeting.

**3.a) APPROVAL OF AGENDA**

The Tentative Agenda, attached as Annex B, was approved.

**3.b) APPROVAL OF REPORT OF FIRST MEETING**

The Report of the First Meeting was approved with one minor typographical amendment.

**4. CONFIRMATION OF MEMBERSHIP AND OBSERVERS**

The Membership of ABLOS was confirmed as listed above.

**5. STATUS OF GEODETIC APPENDIX TO TALOS MANUAL**

The latest version of the above was reviewed. The meeting noted its appreciation to Professor VANICEK for this work. Some minor corrections, editorial and otherwise, were agreed. The Bureau will undertake a complete editorial review and send an amended copy to Professor VANICEK before publishing. He will provide a disc of the text.

**6.a) STATUS OF PUBLICITY**

Mr. KERR apologized for having taken no action to promulgate a notice of ABLOS' formation. he noted that Cdr. CARLETON had provided a list of publications to which the notice may be sent. Mr. KERR promised to take the matter in hand. The list of publication will be provided to the members, who were asked to provide additions.

**6.b) DISSEMINATION OF INFORMATION CONCERNING ABLOS**

A short discussion took place on how best to disseminate information on the activities of ABLOS. It was agreed that the UN Office of the Law of the Sea would be one place to send information and that the LOS Bulletin might be a suitable medium. The Secretary undertook to write to Mr. J.P. LEVY on this possibility.

**7. CONFIRMATION OF ACRONYM ABLOS**

It was unanimously agreed that ABLOS was a suitable acronym for the group.

**8.a) REPORT OF GROUP OF EXPERTS ON CONTINENTAL SHELF MEETING AT NEW-YORK, 11-14 September 1995**

Various members who had attended this meeting discussed what had taken place. The strong participation of geologists and geophysicists was noted. A discussion took place on the procedures for electing members of the Commission, the deadlines involved and the statement made at the meeting by the UN representatives that the election may be delayed.

The need to give visibility to papers outlining ABLOS members' views on various technical matters was discussed and it was agreed that Cdr. CARLETON would coordinate this activity. ABLOS will contact the UN LOS Office to inform it of this work. It was proposed and agreed that IOC would be invited to become represented as an ex-officio member of ABLOS. After some discussion it was decided that IAG should represent IUGG interests, seeking expert advice as and when required.

Mr. WEIGHTMAN noted the need to identify areas where conditions exist that might result in claims by States to maritime areas beyond 200 nautical miles.

## 8.b) RELATIONSHIP WITH IOC

Coinciding with the arrival of Mr. HAIQING LI, IOC representative, a discussion took place on the relationship between IHO and IOC. It was noted that the relationship was close and well established and that there were plans to produce a joint manual concerning the application of Article 76.

## 8.c) SPECIFIC ITEMS AND METHODOLOGY FOR TECHNICAL ASSISTANCE

This discussion focussed on plans to produce a manual that could be made available to States interested in claiming a continental shelf extending beyond 200 nautical miles. Following a proposal made by Mr. LI, the establishment of a joint IOC/IHO editorial board was supported. It was agreed by the ABLOS members that Cdr. CARLETON and Professor VANICEK should be the IHO representatives with Cmdre GUY as Chairman in an ex-officio capacity. The IHB was asked to send invitations on behalf of ABLOS. The structure of the IOC/IHO "book" was discussed. A draft outline was introduced by Mr. LI, which had been prepared during the Group of Experts on the Continental Shelf Meeting. The following new topics covering ABLOS interests were provisionally proposed for consideration by the editorial board:

- (1) Basic delimitation assessment and programme planning if necessary.
- (2) Geodetic aspects (spheroids and datum)
- (3) Positioning accuracies required and the methods necessary to achieve them.
- (4) Outer limits geometry.
- (5) Bathymetric data gathering systems, methods and accuracies.
- (6) Processing of data and delimitation calculations.
- (7) Depiction of results (cartographic, etc.).

