

The Seahorse



Newsletter published quarterly by

The Hydrographic Society
of America



U.S. Branch of
The Hydrographic Society

Vol. VI No. 2

P.O. Box 732, Rockville, MD 20848-0732

Summer 1996

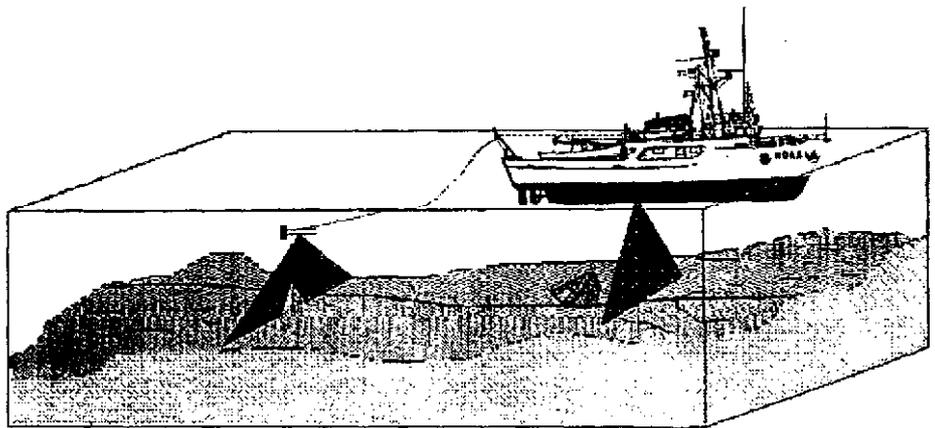
NOAA Ship RUDE surveys TWA crash site

Side scan sonar and multibeam effective

by Gerald B. Mills, NOAA, Coast Survey, Silver Spring, Md.

The NOAA Ship RUDE played a key role in the location of the wreckage of the ill-fated TWA Flight 800 which crashed south of Moriches, (Long Island), New York, July 17, 1996. The 90-foot long survey vessel departed an anchorage off Pt. Judith, Rhode Island, within two hours of the incident and was one of the first federal vessels to arrive on the scene (following the U.S. Coast Guard Cutters ADAK and JUNIPER). The search for survivors and floating debris commenced immediately in the early morning hours of July 18. After the Commanding Officer, Commander Sam DeBow, advised the on-scene coordinators of the ship's capabilities, RUDE commenced survey operations at noon with a state-of-the-art shallow-water multibeam sounding system (Reson SEABAT 9001).

The National Transportation Safety Board (NTSB) initially rejected the use of RUDE's towed side scan sonar system (EG&G 260/272) due to concern that the towfish could in some way disturb the crash site. After



six hours of multibeam operations resulted in no discoveries, RUDE was given permission to conduct side scan operations. Within two hours, the ship found large pieces of the wreckage and attempted to locate the aircraft's "black box" flight recorder with a shipboard pinger. After these attempts proved to be unsuccessful, side scan operations were resumed to further delineate the debris field. The RUDE ceased survey operations on Friday afternoon due to deteriorating weather conditions and returned to Newport, Rhode Island.

RUDE returned to the crash scene on Sunday afternoon, and after side scan operations uncovered no new

wreckage, detailed multibeam surveys of the debris field were conducted. This information was used by Navy divers to recover additional victims from the plane's fuselage.

While the RUDE received little public acknowledgement of their participation in this operation, the Officer-in-Charge of the Navy's on-site salvage operations expressed the highest praise for Commander DeBow and his crew. Navy side scan experts stated that they had never seen better work than that produced by the RUDE. The hydrographic survey community should be proud of the

(See RUDE, page 2)



THSOA OFFICERS

President CAPT Tom Richards, NOAA
 Secretary Jerry Mills
 Treasurer Karl Kieninger
 Trustees: Brian Apsey
 Ken Burke
 Pat Sanders (Corporate members)
 (Vacant)
 Branch-elected Member Karl Kieninger
 of IHQ Council



Executive Secretary Jack Wallace
 Editor "The Seahorse" Dale Westbrook
 e-mail: DWestbr@aol.com

CHAPTERS

GULF COAST

President Jeff Lilycrop
 Vice President Maria Kalcic
 Secretary Mary Pyles
 Treasurer Larry Groomeyer
 At Large Richard Byrd

HOUSTON

Chairman Shoryt Shipp
 Vice Chairman Michael Barnes
 Secretary Phil Summerfield
 Treasurer Larry Buchanan
 At Large L.K. McNeil
 At Large Alex White

TEXAS A&M UNIV. STUDENT CHAPTER

President Kendra Kowitz
 Secretary Frank Gonzalez
 Faculty Advisor Dr. Ernie Estes

THSOA Tel: (301) 460-4768
 Fax: (301) 460-4768
 e-mail: thsoa@aol.com

DISCLAIMER

Mention in *The Seahorse* of commercial companies or products does not constitute an endorsement or recommendation by The Hydrographic Society. ✧

RUDE (from page 1)

expertise and professionalism shown by the RUDE's officers and crew. Well done!

