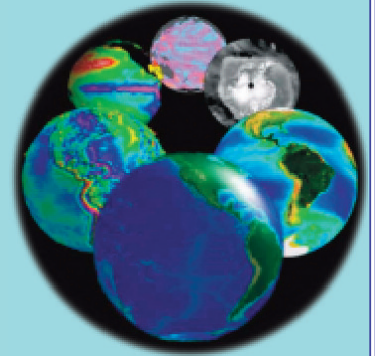


BULLETIN

of the

PORSEC

Association



Volume 1.3 November 2007

Dear Members of the PORSEC Association,

This Bulletin has two science articles concerned with the shrinking ice sheet in the Arctic and the use of SAR to observe ship wakes in the Mediterranean, respectively. We expect both of these to be of interest to many Bulletin PA readers in view of concerns about climate change and oil pollution from ships.

This issue also directs you to the web-site for PORSEC 2008 and gives a tentative list of possible sessions. The organizers would like to hear from you about what sessions are of interested to you. (We may have to extend the conference if all of these fill up with oral papers.) We also provide a report on a visit to Guangzhou and Beijing by the president and treasurer of PA.

Please pay special attention to the *Call for Nominations* for the two elective positions, President and Vice-President of the PORSEC Association. You can inform yourself about the duties of these officers in the Statutes and By-Laws link on our web-site. Feel free to nominate yourself, if you are interested (you need two letters supporting your nomination).

We wish you all a good holiday season and
A VERY PROSPEROUS NEW YEAR!

Yours,

Kristina Katsaros and Gad Levy
Co-editors of the Bulletin PA

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A Big Arctic Perennial Ice Anomaly

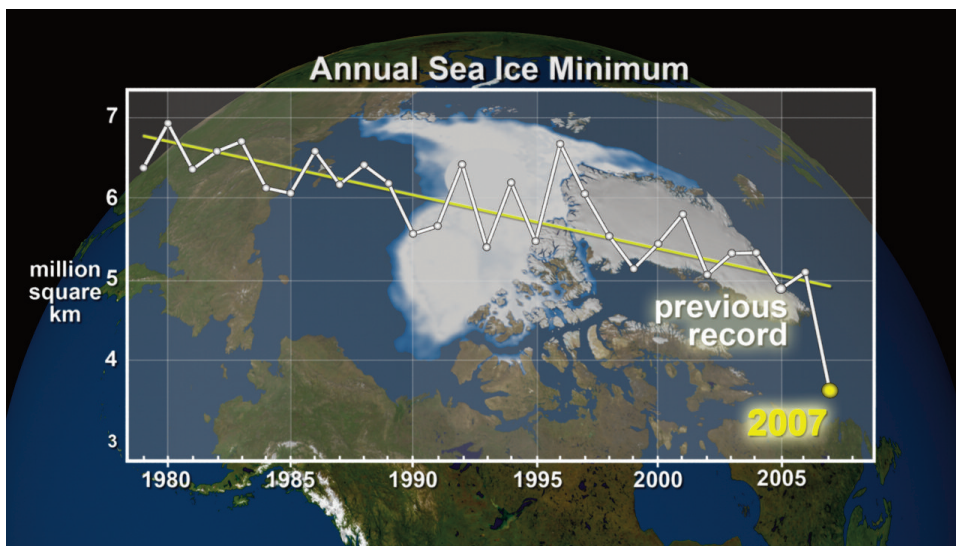
This year we saw a phenomenal decline in the Arctic perennial ice cover, which is ice that survives at the end of the summer. As shown in Figure 1, the area of the perennial ice is now declining at -11.4% per decade. The ice area at the end of the summer in 2007 was -27% less than the previous record low in 2005 and 38% less than climatological average. This was an unusual event in the Arctic but it was actually an event that was waiting to happen. It could have happened in 2006 but the advection of thick multiyear ice to the west prevented ice in the region from melting completely and an unusual summer polynya was formed instead. This year, there was no such advection and in the process, the one year decline was even more than the decline from 1978 (the year when continuous satellite ice data started) to 2006. To look for answers, we examined wind effects and temperature effects. The wind effect was basically to bring warm air from low latitude regions to the north and to push the ice edge further to the North. Some of these effects are reflected in the temperature data that showed large positive Arctic anomalies in February and then in April.

The trend in the perennial ice cover not including 2007 was previously -10%/decade but it will be a lot steeper if the perennial ice stay at the 2007 level in years to come. The impact on the winter ice cover, which has not changed much in recent years, is currently becoming apparent as the ice retreated significantly during the last 3 years. The trend in total ice was modest at about -2% per decade from 1978 to 1996. From 1996 to 2007 the trend shifted to -10% per decade, which is almost the same as the trend for the perennial ice cover. This means that the seasonal ice is catching up and there is an acceleration in the decline of ice in the entire hemisphere.

