

OCEANSP@CE

The FREE online marine science & ocean technology newsletter
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Ocean Community News

OI London 2002 -- An Exhibition & Conference Reaching High Tide!

London -- Oceanology International 2002 takes place in its new home at ExCeL (Exhibition Centre London) in the London Docklands next March 5-8, 2002. The revamped exhibition is already the largest in this long-established series, and less than 10% of the floor space remains available. OI London will attract more than 7,000 trade visitors, who will be able to sample the latest systems and solutions of more than 600 exhibitors. A free-of-charge Conference Programme of unparalleled quality and diversity will offer something for everyone. A number of research and commercial vessels will be moored on the River Thames directly alongside the exhibition. An impressive list of related conferences and social events will ensure OI London retains the long-established OI community atmosphere, set in modern facilities at a cosmopolitan city-location. Check it out with your business colleagues in the ocean community and sign up now on line for free registration at the world's largest international marine

science and ocean technology event at <http://www.oceanologyinternational.com/>.

Asia-Pacific News

Whale Sanctuary Goal in Reach Despite Opposition?

Wellington, New Zealand – This nation is forging a coalition of South Pacific countries committed to banning whaling in their waters after repeatedly being frustrated in its attempts to set up an internationally recognized whale sanctuary in the area. According to the Associated Press, New Zealand is working on the "nation-state" strategy for protecting whales after accepting that it is unlikely to win enough support at the International Whaling Commission to create a South Pacific sanctuary, Conservation Minister Sandra Lee said recently. A joint Australia/New Zealand proposal for a South Pacific-wide whale-protection sanctuary failed to win the necessary 75% support at the last two IWC annual meetings. The issue will be considered again next May at the commission's annual meeting in Shimonoseki, Japan, home port for Japan's whaling fleet.

Under New Zealand's alternative strategy, South Pacific nations would declare their territorial waters as sanctuaries for the sea mammals. The Cook Islands north of New Zealand has just declared its exclusive economic zone, which covers 2 million square kilometers -- the size of western Europe -- to be a whale sanctuary. French Polynesia, with an EEZ of twice that area, is preparing legislation to follow suit, Lee said. "Whales are already fully protected in Tonga, New Zealand, and Australia, and we are continuing to encourage our Pacific island neighbors such as New Caledonia and Niue to consider similar moves," she added.

Transas Installs First 360-Degree Simulator in Asia

Singapore -- In November, Transas Marine Pacific Pte. Ltd. here completed installation of the first 360° simulator in Southeast Asia at the premises of the International Development and Environmental Shipping School (IDESS) Maritime Centre (Subic) Inc., Subic Bay Freeport Zone, Philippines. According to a Transas spokeswoman, the new simulator was constructed within the framework of a major upgrade project for the IDESS full mission Navi-Trainer Professional simulator, which was installed at this site in 1995. That simulator included two interactive ownship bridges with three visualization channels and global maritime distress and safety system (GMDSS) stations on each bridge as well as a fully interactive VTMS station.

The upgrade of the simulation facility involved the construction of a completely new bridge layout to fit into the new building of the simulation center. According to the project specification, in addition to the simulator's main bridge having a 360° field of view, two simulator rooms will be used as secondary bridges with a single screen visualization to support the main bridge. Using this enhanced system, IDESS is now able to run electronic chart display & information systems (ECDIS), GMDSS, and tanker operations simulator-based training in the same facility. In addition, the upgraded simulation complex has other rooms for planning, debriefing, and instructor led training.

Capt. Robert Rayner, managing director of the IDESS center, commented on this upgrade: "Simulators are very powerful training tools if used correctly. We see simulator-based training as an important part of our ability to provide the type of learning programs that the shipping industry really needs for its

seafarers. So we want to upgrade our facilities to take advantage of the latest developments in simulator technology. We have been using the Transas system for many years now and, from a practical point of view, find it to be a system [that] can be adapted to different types of training and is easy to upgrade and expand to meet the demands of our clients." More at <http://www.transas.com/>.