More information on the RUDE's participation in the search for the wreckage of TWA Flight 800 can be found on their World Wide Web site:

<http://www.noaa.gov/nhome/shipru.html>. ✧

National Ocean Service hydrographic data now available on CD-ROM

by LT Todd Berggren, NOAA, Marine Geology and Geophysics Division, National Geophysical Data Center, NOAA/NESDIS. (Reprinted from "Earth System Monitor," NOAA/NESDIS, Sheri Phillips, Ed.)

The "Survey of the Coast," the nation's oldest scientific agency, was established by President Thomas Jefferson in 1807 to conduct hydrographic (bathymetric) surveys off the coasts of the United States in the interest of navigation safety. Until recently the agency was known as the U.S. Coast and Geodetic Survey, and is now part of NOAA's National Ocean Service (NOS).

The agency objective remains the same; to collect quality water depth data from the oceans, coast, waterways and harbors. Each survey represents a unique and comprehensive record of the position of the coastline and the bottom configuration of adjacent waters. These data have been collected primarily for navigation as part of NOS's mission to produce nautical charts for the mariner and maritime commerce.

However, there are many secondary uses for these data. The survey bathymetry (water depth data) give a clear and detailed picture of bottom

topography for: modeling of ocean currents; geological studies; oil, gas, and mineral exploration; coastal planning; and ecosystem evaluations. These data even have recreational uses such as guiding SCUBA divers to wrecks and bottom features.

Until the late 1960s, survey data were stored on paper media in the archives at the National Ocean Service. In the early 1970s, a massive project to digitize bathymetric soundings from these paper surveys was carried out. In this project, which was active for only a few years, over three thousand surveys containing some 26-million soundings were converted from paper to digital media. Many high-quality older (mostly pre-1930) surveys still exist only on paper media, and recently, digitization of these older data was restarted and continues at present.

Historical surveys are important because they give a detailed record of changes brought about by natural and cultural causes through time. Effects of events such as earthquakes, storm surges, and dredging can be seen by comparing survey bathymetry of the same areas collected at different times. Beginning in the 1960s and continuing today, hydrographic data are collected digitally using high-tech computer equipment and satellite navigation.

Meeting user needs

Hydrographic survey data existing only on paper were, and still are, supplied to customers by manually copying paper-to-paper as a custom product on demand. This process is time consuming and expensive both for the customer and the archivist. Beginning about 1980, digital hydrographic survey data has been available to the public, but access has been cumbersome because of the large volume of data.

(See **Data**, page 3)

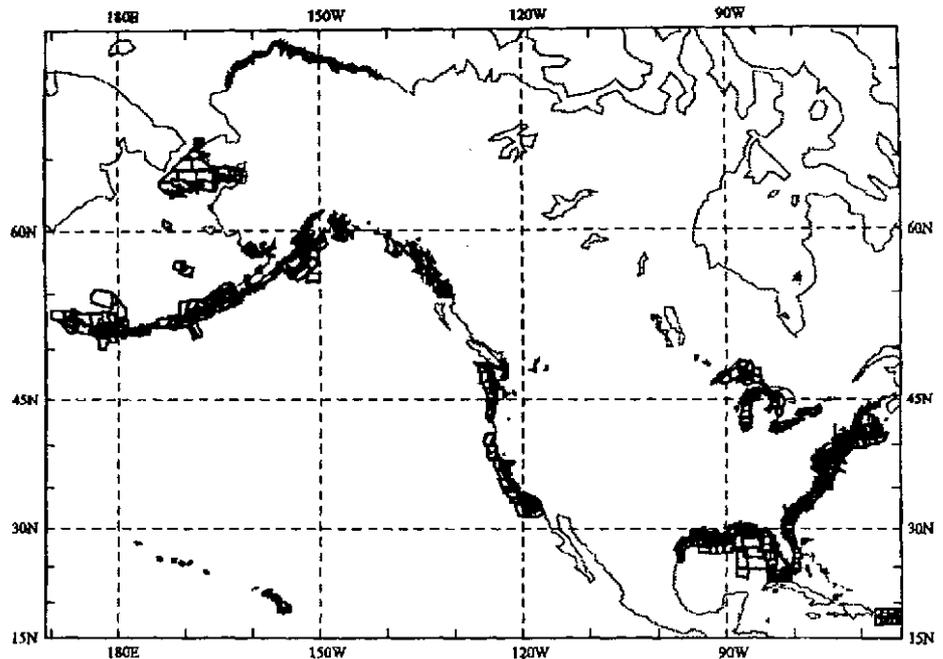
Data (from page 2)

Now, for the first time, the complete NOS hydrographic data set existing in digital form is available to anyone who has a personal computer and a CD-ROM reader. The NOS hydrographic survey data provide the most extensive digital bathymetric data available for the coastal waters of the continental United States, Alaska, Hawaii and Puerto Rico/Virgin Islands (figure 1).

Digital data holdings include over 44-million depth soundings from 4964 surveys (totaling 1.7 gigabytes of data), and all of these data are packed onto two CD-ROM disks. The NOS digital set consists of depths and navigation features digitized from hydrographic surveys completed between 1930 and 1965, and hydrographic survey data acquired digitally in the field since 1965. These data were collected by the National Ocean Service, its predecessor, the Coast and Geodetic Survey, and, prior to 1976 in the Great Lakes, the U.S. Army Corps of Engineers.

