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THE HYDROGRAPHIC SOCIETY OF AMERICA

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U.S. HYDRO Conference Update

by Jerry Mills

It's hard to believe that the U.S. HYDRO 2005 conference is less than five months away (March 29–31, 2005 in San Diego, California)! This will be the first U.S. hydrographic conference to be held on the west coast since they began in 1984.

Detailed information and the conference registration form can be found as a link off the THSOA website at *http://www.thsoa.org*.

Arrangements for the conference have been progressing very well although the response to the Call for Papers has been somewhat lighter than anticipated. As a result we have extended the deadline for the submission of abstracts until November 1, 2004. Due to limited space there will be no concurrent technical paper presentations and the number of papers will be limited. Those abstracts received first will be given higher priority during the consideration process so be sure to submit them early. Abstracts of 300 words or less should be submitted to the technical session coordinator, Mr. Andy Armstrong at *andy.armstrong@unh.edu*.

The expanded workshop program that was expertly coordinated by Ray Williams in 2003 at Biloxi was so successful that we have decided to offer it again. The final schedule has not yet been finalized but it is planned to offer workshops on the following topics: multibeam sonar, side scan sonar, LIDAR, RTK GPS, tides, government contracting, dredging volume computations, unconsolidated material and the USACE Hydrographic Surveying Manual. All workshops will be free of charge to conference registrants but seating space will be limited.

The venue for the conference, the Manchester Grand Hyatt San Diego (web site *http://manchestergrand.hyatt.com/property/index.jhtml*) is one of the nicest hotels in all of southern California. It consists of two towers located on the San Diego Bay (one 40 stories, the other 33 stories) and has the largest waterfront property on the entire west coast. The hotel is located right downtown adjacent to Seaport Village, within walking distance of the clubs and restaurants of the Gaslight District and across the street from the bar/café made famous by Tom Cruise in Top Gun!

A limited number of rooms have been reserved at the special conference rate of $110 per night for all conference attendees, excluding state and local taxes. This rate will be applicable until the room block is sold out or until February 27, 2005, whichever comes first. For reservations call (619) 232-1234 or (800) 233-1234 and mention Hydrographic Society of America.

THSOA corporate members are strongly encouraged to reserve their booths for the commercial exhibit as soon as possible. Only 43 booths are available and nearly half of them have already been sold! The exhibit hall will be open from March 29 through March 31. For more information or reservations contact Chic Ransone at 410-349-4080 or by e-mail at *info@internationalindustries.net*. We will also have on-the-water demonstrations but these will be reserved for those companies buying a booth.

See you in San Diego! ☼

President's Column

by Andy Armstrong

Many of our gray-haired members know our society began as the U.S. Branch of the Hydrographic Society. The Hydrographic Society (THS) was originally established in the United Kingdom, and subsequently expanded to include Branches in the U.S., the BENELUX region, the Australasian region, and Denmark. Ultimately the United Kingdom-based members formed a U.K. Branch as well.

As the Society and our Branch grew, it became apparent that for both legal and management reasons we needed to separate our finances from the U.K. headquarters of the Society. The Hydrographic Society of America

was established as a distinct legal entity in parallel with the U.S. Branch. All our funds were held by THSOA, and our international affiliation was maintained through the Branch. THSOA membership dues included an amount for international dues, subscription to *The Hydrographic Journal*, and an annual *Diary*.

In June 2000, THSOA severed its formal relationship with the U.S. Branch of THS. The benefit derived from the international Society was of limited interest to many of our members, and annual cost of affiliation had become greater than the majority of our membership was willing to pay.

A number of THSOA members maintained their international Hydrographic Society membership through the mechanism of the U.S. Branch. The action of THSOA in breaking off from the Hydrographic Society was indicative of dissatisfaction throughout the other Branches of the Society as well. Over the past two years, The (international) Hydrographic Society has been in the process of dissolving itself.

The individual national/regional Branches, including the U.S. Branch, became individual national organizations and agreed to reconstitute as the International Federation of Hydrographic Societies (IFHS). The U.S. Branch became a member of the Federation as the Hydrographic Society of the United States (HSUS). I serve as the president of HSUS, and Karl Kieninger is the treasurer. The international reconstitution is not entirely complete, but is nearing completion under the direction of Paul Hornsby from the Australasian Hydrographic Society.

In the new IFHS, the former central headquarters of the Society, with all its associated overhead costs has disappeared. The Federation is managed on a correspondence basis, and decisions are based on the principle of "one member society, one vote" rather than the former system that was dominated by a headquarters and U.K. membership. The Hydrographic Journal has been reinvigorated, and placed on a commercially self-sustaining footing. This arrangement makes it feasible for national societies to set their own rules regarding participation in the Federation.

That is the history, here is my pitch: Let's begin a discussion in THSOA on the merits of incorporating HSUS into THSOA, and making THSOA the U.S. member of the Federation. The flexibility of the International Federation should permit our membership to participate in the international activities of the organization or not, as each individual member may choose. Likewise the cost associated with subscribing to the *Hydrographic Journal* and other benefits of the International Federation would be optional for each of our members.

