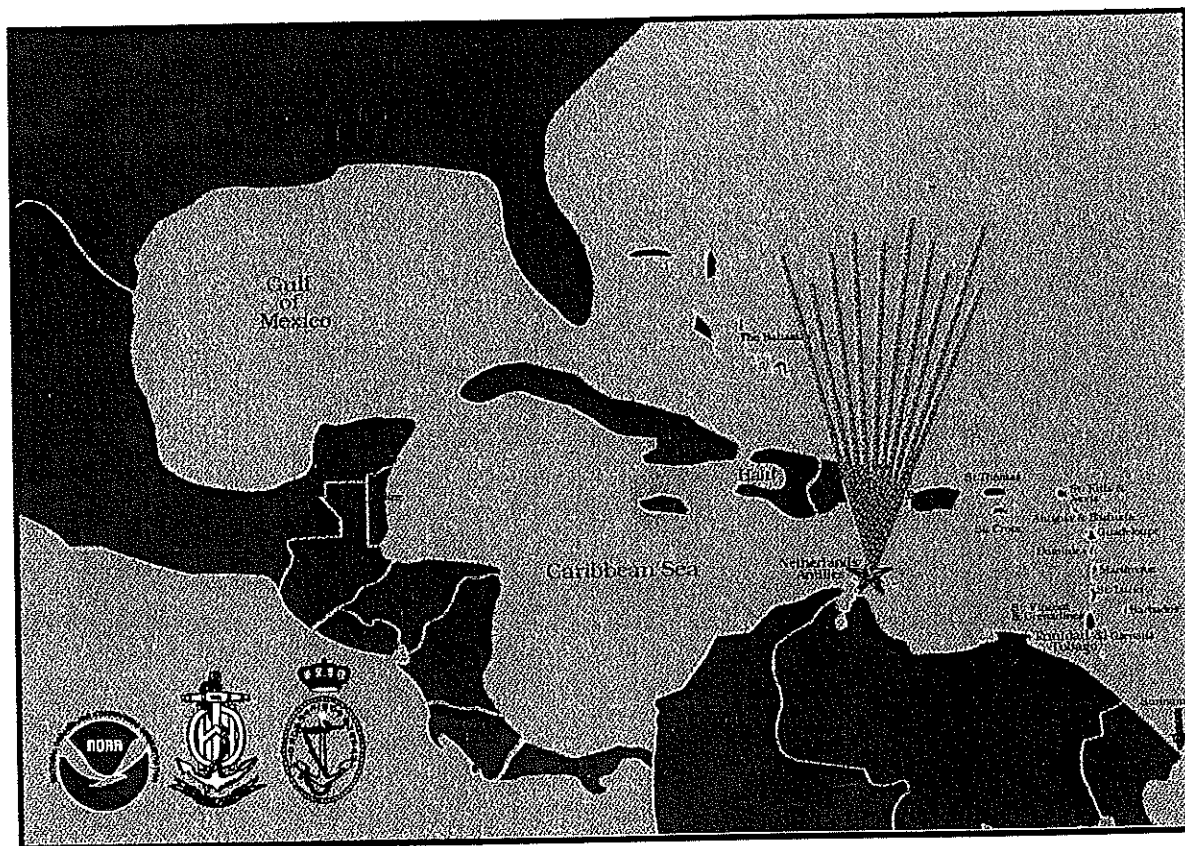


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Second Conference
of the
Caribbean Sea-Gulf of Mexico
Hydrographic Commission
March 26-28, 1996



International Trade Center
Curacao, Netherlands Antilles

FINAL REPORT
SECOND CONFERENCE
OF THE
CARIBBEAN SEA - GULF OF MEXICO HYDROGRAPHIC
COMMISSION

Curaçao, Netherlands Antilles, 26-28 March 1996

The Second Conference of the Caribbean Sea - Gulf of Mexico Hydrographic Commission (CGMHC) was held in Willemstad, Curaçao, Netherlands Antilles, March 26-28, 1996, under the chair of Mr. Frank W. Maloney, Director, Office of Coast Survey, United States National Ocean Service.