The CD-ROM set was designed to make coastal U.S. bathymetric data readily available to the public at a reasonable price. To meet this need, a comprehensive inventory system was designed and is included on the CD-ROM. To satisfy a wide range of user needs, a variety of data search options are included. The user interface allows a user to search the entire database with mouse clicks and pull-down menus. The window-driven interface simplifies data searches and guides users with an on-line windows-style help system.

Ready availability to so many potential users of such a large data set, valuable for so many applications, initiates a new era for utilization of the NOS coastal hydrography collected from U.S. offshore waters. Instant access to the NOS data will promote in-



▲ Figure 1. Data locations for NOS hydrographic surveys.

creased productivity for a much larger numbers of data users conducting more useful work on a increased number of applications. The data are affordable to a board cross-section of users. Researchers, environmental decision-makers, and others have unlimited access and don't have to wait for a custom product to arrive. Already sales have increased to 70 % since announcement of the CD-ROM set.

Software and metadata

Custom menu-driven software called GEODAS (GEOphysical DATA System), developed at the National Geophysical Data Center (NGDC) specifically for managing geophysical and hydrographic data, is included on the CD-ROM. This software can operate under the Windows and UNIX operating systems. With this software, a user can search areas of interest and extract data from the CD-ROM interactively. Searches can be performed according to several criteria: platform, year of survey, survey

identifier, and date the survey was added to the system. Zooming capabilities are supported, with each zoom defining a narrower search area. Map outlines are graphically displayed, and as the user zooms in, a better resolution coastline makes it easier to identify areas. In order to capture data for a geographic area, a user outlines an area with mouse clicks or drags the mouse to define a region.

In addition to the survey data which gives a position (latitude and longitude) and depth, a header record details how the survey was compiled. The header record includes the following: survey ID, platform name, type of survey, survey scale, specific location of survey, position determination method, and horizontal and vertical datum. The header record is readily accessible and easily viewed on the screen or saved to a text file for later analysis.

NGDC visualization software called Hydroplot is included as an add-

(See **Data**, page 4)

Data (from page 3)

on enhancement. Hydroplot was designed as a visual interpretation tool for the NOS hydrographic data. Assigning colors to depth ranges produces an image which can then be plotted directly to the screen as color coded dots representing depth values.

Zooming capabilities are also supported as well as the ability to click on individual color dots displaying depth value and corresponding latitude/longitude position.

Data use

Digital hydrographic survey data from the U.S. inshore and offshore regions, which constitute a detailed record of bottom topography of these regions, is of great interest to a large number of commercial and scientific users. For example, users of this database have acquired digital NOS survey data for the following:

- migration and habitat studies of fish and marine mammals;
- delineation of bottom features for commercial fishermen;
- earthquake and fault studies;
- sediment and pollutant studies;
- studies of storm surge and tsunami effects;
- oil, gas and mineral exploration;
- coastal planning and ecosystem evaluations;
- color imaging and animation (fly-bys).

The NOS data are well suited for Geographic Information System (GIS) and mapping applications. Data can easily be downloaded from the CD-ROM and imported as a layer in a GIS. Data are represented in geographic coordinates so points can be plotted independent of scale and projection.

Because the data are historical and

may not reflect current conditions, the database cannot be used for navigational purposes. Consult the NOS nautical chart series for navigational needs. For on-line WWW access to information on bathymetry data and other data at the National Geophysical Data Center use URL:

<http://www.ngdc.noaa.gov/mgg/mggd.html>

For more information or purchase of the NOS hydrographic CD-ROM set, contact:

Orders

National Geophysical Data Center
325 Broadway E/GC4
Boulder, CO 80303-3328 U.S.A.
Telephone: (303) 497-6338
Fax: (303) 497-6513
Internet: rwarnken@ngdc.noaa.gov

Technical details.

Todd Berggren (303) 497-6376 or
Dan Metzger (303) 497-6542
325 Broadway E/GC3
Boulder, CO 80303-3328 U.S.A.
Internet: tberggren@ngdc.noaa.gov or
dmetzger@ngdc.noaa.gov ✪

SPEED BUMP DAVE COVERLY



Mail Bag



[if you will recall "From the Editor's Desk" in the Spring 1996 issue of *The Seahorse*, I asked if there were any members of The Hydrographic Society out there who were also members of another exclusive group, SPEBSQSA, Inc. (The Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America). I have been a member for 26 years.

Well, sure enough, a letter poured in, and look where it's from! — Ed.]

Saudi Aramco Box 1532
Dhahran 31311, Saudi Arabia
May 25, 1996

Dear Dale,

I just received my spring *Seahorse* and read of your search for fellow combination THS/SPEBSQSA members. I can inform you there is at least one other, a couple continents away.

I began singing with the Boulder (Colorado) **Timberliners** in 1990. In August 1991, I took a hydrographer position with Saudi Aramco here in Saudi Arabia. Fortunately, my work schedule (six weeks on, three weeks back home) allowed me to continue singing during my frequent trips home. Eventually, I transferred ashore to Aramco's geodetic group, and was able to resume singing on a weekly basis.