'Green Mud Cure' for \$2 Billion Oil Drilling Losses

Perth, Western Australia -- Worldwide, the oil industry suffers an estimated \$2 billion loss every year due to collapsed and sidetracked holes, lost tools, and abandoned wells. Now, researchers from Australia's Commonwealth Scientific & Industrial Research Organization (CSIRO) -- in conjunction with the U.S. oil firm Halliburton Energy Services' Baroid Drilling Fluids -- have developed a low-cost, environmental product to help alleviate this industry headache called "green muds." "Our aim is to reduce drilling costs, improve performance, and operate within increasingly strict environmental limits -- and the new green muds have the ability to do just that," says team leader Dr. Chee Tan.

The green muds were created by CSIRO and Baroid to perform as well as traditional oil- and synthetic-based fluids when drilling difficult oil wells. A world patent has been filed for the formulations, which are being commercialized by Baroid as the BarOMEGA (osmotic membrane efficiency generating aqueous) drilling fluid system. The new muds are now entering field trials in the Gulf of Mexico and the North Sea.

"The green muds can also be more cost-effective than oil- and synthetic-based fluids that are normally used to maintain shale stability in the drilling of long-reach wells. One clear advantage of this is that if operators can drill successfully and economically out to 10 kilometers or beyond, fewer platforms are needed to exploit the field," Tan said. The key to drilling these long wells in shale is to maintain the precarious balance between drilling fluid pressure and rock stresses over extended periods of time. The new green muds contain special polymers that coat the surfaces of the hole and prevent, or at least minimize, fluid from the drilling mud from seeping in and destabilizing the wellbore. Although they go by the unromantic name of "muds," drilling fluids are in fact delicate works of art, combining weight to prevent hole collapse and to withstand formation pressure, lubricity, thermal stability, high drilling penetration rate, ability to prevent stuck pipe, good ability to transport cuttings smoothly, resistance to contamination, and efficiency of the membrane with which they coat the surface of the wellbore. To this exacting list of qualities has now been added one other vital requirement: because the fluids are usually disposed of at sea, the oil industry is under growing pressure to reduce the environmental impact of drilling.

"For this reason we have to design fluids with the entire life cycle in mind, right through to final disposal," Tan explained. "We can foresee a time, not far away, when the marine disposal of oil- and synthetic-based fluids may be banned in most parts of the world." Tan and his team of scientists from CSIRO Petroleum are now working at the Australian Resources Research Centre, the Southeast Asian region's new center of expertise for petroleum, mining and minerals research. For more, contact Tan at +61 (0)8 6436 8769, (0)413 457 195, or e-mail to chee.tan@csiro.au.

European News

Sub-Atlantic Announces Thruster Order from Norway

Aberdeen, Scotland – A spokesman for Sub-Atlantic Ltd. reports that the company received an order for hydraulic thrusters from Kystdesign of Norway. The latter chose Sub-Atlantic's SA380 and SA300 thrusters in the design and build project for a new ROV for Deepocean AS based in Haugesund, Norway. A Sub-Atlantic spokeswoman stated that the thrusters were chosen because of their reliability, lightweight construction, and good power efficiency. For information on this or any of Sub-Atlantic's products, contact Scott Jamieson at +44 (0)1224 723623 or e-mail him at scottj@sub-atlantic.co.uk.

PGS Goes Deep with Sonardyne Super Sub-Mini Transponders

Yateley, Hants, U.K. -- Sonardyne International Ltd. reports that PGS Reservoir Acquisition (Houston, Texas) recently purchased 50 Sonardyne Type 7970 4,000-meter-rated Super Sub-Mini transponders to provide final cable positions during the latter's dragged ocean bottom seismic operations in the Gulf of Mexico. According to a Sonardyne spokesman, the transponders have been given a unique "bilingual personality" mode that increases their versatility by enabling them to be programmed with simultaneous HPR 300 and 400 identities. The transponders automatically sense the type of positioning system interrogating them and switch mode accordingly.