Concurrently, satellite infrared data from 1981 to 2007 are showing unusual trends in surface temperature. The trends in temperature are dominantly positive at high latitudes in the Northern Hemisphere and inside the Arctic Circle it has been 0.70C per decade. The distribution of trends is not uniform and is more moderate in some places like Siberia where the trend is about 0.230C per decade but in Greenland the average trend gets as high as 0.80C per decade.

Even more significant is the observed warming in the sea surface temperature (SST). In August, SST peaked at around 120C in the Arctic Basin, which is significantly higher than previous peaks of about 80C. In early July 2007, the rise in SST was about 0.40C per day for about a week at a time when Arctic sea ice was on a precipitous decline. This in itself is a signal that the surface layer of the Arctic-ocean is warm and as soon as the melt water gets in contact with the underlying water, it warms very rapidly. The trend in exposed open water in the Arctic from 1978 to the present has been estimated to be about 23% per decade. This is expected to cause ice-albedo feedback, or warming in the ocean, and indeed, the sea surface temperature from 1981 to the present has been increasing at an intriguing rate of 0.70C per decade. This is an indication that the ocean has been heating up and contributing to the decline. The occurrence of the 2006 polynya is a manifestation of the impact of ocean heat.

A sustained cooling in both SST and surface air temperature in winter and summer is needed for the perennial ice to recover. The sea ice cover needs to get thick enough in winter so it can survive the summer melt. Also, the melt rate



The perennial ice cover in 2007 and a plot of monthly ice area from 1979 through 2005, when we had the previous record low, to 2007. Linear regression applied on the data points yielded a trend of -11.4% per decade.

in the summer should not be abnormally high. However, the ice region has been conditioned for more decline as a result of long term increases in open water that absorbs more solar heat than ice. An atmospheric cooling for one year won't reverse this trend. Further decline in the ice cover is thus expected and with the observed trends in temperature and increasing greenhouse gases, a recovery is not expected in the foreseeable future. During the lifetime of many of us, it appears that there will be a blue or nearly all blue Arctic Ocean.

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Remote Sensing of Far Wakes of Ships

A Study Using a Network of Volunteer Observing Ships

Remote ship detection and identification has been a topic of interest for a variety of organizations, including but not limited to: environmental and fishing patrol agencies, national security organizations, and marine safety networks. Utilizing the network of the International SeaKeepers Society (ISKS) volunteer ships, our laboratory is retrieving Synthetic Aperture Radar (SAR) images of large commercial vessels, each with its own distinctive wake pattern. SAR imaging is particularly useful for detecting ships, as the satellite can operate regardless of cloud cover or time of day. After acquiring these satellite images, we examine various features of the wake, including its length and dependence on environmental and ship parameters (e.g., wind speed, ship speed, etc.) in order to develop the hydrodynamic model of the far wake attuned to remote sensing techniques.

Most ships and their wakes are characterized by a similar set of imaging features. Ships are usually recognized as a bright spot known as the “ship speckle”, resulting from the radar signal reflecting off the vessel. Interestingly, the various flow patterns in a ship wake can create convergence zones for surfactants, resulting in slicks. These slicks create an area of reduced surface roughness, producing a dark centerline wake in SAR images. The dark centerline wake can persist for several hours and stretch tens of kilometers behind a vessel. The ship speckle is often displaced relative to the ship wake due to the Doppler effect. By examining a ship wake displaced from the vessel, it is often possible to determine the direction and approximate velocity of the vessel, clearly a very useful attribute for applications of remote sensing. The centerline wake, a slowly expanding dark region extending, at times, far behind a ship, is frequently the most distinguishable feature of a ship wake and is often visible on SAR imagery.