Tuesday, March 26

1. CONFERENCE WELCOME & INTRODUCTION

The Second Conference of the Caribbean Sea-Gulf of Mexico Hydrographic Commission (CGMHC) opened on Tuesday, March 26, 1996 at 9:00 a.m., in the Barber Room of the International Trade Center. Mr. Maloney made the following remarks:

Remarks by the Chairman

"On behalf of the National Ocean Service (NOS) of the United States of America, let me welcome you to the Second Conference of the Caribbean Sea - Gulf of Mexico Hydrographic Commission. I want to thank Commodore Bakker, the Hydrographer of the Royal Netherlands Navy, for offering Curaçao as the site of our meeting. Commodore, your support during the months leading up to the conference has been invaluable."

"I extend a special word of welcome to Rear Admiral Angrisano of the International Hydrographic Bureau. Thank you for taking time from a busy schedule to attend the conference. Your presence will do much to facilitate our discussions during the next three days."

"I am pleased to welcome IHO member states France, Trinidad & Tobago, the United Kingdom and Venezuela, who are participating in the Commission for the first time. Also, I would like to recognize Haiti, Colombia and Jamaica, who are attending as associate members for the first time."

"It is my privilege to welcome Geographer Jose Luis Frias Salazar, Deputy Director for Oceanography at the National Institute of Statistics, Geography and Information, Mexico, who serves as the Assistant Editor-in-Chief of the International Bathymetric Chart of the Caribbean &

Gulf of Mexico (IBCCA). Geographer Frias will address the Conference on Thursday regarding the progress of the IBCCA Project, a regional program of the Intergovernmental Oceanographic Commission (IOC)."

"The level of participation at the Second Conference is indeed encouraging. The importance of wide participation in this Commission by the national hydrographic offices of the region cannot be overstated. With the expanding application of computers in charting and navigation, it is vital that we all stay abreast of developments in digital chart standards and production methods."

"Safe navigation is critical to the economic vitality of the Caribbean Sea - Gulf of Mexico Region. The growth of waterborne commerce in the region demands not only accurate and up-to-date charting but also effective means by which to deliver our products to users. Recognizing the high cost of data collection and management, and the limited resources available to hydrographic offices, the need for cooperation has never been greater. I hope the working groups, which are scheduled for later today, and the plenary sessions tomorrow and Thursday, will provide a forum for the free exchange of ideas on these and other issues linking our profession to the increased safety and efficiency of navigation."

"The program for the Conference is planned so that you will have ample time for discussion of issues and demonstration of new products and services. The Royal Netherlands Navy survey vessel TYDEMAN will arrive in port this evening. Tomorrow, we will go aboard the vessel for lunch, receive a briefing about its Caribbean operations, and finish the day with a tour of the ship."

"There are two evening activities scheduled - an opening reception tonight at Fort Nassau and a farewell buffet on Thursday at Landhuis Ascension--providing ample time for us to get to know one another better. This conference will be a success if we leave Curacao with the resolve to continue communicating ideas and information among ourselves. As the hydrographic offices responsible for charting the region, we have a significant role in ensuring continued economic growth for the Caribbean and Gulf of Mexico."

"Again, the National Ocean Service is pleased to welcome you to the Second Conference of the CGMHC. My staff and I will do our utmost to make your stay productive and enjoyable and we look forward to working with you."

The Chairman then introduced Commodore Egon Bakker, Hydrographer of the Royal Netherlands Navy, who welcomed the delegates to Curacao.

The Chairman invited the representative of the International Hydrographic Bureau (IHB), Rear Admiral Giuseppe Angrisano, to address the Commission. Admiral Angrisano made the following remarks:

Remarks by the IHB representative

"Thank you, Mr. Chairman. It is a pleasure for me to be in Curacao on the occasion of this Second Conference of the Caribbean Sea-Gulf of Mexico Hydrographic Commission. The IHO sees with much interest the creation of regional commissions. Most probably, the Antarctica Working Group will also become a regional commission. We hope to further increase the number of commissions of this sort in the future."

