

# The Seahorse



Newsletter published quarterly by

The Hydrographic Society  
of America



U.S. Branch of  
The Hydrographic Society

Vol. IX No. 2

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

Summer 1999

## NOAA SHIPS LOCATE JFK JR.'S AIRPLANE

### **Ships RUDE and WHITING instrumental in search and recovery**

*by Jerry Mills, NOAA, Coast Survey*

NOAA's hydrographic survey ships RUDE and WHITING were instrumental in the search and recovery operations for John F Kennedy Jr.'s aircraft off Martha's Vineyard, Massachusetts in late July. During the week preceding the accident, RUDE had been conducting side scan sonar operations at the east end of Long Island, less than 60 miles from the scene of its July 1996 discovery of the wreck of TWA 800.

The 90-foot long RUDE was in port in Montauk, New York, on the morning of Saturday, July 17, when the news of the missing plane was received. The ship's commanding officer, Lt. Cdr. James Verlaque, immediately offered assistance to the U.S. Coast Guard and the vessel arrived on scene by early evening.

RUDE's equipment and the crew's extensive experience in searching the seafloor for navigation hazards and obstructions makes it particularly well-suited for a search of this type. The ship

is equipped with an EdgeTech 260/272 side scan sonar which operates at a frequency of 100kHz and a Reson SEABAT 9003 multibeam sonar. As with any type of technology, frequent use leads to high-efficiency and expertise, both of which characterized the operations aboard RUDE which surveys throughout the entire field season with this equipment.

The biggest initial decision was to determine where to begin the search. Commander Sam DeBow, NOAA, was the on-scene coordinator for survey activities within the U.S. Coast Guard unified command center and managed a NOAA shore support unit. He obtained information on the location of various articles from the aircraft (luggage, insulation, head rest, landing strut, etc.) that were found along the beach and in the ocean southeast of the western end of Martha's Vineyard. Some officials concluded that the wreckage site was therefore in this area, but Cdr. DeBow decided to forward this information to NOAA's Office of Response and Restoration.

They input the position of the flotsam and the wind and current information from the time of the plane's

disappearance into a modeling program that suggested the most likely area of the crash was 2 to 13 miles west southwest of Gay Head (westernmost tip of Martha's Vineyard). Using the aircraft's last known radar position nearly 7 miles from shore, the search area was established over the inner half of this model and an area just to the south (large rectangle in diagram—See page 2).

Survey operations consisted of six mile long lines being run in an approximate east-west direction spaced less than 200 meters apart to ensure 100% coverage of the seafloor.

On Monday, July 19, RUDE was joined in the search by the NOAA Ship WHITING and the U.S. Coast Guard Cutter WILLOW, both of which were equipped with side scan sonars. WILLOW was equipped with an analog dual frequency EdgeTech 595 side scan and WHITING operated a Klein T5500, the latest, state-of-the-art high speed high resolution side scan sonar. The T5500's high frequency (500kHz) and phased-array projector allows it to produce extremely high resolution images of the

(See **Airplane**, page 2)

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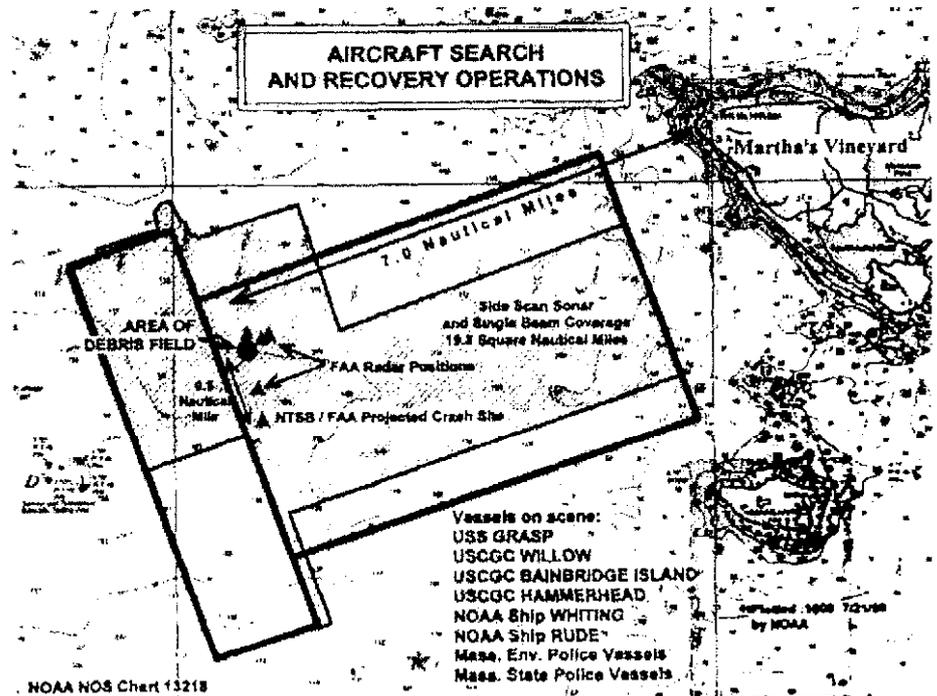
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## Airplane (from page 1)

seafloor while being towed at a speed nearly twice that of conventional side scans.