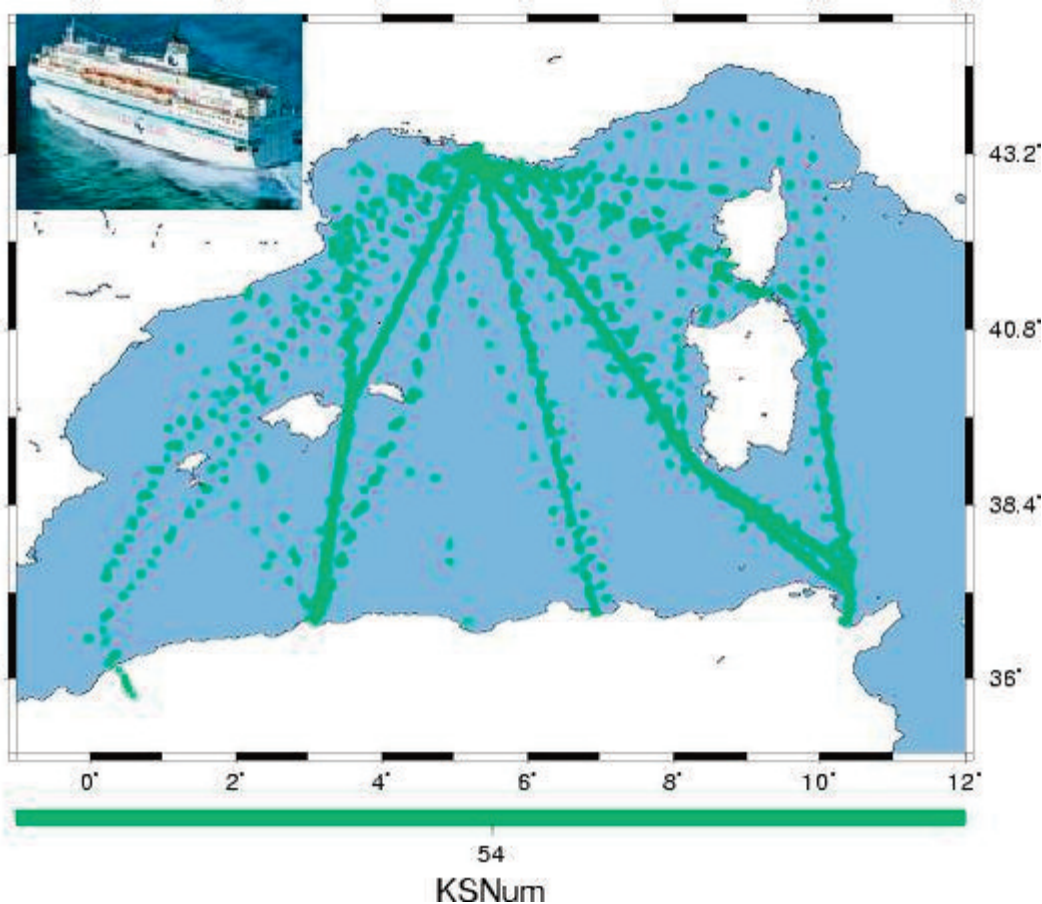
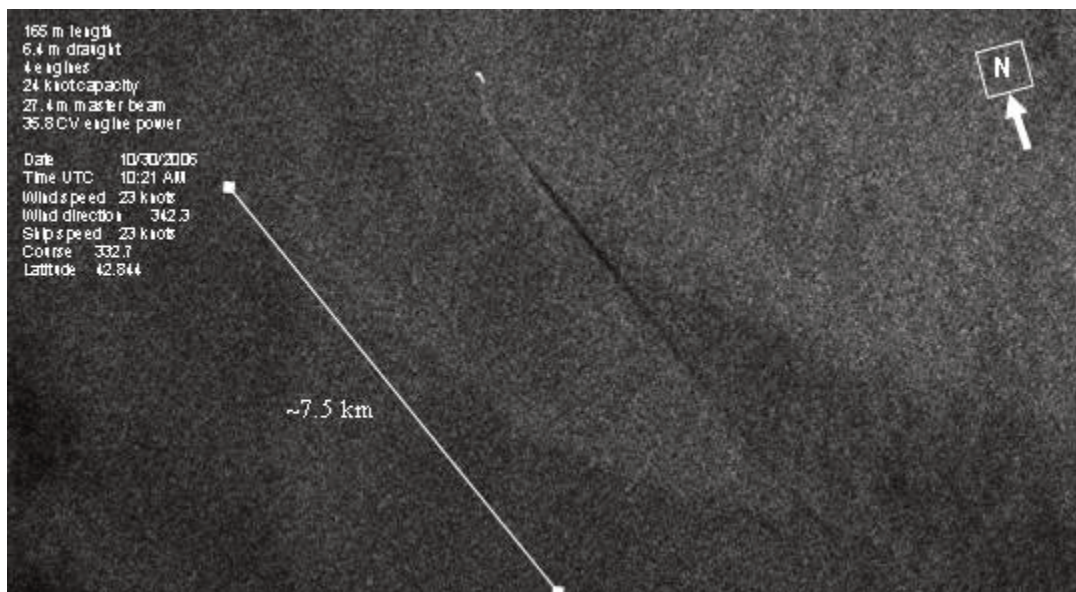


Fig. 1 Envisat ASAR image of Le Méditerranée and its wake on October 30, 2006, with various ship and environmental parameters.