"On the occasion of the celebration of the 75th Anniversary of the IHO, the Bureau has prepared commemorative plaques for all its Member States. It is a privilege for me to present Col. Lluís, Head of the Cuban Hydrographic Service, with a commemorative plaque. In addition, Cuba hosted the First Conference in May 1994 and has served as chair of the Caribbean Sea-Gulf of Mexico Hydrographic Commission since that time. The Caribbean Sea-Gulf of Mexico is a complex region and the creation of this Commission can and must foster the development of hydrography. Therefore, it is a pleasure to present Col. Lluís with an additional plaque, recognizing his service as the first chairman of the Commission."

Mr. Maloney thanked Admiral Angrisano for his remarks and then requested all participants to introduce themselves. A list of participants is at Annex A (CGMHC 2/1/1). During the course of introductions, Mr. Raymond E. Seebald, representing The Regional Marine Pollution Emergency, Information and Training Center for the Wider Caribbean Region (REMPEITC-Carib), summarized the role and responsibilities of this IMO Center. A written report (CGMHC 2/1/2) was tabled by Mr. Seebald.

Mr. Maloney invited Mr. David Doyle, senior geodesist, to report on a project extending WGS 84 throughout the Caribbean by the use of high accuracy GPS positioning methods.

Presentation by Mr. Doyle - Caribbean GPS Survey Project

Mr. Doyle briefed the Commission on a Global Positioning System (GPS) control survey being conducted by the National Ocean Service/National Geodetic Survey (NGS) at Caribbean airports in 18 nations. The purpose of the survey is to extend WGS84 control to all major airports in the region. The project is funded by the Federal Aviation Administration of the United States, in cooperation with the International Civil Aviation Organization (ICAO), which mandated the requirement for WGS 84, and local authorities. Mr. Doyle provided a map showing the sites where the survey work will occur and a list of contacts in each nation (CGMHC 2/1/3).

The project will establish Primary (PACS) and Secondary Airport Control Stations (SACS) and measure runway profiles, which will be used to support high accuracy surveys of airport features and obstructions. Connections with existing geodetic networks are to be made wherever possible, and will provide data for more accurate adjustment to support nautical

charting, boundary determination, resource evaluation, and scientific applications. The survey is designed to provide the following accuracies at the 95 percent confidence level:

- PACS connected in Network:
 - 10cm horizontal
 - 15cm ellipsoidal height
 - 25cm sea-level (if connected to a local tide gage)
- SACS and Runway ends (relative to PACS):
 - 3cm horizontal
 - 4cm ellipsoidal height
 - 5cm sea level

Data from this survey will be adjusted, archived and distributed by NGS in mid-September, 1996. Commission members should contact the Chairman, CGMHC, for additional information regarding the availability of these survey data.

Captain Fuentes (Venezuela) expressed concern that no connection will be made to another program, which he referred to as CIRGA. Mr. Doyle indicated this was true, noting the project was focused principally on air navigation. However, he stressed that the resulting data will be available for a merger with other observations.

Following the introductory activities, the remainder of the first day of the conference was dedicated to meetings of the Commission's working group, which were held consecutively.

A complete list of documents tabled during the Second Conference is at **CGMHC 2/1/4**.

2. TRAINING WORKING GROUP:

The first group to meet was the Training Working, chaired by Mr. Pugh of Canada. Mr. Cooper of the United States served as recorder. All member states were in attendance. The provisional agenda for the meeting (**CGMHC 2/2/1**) was approved and discussion ensued. Reports pertaining to training were made by several member states.

3. INTERNATIONAL CHART WORKING GROUP:

The International Chart Working Group convened with Mr. Ayres of the United States serving as chair and Mr. Santiago of the United States as recorder. The agenda for the working group (**CGMHC 2/3/1**) was approved and discussion ensued.

4. ELECTRONIC CHART WORKING GROUP:

The Electronic Chart Working Group convened with Mr. Maloney of the United States serving as chair and Captain Armstrong of the United States as recorder. The agenda for the working group meeting (CGMHC 2/4/1) was approved and discussion ensued..