Shortly after the two additional ships joined the search, two new pieces of information became available. FAA provided updated calculations of the final four radar positions of the ill-fated plane and the National Transportation Safety Board (NTSB) and the FAA presented their best estimate of the crash site. RUDE was redirected to the northwest portion of the original search area, WHITING was assigned to a new search area west of the original area (north-south rectangle in diagram) and WILLOW began side scan operations in the northeast section (unhatched area of the diagram).

Within three hours RUDE obtained a contact that was suspected to be the wreckage. The side scan image was somewhat blurred but was in stark contrast to the sonar return from the surrounding sandy seafloor. WHITING's high resolution side scan sonar was then towed over the site, yielding a

much clearer image, but one that did not resemble an aircraft at all. Nevertheless, the experienced members of the survey crews of both ships concluded that due to its proximity to the last reported radar positions, it would be worth investigating. RUDE's multibeam sonar was used to precisely locate the contact and dropped a marker buoy on the site. The Navy's rescue and salvage ship USS GRASP used its ROV to confirm that the contact was indeed the wreckage of the Piper Saratoga and that the anchor chain of RUDE's marker buoy had landed on the plane's fuselage!

Both ships were released from operations on Wednesday afternoon, July 21, almost exactly 96 hours after RUDE had first arrived on the scene. As had been demonstrated in the TWA 800 search in 1996, NOAA vessels and crews are extremely proficient in finding objects on the seafloor. This is due largely to the professionalism of the individuals on board and their dedication to the somewhat monotonous, but critically important, task of conducting side scan surveys along the east coast for ten months of every year. ✪

## A Letter From Pat

by President Pat Sanders,  
THSOA



### A new direction proposed for THS

In recent years, there has been a growing concern that The Hydrographic Society of America (THSOA) did not provide much value in return for the membership fees. There wasn't much one could point to as a tangible benefit.

Over the last two years, THSOA has begun to move off ground zero and accomplish things for its members. This year's hydrographic conference in Mobile, Alabama, revived the dormant U.S. Hydrographic Conference and the attendance level was surprisingly high, even for me. As a result of the income from the conference, the board of trustees is now able to begin on other tasks that provide value to the members.

The primary task is the re-vitalization and re-design of the THSOA web site. The board of trustees has budgeted up to \$20,000 over the next fiscal year towards this task. I envision the web site as a world class reference site, allowing the membership to search and download hydrographic reference materials and tutorials. Although anyone will be able to access the site and read abstracts, only THSOA members will be able to download and read the complete papers.

Negotiations are also underway regarding the 2001 U.S. Hydrographic Conference. We are exploring the alternatives of hosting the conference in Norfolk, Va., returning to Mobile, Ala., or holding the conference under the umbrella of Oceanology Americas in Miami. There are pluses and minuses to each alternative, but we should have a final decision by the time autumn arrives. [See page 4 for result.—Ed.]

Now that we have developed some momentum for THSOA, I would like to address our relationship with The Hy-

drographic Society (THS). This is the international society, of which the U.S. Branch is a regional affiliate. There are also national affiliates in Benelux (Belgium, The Netherlands, Luxembourg), Australasia, Denmark and the U.K. THS has full-time staff to assist in meeting their daily needs. It also publishes *The Hydrographic Journal* and puts out an annual diary which is popular with many members. The regional branches send most of their dues back to THS to assist in supporting these operations.

Over the last couple of years, there has been grumbling from some of the foreign membership that THS spends most of their time in support of U.K.-based activities and is not very interested in what takes place outside their borders. The Board of Trustees has been dominated by U.K.-members. People also argue that *Hydro International* magazine has replaced the usefulness of *The Hydrographic Journal*, while others argue about saving the cost of publishing by moving the Journal to a web site.

I believe that THS recognizes the growing discontent. A recent working group made recommendations to THS on how they might make changes to their current organization and structure to better meet their fiscal needs.

I would propose that what is needed at THS is a complete overhaul of their current organizational structure. If they are to become an international society that benefits all members, they should change to a federation of national societies. The overall leadership of the federation should alternate every two years to a different national society, guided by a board of directors composed of one member from each society. *The Hydrographic journal* should be discontinued and technical papers should be moved to a common web site. There is no need for different web sites from different national societies. Everything should be moved to a common web site and each national society should then have a sub-area under that site that they can manage as they see fit. This would provide a stronger web presence at a reduced cost

to each society. The majority of dues collected by a national society should remain in-country.

Over the next year, I hope to prod THS to move in the above direction. ✨

"Challenge is the care and mainspring of all human activity. If there's an ocean, we cross it; if there's a disease, we cure it; if there's a wrong, we right it; if there's a record, we break it, and, finally, if there's a mountain, we climb it."

-James Ramsey Ullman

### NOAA's AHP finds significant navigational hazard

by AHP Hydrographer David B. Elliott,  
NOAA

The Atlantic Hydrographic Party (AHP) under NOAA's Office of Coast Survey recently found an interesting submerged obstruction while conducting a side scan sonar survey on the Cooper River in Charleston, South Carolina. A large contact was discovered in the Clouter Creek Reach portion of the river near the naval base. When the feature was first seen, it projected a huge shadow that prompted hydrographers to immediately log their position for further investigation. Several additional passes were made on the contact and each pass proved we were onto something very large.