We have a chorus, **The Arabian Knights**, and a quartet, **Four on the Floor**, in which I sing lead. Due to the dearth of other entertainment opportunities for the expatriate community here, we keep an active performance schedule. We perform regularly in the Dhahran Theater on the Aramco compound, and have performed at other expatriate compounds and at the local U.S. military base. We are currently preparing for our

(See **Mail**, page 5)

Mail (from page 4)

annual appearance at the American Consulate's Independence Day celebration, which affords us the rare opportunity to legally drink beer in Saudi Arabia.

The photo of **The Arabian Knights** on the reverse also appeared in a *Harmonizer* issue (in late '94, I believe).

"Keep the Whole World Singing"

Bob Mandzi

[Thanks for writing, Bob. You certainly are doing your part to "Keep the Whole World Singing." — Ed.]



The Arabian Knights chorus celebrating the 4th of July at the U.S. Consulate, Dhahran, Saudi Arabia, 1994. **Bob Mandzi** is the tall guy with dark glasses in back row center.

Dear Dale,

With reference to the current issue (Spring 1996), pg. 4, I suspect that the Supt., USC&GS, 1915, was expressing either a plea for funding, or better, to show congress how well he could do with less. Doing a bigger and better job with fewer personnel, less equipment, and accordingly, a smaller budget shows great management skills, and, because of his efforts, the Supt., USC&GS, would have earned a higher rank (if in NOAA-Corps equivalence), or an SES civilian grade.

Just my opinion. Also, re: the Rat-Pack cartoon, IT SEZ IT ALL!

Norm Cherkis
Naval Research Laboratory
Washington, D.C.

(Unless otherwise stated, expressed views are my own. They may not be the opinions of the U.S. Navy, the DoD, or the U.S. government.)

[Norm: Thanks for your e-mail. I like a guy who can put a good spin on a story. Some politicians nowadays could use a guy like you who could keep them out of trouble. — Ed.] ♣

Contract consultants wanted

Quality Positioning Services, well known in Europe for providing quality, control/quality assurance services to the offshore industry, has recently opened an office in Dallas, Texas, to better support its U.S. clients. Navigation and seismic consultants interested in contract work are invited to submit their resumes to:

Quality Positioning Services, Inc.
Attn: Scott Nesbitt
4849 Greenville Avenue, Suite 1530
Dallas, TX 75206
Tel. (214) 691-9362
Fax: (214) 890-0818
e-mail:
103012.2734@compuserve.com



**"Be selective. Be concise.
Don't tell people what you know;
tell them what they need to know,
what it means to them, and
why it matters."**

— Gen. David C. Jones

Karl's Keynotes

by US. Branch Representative to Council and THSOA Treasurer Karl Kieninger

REPORT TO THE MEMBERSHIP

This newsletter serves two different Societies. There is The Hydrographic Society of America, of which I am treasurer. There is also the U.S. Branch of The Hydrographic Society, of which I am treasurer and branch representative to council. I was elected chairman of council 18 months ago. Some of the following will be redundant for those of you who receive the Journal, but may be of interest to the members who do not.

At the May council meeting, Ross Douglas was elected for a second term as president of the society, and accepted. After considering the comprehensive report by G. L. Haskins, the council gave the president a more active role in the day-to-day running of the Society by making him a mem-

(See **Karl**, page 6)

Karl (from page 5)

ber of the executive committee. Council also approved a modest budget for Ross to travel to international events.

Our president, society volunteers and our staff presented an excellent image of the Society at OI '96. I do not know how anyone could have done more. Every exhibitor was visited at least once. Hundreds of people visited our booth and were introduced to the Society.

This spring and summer, the Society has been represented at the Advanced Hydrographic Workshop of the U.S. Army Corps of Engineers and Coastal Oceanographics, Inc., at Mobile, Alabama, and at the Canadian Hydrographic Conference in Halifax, Nova Scotia. Both of these meetings had very large and high quality attendance.

However, the Society has not seen a large increase in membership or an increase in the willingness of companies to advertise in the *Journal* and/or *Diary*. It appears from preliminary information provided to council that both membership and advertising have continued to decrease over the last year.

The financial statement ending March 31, 1995, showed a general reserve of £189,331, of which £123,603 was held by international headquarters. The financial statement ending on March 31, 1996, shows that the general reserve has dropped to £174,856, £102,123 of which was held by IHQ. Council was faced with a shortfall of over £20,000.

This meant looking at the staff, headquarters location, the journal, the Diary, and the scheduling of meetings in an effort to reduce our expenditures. For each of these issues, the

council had to face the reality that if we made any cut that effected service to the membership, we could give members a reason not to renew.

For this year, The Hydrographic Society membership subscription rates were raised by a unanimous vote of council. This will have some effect on our income but may be offset by a decrease in regular members. At best, we are faced with a large deficit for the 1996-97 period. In The Hydrographic Society of America, the increase was not passed on to the membership of our branch. Each branch retains 25 percent of the subscription rate it collects to cover the cost of its operations. It is from this 25 percent that the rate increase was taken.

MEETING SCHEDULE

Several years ago, council reduced the schedule of its meetings from four meetings a year to two. It was estimated that we would save at least £5,000 by holding one a year, so we chose reducing the number of meetings a year to one. No major policy issues are expected to arise before our next meeting in one year. Under the Articles of Association, the council may delegate its executive authority by resolution. This authority to make decisions on behalf of council was given on a small number of administrative issues. The fiscal problem is one for which we have to wait until the end of our next fiscal year to reassess the trends. The reduction in the number of meetings will give the staff more time to work on other items.