Wednesday, March 27

5. APPROVAL OF COMMISSION AGENDA:

The Chairman briefly reviewed the organization of the provisional agenda. The agenda was approved and is provided at Annex B (CGMHC 2/5/1). Captain Armstrong agreed to serve as the recorder.

6. REVIEW OF ACTIONS FROM FIRST CONFERENCE:

The representative from Cuba, as Chair of the First Conference, reported on those actions resulting from the Commission Meeting in Havana, May 1994. He referred to the Final Report of the First Conference of the CGMHC, which describes the actions in detail. The representative from Cuba indicated most of the actions were addressed in the working group meetings of the previous day. It was agreed to defer discussion of the action pertaining to the Statutes of the Commission until the next agenda item.

7. REVIEW AND MODIFICATION OF COMMISSION STATUTES:

The Commission Statutes were reviewed and discussed in detail. A drafting group was established to consider the changes suggested from the member states. The participants in the drafting group included representatives of Cuba, France, IHB, Jamaica, USA (DMA), and Venezuela.

Admiral Angrisano offered the services of IHB as custodian of the Commission Statutes and to publish the same in English, French and Spanish languages.

As a result of its work, the drafting group recommended a number of changes to the existing Statutes of the Commission. The recommended changes to the English version of the Statutes are contained in CGMHC 2/7/1. The recommended changes affecting the Spanish version are contained in CGMHC 2/7/2. The English language changes were incorporated by the Commission to produce a revised text of the Statutes, which is provided at CGMHC 2/7/3.

The revised Statutes specify in article 14 that the working language of the Commission shall be English. Notwithstanding this provision, there was a consensus among the member states that in order to facilitate communications, interpretation and translation services are strongly encouraged at meetings and in conjunction with reports.

It was agreed the member states would review the Statutes as promulgated in the final report of the Second Conference, indicating to the Chairman their acceptance of the Statutes as revised or recommending further changes. **Action item:** Member States review revised Commission Statutes and respond with comment to the Chairman, CGMHC.

The IHB confirmed its willingness to produce a booklet containing the Statutes in the official languages of the IHO. Rear Admiral Angrisano requested France to provide a French translation of the Commission Statutes, with a view to publishing the booklet once every Member State has approved them. **Action item:** Chairman coordinate with France on preparation of French version of the Statutes.

8. REPORT BY THE IHB:

Admiral Angrisano, representing the Directing Committee of the IHB, gave a brief report covering IHO professional and technical activities. He also addressed the progress of the Bureau's new offices in Monaco and preparations for the XVth International Hydrographic Conference, April 14-25, 1997. He provided the Commission with a written version of the report (CGMHC 2/8/1).

In conjunction with Admiral Angrisano's presentation, the representative from France requested member states of the Commission to actively participate in revision of IHB Special Publication S-55, Status of Hydrographic Surveying and Nautical Charting Worldwide.

The representative from the UK solicited the opinion of the Directing Committee regarding the equivalency of the raster nautical chart product in satisfying SOLAS carriage regulations. Admiral Angrisano indicated that the Bureau has no official position but is considering the issue in depth.

Thursday, March 28

9. REPORTS FROM THE MEMBER STATES:

Each of the member states provided a verbal report. A summary of each is provided below, along with a written report where indicated:

a) **Colombia** - The representative of Colombia, Commander Mendoza, expressed the hope that Colombia would soon become a member of the IHO. He indicated Colombia's

commitment to publishing an International Chart series covering its coasts. Commander Mendoza indicated his agency, Centro de Investigaciones Oceanográficas e Hidrográficas (CIOH), has four survey vessels. HYPACK software is used for collection of hydrographic data. He tabled a written report (CGMHC 2/9/1).

b) **Cuba** - Commander Alvarez reported that Cuba is developing a GPS network of control to tie to WGS84. He tabled a written report (CGMHC 2/9/2).