After returning to our field office for post processing, the feature was loaded into software that calculates the object's height based on the contact's shadow length and its offset distance from the side scan fish. The calculation yielded an approximate height of three meters off the river bottom. The appropriate contacts were made through our offices, the U.S. Coast Guard and the U.S. Army Corps of Engineers (USACE)

(See **Hazard**, page 4)

## Hazard (from page 3)

and a Local Notice to Mariners and Danger to Navigation letter was promptly submitted by the Chief of Party, Brian Link.

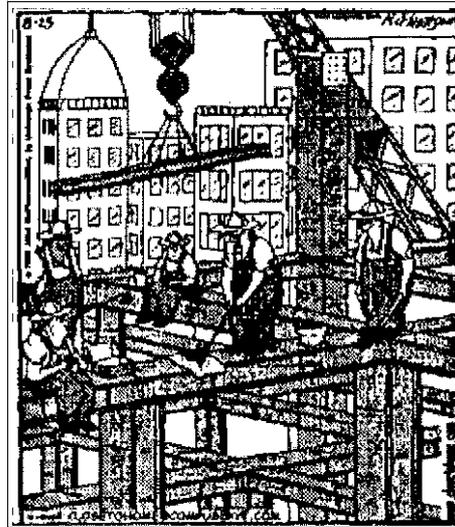
The next day, AHP divers returned to the site to determine what we had found. Due to zero visibility, a diver locator sonar was deployed to assist divers in locating the object in a timely manner. In addition, divers were equipped with the diver's least depth gauge developed by NOAA's Research and Development Laboratory. This instrument works on absolute atmospheric pressure allowing the divers to record a pressure reading on the pinnacle of any obstruction.

Later, the pressure reading is loaded into a program that computes a least depth. The dive lasted about twenty minutes, and it was apparent we were on two steel tanks approximately four meters in diameter and eight meters in length. After making several dives with crew members Bob Ramsey and Phil Wolf, we departed to load the detached positions and pressure readings into our processing system. The results indicated that the highest projected point of this obstruction had a depth of 34.8 feet relative to the chart datum (Mean Lower Low Water-MLLW), more than 5 feet shoaler than the existing charted depth!

The tanks are perpendicular to each other and have a huge scour around them. The actual origin is unknown; they could have been fuel or water tanks from WWII, or perhaps something hurricane "Hugo" deposited in 1989. A contract is being negotiated by USACE for their removal, and we are very anxious to see what these tanks look like on the surface. Meanwhile, we have received a great deal of satisfaction in knowing that our efforts helped prevent a potentially serious marine accident. ✨



## CLOSE TO HOME JOHN MCPHERSON



"OK, Just to recap, Five points If you hit the World Trade Center. Ten If you hit the U.N. And 50 If you get one In the Lincoln Tunnel."

## U.S. HYDRO 2001 Conference slated for Norfolk

The next THSOA-sponsored conference on hydrographic surveying will take place on May 19-28, 2001, at the Sheraton Norfolk Waterside Hotel in Norfolk, Virginia. This is the former Omni International Hotel which was the site of three previous U.S. Hydrographic Conferences, the last of which took place in 1994. As the name indicates, the hotel is on the water and adjacent to the Waterside shopping mall. Preparations for the conference will begin in earnest next year. Further information will be provided on THSOA's website (<http://www.usahydrosoc.org>) as it becomes available. ✨

## MATE Center conducts skills workshops for hydrographic survey technicians

by Jill Zande, MATE Program & Outreach Coordinator

The Marine Advanced Technology Education (MATE) Center, a Na-

tional Science Foundation (NSF)-funded partnership of organizations concerned with marine science and technology education in the U.S., has conducted two focused workshops for technicians working in the hydrographic surveying field during this past year. These and similar workshops are part of the MATE Center's overall mission to improve education and training for America's marine technical workforce.

Headquartered at Monterey Peninsula College in Monterey, California, the MATE Center is one of eleven "Centers of Excellence" funded under the Advanced Technological Education (ATE) Program of NSF.

While all Centers focus on technical education, primarily at two-year institutions, the MATE Center is uniquely concerned with the oceans and the many careers and jobs available for those interested in ocean-related occupations. The MATE Center is defining these occupations, the skills needed to be successful, and the educational programs that prepare people best for them. The Center's work is carried out through its national partnerships with industry and academic institutions.

A major focus of the MATE Center is to align education and training programs with employers' needs by developing knowledge and skill guidelines for specific marine occupations. The Center has conducted surveys and workshops in order to gather information on the knowledge, skills, and abilities most in demand in the marine technology-related workplace. In addition to hydrographic surveying, the MATE Center has held focused workshops in the areas of shipboard technology and operations, aquaculture, and underwater intervention, ROV (remotely-operated vehicle) technology, and environmental monitoring. In consideration for the future are workshops in the areas of oceanographic data processing and marine propulsion.