The Mediterranean car ferry, *Le Méditerranée* travels between the ports of Marseille, France and North Africa (Fig. 1) and was imaged by the Envisat Advanced Synthetic Aperture Radar (ASAR) satellite of the European Space Agency (ESA) on October 30, 2006 (Fig. 2). This vessel, among several other commercial ships, has been outfitted with special instrumentation by the ISKS to track weather and sea conditions, geographic coordinates, speed and direction, among



other variables.

Fig. 2: Envisat ASAR image of Le Méditerranée and its wake on October 30, 2006, with various ship and environmental parameters.

Another common feature of a ship wake is the Kelvin arm, a very bright or dark line bordering the Kelvin wave area. The Kelvin arm may be on one or both sides of the wake and is thought to result from the regular Kelvin wave action producing a large contrast in surface roughness. Additionally, a V-like structure, sometimes referred to as a “railroad track” may be present in SAR images of ship wakes. The V-like structure consists of bright or dark stripes oriented at an angle several degrees off that of the aft motion of the ship.

The weather conditions at the site of imaging can greatly influence the visibility of a ship wake in a SAR image. For example, under high winds or rough seas, ship wakes may not be visible at all. Given optimal imaging conditions, critical information concerning ship identification can often be obtained by examining the turbulent wake of the ship. For example, the width of a turbulent wake increases with increasing distance from the ship. Some estimates have even taken into consideration the beam width of the ship. Thus, by examining the wake of a ship, scientists may be able to determine the relative size of a ship and possibly its identity. The unprecedented availability of SAR data (taking into account the launches of even more sophisticated SAR satellites - TerraSAR-X and COSMO-Skymed), together with recent advantages in data storage and processing methodology and image recognition techniques, create a great opportunity to effectively handle these tasks.

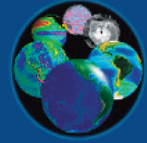
Acknowledgements: We gratefully acknowledge the European Space Agency for providing access to SAR images and the International SeaKeepers Society Technical Director, Geoff Morrison for providing the hydrometeorological data from the commercial volunteer ships.

*Kathryn Young, Alexander Soloviev, Mikhail Gilman, and Katherine Moore
 Nova Southeastern University's Oceanographic Center, Dania Beach, FL 33004, USA*



PORSEC 2008

OCEANIC MANIFESTATION OF GLOBAL CHANGES
December 2-5, 2008, Guangzhou, China



PORSEC 2008 (Pan Ocean Remote Sensing Conference)

Homepage: <http://ledweb.scsio.ac.cn/porsec2008/>

Theme: Oceanic Manifestation of Global Changes

Venue: Guangzhou, Guangdong, China

Date: 2-5 December 2008

Host: The South China Sea Institute of Oceanology (SCSIO), Chinese Academies of Science

The **international PORSEC** Association is an organization dedicated to helping developing nations stimulate their science programs using global remote sensing data. In November 2008, China will be on the eve of launching the second, **Haiyang-2** (ocean dynamics), and third, **Haiyang-3** (ocean watch), series of ocean observing satellites, following the success of the first series (ocean color). PORSEC 2008 may provide the appropriate and timely forum to show the international research and operational communities the potential benefit of Chinese space program to science, economy, and ecology, and to foster international cooperation in calibration and application of these sensors. **Guangzhou** is a city of southern China on a delta near the South China Sea, it lies close to Hong Kong, and Macau. The capital of Guangdong province, it was the jumping-off of oceanic Silk Road in the ancient time and later became a treaty port open to foreign trade after the Opium War (1839–1842). The city has the nicknames of City of Five Rams, City of Rams, City of Flowers, or City of Wheat. Located on the Zhu (Pearl) River, it is southern China's chief port in the middle south of Guangdong Province.

Tentative Sessions and Conveners

(1) Satellite observation system

1. Remote Sensing Research in China: Satellites, Sensors, Data and Application (Pan, DL; He Ming Xia; Jiang, JW, China)
2. Operational Applications of Ocean Satellite Observations (Song, Tony, USA; Wang DX, China)
3. Multi-Sensor Studies in Ocean Remote Sensing (Yan XH, USA; Emery, William, USA)
4. Links between Physics and biology on Mesoscale: What Satellite could provide (Lobarov, U., Russia; Hu CM, USA)