c) **France** - Ingénieur Général Milard referred participants to the written report he tabled (CGMHC 2/9/3).

d) **Haiti** - Ingenieur Mentor indicated great satisfaction at having the opportunity to participate in the Commission. He expressed the hope that Haiti's capabilities can be enhanced in cooperation with other nations in the region. He tabled a written report (CGMHC 2/9/4).

e) **Jamaica** - Mr. Francis reported that equipment shortages and lack of funds for the purchase of new technologies, especially GPS positioning systems, is a limiting factor in the conduct of hydrographic surveys. Nevertheless, frequent surveys are conducted of the major harbors in Jamaica. He indicated that in cooperation with the Canadian Hydrographic Service, Jamaica has provided training in hydrographic surveying to a number of developing nations in the region. He tabled a written report (CGMHC 2/9/5).

f) **Mexico** - Rear Admiral Codina provided information regarding the history of hydrography in Mexico. Presently, restructuring is occurring that will consolidate the functions of meteorology, nautical cartography, and safety of navigation matters in one directorate of the Mexican Navy.

The Mexican Navy participates in the Hydrographic Cooperation Program (HYCOOP) of the United States Naval Oceanographic Office. New collection systems and software have been introduced as a result of the HYCOOP relationship. A high priority is to restart hydrographic survey operations in order to update paper charts. This requirement will postpone efforts to develop electronic charts of Mexican waters. (No written report)

g) **The Netherlands** - Commodore Bakker referred member states to the written report he tabled (CGMHC 2/9/6).

h) **Trinidad & Tobago** - Mr. Beard indicated the Hydrographic Unit conducts surveys with the assistance of the Hydrographic Cooperation Program (HYCOOP) of the United States Naval Oceanographic Office. The requirement for these surveys is the result of tourism development.

The Unit maintains tide gages and publishes tidal prediction tables. At present, two charts conform to international standards for production, with others planned in the future. Notices to

Mariners are published by the Maritime Services Division of the Trinidad & Tobago government. (No written report).

i) **United Kingdom** - Mr. Hambrey referred member states to the written report he tabled (CGMHC 2/9/7).

j) **United States** - Mr. Maloney referred member states to the written report (CGMHC 2/9/8) for the United States, which includes information pertaining to the National Ocean Service and the Navy Meteorology and Oceanography Command. Mr. Ayres gave a brief oral report indicating Defense Mapping Agency's nautical charting efforts are directed toward building a global data base of digital vector chart information, referred to as the Digital Nautical Chart (DNC). He noted the structure and content of DNCs also lend themselves to broader GIS related applications.

k) **Venezuela** - Captain Fuentes described the organization and plans for modernization of acquisition and charting equipment within the Venezuelan Navy. He indicated a very ambitious national mapping program is underway, which covers activities in hydrographic surveys and vessel navigation. (No written report)

10. REPORT OF THE TRAINING WORKING GROUP:

The chairman, Mr. Pugh of Canada, reported on the deliberations of the Training Working Group. He tabled a written report of the group's results (CGMHC 2/10/1).

11. REPORT OF THE INTERNATIONAL CHART WORKING GROUP:

The chairman, Mr. Ayres of the United States, reported on the deliberations of the International Chart Working Group. He tabled a written report of the group's results (CGMHC 2/11/1).

12. REPORT OF THE ELECTRONIC CHART WORKING GROUP:

The chairman, Mr. Maloney of the United States, reported on the deliberations of the Electronic Chart Working Group. He tabled a written report of the group's results (CGMHC 2/12/1).

13. STATUS OF THE INTERNATIONAL BATHYMETRIC CHART OF THE CARIBBEAN SEA - GULF OF MEXICO (IBCCA):

Mr. Jose Frias, representing IOCARIBE, presented the status of the IBCCA Project, for which he is Assistant Editor. Written reports of the same were tabled in English (CGMHC 2/13/1) and Spanish (CGMHC 2/13/2).