The transponders have been supplied with 4,000-meter-rated flotation collars and are being positioned from the M/V *Bergen Surveyor* and the M/V *Kondor Explorer* using Sonardyne's high accuracy ultra short baseline (USBL) positioning system. The USBL system computes in real-time the absolute positions of the transponders on the cable from range and bearing acoustic observations. Sonardyne International is recognized as a leader in the design and manufacture of advanced acoustic instruments and systems for accurate survey, positioning, and tracking in shallow and full ocean depth operations within the offshore oil and gas industries. More at <http://www.sonardyne.co.uk/>.

New Products Bring Growth for Valeport

Dartmouth, Devonshire, U.K. -- As Valeport Ltd.'s financial year draws to a close, company officials announced that sales figures this year have shown significant growth through the introduction of new products. Sales and marketing manager Kevin Edwards said, "Whilst we recognize that the industry as a whole is having something of a purple patch, there is no doubt that our ongoing investment in R&D is now paying dividends. Two developments in particular have contributed most to this growth: our digital time-of-flight sound velocity sensor and our '400 series' instrument architecture."

Edwards said the sound velocity sensor is "the most accurate in the world, which is proving to be a pretty good selling point within its varied range." The 400 series features truly modular system architecture with each sensor individually controlled by its own microprocessor. This allows each sensor to be sampled at precisely the same instant, which has the benefit of giving near-perfect profiles and also precisely correlated data in multiparameter environmental instruments. "The modular nature also means that we can build custom-designed sensor suites with no engineering effort," he continued. For more information, contact Edwards or Matthew Quartley (product manager) on sales@valeport.co.uk or telephone +44 (0)1803 834031. Details are available at <http://www.valeport.co.uk/>.

'Best Sales Performance' Award to Atlantas Marine

Langport, Somerset, U.K. -- At the recent VideoRay distributor conference held in Orlando, Florida, Atlantas Marine Ltd. and Ohmex Instrumentation Ltd. (Southampton) were presented with the "best sales performance" award in recognition of outstanding sales this year. There, managing director Charlie Foll (shown at right) learned about exciting new developments at VideoRay Inc. (Exton, Pennsylvania) and the launch of the new VideoRay 2002 model, which will ensure that the product retains its position as market leader in the mini-ROV market.

Atlantas Marine is the appointed U.K. sales agent for VideoRay, having taken over the agency from Ohmex. Ted Read of Ohmex said that this decision allows Ohmex to concentrate on strengthening its core business in tide gauges, survey echosounders, and environmental data acquisition systems. The agreement builds on Atlantas Marine's already strong market presence with the VideoRay ROV and coincides with the release of the new model. Foll said the VR2002 offers numerous design enhancements including auto depth control, easier maintenance, and more thrust. For more information, contact Atlantas Marine at +44 (0)1458 241144 or e-mail at info@atlantasmarine.com. Full details of the company's product range can be found at <http://www.atlantasmarine.com/>.

Thales GeoSolutions Awarded Major Metocean Project Offshore Norway

Chessington, Surrey, U.K. -- Thales GeoSolutions Group Ltd. here announced last week that its Environmental and Metocean Services division (Capetown, South Africa) was awarded a major project in Norway for Norsk Hydro Produksjon AS. A Thales spokesman revealed that Norsk Hydro is investigating the feasibility of installing a pipeline from Ormen Lange, Norway's second largest gas field, to a location on the Norwegian coast. As part of the planning process, Thales GeoSolutions will undertake oceanographic measurements in critical areas along possible pipeline routes.

In all, seven separate current moorings will be installed in depths varying from 50 to 480 meters. Each mooring will be fitted with an Aanderaa (Bergen, Norway) RCM9 current meter complete with temperature, conductivity, and pressure sensors. Three of the moorings will also be fitted with RD Instrument Inc. (San Diego, California) acoustic doppler current profilers (ADCPs) (75 kHz and 300 kHz) to provide current measurements throughout the water column. In addition to the current measurements, wave measurements will be made at two locations using 0.9-meter Datawell directional waveriders, one in 75-meter and one in 480-meter water depths. The moorings will be recovered every two months for servicing and data downloading and then re-deployed for the next measurement period.