We should proceed with caution until the legal transition of the Hydrographic Society to the International Federation of Hydrographic Societies is complete, and the Federation's operating principles are codified into approved bylaws, but now is the time to begin the discussion.

I'd like to hear what the membership of THSOA thinks. You can send your comments and opinions to me at *pres@thsoa. org*. ☼

- Humor from the Internet -

How to Simulate Navy Shipboard Life at Home:

Sleep on the shelf in your closet.

Every time there's a thunderstorm, go sit in a wobbly rocking hair and rock as hard as you can until you vomit.

Put lube oil in your humidifier instead of water and set it to "high."

Leave lawnmower running in your living room 24 hours a day for proper background noise level.

Have the paperboy give you a haircut.

Use 18 scoops of coffee per pot and allow to sit for 5 or 6 hours before serving.

Have a fluorescent lamp installed on the bottom of your coffee table and lie under it to read books.

Invite over 100 people to come and visit for a couple of months.

Raise the thresholds and lower the top sills on your front and back doors so that you either trip over the threshold or hit your head on the sill every time you pass through one of them.

NOAA Timecharter Vessel: SAIC Goes to Sea

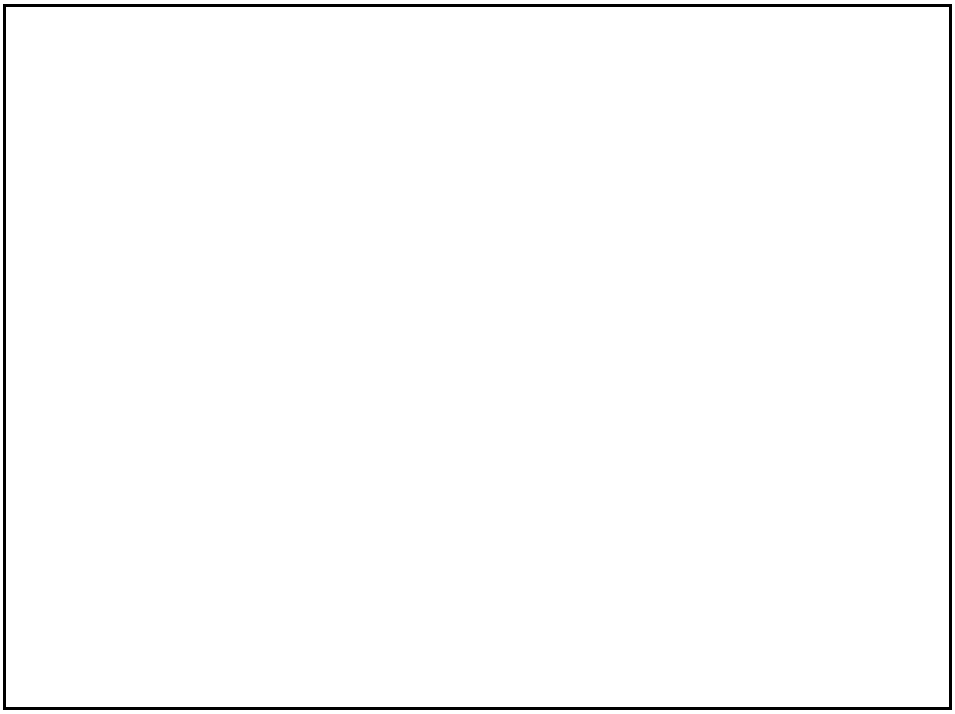
by Don Jagoe, SAIC

As dawn breaks in Prince William Sound, Alaska, the *R/V Davidson* is underway for a new hydrographic survey in support of NOAA's nautical charting mission.

Onboard the ship, operating the computer systems and sophisticated multibeam and sidescan sonar systems used to gather data, SAIC hydrographers and scientists are acquiring, displaying and processing the highly accurate bathymetric soundings that NOAA will use in updating nautical charts of the region.

A virtually new paradigm in marine survey operations, the NOAA Timecharter Vessel, as this project is known, is the culmination of nearly three years of planning and contractual negotiation between NOAA, the Military Sealift Command, SAIC and the commercial vessel provider, Ocean Services, LLC.

With congressional interest in more rapidly reducing the backlog of marine survey within U.S. territorial waters, NOAA employs a mix of in-house NOAA Fleet assets and contractors. SAIC's Newport, Rhode Island-based Marine Science and Technology Division (MSTD) was the first contractor to win a NOAA contract for such services, and has been successfully conducting hydrographic surveys for NOAA since 1994.



SAIC's Chief Hydrographer, Walter Simmons, Capt. NOAA (Ret.).