(See MATE, page 5)

**MATE** (from page 4)

The first hydrographic survey skills workshop was held in conjunction with the Triton Elics User Symposium in Monterey in March of this year. The second workshop, hosted by the MATE Center and its North Carolina partner, Cape Fear Community College (CFCC), preceded The Hydrographic Society of America's (THSOA) U.S. Hydrographic Conference'99, held in April in Mobile, Alabama. The purpose of these workshops was to elicit input from industry and government employers and working technicians on the skills needed to work in the hydrographic surveying field.

Participants of MATE's March skills workshop included representatives from government, private industry, and research, such as the U.S. Geological Survey, Oceaneering International, C & C Technologies, and the National Oceanic and Atmospheric Administration (NOAA) Office of Coast Survey. These participants generated guidelines that outlined specific job functions and tasks and the technical knowledge, personal qualities, and performance criteria required for those tasks. These knowledge and skill guidelines were then reviewed and modified by participants of the April workshop-graduates of CFCC's Marine Technology program who are currently working in the hydrographic surveying field for such employers as C&C Technologies, Ashtead Technology, and the Army Corps of Engineers.

Hydrographic surveying is a large and rapidly growing field. "The need [for hydrographic surveyors] will triple in the next five years," predicts Lloyd Huff of NOAA's Office of Coast Survey, and a participant in the March workshop. "[The field] always needs younger people coming in," he added.

In addition to developing educational and training programs that address skills needed in marine-related fields, the MATE Center is placing interested individuals in technical internships. Currently two types of internship experiences are available: 1) paid posi-

tions that place individuals with the University-National Oceanographic Laboratory System (UNOLS) fleet of research vessels, currently expanding to include the Ocean Drilling Program (ODP); and 2) paid and unpaid positions that place individuals in technical positions with marine industries.

The UNOLS/ODP internships provide participants with experiences on board ships at sea, as well as at shore-based facilities. Technical internships include positions in marine technology, marine and biological research, environmental monitoring and consulting, conservation, water quality, aquaculture, diving, marine construction, marine electronics, GIS, and others.

Through its web site, online news updates, and quarterly newsletter, the MATE Center acts as a resource for students, educators, and employers interested in marine-related careers and workforce development. In addition, the center offers faculty development opportunities, including workshops designed to expose faculty and teachers to the technical side of marine industry/marine applications.

For more information on the MATE Center, including the skill and knowledge guidelines resulting from the hydrographic survey technician workshops, as well as available internship opportunities and application procedures, contact the MATE Center at: [info@marinetech.org](mailto:info@marinetech.org) or (831) 645-1393 or visit the Center's web site at: [www.marinetech.org](http://www.marinetech.org).

*The MATE Center would like to thank the following: THSOA, for its invitation to CFCC to exhibit at its annual conference; Triton Elics International, for its help in selecting participants for the March workshop; CFCC Marine Technology instructors, for contacting graduates of their program and for facilitating the April workshop; and participants of both workshops, for their valuable time and input.* ✨

**Be the best you can be...**

*From the Internet*

If you can start the day without caffeine,  
 If you can get going without pep pills,  
 If you can always be cheerful, ignoring aches and pains,  
 If you can resist complaining and boring people with your troubles,  
 If you can eat the same food every day and be grateful for it,  
 If you can understand when your loved ones are too busy to give you any time,  
 If you can overlook it when those you love take it out on you when, through no fault of yours, something goes wrong,  
 If you can take criticism and blame without resentment,  
 If you can ignore a friend's limited education and never correct him,  
 If you can resist treating a rich friend better than a poor friend,  
 If you can face the world without lies and deceit,  
 If you can conquer tension without medical help,  
 If you can relax without liquor,  
 If you can sleep without the aid of drugs,  
 If you can say honestly that deep in your heart you have no prejudice against creed, color, religion or politics,  
 Then, my friend . . . you are almost as good as your dog. ✨

**Correction . . .**

In the Spring 1999 issue of *The Seahorse*, we published an ACSM Internet web site as:

<http://www.survorg/educat45/educat01.htm>

to learn about the hydrographer certification process. The term, **survorg** should be replaced by: **survmap.org**. ✨

## Society AGM slated for November in Delft

The 27th Annual General Meeting of The Hydrographic Society is to be held on Friday, Nov. 19, 1999, commencing at 3:15 p.m. in the Geodesy Bldg., Room "A", Technical University Delft, Thijssseweg 11, Delft, The Netherlands. It is being held in conjunction with the Benelux Branch Seminar (commencing at 1:00 p.m.), at the same venue, on the theme of "Special Survey Techniques."

Chairman Cor Don invites you to call him at: ++ 31 79 343 65 51, Fax: ++ 31 79 343 65 55 or e-mail: [cordon@solair1.inter.nl.net](mailto:cordon@solair1.inter.nl.net) for more information.

Julian Grant writes: In addition to this meeting, Europort takes place at the RAI in Amsterdam from Nov. 16-20, 1999. This biannual exhibition is one of the largest and best commercial marine exhibitions in the world. At the same time, and at the back of the RAI complex, METS (Marine Equipment Trade Show) is also taking place.