Stefan Stimson, Metocean services manager for Thales, commented: "As we are based in Cape Town, South Africa, this contract award underlines that the Thales Environmental and Metocean division can successfully and competitively operate anywhere in the world. By utilizing the local knowledge and experience of the local Thales GeoSolutions office in Bergen, Norway, and the expertise of the Metocean division, Thales provides a comprehensive and fully supported metocean solution for this project." Thales GeoSolutions (South Africa)(Pty.) Ltd. is the "center of excellence" for the provision of environmental and metocean services worldwide, either directly to clients or via the global network of Thales GeoSolutions operating companies, Stimson continued. More about the Thales at <http://www.thales-geosolutions.com/>.

The Americas

EdgeTech Appoints MacArtney as Representative

Milford, Massachusetts (USA) -- EdgeTech Inc. and the MacArtney Underwater Technology Group (Esbjerg, Norway) announced the latter's appointment as EdgeTech's representative in Denmark, Norway, Benelux, France, and Scotland, effective from December 1. An EdgeTech spokeswoman said the MacArtney Group has more than 25 years of experience supporting the offshore and oceanographic markets internationally, with a fully trained technical and system engineering staff, extensive testing facilities, and a broad range of ancillary equipment. This includes connectors, cameras, sonars, cable systems, cable handling systems, fiber optic telemetry systems, etc.

EdgeTech manufactures a variety of marine products, she added, including side-scan sonar, Full Spectrum® sub-bottom profilers, acoustic releases, acoustic modems, seismic systems, and other marine instrument technology. This complements MacArtney's existing product range, allowing the company to offer additional services to its ROV, AUV, and towed system customers. MacArtney will play a major role in EdgeTech's drive to increase its presence in international markets. The company's reputation for providing superior regional service and backup will result in enhanced support for current and future products, including the new high-speed MP-X side-scan sonar. For more information, contact EdgeTech's Dave Adams at +1 (508) 478-9500 or visit the EdgeTech website at <http://www.edgetech.com/>. MacArtney's contact is Jes Hojlund at +45 76 13 20000 or visit the website at <http://www.macartney.com/>.

Leica To Supply DGPS for Hellenic Navy Gunboats

Torrance, California (USA) -- Leica Marine GPS has won orders to supply high-precision marine DGPS receivers for four new Hellenic Navy gunboats. Each of the gunboats will be fitted with a Leica MX 420/8 differential global positioning system (DGPS) receiver, which will be used as the primary navigation aid. The MX 420/8 will be interfaced with other bridge equipment, including the BridgeMaster E navigation radars, DSC radio, central clock system, and gyrocompass. The contract includes options for two more gunboats.

The equipment will be installed and commissioned by Radio Marine Electronics, the Greek sales and service agent for Leica Marine GPS. The four new gunboats are being built at the Hellenic Shipyard Co., in Skaramanga. The first vessel is scheduled for delivery in mid-2002. Based in California and Copenhagen, Denmark, Leica Marine GPS is a business unit of Leica Geosystems Inc. More at <http://www.leica-geosystems.com/>.

nVIEW Introduces the Virtual Bridge

Newport News, Virginia (USA) -- nView Corporation yesterday announced the introduction of the Virtual Bridge, providing a panoramic view (see photo at right) of the ship's integrated monitoring systems on multiple side-by-side displays. The Virtual Bridge is now offered by nView as an optional capability with SiMON, the ship information monitoring system.

According to a spokesman, the Virtual Bridge is comprised of up to four large flat-panel LCD displays,

mounted end-to-end, running from one central computer. It creates the appearance of having one very wide display, capable of providing information from all the ship's critical operating systems simultaneously. The user can easily drag and drop operating information such as the radar display, electronic charting, and SiMON from one screen to the next in any direction with simple point-and-click functions. The information on the displays can be dynamically reconfigured as the captain chooses, using a single computer keyboard and mouse.