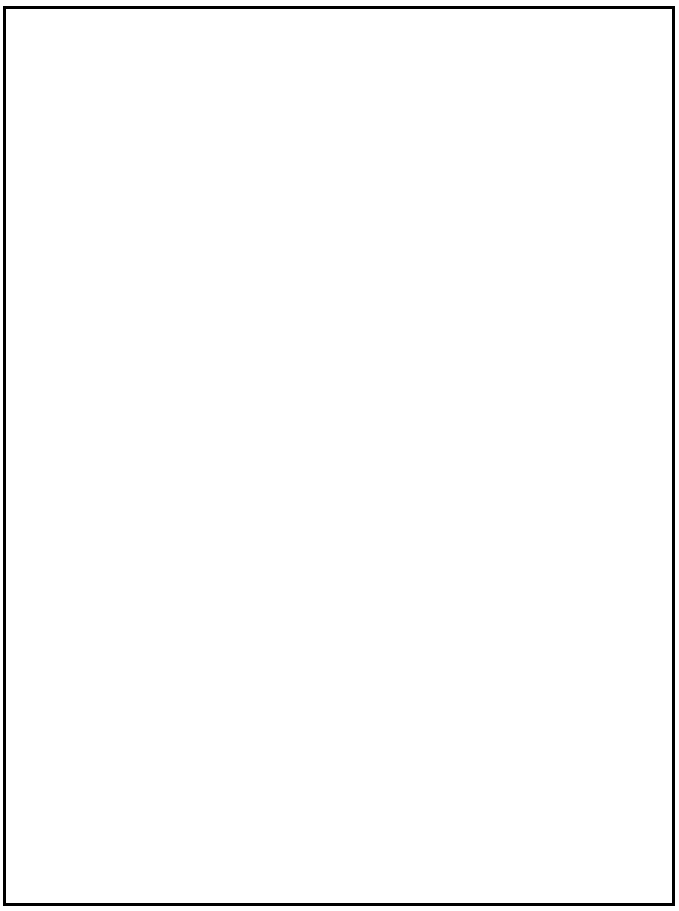
The difference under the Timecharter program is significant: under the standard contractor operations, subject to a distinct congressional line item, SAIC conducts "turnkey" hydrographic survey services using subcontracted "vessels of opportunity." The Timecharter Vessel project, on the other hand, consists of a government-provided ship and crew, NOAA overall technical leadership onboard, and a seasoned SAIC science crew and SAIC-provided equipment working directly for NOAA personnel. The other major difference is that the Timecharter is programmed to spend 330 days/year at sea!

After significant delays due to protests and negotiations on the preparatory and separate MSC ship contract, SAIC was finally authorized to start mobilization on June 25th, 2004. The customer had a hard requirement for the ship to be fully mobilized (all equipment delivered, installed, integrated and tested/calibrated onboard), for a Shipboard Acceptance Test (SAT) to be passed and ship and crew underway for Alaska—all within 75 days of contract award!

The tasks to be accomplished included an intensive purchasing initiative for $1M worth of equipment, installation and integration of the equipment on the ship and two survey launches, and significant software upgrades to SAIC's integrated survey system and SABER post-processing suites.

As the vessel was in a shipyard in Seattle, Washington, the SAIC crew established a base camp there and arranged for logistics operations in both Newport and Seattle. As SAIC Survey Operations Manager, Gary Parker notes, "a highly qualified and motivated group of employees from all involved organizations (SAIC, Ocean Services, and NOAA) were focused on one goal: mobilize the equipment and get underway on schedule with all systems fully operational. We worked well together, and achieved our mutual goal."

The highly successful SAT oc-



One of the two Survey Launches, also fitted with a multibeam sonar and equipment suite.

curred precisely on time, and the vessel sailed on September 7th from Seattle for Alaska. As of this writing the first day's survey is occurring. The ship and crew will remain in the Alaskan survey waters until winter weather precludes meaningful operation, at which time the ship will transit to the Gulf of Mexico, for hydrographic survey operations until at least spring/summer of 2005.

With 330 days at sea, the SAIC Newport crew and subcontractors are in a "Blue/Gold" arrangement with off-ship time being spent in the Newport Data Processing Center processing data from other ongoing NOAA hydrographic surveys.

Programmatically, having the vessel acquiring data at sea in Alaska is the end result of tremendous teamwork with the customer. As Dr. Rod Evans, SAIC Program Manager notes, "a few years ago we published an article in *Hydro International* on the 'Outsourcing of Coastal Hydrographic Survey: An Industry Perspective of a Partnership With the Government,' (March, 2001, pp 46 – 49). The article emphasized the value of this interactive 'partnership' as a successful model. Along with our continued 'turnkey' hydrographic surveys for NOAA, it gives me tremendous satisfaction to witness the start of the Timecharter operation in Alaska, as tangible evidence of the validity of this 'partnership' and the culmination of a massive and impressive effort from a range of govemment and industry personnel."

For the SAIC hydrographic team, the chance to operate in the beautiful waters of Alaska is a dream come true—especially after 3 years in the much more benign environment of the New Jersey coast. Bald eagles, killer whales and incredible sea life are the daily ration in Alaska, and each day offers something new to see and experience. For more information about SAIC, visit *www.saicnewport.com*.☼

HYPACK 2005

by Lourdes Evans, HYPACK, Inc.

The HYPACK 2005 Hydrographic Training Conference will be held January 24–27, 2005 at The Westin Resort in Hilton Head, South Carolina.