(2) Global Changes

5. Ocean's Role in Global Water Cycles (Liu W.T., USA; Liu CT, Taiwan)
6. Marine Weather system: Study with passive and active Microwaves (Mitnik, L., Russia; Su, Gao, China)
7. Interactions between ocean and atmosphere (Levy, G., USA; Guan ZY, China)
8. Low-frequency Oceanic Processes and SAR applications (Han GQ, Canada; Huang WG, China; Liu, A., USA)
9. High-resolution SST and its regional/global applications (Kawamura H, Japan; Guan L, China)

(3) Natural Hazards

10. Natural Hazards and the Role of Satellite Observations (Saleh, H.A., Ebuchi, N., Japan)
11. Ocean-Land-Atmosphere Associated With Natural Hazards (Singh, R., USA)
12. Fingerprints of atmospheric phenomena on the Ocean surface (Alpers W., Germany; Yang XQ, China)
13. Satellite based air-sea flux estimates (Katsaros, K., USA)
14. Development of the Disaster Monitoring & Warning System (Lin H, China Hong Kong; Ten CK, Malaysia)

(4) Coastal Environment

15. Analysis of satellite water color data in high sediment/in silt-laden waters (Gower, J., Canada; Zhang YZ, China, Hong Kong)
16. Coastal Ecosystems: Carbon Sources or Sinks? (Fortes, M., Thailand; Dai MH, China)
17. Coastal remote sensing, geographic information system and coast management (Muller-Karger, F., USA; Shi Ping, Wang Y, China)

(4) Polar Science

18. Polar Oceanography (Comiso J.)

Tentative Workshops and Training

- Workshop on South China Sea and Indian Ocean: Ocean Processes in relation to Climate Changes (Tang DL; China; Kumar, D., India; Sahu, K.C., India; Yu YQ, China)
- Workshop on Data Sampling, Coordination, Sharing and international co-operations (Muller-Karger, F., USA; Tang JW, China; Oh IS, South Korea)
- Poster sessions (Ramaiah, N., India; Yu ZJ, USA; Ni IS, Taiwan)
 - a. Posters presentations (Awards will be presented to the best posters).
 - b. Poster exhibition for remote sensing research technology and instrument.
- Training or tutorial courses for students and young scientists

Publications

1. International Journal of Remote Sensing (IJRS) Special Issue for Porsec 2008 papers (peer reviewed)
2. PORSEC 2008 Proceedings / Abstracts
3. There is a possibility of publishing selected porsec 2008 papers in one scientific Journal in China.

*Zero circular <http://lingzis.51.net/PORSECGZ2008.htm>

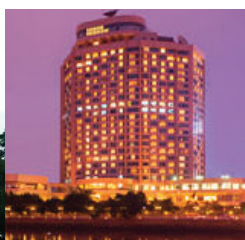
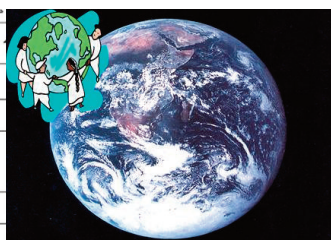
*2nd circular "Call for paper" will be announced at: <http://ledweb.scso.ac.cn/porsec2008/>

Contacts

1 Professor DanLing TANG 唐丹玲: [lingzistdl at 126.com](mailto:lingzistdl@126.com), Tel/Fax: 86 20 89023203

2 PORSEC Assistant: [porsec2008 at scso.ac.cn](mailto:porsec2008@scso.ac.cn), Tel: 862089023184, Fax: 86 20 89024637

We appreciate if you would distribute this announcement to other scientists!



Report about a trip of the president and treasurer of the PORSEC Association to Guangzhou and Beijing, China, November 10-17, 2007

I traveled to China with Tim Liu in order to work with Dan Ling Tang, the chair of the Local Organizing Committee (LOC) of the 2008 PORSEC to be, hosted by the South China Sea Institute of Oceanology, SCSIO, on , clarifying the financial responsibility with the local host for running the conference in 2008. We had a wonderful, and I believe useful, trip., clarifying the financial responsibility with the local host for running the conference in 2008, We also explained the Mission and Vision of PORSEC Association and the objectives of our next conference. We encouraged strong support for our conference from several a few of the active remote sensing active groups within China. We got up-to-date on the Chinese satellites currently orbiting the Earth and what satellites are in the plans for the next decade or so.

On the first day at the South China Sea Institute of Oceanology, Tim Liu and I gave talks. I spoke about PORSEC and my interest in aAir-seSea fFluxes and remote sensing of the ocean. We spent a few hours consulting with graduate students in the institute. One evening we participated in a cordial dinner with the Director, Prof. Si Zhang, and Deputy Director, Prof. Dongxiao Wang, of SCSIO and others. We also had a cruise up and down the Pearl River., which Such a cruise is also planned for the banquet during our PORSEC 2008 conference. It offers an impressive sight of Guangzhou, which is a city undergoing tremendous development. There is also much to see in the area around Guangzhou, which we plan all to see before and/or after PORSEC 2008. The late-fall weather was very fine at this subtropical location, so we can hope for some of the same in 2008, since we were within two weeks of the dates of as the 2008 PORSEC is scheduled for the same season.