"The concept is to provide a continuous virtual screen that is the width of all the displays side-by-side," said Mike Blake, vice president for product development at *nView*. SiMON is an integrated system designed to monitor any system, subsystem, or sensors on the vessel. It collects real-time data from any number of analog or digital sources and formats the data for display on the ship's computers. The company specializes in designing fully integrated systems and solutions for the marine market. More information on *nView* may be found at <http://www.nview.com/>.

Canadian Scientists Blame China for Overfishing Errors

Vancouver, British Columbia, Canada – The world's stock of fish may be much lower than previously thought because of unreliable figures about the number of fish being caught, scientists warned. BBC reported that China was the culprit, saying officials there hoping to impress their political leaders had inflated the size of catches by Chinese fishermen despite the fact that some of the seas around China had long been classified as over-exploited. They say analysts using these figures concluded that fish stocks were healthier than they really were and, as a result, had seriously underestimated the effects of over-fishing.

The only authority to keep track of worldwide fishing, the UN's Food & Agriculture Organization, reports that global fish catches amounted to around 80 million tonnes at the start of the 1990s and generally rose throughout the decade. Fish provide a substantial portion of the world's protein needs and the study -- by University of British Columbia scientists Reg Watson and Daniel Pauly -- says continued overfishing threatens global food security. The two scientists constructed a mathematical model that predicts catch size in different ocean regions.

BBC science reporter, Helen Sewell, says elsewhere in the world the figures produced by the model matched the actual catches fairly well. However, in the case of China, the stated catch figures and the modeled figures were far apart. The scientists say this means that China could not have been catching as many fish as it claimed. The researchers say this led the FAO to believe that global fish catches had increased, whereas in fact they had actually been dwindling. A spokesman at the Chinese fisheries department said staff promotions used to be made on the basis of catch figures but the department had ended the practice two years ago. He said the Chinese government was now paying more attention to the preservation of resources.

Events

Symposium on International Global Ocean Exploration

Washington, D.C. (USA) -- In December 2000, the U.S. Congress requested that the National Academy of Sciences assess the feasibility and value of implementing a major, coordinated, international program of ocean exploration and discovery.

Washington, D.C. (USA) -- In December 2000, the U.S. Congress requested that the National Academy of Sciences assess the feasibility and value of implementing a major, coordinated, international program of ocean exploration and discovery. The NAS is seeking full international participation in the study, beginning with an international workshop involving scientists, engineers, policy makers, and other interested parties. The Intergovernmental Oceanographic Commission (UNESCO) workshop is slated for May 13-15, 2002, in Paris, France

The ocean remains earth's least explored frontier. A well-planned, international program of ocean exploration, taking advantage of new technologies, recent international agreements, and both new and existing partnerships, are key elements to making new discoveries about the ocean, its living and non-living resources, and the many unknown species that inhabit it.

The workshop will include panels and working groups charged with examining four key challenges in organizing a coordinated, cooperative, international ocean exploration program: · strategies for exploring the ocean, · existing and future technologies for ocean exploration, · strategies for international participation and cooperation, and · education and outreach. For more information about the IGOE workshop, contact Jodi Bachim, Ocean Studies Board, U.S. National Research Council, +1 (202) 334-2628, or check the website (<http://www.national-academies.org/osb/>) for updates.

Applanix's Marine Users Workshop

Richmond Hill, Ontario, Canada -- Applanix Corporation officials here are planning to hold the company's first annual North American Marine Users Group Workshop in Savannah, Georgia, in

Richmond Hill, Ontario, Canada -- Applanix Corporation officials here are planning to hold the company's first annual North American Marine Users Group Workshop in Savannah, Georgia, in conjunction with Coastal Oceanographics Inc.'s (Middlefield, Connecticut) HYPACK 2002 Hydrographic Surveying Conference at the Marriott Riverfront Hotel. The event is scheduled for the afternoon of January 7, 2002, and will start with lunch at noon and continue to the early evening. An Applanix spokesman said the organizers were hoping for "a frank and open discussion between both users and company representatives."