This means that:

1. Those attending the AGM might want to visit the shows, and
2. If anyone is visiting Amsterdam at the same time, they should be aware that hotel rooms are at a premium.

✧

## VERY PUNNY

from the Internet

### The Panhandler

A panhandler was caught trying to sneak aboard a Princess liner about to embark on a three-day trip to the Bahamas. He was caught by the Purser who threw him off the ship telling him . . . Beggars can't be cruisers.

### The General's Funeral

A famous general died and his ashes

were to be taken to Arlington National Cemetery. All the airlines were booked and there were no other planes available. Someone came up with the idea of using a helicopter. It arrived at 5:00 a.m. The newspapers reported the incident with the headline ... "The Whirly Bird Gets The Urn." ✧

## TAX TIME

*A businessman on his deathbed called his friend and said, "Bill, I want you to promise me that when I die you will have my remains cremated." "What do you want me to do with the ashes?" his friend asked. The businessman said, "Just put them in an envelope and mail them to the Internal Revenue Service and write on the envelope, "now you have everything!" ✧*

## Announcement and call for papers

Canadian Hydrographic Service-Laurentian Region  
Canadian Hydrographic Association

### Canadian Hydrographic Conference 2000

Montreal, Canada  
May 15-19, 2000

The Canadian Hydrographic Conference 2000 (CHC 2000) is a continuation of the series of hydrographic conferences, workshops and exhibitions that alternate between the USA and Canada. The last conference was held in Mobile, Alabama, last April. The next event will be held in Montreal, Province of Quebec, Canada, from May 15 to 19, 2000. The theme of the CHC 2000 is "*Hydrography: People forging Alliances.*" In choosing this theme, the Organizing Committee want-

ed to put the focus on people. Hence, the conference will be a forum for exchanges and communication amongst persons working in areas related to hydrography.

We welcome presentations for the conference's technical and poster sessions, or for the preceding training workshops. The workshops will be held on May 15. The technical papers will take place during the three following days. You are invited to submit abstracts of about 300 words, in French or English. The technical sessions will be as follows:

- **History of hydrography**
- **Applications** (e.g. commercial navigation, environmental, Fisheries, recreational, engineering, yachting, scientific, military)
- **Technologies** (e.g. GPS, multibeam echosounding systems, sonars, IVS, ECDIS, CAD, GIS, water level monitoring, data logging and post-processing systems)
- **Integration** (e.g. IVS, Ship Traffic Management Systems)
- **Services and Marketing**
- **Standards and Training** (e.g. S52, S57, S44, Hydrographic science programs, Multibeam Sonar Training Courses)
- **Partnerships**

Papers are to be orally presented; simultaneous French-English interpretation will be available during all technical sessions. Please ensure that the abstract summarizes the objectives, methodology, results and conclusions of your work. List all authors along with their affiliations and provide mailing address, phone, fax and e-mail information.

The abstract should be submitted by e-mail (text only, no attachments), by mail or by fax to the CHC 2000 - Program Chair, by October 29, 1999.

Authors will be notified of the receipt of the abstract. Notification of acceptance will be sent by December 1,

(See **CHC 2000**, page 7)

**CHC 2000** (from page 6)

1999. Final manuscripts are due by February 29, 2000.

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<http://chc2000.qc.dfo-mpo.gc.ca> ✨

**SPEED BUMP** DAVE COVERLY



## Remote sensing conference slated for May 2000

The Sixth International Conference on Remote Sensing for Marine and Coastal Environments is planned for May 1-3, 2000, at the Charleston Area Convention Center in Charleston, South Carolina. The sponsors and organizers are grateful for the help of the organizations that promote this interna-

tional effort to enhance communication and collaboration between the remote sensing communities and the decision-makers in the marine and coastal environments communities.

The technical program will foster a unique exchange of information and concern between industry, government, scientists, educators, students, planners and the remote sensing community.

Over 300 oral and interactive poster presentations will address *Natural Resource Management, Coastal Hazards, Oceanographic Applications/Processes, New Data Sources, Sensors, and Measurement Techniques, and Data Management*.

The Hydrographic Society of America has accepted sponsorship of this conference as a "Cooperating Organization." For more information, call: ERIM International, Inc., (734) 994-1200, Ext. 3234, or check out the website at: <http://www.erim-int.com/CONF/conf.html>. ✨

## New Orleans District improves hydrographic surveying processes

condensed from an article by Steve Patorno in the August 1999 issue of *Engineering and Construction News*

The Hydrographic Survey Improvement Team of the New Orleans District (CEMVN) of the Corps of Engineers has completely reinvented the processes used to collect, transmit, process, and display hydrographic survey results. CEMVN operates eight survey vessels which work continuously to support dredging operations and report channel conditions to project customers. These vessels perform routine surveys and respond to emergency requests to investigate reports of shoaling or incidents on the waterways.

Essential to the hydrographic surveying to support dredging is navigation along predetermined "ranges" so that previously collected data can be readily compared with current data and changes in the channel bottom can be detected.

The data are then sent to the office where survey plots are processed and forwarded to the appropriate operations manager. Dredging can then be appropriately scheduled to prevent a loss of authorized project dimensions and/or navigation bulletins can be issued to project customers.