The three-day workshop will cover the latest features in HYPACK® MAX 4.3, a popular hydrographic software package used for survey design, data collection, graphical editing, plotting, volume computations, surface modeling and contouring. Some new features that will be presented are the new side scan sonar acquisition and mosaicking programs as well as software that allows real-time update of surface model while dredging or surveying.

Thirty exhibitors from software/hardware manufacturers, equipment resellers and service providers are expected in the exhibit hall. Companies interested in exhibiting should contact Mrs. Lourdes R. Evans at *Lourdes@hypack.com* (phone: 860-635-1500).

On line registration for the conference will be available shortly on the HYPACK website (*www.hypack.com*). ☼

– Humor from the Internet –

INTELLIGENT QUOTES

"Smoking kills. If you're killed, you've lost a very important part of your life," — Brooke Shields, during an interview to become the spokesperson for federal anti-smoking campaign.

"I've never had major knee surgery on any other part of my body," — Winston Bennett, University of Kentucky basketball forward.

"Outside of the killings, Washington has one of the lowest crime rates in the country," — Mayor Marion Barry, Washington, DC.

Northwest Chapter News

by Joanna Hawkins

The alliance between the Northwest Chapter of THSOA and the Seattle Chapter of MTS/IEEE continues to be positive. We have had a year of successful meetings with educational and entertaining speakers.

In January, Charles Gunderson from the Naval Undersea Warfare Center Division (NUWCD), Keyport presented "Riding the Target Submarine", a look at NUWCD's evaluation of critical performance requirements of new and modified undersea weapons. Most of the time a U.S. Navy submarine acts as the target for these exercise weapons and needs to be outfitted with special instrumentation to measure the critical intercept geometry as the weapon maneuvers near the submarine. Mr. Gunderson talked of the many different approaches NUWCD has taken to satisfy this important testing requirement.

In February, Mr. Alan Scott presented on the recovery operations for the sunken vessel, S.S. CENTRAL AMERICA, America's worst peacetime sea disaster. The *S.S. CENTRAL AMERICA* sank during a hurricane in 1857, claiming 425 lives and over 3 tons of California gold.

The Columbus America Discovery Group, made up of private investors, engineers, scientists, and support staff, discovered the shipwreck in 1988 resting a mile and a half below the surface of the Atlantic Ocean approximately 200 miles east of the Carolina's.

The Group designed a specialized research submersible capable of performing complex tasks at great ocean depths and spent three years finding and recovering one of the richest treasures from America's past. ☼

Houston Chapter News

by Tim Griffin

The Houston Chapter continued its successful program in 2004 with members enjoying an interesting variety of speakers and program events.

At our April meeting, Jim Mann, General Manager of Nautronix PLC, gave a talk on NASNetTM, a wide area, multi-user, acoustic navigation and telemetry technology. Nautronix recently completed successful trials of the NASNetTM system at the BP Atlantis deep water development site where six stations were deployed into an average water depth of 2,040 msw.

In May, the annual OTC Social was held at Danny's Sports Bar on Westheimer during the week of the Offshore Technology Conference. The event was well attended and enjoyed by everyone.

At the June meeting, Jonathan Davis, Vice-President for the America's Region of Sonardyne Inc, provided the Chapter members with an update on the implementation of wideband acoustics in the Gulf of Mexico. Sonardyne's FUSION LBL & USBL equipment, employing the technology, was recently deployed for trials in the Green Canyon area of the Gulf of Mexico.

At the July meeting, Dan Warren, a Marine Archaeologist with C&C Technologies, Inc. spoke to members on the discovery in the fall of 2002 of the wreck of the World War II aircraft carrier, HMS *Ark Royal*. C & C Technologies' HUGIN 3000 AUV, under contract with the BBC, located the remains of the aircraft carrier on the bottom of the Mediterranean Sea southeast of Gibraltar. The survey, using multibeam sonar, side scan sonar, and a subbottom profiler, determined that the remains of the HMS *Ark Royal* were scattered over several hundred meters of seafloor

In August, Omer Poroy, Technical Sales Manager for the Navigation Business Unit at RD Instruments gave a presentation on the current state of doppler velocity log technology. This technology allows for the remote measurement of speed over ground and is the only sensor that provides information directly in relation to the seafloor. The presentation provided an overview of doppler velocity log capabilities and discussed how the instruments have become an integral part of subsea navigation systems on a wide variety of platforms.

The Houston Chapter of The Hydrographic Society of America meets on the second Tuesday of the month at the Black Labrador, located at 4100 Montrose in Houston, Texas. The committee members are:

Chairperson . . . . . Andy Bogle
Co-Chair . . . . . Steve Browne
Treasurer . . . . . Phil Roberts
Secretary . . . . . Melissa Wood
National . . . . . Timothy Griffin
"At Large"
Fund Raising . . . . . Wendy Zielinski
Publicity . . . . . Mike Knight
Membership/Student Liaison
Lisa Medeiros

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Uncertainty Management Workshop Held in Ottawa

by Rob Hare, Brian Calder, Lee Alexander and Susan Sebastian

A new workshop was held at the Canadian Hydrographic Conference in May of 2004. Participation was

overflowing with 36 attendees from around the world. All were keen on learning what the workshop had to offer — discussion and demonstration of practical quality evaluation, error attribution and representation for bathymetric data. The workshop's aim was to raise awareness on what new trends and tools are available for expressing data uncertainty to the user as value added to hydrographic data.