In a related move, the cost of sending a representative to the AGM from each branch was shifted from central funds to each of the branches. This could save central funds an additional £4,000. It was recognized that this only shifts costs inside the Society, and that some branches may not have the

money to send a representative. Application by a branch can be made to the treasurer for these funds if the branch cannot afford it. This is perhaps the most questionable action from our branch's point of view.

DIARY

The council voted not to publish a 1998 *Diary*. The cost of printing the *Diary* is £9,600 plus the cost of distribution. Our total *Diary* advertisements and sales were £5,000. This will be a net savings of at least £4,600, plus freeing up a certain amount of staff time that was devoted to the *Diary*. Once in the past, council did away with the *Diary*. Jack Wallace and I were upset enough about this that we found a sponsor in the U.S. and printed our own for the year. It is possible that the branches may want to do this again.

HYDROGRAPHIC JOURNAL

One of the largest expenses for the Society is the publication of the *Journal*. Council considered publication of the journal once every four months, rather than once every three months. Money is lost on each edition of the journal. If you assume that the cost of printing, distribution, advertisement and sales would all be reduced by one quarter, there is a savings of about £5,000 in producing the *Journal* once every four months. The time saved by the staff and editor could have been used to work on other publications. This measure was narrowly defeated.

HEADQUARTERS LOCATION

It appears that the University of East London will not require that we move for the next few years. However, the university may require the Society to

(See **Karl**, page 7)



Karl (from page 6)

vacate with a three-month notice. The council authorized new office accommodations only if this provision in the lease is exercised. This action will not reduce our expenditures, but neither will it increase our deficit.

STAFF

Council has a small paid staff in England consisting of two full-time and several part-time employees. This includes the editor of the *Journal*. A reduction in staff was discussed, but any action deferred. A cost-of-living increase of 3 percent was given to the staff.

In this time of "down-sizing," there appears to be a decrease in the amount of "discretionary time" on the part of the large number of volunteers who are the backbone of our Society. There is a real need for a staff at our headquarters, but the size, duties, and staff location must be dictated by the amount of money we have. I have not agreed with each and every action taken by the staff at headquarters. I do believe that there are more efficient ways to carry out some functions, but pound for pound, we get value from our staff. Please do not read this as any criticism of the amount of work our staff or officers do for the Society, but the fact is, we may have to cut costs or we will not have a Society in a few years.

GENERAL COMMENTS

I would have made more drastic cuts than some other members of council. However, I think we have reached a balance for the next year. The use of e-mail and the World Wide Web may reduce some communication costs, though these are not a major part of the budget. There is nothing council has done that cannot be

changed. Our members may have ideas on how to increase our membership and advertising and decrease our expenses. These will be looked at. Please let me know your views.

We may have a better financial year than projected; this depends in large part on the success of our biannual conference that will be held in the great nautical city of Rotterdam. As an aside, the earliest part of Rotterdam was built along the right bank of the river Rotte where that small stream joins what the locals call the Maas. Everyone else calls the river the Rhine.

From the reports of Cor Don, the chairman of the organizing committee, everything seems to be going very well. All exhibitor space is sold. The technical program and social program for our meeting does credit to our Benelux Branch. I hope to see some of you at what promises to be an outstanding event. ✨

Salty Facts

from "Naval Meteorology and Oceanography Command News,"
Cathy L. Willis, Ed.

One of history's earliest recorded hurricane warnings was issued by none other than Christopher Columbus. He and his crew were the first Europeans to experience these violent storms. On June 29, 1502, during his fourth voyage to the New World, he anchored his ship in a sheltered area of the Haitian coast near Santo Domingo. He sensed a storm was approaching, and his aching arthritic joints supported his analysis.

Some 30 ships anchored in the harbor at Santo Domingo were about to set sail for Spain. Columbus ad-

vised Governor Don Nicolás de Ovando to delay the ships' departure. Ovando failed to heed the warning, and the ships left the harbor. All of the fleet but one was lost, including the ship carrying the former governor, Francisco de Bobadilla, who two years earlier had sent Columbus and his brothers, Bartolomé and Diego, to Spain in chains.



WARDROOM — Aboard 18th century British ships there was a compartment called the wardrobe which was used for storing booty taken at sea. The officers' mess and staterooms were situated nearby, so when the wardrobe was empty, they congregated there to take their meals and pass the time. When the days of swashbuckling and pirating had ended, the wardrobe was used exclusively as an officers' mess and lounge. Having been elevated from a closet to a room, it was called the wardroom.

PEA COAT — Sailors who must endure pea-soup weather often don their pea coats, but the term isn't derived from the weather. The heavy topcoat worn in cold, miserable weather by seafaring men was once tailored from pilot cloth — a heavy, coarse twilled blue cloth with the nap on one side. The cloth was sometimes called P-cloth and the garment made from it a P-jacket-later a pea coat. ✨



NOAA Corps to be eliminated

from "Naval Meteorology and Oceanography Command News," Cathy L. Willis, Ed. (originally from a NOAA release)

Acting on the recommendations of the President's National Performance Review, the administrator of the National Oceanic and Atmospheric Administration has announced that the NOAA Corps, the agency's commissioned service that helps carry out NOAA's environmental mission, will begin its transition to civilian status beginning Oct. 1, 1996.