We proceeded to Beijing, where the weather was cold and the wind bitter, but we were lucky to have clear skies and could fully enjoy the tremendous development of the Chinese capital. Construction for the 2008 summer Olympics could be seen as we drove between institutes; we saw “the Nest” a birdnest-looking assemblage of wide-metal “girders” for the main stadium. We saw the “Bernard cell” façade of the Olympic pool and took a walk around the “Egg on Water” a new opera house for 6,000 people sitting in the middle of several shallow reflecting pools. This new architecture in China is truly fascinating.

Our scientific first visit was with the National Satellite Ocean Application Service in the State Key Laboratory of Remote Sensing Science. This laboratory develops many applications for the many satellites that the Chinese have launched and have in the pipe-line. They are responsible for calibration-validation and data management. They described to us the sequence of instruments (including scatterometer and SAR) on the series of polar orbiting satellites, which observe in all the standard frequencies on the series of polar orbiting satellites (from visible and IR to microwave), including scatterometry and SAR). They also described their receiving stations and distribution of data. It was obviously a well organized and active center. We expect them to give several presentations at PORSEC 2008. I will not attempt to describe for you the thorough and fine planning of launch sequences both for atmospheric and oceanic interests; we will let them do it themselves next year. It was rewarding to note that much of their preparation for their own satellites has benefited from access to U.S. satellite-data such as those obtained by the famous AVHRR and MODIS products.

The next day we visited the Institute of Atmospheric Physics of the Chinese Academy of Sciences, which has a history that goes back to 1928. They have a 300 plus staff and numerous graduate students. They do research on global change, climate, weather, air pollution, ocean, middle and upper atmosphere, soil moisture and hydrology and probably more. --- This research is using numerous remote sensing techniques, now including GPS reflection. We expect many people from this remote sensing center to participate in PORSEC 2008. We then went to the National Satellite Meteorological Center, which is the equivalent to the NESDIS in the USA or EUMETSAT in Europe. This institute is responsible for geostationary and polar orbiter operational data. We were given a very nice overview presentation and a tour of their excellent facility, which includes a complete duplicate back-up system and automatic controls. They also distribute data to users. To date they can only download data over a sector of the Earth including China and the surrounding oceans due to limited on board recording capacity. China has several receiving stations in operation and more are being constructed. There is much for PORSEC members to learn about this data source and perhaps discuss access to these data in the future.

Due to scheduling conflict, we were unable to visit the Ocean University of Qindao and professor He, PORSEC former Vice President and Distinguished Service award recipient. Even though we could not visit other places in China on this short trip, but we know that the many institutes in Qingdao and the Ocean University there are in contact with Dr. Dan Ling Tang about their participation in PORSEC 2008. Now is a great moment in time for members of the PORSEC association to communicate with her (or us) about special sessions and possible workshops that you may wish to plan in association with PORSEC 2008.

Dr. Tim Liu and I now have even greater confidence that the Scientific Organizing Committee of PORSEC have made a good choice in going to China in 2008 with our next PORSEC. China is really on the move in remote sensing. If you need a visa to visit China, you should plan early to get a letter of invitation for visa application from our Chinese host. You will not need an accepted abstract, but you will need to pre-register for the meeting to obtain an invitation letter from the Local Organizing Committee. All this effort should start around the month of July (look for more information in the next Bulletins of the PA or in special Newsletters. As we have more details on what information you must give to the LOC.)

by Kristina B. Katsaros

Notices

Other newsletter of interest:

FluxNEWS published by the World Climate Research Program Find the issues at one of these web-sites:
www.etl.noaa.gov/et6/wgsf or www.sail.msk.ru/newsletter

Jobs and Training Opportunities

Lectureships Available

**School of Biological and Environmental Sciences
University of Stirling, UK**

Application Deadline: Friday, 25 January 2008

For further information, please contact:

Dave Goulson

Phone: +44-0-1786-467759

E-mail: Dave.Goulson at stir.ac.uk

The School of Biological and Environmental Sciences at University of Stirling is seeking three new lecturers (one at the senior lecturer level, two at lecturer level). The successful applicants will be expected to develop dynamic research programs and contribute to undergraduate/postgraduate teaching. The school welcomes international applications in all areas of biological and environmental sciences, but particularly in the following areas: conservation, environmental and ecological processes, biogeography, and physical geography. The School of Biological and Environmental Sciences has ongoing research in both polar regions and is contributing directly to International Polar Year. Two of the posts are to be permanent, the third will be a fixed four-year term.