The workshop first addressed current approaches to representation of uncertainty on nautical charts (shoal biasing, source diagrams, zones of confidence, etc.) in a comprehensive presentation of research conducted by University of New Brunswick and University of Southern Mississippi graduate students under the guidance of Dr. Dave Wells. An overview of past and present methods for communicating uncertainty in legacy bathymetric data was presented.

Rob Hare of the Canadian Hydrographic Service then reviewed an error prediction and modeling tool that is based on the characteristics and capabilities of sounding systems. After sounding attribution is completed from the error model, an algorithm can then be applied to take advantage of statistical redundancy in soundings, while tracking the uncertainty associated with them. Dr. Brian Calder of the University of New Hampshire (UNH) explained one such algorithm, called CUBE (Combined Uncertainty and Bathymetry Estimator), which makes estimates of the true depth of water after taking into consideration redundancy and the inequity of the attributed errors. CUBE aims to replace (as much as possible) the traditional data "cleaning" stage of a multibeam survey, primarily through understanding of the uncertainties associated with soundings, and the typical behavior of soundings under "normal" circumstances. Although complete automation of the data processing task by any means is improbable, the CUBE algorithm provides an approach whose results agree with traditional methods while vastly reducing the time required to reach the final product of the survey.

After data cleaning and error attribution discussion was complete, the workshop discussed new ideas for representation of bathymetric data for products — using a data base approach. Dr. Lee Alexander explained the "Navigation Surface" (NS) method for representation of bathymetric surveys.

Developed at UNH by LT Shep Smith (NOAA), the NS replaces the traditional selected sounding dataset representation of a survey with a collection of grids. Each grid is built to represent the best estimate of the true depth of the water at precise locations across a survey area, while maintaining significant hydrographic detail where required. Augmenting the depths are estimated uncertainties that represent the known or potential uncertainty associated with the depth determination. From the database of fully attributed grid surfaces, products can be created based on the suitability of the source data to produce a level of detail appropriate for the intended use. For Electronic Nautical Charts, this would be "navigational purpose" and the attribution of an uncertainty or "confidence" value of depths by populating the CATZOC field.

The workshop also highlighted the work of the Open Navigation Surface Working Group (ONSWG), a community-led effort whose aim is to develop a file format that could be used to store information contained in a Navigation Surface data object and for data exchange between different parties. An inaugural meeting of the Open Navigation Surface (ONS), was held January, 2004 and its long-term goal is to promote improvement to and adoption of a standardized format for the NS.

Mike Gourley then reviewed the use of uncertainty data in CARIS products. This includes the computation of uncertainty models through to their use in decision-making when combining overlapping bathymetric datasets.

Mark Paton of Interactive Visualization Systems (IVS) then demonstrated some of their work in integrating uncertainty and CUBE based processing ideas for advanced multibeam quality control management.

A second presentation of this workshop will be conducted in San Diego at the U.S. Hydro 2005 conference. ☼

- Humor from the Internet -

Intelligent Quotes II

Question: If you could live forever, would you and why? Answer: "I would not live forever, because we should not live forever, because if we were supposed to live forever, then we would live forever, but we cannot live forever, which is why I would not live forever," — Miss Alabama in the 1994 Miss USA contest.

"Whenever I watch TV and see those poor starving kids all over the world, I can't help but cry. I mean I'd love to be skinny like that, but not with all those flies and death and stuff"' — Mariah Carey

"I'm not going to have some reporters pawing through our papers. We are the president," — Hillary Clinton commenting on the release of subpoenaed documents.

NAVOCEANO Hosts Multibeam Conference On Mississippi Gulf Coast

The Naval Oceanographic Office (NAVOCEANO), located at Stennis Space Center in south Mississippi, hosted a multibeam workshop on July 26–28, 2004 at the Naval Construction Battalion Center in Gulfport, MS.

Fifteen Latin American nations participated in the workshop titled "Beyond Safety of Navigation," which focused on multibeam equipment and visualization techniques used in hydrographic surveying. At the workshop, industry representatives addressed the development and advancements of modern multibeam sonar and supporting technologies.

"The goal of the NAVOCEANO workshop is to provide multibeam situational awareness," said Capt. Jeffrey Best, NAVOCEANO's commanding officer. "By this, we mean providing information and knowledge on hydrographic survey operations, employing multibeam sonar systems, visualization tools for data analysis and data display."

The data collected from surveys using the multibeam sonar are used to generate marine geospatial products such as nautical charts. These products aid in safety of navigation for commercial vessels and the rapid, safe maneuverability of military vessels during combat operations and exercises.

Pictured (left to right) are Capt. W. McKerall, Naval Construction Battalion Center commanding officer; Capt. Jeffrey Best, NAVOCEANO commanding officer; Vice Adm. Miguel A. Gonzalez Ramirez, Dominican Republic; Capt. Roberto Granham, Chilean Navy Hydrographic and Oceanographic Service director and Pan American Institute of Geography and History chair and Capt. (Ret.) H. Gorziglia, International Hydrographic Bureau director. NAVOCEANO welcomes new leadership.