It was proposed that some form of flow diagram including possible nodal points on the work to be undertaken should be included in the book. A possible venue for the editorial board in Paris, early in 1996, was proposed and will be considered by IOC.

## 9. POSITIONING ERRORS FOR DELIMITATION AND NAVIGATION

## 10. DETERMINATION METHODS FOR THE LOW WATER LINE

These topics were considered together, the result being that GALOS is requested to examine and report upon methods to establish straight and normal baselines and the resulting errors that may be expected. In addition, it will examine and report upon any additional errors that may be caused by propagating these baselines seaward to form jurisdictional boundaries.

**11. REGIME OF ISLANDS**

Following a short discussion concerning the regime of islands and oceanic and submarine ridges, it was agreed that the matter was more political than technical and should not be pursued further.

**12. OPTIMUM LINE SPACING AND INSTRUMENTATION**

Professor VANICEK presented the results of a simulation study to examine the effect of data density on the accuracy of the foot-line determination through maximum curvature surface by automatic ridge-tracing algorithm. A lively discussion took place following the presentation.

**13(a) TECHNICAL GUIDELINE FOR STATES WITH ACTIVE MARGINS**

**13(b) PRESENTATION BY JAPAN OF TECHNICAL DIFFICULTIES OF COASTAL STATES CONCERNING ACTIVE MARGINS**

Following a presentation by Dr. KATSURA, in which he graphically demonstrated the difficulties of establishing the foot of the continental shelf and the thickness of the sediments in an area of active margin off Japan, it was agreed that Japan would provide technical guidelines for coastal States dealing with such problem areas.

**14. GALOS-ABLOS RELATIONSHIP**

The Chairman noted that it had been originally thought that with the formation of the joint IHO/IAG Advisory Board the TALOS and GALOS organizations would be disbanded. Although this has taken place on the TALOS side it has not happened with GALOS. Nevertheless, the latter organization appears to serve as a useful technical arm of ABLOS, certainly on matters pertaining to geodesy. The Chairman felt it desirable that ABLOS maintain its own visibility and for that reason it was proposed that it meet separately from GALOS but at a time and place that would minimize cost for delegates attending both assemblies.

**15. REPORT FROM GALOS MEETING IN BOULDER**

Professor VANICEK advised the meeting that a complete record was available in his report which had been made available. He proposed that one of the papers, on footline determination, should be made available to members of ABLOS by the Bureau.

**16. REPORT ON BALI II CONFERENCE PREPARATIONS**

See item 19(a).

**17. REPORT ON SEAMLESS DATUM WORK DONE FOR CHS**

A presentation was made by Professor VANICEK on work done in his university concerning the possibility of a single vertical datum for referencing sounding data used in ECDIS. A general discussion took place on the requirements of vertical datums.

**18. ASSISTANCE TO EASTERN CARIBBEAN STATES**

The IHB had received a letter from the Organization of Eastern Caribbean States advising it of plans to hold a workshop on boundary delimitation for 2 to 3 days in the week commencing 22 January 1996. Apart from advising the IHB of the meeting, it asked if a resource person could be made available to speak on some of the topics relevant to the region. Commander CARLETON informed the meeting that the UK had already supported the OECS in such matters and intended to do so again in the future. He expected that he would be made available to provide the resource requested. The Secretary will advise the OECS that this possibility exists. Other members noted the possibility of attending this workshop, which was apparently open.

**19(a) FUTURE WORK PROGRAMME**

Concerning the future work programme, the Chairman identified the decisions for action that had been made during this meeting. Also under this heading there was a lengthy discussion on the form of programme and the possible speakers for the BALI II Conference to be held, 1-4 July 1996.

Bearing in mind the discussion that had taken place under agenda item 14 on the GALOS/ABLOS relationship, it was decided that the next meeting of ABLOS would be held immediately before or after the GALOS meeting, with preference being given to the period before 24-28 June. Regarding the site it was agreed that this not be Bali but some site in Asia or Australasia that had yet to be decided, but one that would minimize travel costs for those attending both ABLOS and GALOS. Possible sites to be explored included Kuala Lumpur, Singapore, Australia (unspecified city) and Auckland, New Zealand. Enquiries will be made to refine this choice and members will be informed.