In years past, collecting survey data meant dropping lead weights attached to ropes to the channel bottom with the results being recorded manually in field books. Also used were bicycle wheels wrapped with a wire which was run through a counter similar to an auto odometer to indicate distance traveled along a range. The vessel was steered using target signs placed on the bank and the soundings were plotted by hand. The lead lines were replaced by depth sounders and the "wire and targets" were replaced first with electronic "mini-rangers" and finally with the satellite based Differential Global Positioning System (DGPS). Whereas basic GPS produces positions accurate to approximately 100 meters, differential correctors broadcast by beacons maintained by the U.S. Coast Guard can be used to increase the accuracy to about 3 meters. CEMVN was one of the first Corps districts to use DGPS for hydrographic surveying on a regular basis.

The time needed to transmit data from the field has been drastically reduced. Instead of data being hand-carried to the office, data are stored in a computer and transmitted to the office via satellite phones, regardless of the vessel's location. This is particularly important in CEMVN since many survey areas are extremely remote, out of range of cellular phone service. As a result, data transmission time from the boat to the office has been reduced from days or hours to minutes.

Interpretation of plots of the survey data is much easier when the data are displayed in conjunction with good background topography. Systems and programming personnel are working

(See **New Orleans**, page 8)

## New Orleans (from page 7)

with other agencies to obtain high quality aerial photo data. When completed, this project will make background data available for any surveys taken in CEMVN.

CEMVN now has a site on the World Wide Web (WWW) where anyone can view the latest survey data or download the CADD files in Microstation Design File (DGN) format on certain Corps projects. This site will be expanded so that all CEMVN hydrographic survey data will eventually be viewable in this manner. A fringe benefit is that any CEMVN CADD file can be posted on the WWW for viewing. This has allowed two federal agencies, NOAA and NIMA, to access the most current survey and navigation data to update their respective products. NOAA is obviously pleased, based upon a letter to USACE headquarters which praised CEMVN for its modernization initiative.

The improvements made by the Hydrographic Survey Improvement Team allow data to be collected more accurately, faster and cheaper. Labor associated with the maintenance of targets and electronics on the bank was eliminated with the implementation of DGPS. The increased speed of data transfer to the office via satellite phone saves the navigation industry and the Corps of Engineers money by enabling operations managers to more rapidly make intelligent dredging decisions. Survey vessels are able to respond quickly to special requests involving unexpected trouble spots in the waterways. Marine safety has also been enhanced by the increased accuracy of the surveys and the decreased time needed to issue navigation bulletins.

As a result of these activities, the CEMVN Hydrographic Survey Improvement Team has been nominated for a National Performance Review Hammer Award. ✨

### SPEED BUMP DAVE COVERLY



## Press release

### Kongsberg Simrad's HUGIN 3000 AUV/UUV to be delivered to C & C Technologies

**C** & C Technologies, Inc. of Lafayette, Louisiana, USA, has contracted with Kongsberg Simrad for the supply of HUGIN 3000 deep water Autonomous/Untethered Underwater Vehicle (AUV/UUV).

The HUGIN 3000, rated to 3000-meter water depth, is 5.3 meters long and is powered by a state of the art aluminum oxygen fuel cell battery, providing a mission endurance of up to 48 hours before resurfacing. The HUGIN 3000 will be integrated with a variety of survey sensors including the EM 2000 multibeam echo sounder for swath bathymetry and imagery. Other survey sensors include chirp side scan sonar, a chirp sub-bottom profiler, and a cesium magnetometer. Underwater positioning will be performed using a HiPAP® SSBL (Super Short Base Line) system integrated with Doppler speed log, an Inertial Navigation System, and for surface reference, dGPS. Acoustic links for control of the vehicle, reading of

sensor data and emergency control, are also part of the delivery.

The HUGIN 3000 will be the new and third generation of the preceding HUGIN prototype vehicles, which were developed and operated in partnership with the Norwegian Oil-company Statoil, the Norwegian Defense Research Establishment (FFI) and Norwegian Underwater Intervention (NUI). The HUGIN project started in 1995, and the HUGIN vehicles have now performed more than 100 missions, including several commercial pipeline route surveys for Statoil in Norwegian waters. The HUGIN vehicles have so far been proven very cost effective, and will enhance quality of survey data compared to existing methods.

C & C Technologies, an international hydrographic surveying company, has quietly amassed an immense amount of AUV experience and capability by developing AUV technology for the U.S. Navy for the past five years. Kongsberg Simrad is therefore proud to be chosen as supplier to this company and for having this first international success to exploit the gained experience from the development and practice from North Sea operations.

One major oil and gas company has already committed to C & C Technologies for HUGIN AUV survey work, and C & C is currently offering discounts for additional early commitments.

For more information, contact:

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## New members of THSOA

A list of new members of The Hydrographic Society of America (THSOA) follows. We welcome them to our organization.