The information is also used in the protection of the marine environment, the development of databases and models for coastal zone management and for studying the effects that hazardous spills have on ocean behavior. "These countries will take the knowledge gained from this workshop back to their oceanographic and hydrographic offices to ensure their current and future surveys meet the International Hydrographic Organization's standards," said Stanley Harvey, NAVOCEANO's U.S. Southern Command regional coordinator. "It will also stress the value of hydrography and what multibeam sonar systems can do—beyond safety."

According to Paul Cooper of NAVOCEANO's Hydrography Department, NAVOCEANO's efforts lead to the efficient use of national resources, development of standardized products, and international cooperation, for military and civilians. NAVOCEANO is a leader in operational multibeam technology, hydrography and high-volume data processing. Currently, NAVOCEANO has seven ships utilizing multibeam technology.

NAVOCEANO has international partnerships with 15 countries in the Latin American and Caribbean regions to conduct hydrographic surveys for the production of navigational aids.

Conference sponsors included the Chief of Naval Operations, Commander, U.S. Fleet Forces Command, Office of Naval Research and the Naval Oceanographic Office, with support from the Commander, Naval Meteorology and Oceanography Command, the Pan American Institute of Geography and History and the University of Southern Mississippi.☼

NAVOCEANO Welcomes New Leadership

The Naval Oceanographic Office (NAVOCEANO) at Stennis Space Center in south Mississippi has seen several changes in its leadership this summer.

Captain Jeffrey Best assumed command of NAVOCEANO from Captain Parker Lumpkin in July. As a Naval oceanographer, Best has served aboard numerous military ships throughout his nearly 25-year career. Best most recently served as Senior Meteorology and Oceanography Office Detailer, Assignment and Placement Officer and Community Manager at the Naval Personnel Command. Best holds a Bachelor of Science degree in oceanography from the U.S. Naval Academy, a Master of Science in meteorology and physical oceanography from the Naval Postgraduate School and a Master of Science in National Security Strategy from the National War College.

"I am very honored and proud to be given this tremendous opportunity," said Best. "The Naval Oceanographic Office has the finest group of people in the Department of Defense. No one in the world does oceanography better than this Command. I look forward to guiding the organization in the challenging years ahead."

NAVOCEANO has the responsibility of supplying oceanographic knowledge to all elements of the Department of Defense by conducting ocean surveys, analyzing oceanographic data and generating products to meet safe navigation and weapon/sensor performance needs using a variety of platforms that include ships, aircraft and satellite sensors and buoys. ☼

THSOA Student Outreach Program—Planning for the Next Step: US Hydro 2005, San Diego

by Jana DaSilva Lage, Fugro Pelagos-Alaska

At the 2003 US Hydrographic Conference in Biloxi, Mississippi, the Hydrographic Society of America (THSOA) began its Student Outreach Program.

The three attending students participated in workshops, on-the-water demonstrations, and social activities including an "Introduction to Hydrography — Opportunities for Further Education and Employment" luncheon sponsored by the University of New Hampshire (UNH) and University of Southern Mississippi (USM). The hydrographic community was supportive of this effort and the students had a very positive experience at the conference (see the July 2003 Seahorse and the paper presented at the CHC2004 *www.chc2004.com* for additional information).

During the annual meeting in Ottawa this year, THSOA decided to continue and expand the Student Outreach Program for the US Hydro 2005 Conference in San Diego. The goal for this conference is to introduce ten interested and motivated students to the field of hydrography. With the support of the THSOA behind us, and a new semester beginning, we have started the ball rolling for this project. USM and UNH have again pledged to provide another student luncheon.

In September, letters will be sent soliciting applicants to be a part of the program. The students will again be able to participate in workshops, on-the-water demonstrations and learn about the opportunities in the field of hydrography.

At the last conference, we were able to pay for the students' experience through donations from Klein Associates, Inc. (now a part of L3 Communications), Kongsberg Simrad, Reson Inc., in addition to the support of THSOA. With our expanded program, this year we will be looking for more support from our corporate sponsors and friends. I will be sending a reminder letter to our corporate sponsors in the near future, but if you would like to show your support now, please make checks payable to The Hydrographic Society of America, Student Outreach Program and mail to P.O. Box 732 Rockville, MD 20848-0732.

Student participation at the conference is an excellent way for you, as a hydrographer or manufacturer of equipment related to hydrography, to share some of your knowledge and experiences with potential employees or students. Let's work together to make this endeavor a success and help our dynamic field grow!

If you have any questions about the program please contact me at (907) 258-1799 or *jlage@fugro.com*. ☼

- Humor from the Internet -

INTELLIGENT QUOTES III

"That lowdown scoundrel deserves to be kicked to death by a jackass, and I'm just the one to do it," — A congressional candidate in Texas.