In addition to senior Applanix technical and commercial staff, there will be three guest speakers at the meeting sharing their experiences, good and otherwise, with Applanix's POS MV system: Doug Lockhart (Thales GeoSolutions Ltd.), E.J. Van Den Ameele (U.S. National Oceanic & Atmospheric Administration), and Shawn Johnson (RESON Inc.). Although the content of the meeting is geared

towards current POS MV users, the spokesman noted, "all hydrographic survey personnel are welcome to attend, and we invite everyone attending the HyPack meeting to join us for beer and pizza starting at 5:00 p.m.. Regardless of whether you're playing in the Humber (golf) Classic, or traveling into town that day, the reception should be timed to make for a convenient break."

The workshop is expected to be beneficial to all, and the Applanix organizers would like to know if readers are interested in attending. Send an RSVP via e-mail to Tina Sadler (tsadler@applanix.com) and indicate how many representatives will attend. The information is needed before December 15 to finalize arrangements. For additional information, call +1 (713) 896-9900. For more about the HYPACK 2002 conference, visit <http://www.coastalo.com/>.

MITCH: Bringing Research, End-Users Together

Brussels, Belgium -- MITCH (mitigation of climate-induced natural hazards) is a European Commission-funded Concerted Action in the Fifth Framework Programme, with 13 partners from across Europe. The

Brussels, Belgium – MITCH (mitigation of climate-induced natural hazards) is a European Commission-funded Concerted Action in the Fifth Framework Programme, with 13 partners from across Europe. The project is striving to bring together research institutions and end-users with a leading involvement in the mitigation of natural hazards with a meteorological cause. The aim will be to assist planning and management by · evaluating the state of research, · encouraging greater uptake of existing research knowledge (both EC and nationally funded), and · trying to better match users perceptions and needs with what the research community can provide.

MITCH is being conducted through a series of three workshops and an active website for the exchange of views and evaluation of best practice. To maximize the value of the workshops, it is vital that the organizers secure appropriate participation across academia, those involved in operational hazard management, and funding bodies -- including representatives from both government and the insurance industry.

This first workshop – "Floods, Droughts and Landslides: Management in a Changing Climate; Translating Research Advances into Practical Benefits" -- to be held in Delft, Netherlands, on December 12-13, 2001, is sponsored by WL Delft Hydraulics and the Environment Agency. To find out more, browse the workshop program, and to register as a participant, log on to <http://www.mitch-ec.net> or e-mail the Environment Agency's National Flood Warning Centre at nfwc@Environment-Agency.gov.uk or the MITCH project coordinator, Bridget Woods Ballard, at baw@hrwallingford.co.uk.

A primary focus of the concerted action will be on flood forecasting and warning, but it will include other flood-related hazards, such as landslides and debris flow. It will also look at longer-term climate hazards such as drought, and the possible impact of climate change on the frequency and magnitude of such hazards.

Meetings [rev. 12-06]

December 10-14, **American Geophysical Union Annual Meeting**, San Francisco, California. Information at <http://agu.org/meetings/meetings.html>.

December 16-18, **International Congress of Chemistry and Environment**, Indore, M.P., India. Information at <http://www.chemenviron.com>.

December 17-18, **European Rock Coasts 2001 Conference**, Brighton, Sussex, U.K. For more information, visit <http://www.sussex.ac.uk/ESPED> or e-mail either Sarah McKenzie (sarahmck@globalnet.co.uk) or Dr. Yolanda Foote (y.l.m.foote@sussex.ac.uk).

Next Year

January 8-10, 2002, **HYPACK 2002 Hydrographic Surveying Conference**, Marriott Riverfront Hotel, Savannah, Georgia. Information from Lourdes Ramos at Coastal Oceanographics Inc., lourdes@coastalo.com or <http://www.coastalo.com>.