Chris Hancock  
James Strunk  
David Bouffard  
ARC Surveying and Mapping  
GRW Engineers  
Dr. Ahmed El-Rabbany  
Ray Williams  
Francis Woodward  
James Aidala  
Brian Hardy  
John Oswald  
Kevin Keener  
David MacFarland ✧

## Announcement and call for papers

Announcement and Call for Papers for the Marine Transportation System R&D Coordination Conference (Applying Technology In Our Ports, Waterways, and Intermodal Connectors) to be held November 2-4, 1999 at the National Academy of Sciences in Washington, D.C.

This conference is sponsored by the Interagency Committee On Waterways Management (ICWWM), which consists of eight federal agencies in the U.S. that deal with ports and waterways issues. It is also a follow-up conference to the National Conference on the U.S. Marine Transportation System, which was held in November 1998 at Warrenton, Virginia.

The conference will include panels on: "World-Class Port Technology" (with experts from major world ports); "Improvements in U.S. Ports and Waterways Through New Technologies and Techniques"; "The Role of Private Industry in Marine Transportation R&D"; "Maritime and Marine R&D at

U.S. Academic Institutions"; and "The Creation of a National Cooperative MTS Research Program."

The conference will also have technical papers, posters, and exhibits dealing with new technology and developments in Marine Transportation and Waterways Management.

Information about the conference can be found at the website: <http://www.waterways-RD.gov/conf99.html>. ✧

## On the next!



by Goldbrick

## I lived to see the day

I didn't think I'd live to see the day that *The Hydrographic Journal* would be printed with an interesting cover. In fact, in the Spring 1999 issue of *The Seahorse*, I lodged another of my many complaints about it.

Well, the saints be praised! Issue No. 93 of *The Hydrographic journal* (July 1999) came out with a new cover design (front and back).

Although still in one color (blue), the cover is at least interesting. It is a good start towards modernity. I do have two suggestions, however.

On the back cover, "The Hydrographic Society" is now written in all caps. It seems to me that it has traditionally been written in caps, and lower case in the Century Schoolbook bold type style, and I believe that should continue. There are various examples within the issue, but they aren't consistent.

When viewed together, I think you'll see what I mean.

## The Hydrographic Society THE HYDROGRAPHIC SOCIETY

Keeping "The Hydrographic journal" in all caps, is OK. Keeping the two consistent throughout the publication should be a primary concern.

Also, the back cover design is so similar to the front cover, it is almost impossible to tell which is the front of the magazine. I prefer the previous back cover design (April 1999). It is also somewhat artistic, as opposed to a bland engineering-draftsman type design.

What are your impressions? The fox has been let into the chicken house, finally! ✧

## Rather droll . . .

From the Internet

- A bus station is where a bus stops. A train station is where a train stops. On my desk I have a work station.
- Can atheists get insurance for acts of God?
- If Fed Ex and UPS were to merge, would they call it Fed Up?
- Does fuzzy logic tickle?
- If they arrested the Energizer Bunny, would they charge it with battery?
- I believe five out of four people have trouble with fractions.
- How come you never hear about grunted employees?
- I don't have a solution, but I admire your problem.
- If a tin whistle is made out of tin (and it is), then what,

(See **Droll**, page 10)

**Droll** (from page 9)

- exactly, is a fog horn made out of?
- If quitters never win, and winners never quit, what fool came up with: Quit while you're ahead?
- Okay, who stopped the payment on my reality check?
- I believe the only time the world beats a path to my door is when I'm in the bathroom.
- Do Lipton employees take coffee breaks?
- What hair color do they put on the driver's licenses of bald men?
- What WAS the best thing before sliced bread?
- if it's zero degrees outside today and it's supposed to be twice as cold tomorrow, how cold is it going to be?
- Since Americans throw rice at weddings, do Orientals throw hamburgers?
- Why are they called apartments when they're all stuck together?
- Why is a carrot more orange than an orange?
- Why do they call it the Department of the Interior when they are in charge of everything outdoors?
- Tell a man that there are 400 billion stars, and he'll believe you. Tell him a bench has wet paint, and he has to touch it.
- Why do we wait until a pig is dead to cure it?

- Why doesn't glue stick to the inside of the bottle?
- Do Roman paramedics refer to IV's as 4's?
- Whatever happened to Absorbine, Sr? ✨

**NOTICE!**

THSOA's web site,  
[www.USAhydrosoc.org](http://www.USAhydrosoc.org)  
 is continually being improved. Try it! ✨

**NOAA contracting update**

by C. Brian Greenawalt, NOAA, Coast Survey

**N**OAA recently announced a new contracting opportunity in Alaska. The proposed contract is set aside for award to a small business. One three-year indefinite delivery contract, at an estimated \$2 million per year, is scheduled for award in FY 2000 with performance of the first work order commencing in spring 2000. For more information visit the following website: <http://cbduet.gpo.gov/search1.html> and type in: "Hydrographic Surveying and Related Support Services".

NOAA also expects to award the contract for the northeastern U.S. early in FY 2000. Information on future contract opportunities will be provided in the Commerce Business Daily (CBD) and on the website for NOAA's Office of Coast Survey:

<http://chartmaker.ncd.noaa.gov> (follow the links to the Hydrographic Surveys Division and contracting opportunities).