"Our first priority is to ensure that the dedicated men and women of the NOAA Corps are given every opportunity to continue their careers at NOAA," said D. James Baker, NOAA administrator and Department of Commerce under secretary for oceans and atmosphere. "They represent an outstanding human resource and I believe it is critical to NOAA that we retain their talent and corporate knowledge within our workforce."

NOAA Corps officers — all scientists or engineers — operate and manage NOAA's fleet of scientific research ships and aircraft, as well as support the nautical and aeronautical charting, geodetic and other shoreside missions of NOAA. Operating under the Corps' separate personnel system, most officers rotate between assignments, bringing a blend of operational, technical and management skills, gained through a broad spectrum of experiences, to each mission.

The transition from commissioned to civil service is to be completed within six months, Baker said. New positions will be created within the General Schedule professional series into which the 360 active duty NOAA Corps officers will be transferred. A draft of a detailed implementation

plan to accomplish this, development of necessary administrative procedures, and identification of legislative or regulatory actions needed to effect the transition are expected to be completed by the end of February.

Baker said that he will fully support any legislative action necessary to ensure that the transition to civilian service will not jeopardize the earned benefits and entitlements of active duty and retired personnel.

The NOAA Corps, the nation's smallest uniformed service, traces its roots back to the Coast Survey established by Thomas Jefferson in 1807, and is the direct descendant of the commissioned corps of the U.S. Coast & Geodetic Survey. This will be the first time in history that a full uniformed service is eliminated.

"We are all well aware of the outstanding contributions the NOAA Corps has made to NOAA and the many critical functions Corps officers are performing and will continue to perform within our programs. We must work together now on the challenging task of achieving the President's NPR directive — retaining the program support essential to NOAA's function while providing the equitable treatment these dedicated career employees fully deserve," Baker said. ✪

Halifax hosts 1996 Canadian Hydrographic Conference

by Gerald B. Mills, NOAA Coast Survey, Silver Spring, Md.

The 1996 Canadian Hydrographic Conference was held at the World Trade and Convention Center in Halifax, Nova Scotia, Canada, from June 2-5. This year's conference devoted one day each to the three critically important new technologies in hydrographic surveying: Differential

Global Positioning System (DGPS), Multibeam Survey Systems, and Electronic Chart Display and Information Systems (ECDIS). Of particular interest were papers on minimum under-keel clearance navigation using GPS-OTF technology, management of the large data sets generated by multibeam sonar systems and the benefits and limitations of using raster data within the ECDIS framework. The latter topic is especially important as nautical charting offices attempt to address the demands of the shipping industry for electronic chart data while facing continuously dwindling resources (funding and personnel). Hydrographic Society members are referred to the July issue of *The Hydrographic Journal* for more detailed information on the Conference. ✪

SPEED BUMP DAVE COVERLY



The deadline for
submission of
articles for
The Seahorse
is October 18, 1996

IHO establishes Internet home page

by Gerald B. Mills, NOAA, Coast Survey, Silver Spring, Md.

The International Hydrographic Organization (IHO), whose headquarters is in Monaco, recently established a home page on the Internet World Wide Web. This site <http://www.iho.shom.fr> contains a detailed description of the history of the IHO, a list of current Member States, the activities in which the IHO is currently involved, publications available from the IHO and notices of upcoming meetings. Look for a rapid expansion of the contents of this page after the headquarters staff relocates to a new building in August 1996. ✨

On the next!



by Goldbrick

The word for the day is...

It looks like the icosahedron is resurrected. What in tarnation is that, you say? Well, we'll let the National Geophysical Data Center (NGDC) answer that. Here is their explanation:

"How do you make a flat sheet of paper into a representation of a spherical object? In particular, how do you make a flat map into a world globe? The ancient Greeks figured out that there were just a few solid objects that could be constructed from certain flat, regular polygons (equilateral triangle, square or pentagon): *tetrahedron* (four

triangles), *cube* (six squares), *octahedron* (eight triangles), *dodecahedron* (12 triangles or 12 pentagons) and *icosahedron* (20 triangles). With each increase in the number of faces, the regular-sided solid looks more spherical. With 20 faces, the icosahedron is the best 'flat' sphere available."

NGDC is now selling the "Surface of the Earth — Icosahedron Globe," showing elevations and depths over the entire world. The relief of the continents and the sea floor is depicted by shaded colors. The overall size of the assembled globe is approximately 4.5 inches with each side of the individual triangles measuring 2.5 inches.

They go on to say, "As a class project or a decorative pendant, the Icosahedron Globe will be an amusing and informative exercise. By the way, getting tape on the *inside* of the last open seam is an exciting challenge to the dexterity of the globe-builder! We definitely advise against Super Glue (two-sided tape is a good choice)."