"I don't feel we did wrong in taking this great country away from them. There were great numbers of people who needed new land, and the Indians were selfishly trying to keep it for themselves." — John Wayne

"It isn't pollution that's harming the environment. It's the impurities in our air and water that are doing it." — Al Gore, Vice President

37th Multibeam Sonar Course To be Held

To meet continuing worldwide demand, the 37th Multibeam Sonar Course will be held in Gulfport, Mississippi on January 3–8, 2005. This course, which introduces the theory and operations of multibeam sonar, was initially offered in August 1994 at the recommendation of the U.S./ Canada Hydrographic Commission.

The course is predominantly for those already experienced in surveying, who have a background in geodesy, positioning, and conventional processing methods, although this experience is not essential.

The course is not designed to provide fully trained multibeam system operators or data processors, but those taking the course will gain an appreciation for further multibeam training and experience needed to gain this expertise. It also provides the ideal background for those involved in specifying the requirements for contract multibeam surveys or the acquisition of systems.

The previous courses have been conducted in various locations including Canada, USA, Australia, Singapore, England, Denmark, and Scotland. The people who have attended the courses have come from a diverse group, both geographically and from the participant's background and work areas. The wide variety of experience of those attending provides an added benefit for all to share their experiences with this technology during the sessions, and at the less formal after-hours gatherings.

Recent participants' areas of employment have covered the full range of activities from nautical charting, port and coastal surveys through to a range of work areas in the offshore mapping industry. It is interesting to note that as the offshore industry is moving into development in deeper water, so the focus of the course has been expanded to include high resolution mapping in deeper waters, where the multibeam technology was originally used. There is also an increased emphasis in multibeam applications for sea bed characterization which is of particular interest to the fisheries industry.

The course introduces the theory and operations of multibeam surveying, provides an understanding of differences between conventional and multibeam surveys, and emphasizes the realistic bounds on multibeam operations, to obtain acceptable depth and imagery data.

The topics to be covered include:

- Review of underwater acoustics and overview of acoustic seabed mapping systems
- Multibeam principles and multibeam calibration methods
- Positioning and motion compensation for multibeam surveys
- Multibeam survey planning
- Data structures and multibeam data processing
- Seabed acoustic backscatter and characterization visualization methods and quality control

The lecturers will include staff from the Ocean Mapping Group of the University of New Brunswick, Canada, and the Center for Coastal & Ocean Mapping of the University of New Hampshire. Both institutions are acknowledged world leaders in the research and development in this area, including shallow water multibeam operation, data quality, data processing and visualization.

Course enrollment is limited to a maximum of 60 participants. The six-day course fee includes all course materials and snacks each day (but excludes accommodation), and is US$2,600 per participant. Participants must make their own lodging arrangements directly with the Grand Casino Oasis Hotel (1-800-354-2450). Be sure to identify yourself as being with the Ocean Mapping Group to obtain the $62 per night room rate.

Course details are available on the internet at *http://www.omg.unb.ca/mbc*. If you are interested in learning more about this course contact Theresa Scardino, Planning Systems Inc. at *TScardino@psistennis.com*, via telephone at 228-689-8781 or via fax at 228-689-8499. ☼

Doctoral Research Fellowships in Ocean Engineering and Instrumentation

by Dr. George Maul

The Link Foundation will award several $25,000 doctoral research fellowships per year to candidates enrolled in academic institutions in either the United States or Canada. The application, in the form of a research proposal, must be received by January 17, 2005.

For additional information, please contact: Dr. George A. Maul, Administrator, Ocean Engineering and Instrumentation Fellowship, Florida Institute of Technology, Department of Marine and Environmental Systems, 150 West University Boulevard, Melbourne, Florida 32901, E-mail: *gmaul@fit.edu*, Website: *www.fit.edu/dmes/link*. ☼

Hydrography Workshop At ACSM Conference

by Jerry Mills

The American Congress on Surveying and Mapping (ACSM) will include a workshop on hydrography at their annual conference which will take place in Las Vegas, Nevada March 18–23, 2005. The workshop provides a technical overview of all major types of hydrographic surveys that support nautical charting, dredging, coastal engineering, and related

marine construction activities.

Both NOAA and U.S. Army Corps of Engineers hydrographic surveying procedures and specifications are emphasized, along with service contract requirements imposed by these agencies. The workshop focuses on the latest marine positioning and acoustic depth measurement systems. This workshop will be valuable for land surveyors wishing to obtain a broad overview of hydrographic surveying as conducted by NOAA's Office of Coast Survey and the U.S. Army Corps of Engineers.

Experienced hydrographers will also benefit from the discussion of wide ranging topics that appear on the ACSM Hydrographer Certification Examination. (Note: This workshop is not dedicated to the preparation for the examination, merely a high level overview of the major topics.)

The Hydrography Workshop was initially presented in 1999 at the ACSM conference in Portland, OR, and has continued at subsequent conferences around the country including Grand Rapids, MI, Little Rock, AR, Phoenix, Arizona, and Nashville, TN.

The workshop has enjoyed great success with the number of attendees varying between 20 and 40 at each workshop. For more information visit the ACSM website at http://www.acsm.net and click on "Conferences". ☼

Ocean Engineering Position, Florida Institute of Technology

by Dr. George Maul

The faculty of the Department of Marine and Environmental Systems (DMES) in Florida Tech's College of Engineering invite applications for the academic year 2004–2005 Doherty Visiting Professor.