January 7, **Applanix Corp. First Annual North American Marine Users Group Workshop** [in conjunction with Coastal Oceanographics Inc.'s (see above) HYPACK 2002 Hydrographic Surveying Conference], Marriott Riverfront Hotel, Savannah, Georgia. RSVP via e-mail to Tina Sadler (tsadler@applanix.com) and indicate how many representatives will attend.

January 13-17, "**Generating Environmental Information and Services**," **American Meteorological Society, 82nd Annual Meeting**, Orange County Convention Center, Orlando, Florida. Information and registration at <http://www.ametsoc.org/AMS/meet/82annual/>.

January 19-23, **Symposium on Maritime Disaster Management**, Dhahran, Saudi Arabia. Information and registration at <http://www.saudi-sea-symp.org>.

February 11-15, **AGU/ASLO 2002 Ocean Sciences Meeting**, Honolulu, Hawaii. Information and registration at <http://www.agu.org/meetings/os02top.html>.

February 18-20, **Submarine Networks World 2002 Undersea Intelligence**, ANA Hotel, Sydney, Australia. Information and registration at <http://www.submarine-networks.com/subnetworld2002aus/>.

February 19-21, **Submarine Networks World EMEA 2002**, Hotel Torrequebreda, Costa del Sol, Spain. Information and registration at http://www.carriersworld.com/submarine_nets_2002/.

February 27-March 2, **Underwater Intervention 2002**, Ernest N. Morial Convention Center, New Orleans, Louisiana. Information and registration at <http://www.underwaterintervention.com/>

March 5-7, **Operational Oceanography and Remote Sensing Symposium**, ExCeL (Exhibition Centre, London). Information and registration at <http://www.waterobserver.org/workshop-2002-03/>.

March 5-8, **Oceanology International London 2002**, ExCeL (Exhibition Centre, London). Information and registration at <http://www.oceanologyinternational.com>.

March 25-29, **Benthic Dynamics: In Situ Surveillance of the Sediment-Water Interface**, University of Aberdeen, Aberdeen, Scotland. Information and registration at <http://www.abdn.ac.uk/ecosystem/conference/>.

April 2-4, **Hypack® Hydrographic European Training Conference**, Hotel Schiphol A4, Amsterdam, Netherlands. Information and registration from Miss Silvia van Duin, +31 252 675335 or e-mail svd@schipol.valk.nl.

April 11-12, **27th Annual American Association for the Advancement of Science Colloquium on Science & Technology Policy**, Omni Shoreham Hotel, Washington, D.C. Information and registration will be available (late 2001) at <http://www.aaas.org/spp/dspp/rd/colloqu.htm>.

April 16-19, **Underwater Technology 2002 International Symposium**, The New Sanno Hotel, Tokyo, Japan. Information at <http://underwater.iis.u-tokyo.ac.jp/ut02/>.

April 17-19, **International Conference on Marine Environmental Law**, Bremen, Germany. Information at <http://www.gauss.org/icmel>.

May 1-4, **NL 2002: Networked Learning in a Global Environment**, Technical University of Berlin, Berlin, Germany. Information and registration at <http://www.icsc-naiso.org/conferences/nl2002>.

May 6-9, **OTC 2002: Deep into the Future**, Reliant Center, Houston, Texas. Information and registration forms at <http://www.otcnet.org>.

May 13-15, **Symposium on International Global Ocean Exploration**, Intergovernmental Oceanographic Commission (UNESCO), Paris, France. Information at <http://www.national-academies.org/osb/>.

May 22-25, **The Northern Environment, 36th Congress, Canadian Meteorological & Oceanographic Society**, Rimouski, Quebec, Canada. For information contact Francois Roy at royF@dfo-mpo.gc.ca or see <http://scmo-cmos-2002.osl.gc.ca>.