Information about the School of Biological and Environmental Sciences is available at:
<http://www.sbes.stir.ac.uk>

Application forms, cover letter, CV, and the names and addresses of three referees should be submitted no later than Friday, 25 January 2008. Application instructions are available at:
<http://www.hr-services.stir.ac.uk/>

Graduate Student Opportunities

Polar Meteorology and Climatology

Polar Meteorology Group

Byrd Polar Research Center

The Ohio State University

For further information, please go to:

<http://polarmet.mps.ohio-state.edu>

The Polar Meteorology Group at the Byrd Polar Research Center, The Ohio State University, is looking for MS or PhD students starting Autumn 2008 to study polar meteorology and climatology. A BS and/or MS degree in meteorology or atmospheric science and interest in polar meteorology are required. Students must be highly motivated and of good academic standing. Students will be enrolled for an MS or PhD with the Atmospheric Sciences Program of the Department of Geography at Ohio State, funded through Graduate Research Associate (GRA) positions, which include competitive stipend, benefits, and tuition waiver.

Potential research topics include:

- Work with the Antarctic Mesoscale Prediction System (AMPS), a real-time weather forecasting system for Antarctica based on the Polar WRF mesoscale model that was developed by the Polar Meteorology Group.
- Fieldwork in Antarctica, through direct collaboration with weather forecasters at McMurdo, is likely. This position could be for an MS or PhD student.
- Study of cyclone activity over West Antarctica using radio occultation soundings from the recently launched COSMIC constellation of microsatellites using Polar WRF. This position is for a PhD student.
- Modeling and observational analysis of the impact of the El Nino-Southern Oscillation on the climate of Antarctica. This position could be for an MS or PhD student.
- Modeling and observational analysis of the surface mass balance of the Greenland and Antarctic ice sheets using Polar WRF. This position could be for an MS or PhD student.

Domestic and international students are encouraged to apply. Applicants should send a CV to:

David H. Bromwich, Polar Meteorology Group

Byrd Polar Research Center

The Ohio State University

108 Scott Hall, 1090 Carmack Road

Columbus, OH 43210, USA

E-mail: bromwich.1 at osu.edu

Position Announcement

**Assistant Program Manager
North Pacific Research Board
Anchorage, Alaska**

Application Deadline: 1 February 2008

For further information, please go to:
<http://www.nprb.org/>

The North Pacific Research Board (NPRB) in Anchorage, Alaska, sponsors research relating to the fisheries and marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean, and is seeking a highly qualified individual to fill the full-time, exempt position of Assistant Program Manager. The successful candidate will help in managing the Bering Sea integrated ecosystem research program, monitor and administer current and new NPRB research projects, provide liaison and coordination with other entities performing marine research off Alaska, help with administering peer review of proposals received in response to requests for proposals, staff NPRB committees, help prepare annual implementation plans and requests for proposals, coordinate development and processing of contracts for research projects, help prepare annual scientific reports on NPRB programs, and facilitate the transfer of metadata and data from NPRB-funded projects onto the NPRB website. The candidate will work under supervision of NPRB Science Director.

Applicants must have a minimum of a Masters degree in the sciences plus two years professional experience or equivalent in a discipline related to NPRB's mission. Qualified individuals will have a background in program management and coordination and ecological or marine sciences, preferably fisheries oceanography; a good working knowledge of Microsoft Access, Excel, Adobe Acrobat, and Microsoft Outlook; and a positive attitude, capacity to multi-task, and superior writing and communication skills. The salary is negotiable, commensurate with experience and qualifications. The preferred start date is *1 April 2008*, or as soon as possible thereafter.

To apply, please send resume and three work-related references by 1 February 2008, to:
Clarence Pautzke
1007 West 3rd Avenue, Suite 100
Anchorage, AK 99501
E-mail: cpautzke@nprb.org

Telephone inquiries should be directed to Francis Wiese, Science Director, at 907-644-6713. More information, include a complete position description, is available at:
<http://www.nprb.org/>

Professorships Available

Integrated Climate System Analysis and Prediction (CliSAP) University of Hamburg

Application Deadline: Tuesday, 22 January 2008

For further information, please go to:
<http://www.clisap.de/Aktuell.181.0.html>

The University of Hamburg, jointly with the Max Planck Institute for Meteorology and the Institute for Coastal Research at the GKSS Research Centre, is establishing a trans-disciplinary research focus on "Integrated Climate System Analysis and Prediction" (CliSAP; <http://www.clisap.de/>) and invites applications for nine professorship positions. The goal set for CliSAP is to analyze ongoing and past changes of the state of the climate system, in response to natural and human-driven perturbations, to determine predictable elements of the climate system over a broad range of space and time scales, and to determine uncertainties intrinsic to predictions of important climate system and environmental indices. In terms of regional consequences of climate change, CliSAP will quantify potential impacts of such changes on marine and terrestrial ecosystems as well as humans, including economy and security, with a focus on Northern Europe.