The endowment to DMES from the Henry L. and Grace Doherty Charitable Foundation, Inc. provides up to $36,000 (depending on benefits desired), and is ideally suited as matching funds for a sabbatical.

DMES offers undergraduate and graduate degrees in oceanography together with coastal zone management, ocean engineering including naval architecture, environmental science, environmental resource management, and in meteorology.

We are seeking an established professional from academia, government, or industry, preferably with a terminal degree in science, engineering, or management, and a clear vision for their time at our university. For Academic Year 2004–2005 we are particularly interested in an ocean engineer. Applicants should mail a statement of interest on letterhead stationery not exceeding two pages in length, and a two-page *curriculum vitae* to: Dr. George A. Maul, Professor and Head, Department of Marine and Environmental Systems, Florida Institute of Technology, 150 West University Boulevard, Melbourne FL 32901.

Please see our website at http://www.fit.edu/dmes for additional information on our focus of integrating science, engineering, and management in the marine environment.

(Editor's note: Dr. Maul has indicated that someone in hydrography would also make a good candidate as Florida Tech has a hydrographic engineering specialization in the ocean engineering program.) ☼

Executive Secretary Jack Wallace and Radm Steve Ritchie, RN, sharing THSOA booth at CHC2004 Conference.

SAIC Partners with USM to Provide Hydrographic Training

by Don Ventura, SAIC

Science Applications International Corporation (SAIC) has announced that they have teamed with The University of Southern Mississippi's (USM) Department of Marine Science to provide industry, academia and the public sector with a series of 3-day seminars featuring hydrographic science and associated marine survey subjects.

The courses are aimed at the maritime industry as a whole and not just at the hydrographic surveying spectrum, although the material will also

provide a useful refresher for the professional hydrographer, bathymetrist and oceanographer. Current courses include Introduction to Hydrography for Surveyors (with a separate course for non-surveyors), Hydrography and the Military User and Tides, Water Levels and Geodetic Controls.

Knowledge of the near-shore environment has become increasingly important, with management of natural resources, environmental monitoring and protection, opportunities for economic expansion and Homeland Security all making demands on our collective knowledge of this most sensitive of areas.

Learning how we collect and create information about our coastal and inshore areas serves not only to educate us but also provides the basis of well-founded legislation and decision making governing the good stewardship of these areas.

Those involved in maritime-related business, or whose profession necessitates a basic understanding of the marine environment for either legal, contractual or operational safety purposes, are particularly encouraged to attend these seminars.

Future themes and venues will be developed to best meet your—the customer's—needs. Get more at: *http://saicnewport.com* and also at: *http://www.usm.edu/marine/hydro/work shops/.* ☼

Joint LIDAR Center Celebrates Opening

U.S. Rep. Gene Taylor (Dem.-MS) joined officials from four federal agencies in August to dedicate the Joint Airborne LIDAR Bathymetry Technical Center of Expertise (JALBTCX) at Stennis International Airport in Hancock County, MS.

Joining the congressman in the ceremony and at a ribbon-cutting event were Rear Admiral Timothy McGee, commander, Naval Meteorology and Oceanography Command; and Captain Jeffrey Best, commanding officer, Naval Oceanographic Office (NAVOCEANO); Mr. Wynne Fuller, Mobile U.S. Army Corps of Engineers; and Captain Roger Parsons, Office of Coast Survey, NOAA.

The JALBTCX mission is to provide airborne coastal surveying capabilities to the Army and Navy to meet operational requirements, to evolve light detection and ranging (LIDAR) and complementary technologies as well as to facilitate industry investment in the technology.

Formally established in 1998, JALBTCX's partnership began operating in 1994. Since then, it has completed over 400 project surveys in 13 countries and produced a variety of new tools and uses for airborne LIDAR bathymetry and airborne coastal mapping and charting.

Last fall, the U.S. Navy accepted delivery of the newest generation of airborne LIDAR survey sensors and began operational surveying shortly thereafter. The sensors, known as the Compact Hydrographic Airborne Rapid Total Survey or CHARTS, will be used for mapping and charting nearshore, shallow water areas in support of the U.S. Navy Fleet.

CHARTS combines topographic and hydrographic lasers with digital photography. Although the data still must be processed and analyzed, digital photography enhances the system by aiding in the analysis and by being available to overlay on final products, making the transition of water to land smooth and seamless.

JALBTCX is evolving the technology by developing new tools to gather more information about our coasts from the airborne data it collects. Along with LIDAR data that accurately measure the physical characteristics of the beach and nearshore coastal zone, JALBTCX is adding additional airborne sensors to measure environmental conditions. ☼

Make Your Reservations Early!

U.S. HYDRO 2005 Conference

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March 29 – 31, 2005

(For details, see article, Page 1, this Newsletter and www.thsoa.org)

The Hydrographic Society of America

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(Qualifications for membership and benefits are explained on the THSOA web site where this application may also be downloaded at www.thsoa.org)

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