Following the presentation by Mr. Frias, Mr. Terry of NDI-Canada asked if the IBCCA bathymetric data are available in a format suitable for use in charting. Mr. Frias indicated that the IBCCA data are in vector, but the format is not the same as the IHO S-57. It is possible that the IBCCA data could be translated to conform with S-57, however, this has yet to be investigated.

In reference to the project presentation, Ingénieur Général Milard confirmed that IOC had been informed in 1994 that France was willing to participate and take responsibility for compiling sheets 1-10 and 1-16.

The IHB representative inquired if there are plans to include the IBCCA sheets in the GEBCO Digital Atlas. Mr. Frias indicated there are plans to do so.

The Netherlands representative indicated that the relationship between IBCCA and GEBCO remained unclear to him. Mr. Frias responded that the IBCCA is a regional project that includes more than just bathymetry, however, it is guided by GEBCO standards and procedures.

14. OTHER BUSINESS:

The Chairman opened the floor for discussion of any other business not indicated on the Commission's agenda.

The United States (DMA) representative offered an opinion regarding a draft amendment to SOLAS V, proposed at the last IMO Subcommittee on Safety of Navigation (NAV 41) and addressed in a recent IHB circular letter (CL 44/1995). He referred specifically to language in the amendment defining an Official Nautical Chart as a chart issued by a national hydrographic office and meeting IMO-IHO specifications. He indicated that determining what constitutes an official nautical chart rests solely with the national hydrographic authority issuing the chart, and not an outside body. He noted the matter will be further debated at the next Subcommittee on Safety of Navigation Meeting (NAV 42) in July 1996, and encouraged member states to review and provide comments on the same to the Bureau and their respective IMO contact offices prior to that time.

The Cuban representative noted that the member states of the Commission should be prepared to address regional issues at the XVth International Hydrographic Conference at

Monaco in April 1997. In response to this point, the IHB representative indicated the opportunity for regional commissions to meet at the XVth Conference will be very limited. He suggested one hour would be allocated to each regional commission to meet in the Bureau's offices.

15. OBSERVER COMMENTS:

Canada - Mr. Pugh, speaking on behalf of the Dominion Hydrographer, indicated the Canadian Hydrographic Service appreciates the opportunity to participate as an observer. He noted the important role of training in promoting safety of navigation in the region and the development of common approaches to nautical charting.

NDI-Canada - Mr. Anderson noted the importance of hydrographic offices building and controlling their chart databases. He stressed that public/private partnerships will be valuable in leveraging the resources of national hydrographic offices and are mechanisms that warrant attention by the Commission in the future.

16. NEXT COMMISSION MEETING:

The Chairman opened the floor for discussion of the next meeting of the Commission.

There was a consensus that the Commission should take the opportunity to gather during the XVth International Hydrographic Conference in Monaco, but that it should not be considered a full meeting in view of time limitations. The United States agreed to coordinate the arrangements with the IHB.

The representative from France offered Fort de France, Martinique as the site of the next full meeting of the Commission at a date to be determined. The representative from Jamaica proposed Kingston, Jamaica as a back up site, if necessary.

17. CLOSING REMARKS:

The Chairman closed the Second Conference by thanking Commodore Bakker, Hydrographer of the Royal Netherlands Navy, and the officers and crew of the RNLNS TYDEMAN for their splendid hospitality during the course of the conference.

In addition, he thanked the Defense Mapping Agency for sponsoring the closing reception, the Canadian Hydrographic Association for its cooperation and assistance during the months leading up to the conference, and Admirals Andreassen and Angrisano of the IHB, for their timely advice and counsel.

The Chairman stressed the importance of maintaining lines of communication among the member states of the Commission. He observed that the discussions held in Curacao provided the impetus for expanded dialogue on the important issues of navigation safety and technology development. He assured his continued support in this area while serving as chairman.

Admiral Angrisano delivered brief closing remarks, expressing his pleasure at the level of participation at the Second Conference, and recommending areas of further cooperation by member states of the Commission.

The Chairman presented certificates of participation to the representatives of the member states and observer nations/organizations.

A summary of actions from the Second Conference is provided at Annex C (CGMHC 2/17/1).