For more information contact:

C. Brian Greenawalt, NOAA, Hydrographic Surveys Division, Silver Spring, Maryland via e-mail at: [Brian-Greenawalt@noaa.gov](mailto:Brian-Greenawalt@noaa.gov) or call: (301) 713-4533 (fax). ✨

**Remember when . . . ?**  
from the Internet

*A computer was something on TV from a science fiction show of note.  
 A window was something you hated to clean,  
 and ram was the cousin of a goat.*

*Meg was the name of my girlfriend,  
 and gig was a job for the nights.  
 Now they all mean different things,  
 and that really mega bytes.*

*An application was for employment:  
 a program was a TV show.  
 A cursor used profanity :  
 a keyboard was a plano*

*Memory was something that you lost with age;  
 a cd was a bank account.  
 And if you had a 3-1/2" floppy you hoped nobody found out*

*Compress was something you did to the garbage,  
 not something you did to a file.  
 And if you unzipped anything in public,  
 you'd be in jail for a while*

*Log on was adding wood to the fire;  
 hard drive was a long trip on the road.  
 A mouse pad was where a mouse lived,  
 and a backup happened to your com-mode.*

*Cut you did with a pocket knife;  
 paste you did with glue,  
 A web was a spider's home,  
 and a virus was the flu.*

(See **Remember**, page 12)

# Membership Application



**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, receive a \$15 discount on subscription to *Hydro International* magazine and receive a discount on registration at THSOA sponsored events. Local chapters have been formed in Houston, Tx. 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 London, England, in 1972. For those members interested in the international aspects of the profession, the U.S. Branch of THS provides a convenient way to pay dues in U.S. dollars. Members of THS receive quarterly copies of *The Hydrographic Journal* and a discount on registration at sponsored international events.

THSOA Corporate Members receive *The Seahorse*, a free hotlink or company description on THSOA's website (www.USAhydrosoc.org) and free posting of recruitment notices in *The Seahorse*. THS Corporate Members receive two copies of *The Hydrographic Journal* and a discount on *Journal* advertising.

**The dues structure allows Individual, Retired, Student and Corporate Members to opt for THSOA alone or both THSOA and THS.** There is no THSOA-only Associate Corporate rate. Individual and Retired memberships begin on entry and are renewed on April 1. Corporate memberships are renewed on January 1. Student THS memberships begin on April 1, while THSOA Student memberships are totally flexible to accommodate the school calendar. In all cases, dues are not prorated. However, members joining in the middle of the year receive all back issues of the publications for that year.

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

## ANNUAL DUES (Check appropriate box)

- |   |                                      |  |
|---|--------------------------------------|--|
| <b>INDIVIDUAL</b> (Houston Chapter add \$10 for local dues)                                       | <input type="checkbox"/> THSOA \$15  | <input type="checkbox"/> THSOA/THS \$75    |
| <b>RETIRED</b> and no longer employed in the profession of sea surveying                          | <input type="checkbox"/> THSOA \$10  | <input type="checkbox"/> THSOA/THS \$37.50 |
| <b>STUDENT</b> full-time undergraduate  | <input type="checkbox"/> THSOA \$5   | <input type="checkbox"/> THSOA/THS \$20    |
| <b>CORPORATE</b>  | <input type="checkbox"/> THSOA \$100 | <input type="checkbox"/> THSOA/THS \$385   |
| <b>ASSOCIATE CORPORATE</b> available to a different location or unit of a parent Corporate Member |                                      | <input type="checkbox"/> THSOA/THS \$205   |

If Student, name of institution \_\_\_\_\_

If Associate Corporate, name of parent \_\_\_\_\_

**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

**Remember** (from page 10)

*I guess I'll stick to my pad and paper,  
and the memory in my head.*

*I hear nobody's been killed in a computer  
crash.*

*but when it happens they wish they were  
dead. ☼*

**Helpful tips to make life simpler**

*from the Internet*

- ✓ Old telephone books make ideal personal address books. Simply cross out the names and addresses of people you don't know.
- ✓ Fool other drivers into thinking you have an expensive car phone by holding an old TV or video remote control up to your ear and occasionally swerving across the road and mounting the curb.
- ✓ Lose weight quickly by eating raw pork and rancid tuna. I found that the subsequent food poisoning/diarrhea enabled me to lose 12 pounds in only 2 days.
- ✓ Avoid parking tickets by leaving your windshield wipers turned to fast wipe whenever you leave your car parked illegally.
- ✓ No time for a bath? Wrap yourself in masking tape and remove the dirt by simply peeling it off.
- ✓ Apply red nail polish to your nails before clipping them. The red nail will be much easier to spot on your bathroom carpet. (Unless you have a red carpet, in which case a contrasting polish should be selected).
- ✓ If a person is choking on an ice cube, don't panic. Simply pour a

jug of boiling water down their throat and presto! The blockage is almost instantly removed.

- ✓ Save on booze by drinking cold tea instead of whiskey. The following morning you can create the effects of a hangover by drinking a thimble-full of dishwashing liquid and banging your head repeatedly on the wall.

☼

[Editor's Note: Warning! Don't try these tricks at home, We are not responsible for the results.]

**The Hydrographic Society**

of America

P.O. Box 732

Rockville, Maryland 20848-0732

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