**19(b) NEXT MEETING**

Regarding future meetings, the Chairman stated the view that the 1997 meeting should be held in Monaco and that for the 1998 meeting, both ABLOS and GALOS should plan to meet at the same site and time.

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D R A F T

26 June 1996

for 3rd A ABLOS Meeting at Auckland, NZ

**Technical Guide Line for the Active Margin****OUTLINE OF TECHNICAL GUIDE (PROPOSED)****(A) Review on "active margin" - "What is Active Margin?"**

1. Plate convergent zone.
2. Is the boundary of an ocean and a continent only within trench area?
3. Presence of arc-trench system and marginal sea with back-arc basin.
4. Presence of intermediate crust between a continent and an ocean.
5. Distribution of complicated and severely undulated submarine topography and irregular sub-bottom basement.
6. Distribution of highly changeable sediment thickness in back-arc basin and marginal sea.

**(B) Difficulty to prove the natural prolongation from a continent in the area of active margin**

1. This subject includes ambiguous aspects between scientific and political (legal) sides, so it is difficult to clearly define the natural prolongation from a continent in various cases.
2. Is the outer limit of the continental margin the boundary of the shelf?
3. Is topographic continuity essentially important for the evidence of natural prolongation or not?
4. Should geological crustal structure be continued to the limit of the margin?
5. Should geological materials and its property be continued to the terminal of the margin?
6. Does the clear-cut boundary between oceanic crust and continental crust exist in oceanic floor?
7. What is sufficient evidence for continental crust? (Are sediments derived from land, crustal thickness and so on?)
8. Can the geophysical boundary (physical properties as geomagnetism, gravity, etc., oceanic/continental or trench, etc.) be the typical boundary for the foot of continental slope or not?

**(C) Some difficult problems regarding the distinction of ridges and submarine elevations. Those include judgements and decisions on plateaux, rises, caps, banks and spurs shown as submarine ridge, oceanic ridge and submarine elevations in LOS Article 76 para. 6**

1. This involves political (legal) aspects. Are the judgement and its interpretation sovereign right of coastal states or not?
2. What is oceanic ridge? What relations are there between oceanic ridge and deep ocean floor?
3. What is submarine elevations? What is its definition (Refer to IHO TALOS Manual or UN Definition of CS).

**(D) Difficulty to determine the foot of continental slope**

1. Is the foot of the slope determined based on bathymetric charts and their contour densities?
2. Is it determined based on topographic profiles and their gradient changes?
3. Is it determined based on static analysis?
4. Is it determined based on seismic profiles/sub-bottom profiler's records? (Is the maximum gradient on the slope the contact point between the basement and sediment boundary or not?)

**(E) Difficulty to determine sediment thickness**

1. This subject has already been described and is now being described by the UN Group Expert Meeting using UN materials, and its standards will be presented by the UN DOALOS and CLCS in the near future.
2. Existence of irregular basements and variable sediment thickness in active margin.
3. Are evidences of various origins of sediments supplied from land, submarine volcanics, pelagic products, etc necessary?

**(F) Difficulty to delineate several boundaries or outer limit lines in active margin**

1. This subject will be indicated by the guide books of UN DOALOS for CLCS and IOC/IHO, and these books will be available in the near future.
  2. Specific difficulties to decide delineation of ocean boundary, foot point of continental slope or 1% sedimentary thickness owing to complicated submarine topography and geological structure at active continental margin.
  3. Baselines.
  4. 200 nautical mile line.
  5. Lines delineated at 60 nautical mile line from the foot of the slope or 1% sedimentary thickness.
  6. Limit line delineated at 100 nautical miles from the 2500m depth line
  7. 350 nautical mile limit line.
  8. Outer limit line of continental shelf beyond 200 nautical miles.
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IHB File N° S3/0302/WG

5 February 1996

**TO: See Distribution List**

Dear Sir,

In 1995 the International Hydrographic Organization (IHO) and the International Association of Geodesy (IAG) formed a joint Advisory Board to provide advice and guidance in questions related to technical aspects of the United Nations Law of the Sea Convention.