Do you recall the National Ocean Service "U.S. Hydrographic Conference '88" in Baltimore, Maryland? The theme was: **The World of Hydrography**. The conference logo was, guess what? An ICOSAHEDRON. This time, though, there was no relief shown, just land outlines in NOS chart colors. Well, they gave away a couple of free samples (unmade, of course) to all conference registrants. I can't believe the fun we had making these things and hanging them up. In fact, I still have one of them hanging in my "pad" 8 years later.

So, here's *your* chance to get some of these fun do-it-yourself items. Get your kids away from the TV or Nintendo. They will forever thank you for indelibly etching the word "icosahedron" in their (and your) brains.

Interested? Give Robin Warnken a call on (303) 497-6338, or e-mail: rwarnken@ngdc.noaa.gov. ✨

NOAA's Office of Coast Survey web site address

The new Internet address for NOAA's Office of Coast Survey is:

<http://www.nos.noaa.gov/ocs/>

Try it! ✨

Coastal Multibeam Sonar Training Course held

by Gerald B. Mills, NOAA, Coast Survey, Silver Spring, Md.

The third annual Coastal Multibeam Sonar Training Course was held from June 15-25, 1996, in St. Andrews, New Brunswick, Canada. This course, sponsored by the United States/Canada Hydrographic Commission, has been designed to train experienced hydrographers in the use of multibeam sonar systems for coastal hydrographic surveys. This year's course was attended by 31 hydrographers from six different countries including Australia, Chile and the Philippines. Instructors were from the University of New Brunswick's Department of Geodesy and Geomatics Engineering and Scripps Institution of Oceanography.

Lecture topics included fundamental acoustics, beam forming and beam steering, sonar body positioning and orientation, data cleaning and processing, error analysis, quality control, and data management and presentation. As in past years, there were equipment demonstrations aboard launches provided by the Canadian Hydrographic Service. These included the Simrad EM3000, Reson SEABAT 9003, Atlas Fansweep 20, ISIS Submetrix 100 and the Allied Signal ELAC BOTTOM-CHART. Classroom presentations

(See **Course**, page 10)

Course (from page 9)

were also made by Coastal Oceanographics (HYPACK), Applied Analytics (POS/MV), ODOM Hydrographic Systems (ECHOSCAN), Sirius Solutions (SEE ~ BED) and SAIC (MBHAT).

As one can imagine, there was a tremendous amount of additional information gained from sharing experiences (sea stories) with other hydrographers outside of the classroom. This was undoubtedly aided by the consumption of more than a few of Canada's finest (Moosehead, Molson's, LaBatt's). There was even time for an evening of sea kayaking on Passamaquoddy Bay, followed by a lobster dinner on the beach. All of the attendees agreed that "Camp Multibeam" was a very worthwhile experience and that the information gained will greatly assist them in their future involvement with this important new technology. ✨

NEWS FROM THE CHAPTERS



Unfortunately, there will be no news from the chapters in this issue. Phil Summerfield of the Houston Chapter has been sending out his newsletters on e-mail and I haven't been able to read them yet. I thought it would be easy and waited until the last minute. Sorry, but I promise I'll get all his reports into the next issue.

There were no reports from the other chapters. ✨

"Creative thinking may simply mean the realization that there's no particular virtue in doing things the way they have always been done."

— Roger Van Oeck

Searching for wrecks and obstructions?

[The following was taken from the OCS web site (see page 9) and is pertinent to the TWA crash-site investigation. — Ed.]

Side scan sonar is a specialized sonar (SOund NAvigation and Ranging) system for searching and detecting objects on the seafloor. Like other sonars, a side scan sends out sound energy and analyzes the return signal (echo) that has bounced off the seafloor or other objects.



Side scan sonar image of a sunken barge

In a side scan, the transmitted energy is formed into the shape of a fan that sweeps the seafloor from directly under the towfish to either side, typically to a distance of 100 meters. The strength of the return echo is continuously recorded, creating a "picture" of the ocean bottom where objects that protrude from the bottom create a dark image (strong return) and shadows from these objects are light areas (little or no return). While the shape of the seafloor and objects on it can be well-depicted, most side scan systems cannot provide any depth information.

Multibeam sonar systems provide fanshaped coverage of the seafloor similar to side scan sonars, but the output data are in the form of depths rather than images. Instead of continuously recording the strength of the return echo, the multibeam system

measures and records the time for the acoustic signal to travel from the transmitter (transducer) to the seafloor (or object) and back to the receiver.

Multibeam sonars are generally attached to a vessel, rather than being towed like a side scan. Therefore, the coverage area on the seafloor is dependent on the depth of water, typically two to four times the water depth.

Search patterns are usually run as a series of parallel lines that ensure overlapping coverage of the side scan or multibeam sonar. Under certain circumstances, 200 percent coverage is obtained by running a second search pattern perpendicular to the first over the same area.

The NOAA Ship RUDE utilized both of these systems in surveying the TWA Flight 800 crash site south of Moriches Bay, N.Y. ✨

COMPUTER VIRUSES CAN BE FUN

Here are some you should know about

AT&T Virus: Every three minutes it tells you what great service you're getting.

MCI Virus: Every three minutes it reminds you you're paying too much for the AT&T Virus.

Politically Correct Virus: Never calls itself a virus," but instead refers to itself as an "electronic microorganism."

Ted Turner Virus: Colorizes your monochrome monitor.