May 28-29, **All-Energy Opportunities 2002**, Aberdeen Exhibition & Conference Centre, Aberdeen, Scotland. Information at <http://www.all-energy.co.uk>; brochure available at info@all-energy.co.uk.

May 28-31, **CHC 2002: Canadian Hydrographic Conference**, Toronto, Ontario, Canada. Information and registration at <http://www.chc2002.com> or e-mail chc2002@absolutevents.com.

June 10-14, **American Society of Limnology & Oceanography 2002 Summer Meeting**, Victoria, British Columbia, Canada. Information and registration at <http://www.aslo.org/forms/victoria2002.html>.

June 24-27, **ECUA 2002: 6th European Conference on Underwater Acoustics and Exhibition on Underwater Acoustics Systems**, Technical University of Gdansk, Poland. For more information or registration, visit <http://www.ecua2002.gda.pl/> or send an e-mail to ecua2002@eti.pg.gda.pl.

July 21-26, **PACON 2002 – "The Ocean Century," Tenth Pacific Congress on Marine Science & Technology**, Makuhari Messe (Nippon Convention Center), Chiba Prefecture, Japan. Information and registration at <http://www.hawaii.edu/pacon/>.

September 3-6, **CARIS 2002: The Seventh Annual CARIS Users' Conference**, Norfolk, Virginia. Information at <http://www.caris.com/caris2002/>.

September 5-6, **Submarine Networks World Asia 2002**, Raffles City Convention Centre, Singapore. Information and registration at http://www.carriersworld.com/subnetasia_2002/.

September 2-6, **2nd International Symposium on GIS/Spatial Analyses in Fishery and Aquatic Sciences**, University of Sussex, Brighton, U.K. Information and registration on <http://www.esl.co.jp/Sympo/sympo10.htm>.

October 15-18, **2nd GLOBEC Open Science Meeting, Qingdao, Peoples Republic of China**. Information and registration at <http://www.pml.ac.uk/globecmail/openscience.htm>.

October 29-31, **Oceans 2002 MTS/IEEE**, Mississippi Coast Coliseum & Conference Center, Biloxi, Mississippi. Information and registration at <http://www.mtsulfcoast.org>.

November 18-22, **Achievements of the World Ocean Circulation Experiment**, Henry B. Gonzalez Convention Center, San Antonio, Texas. Information requests and comments to woce2002@tamu.edu.

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Job Vacancies

Survey Field Positions Available

Houston, Texas (USA) -- C & C Technologies Inc., a Baton Rouge, Louisiana-based survey firm, is opening a new Houston office. This full service location is hiring 15 - 20 experienced offshore survey

Houston, Texas (USA) -- C & C Technologies Inc., a Baton Rouge, Louisiana-based survey firm, is opening a new Houston office. This full service location is hiring 15 - 20 experienced offshore survey personnel for field positions based out of Houston. Salary will be \$30,000 to \$35,000 a year with an offshore overnight bonus (between \$100 - \$175/day) DOE. Benefits include health, life, dental, LTD, 401(k), bonus program, paid vacation, and many more benefits. Please fax or e-mail resumes to C & C Technologies Inc., Attn: Personnel Dept. (Houston), fax +1 (337) 261-0192, e-mail info@cctechnol.com. More about the company at <http://www.cctechnol.com/>. EOE

Positions Wanted

Management Position Sought

With 21 years of project/line management experience within the U.S. Navy and hydrographic survey and submarine cable industries, seeking challenging position within dynamic organization. Experience

With 21 years of project/line management experience within the U.S. Navy and hydrographic survey and submarine cable industries, seeking challenging position within dynamic organization. Experience includes five years of managing research in large government laboratory. Bachelor of science degree in physics and Ph.D. in physical oceanography. Team building experience includes recruitment, career development counseling, interagency liaising. Communication skills cover sales and marketing presentations, point paper analysis, research/report writing and presentation, and performance appraisals. After one year of freelance consulting, interested in joining dynamic company offering significant challenge and opportunity for growth. CV and references available on request. Contact Casey Church at casey.church@worldnet.att.net.

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