We would appreciate it if you could publish the enclosed Information Release so that States, international and national organizations, and other bodies interested in the Law of the Sea will be informed of the existence of the Advisory Board and its objectives and activities.

On behalf of the Directing Committee,  
Yours sincerely,

Adam J. KERR  
Director

## INFORMATION RELEASE

### FORMATION OF IHO/IAG ADVISORY BOARD ON THE LAW OF THE SEA (ABLOS)

The International Hydrographic Organization (IHO) and the International Association of Geodesy (IAG) have formed a joint Advisory Board to provide advice and guidance and, where applicable, offer expert interpretation of the hydrographic, geodetic and other technical aspects of the Law of the Sea to the parent organizations, their member states or to other organizations on request.

The board is comprised of four representatives from each organization and one additional member representing the UN Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs in an ex-officio capacity.

The formation of the joint Board follows from the activities of each organization in an individual capacity which led to their combined work in producing a "Manual on Technical Aspects of the United Nations Convention on the Law of the Sea - 1982". This is published by the International Hydrographic Bureau as Special Publication N° 51. Work is underway by the Geodetic experts within the Board to add a special appendix discussing geodetic aspects. This work has now been completed and is published as an appendix to the Manual.

Recently the Board has been cooperating with the Intergovernmental Oceanographic Commission (IOC) of UNESCO to develop a publication to assist in the technical delimitation of the Continental Shelf, following Article 76 of the Convention.

The Hydrographic Journal  
J.A. Kitching, Esq  
The Hydrographic Society  
University of East London  
Longbridge Road  
Dagenham  
Essex RM8 2AS  
UK

Boundary and Security Bulletin  
Clive Schofield  
International Boundaries Research Unit  
Department of Geography  
University of Durham  
South Road  
Durham DH1 3LE  
UK

Law of the Sea Bulletin  
Director  
Division for Ocean Affairs and  
the Law of the Sea  
Office of Legal Affairs  
United Nations  
New York 10017  
USA

The International Journal of Marine  
and Coastal Law  
Professor David Freestone  
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Law of the Sea Office of Legal Affairs,  
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**Annex 5**

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Further information can be obtained from the IHO or the IAG under the following addresses:

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### Proposal Agenda Item 9

The Chairman reported that IHO members of ABLOS recognized that geodetic expertise is necessary when law of the sea matters are considered. They noted, however, that many of the activities now being undertaken by GALOS have limited association with these issues. Furthermore the continuing existence of GALOS, after the formation of ABLOS, frequent efforts to coordinate scientific advice on law of the sea over a wide range of disciplines.

The political advantage of using intergovernmental organizations, such as the IHO and the IOC, to advise the UN on scientific matters must be recognized. The mechanisms of ABLOS enables IAG members to gain access to the UN otherwise denied them.

As it is thought that the present arrangement is not in accordance with the terms of reference given to TALOS members at the XIVth Conference in 1992 there is the risk that the existence of ABLOS may be questioned at the XVth Conference in April 1997.

Mr. KERR said that to obviate this and to restructure the GALOS - ABLOS relationship in the most effective way - to achieve the aims agreed upon it is proposed that GALOS be a focused working group under ABLOS. This was seconded by Mr. CARLETON.

He said further that the Chairman of ABLOS, who would have a two year term of office and who would be alteratively from IHO and IAG, would in any event report on ABLOS activities and results to both the IAG and the IHO.

Prof. VANICECK on behalf of the IAG members stated that while the IHO position was appreciated the matter should be held over as it had to be referred to both the IAG and IAG/GALOS members.

This was agreed to with a request that, if possible, an indication was necessary for inclusion in the ABLOS Report to the XVth International Hydrographic Conference of the IHO which has to be submitted by 30 September 1996.

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