(See **Virus**, page 12)

Application for Membership



**The Hydrographic Society
of America
and the
U.S. Branch of The Hydrographic
Society**

Membership in The Hydrographic Society is open to any individual or organization with an interest in surveying afloat. No formal qualifications are required.

The Hydrographic Society of America (THSOA) serves as the focal point for activities in America. Members of THSOA receive *The Seahorse* newsletter, are eligible for membership in local chapters, and receive a discount on registration at THSOA sponsored events. Local chapters have been formed in Houston, Tx., Seattle, Wash., and Bay St. Louis, Miss. THSOA also provides administrative support to the U.S. Branch of The Hydrographic Society.

The Hydrographic Society (THS) was founded in 1972 at the Northeast London Polytechnic in London, England. Membership numbers over 1800 individual and 270 corporate members from 66 countries. For those members interested in the international aspects of the organization, the U.S. Branch provides a convenient way to pay dues directly in U.S. dollars. Members of the U.S. Branch receive all the benefits of THS, including quarterly issues of *The Hydrographic Journal*, an annual Diary, and a discount on registration at sponsored international events.

The dues structure allows individual and retired members to opt for THSOA alone or both THSOA and THS. Individual, Retired, and Student Memberships begin on entry and are renewed on April 1. Corporate Memberships are renewed on January 1. Dues are not prorated, but members joining in the middle of the year receive all copies of the publications for that year.

Corporate Members receive two copies of *The Hydrographic Journal*, reduced rates for advertising in the *Journal* and Diary, a listing in the October issue of the *Journal*, and access to the mailing list of those members who have consented to have their names included.

NAME: Title (Mr, Ms, CAPT, Dr, etc.) First			M.I.	Last
ADDRESS (for mailing and correspondence)				
CITY	STATE		ZIP	
EMPLOYER				
TEL:	FAX:		e-mail address:	
YEAR (From which membership is to be effective):			199	
<input type="checkbox"/> Check box if name may be included on mailing list provided to Corporate Members				

ANNUAL DUES

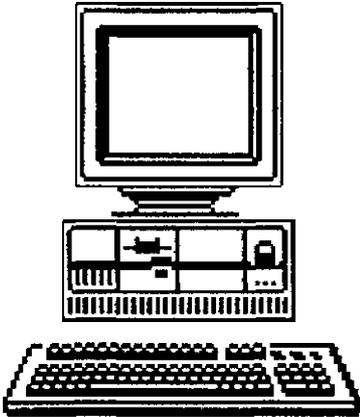
(Check appropriate box)

INDIVIDUAL	<input type="checkbox"/> THSOA \$15	<input type="checkbox"/> THSOA/THS \$55
RETIRED and no longer employed in the profession of sea surveying	<input type="checkbox"/> THSOA \$10	<input type="checkbox"/> THSOA/THS \$30
STUDENT full-time undergraduate or graduate	<input type="checkbox"/> THSOA/THS \$15	_____ Name of Institution
CORPORATE	<input type="checkbox"/> THSOA/THS \$225	
ASSOCIATE CORPORATE available to a different location or unit of a parent Corporate Member	<input type="checkbox"/> THSOA/THS \$125	_____ Name of Parent Corporate Member

STATEMENT: I wish to make application for membership in The Hydrographic Society. I agree to abide by the Articles of Association and to further its aims and objectives. I declare that the answers to the above are accurate to the best of my knowledge and belief I agree that the decision of The Hydrographic Society Executive in regard to this application is final.

SIGNATURE _____ DATE _____

Please return with payment to,
The Hydrographic Society
P.O. Box 732
Rockville, MD 20848-0732

Virus (from page 10)**Government Economist Virus:**

Nothing works, but your diagnostic software says everything is just fine.

Congressional Virus #1: The computer locks up, screens split erratically with a message appearing on each half blaming the other side for the problem.

Congressional Virus #2: Runs every program on the hard drive simultaneously, but doesn't allow the user to accomplish anything.

Airline Virus: You're in Dallas; your data are in Singapore.

Freudian Virus: Your computer becomes obsessed with its own motherboard.

PBS Virus: Your computer stops every few minutes to ask for money.

**Research ship launched**

from the OCS web site

NOAA and Halter Marine launched the new oceanographic research vessel RONALD H. BROWN on Thursday, May 30, 1996, in Moss Point, Mississippi. Mrs. Alma Brown, widow of the late Commerce

Secretary, christened the ship in a traditional ceremony.

The new NOAA ship, originally to be named the **RESEARCHER**, has been named to honor Secretary Brown who was killed in a plane crash on April 5 while on a trade mission to Bosnia. ✪

McARTHUR will attempt deployment of sensor

also from OCS web site

In a move that promises to bring dramatic increases in navigational safety for tankers, containerships and other vessels in California's San Francisco Bay, the NOAA Ship McARTHUR will attempt to deploy an Acoustic Doppler Current Profiler (ADCP) in the 300 foot-deep waters beneath the Golden Gate Bridge. ✪

**The Hydrographic Society**

of America

P.O. Box 732

Rockville, Maryland 20848-0732

**FORWARDING AND RETURN POSTAGE GUARANTEED,
ADDRESS CORRECTION REQUESTED**