The open professorships are in the following areas:

- *Climate System Data Assimilation (Code 1950):
- *Chemistry of Natural Aqueous Solutions (Code 1951):
- *Dynamical Systems (Code 1952):
- *Surface Deformations (Code 1953):
- *Climate Change and Security (Code 1954):
- *Media constructions of regional geohazards (Code 1955):
- *Regional Hydrology in Terrestrial Systems (Code 1956):

*Advancement of Coupled Climate Ocean Ecosystem Models (Code 1957):

*Numerical Methods in the Geosciences (Code 1958):
(Full descriptions of these opportunities were eliminated here, but are available. The editors could forward the complete announcement to you)

Successful candidates for all positions must have an excellent research record and experience in conception and realization of research projects and/or field experiments. Collaboration with research groups in the Clusters of Excellence CliSAP is expected. Appointments within Clusters of Excellence will normally be at grade W1 (German Junior Professor), however grade W2 is possible provided the fulfillment of both legal and personal qualification requirements. Junior Professors (W1-positions) will initially be appointed for three years, with a possible three-year extension on the basis of a positive evaluation of academic performance.

Junior Professors with an outstanding academic performance may apply for a W2 position. W2 positions will be filled for five years initially, and can be transferred to permanent W2 positions provided outstanding academic performance. Both W1 and W2 positions will have reduced teaching responsibility. Teaching is expected to be in both German and English. The positions also bring with them funding for additional personnel, as well as auxiliary research material, in order to be able to quickly set up excellent research groups.

The University of Hamburg aims at increasing the number of women as scientific staff and therefore specifically requests applications from qualified women for these positions. Disabled persons are given priority over applicants of equal suitability, qualification, and degree of specialized knowledge. The University of Hamburg is an Equal Opportunity Employer.

Applications should consist of a current CV, list of publications, list of previously taught courses, and a vision for future research and teaching, and be submitted under the respective code to:

The President of the University of Hamburg
Ref. 631.6 Moorweidenstrasse 18, 20148 Hamburg,
Germany

PhD and Postdoctoral Positions Available

Department of Atmospheric and Climate Research Norwegian Institute for Air Research

Kjeller, Norway

[Application Deadline: 28 February 2008](#)

For further information, please go to:

<http://transport.nilu.no/>

The Department of Atmospheric and Climate Research (ATMOS) at the Norwegian Institute for Air Research (NILU) invites applications for one PhD position and one postdoctoral position (initially limited to three years). The successful candidates will work with the atmospheric transport modeling group on projects related to the long-range transport of pollutants. A degree in meteorology or related field is preferred. Excellent programming skills, experience with atmospheric sciences, and the ability to work in a highly team-oriented environment are required.

The PhD student will participate in a collaborative project between NILU and the Norwegian Polar Institute (NP) using unmanned aerial vehicles (UAV) to measure pollutant-driven changes in arctic albedo. The student will be located at the NILU offices in Kjeller, Norway, but will also spend some time in Tromsø. The project has two principal objectives. First, UAV flights will be conducted operationally in Svalbard and Greenland to provide baseline albedo measurements with a high degree of spatial variability. Second, transport modeling will provide forecasts for pollution episodes, which will initiate more intensive flight periods to measure whether a significant signal in the albedo results from the pollution. The start date for the PhD position is 1 June 2008.

The postdoctoral candidate will join a team conducting transport modeling studies using FLEXPART. The team is involved with and leading several large-scale international collaborative projects to evaluate the transport of pollutants and climate effects of aerosols. The candidate will have numerous research opportunities. NILU requires an individual familiar with script writing and programming in a Linux environment with FORTRAN.

Prospective applicants should contact Andreas Stohl (ast at nilu.no) or John Burkhart (jfb at nilu.no) for further information. Applications received prior to 28 February 2008 will be given preference.

Polar researchers invited to join cruise

Research Vessel White Holly Northwest Passage, USA

Application deadline 15 February, 2008.

For further information, including a detailed description of the vessel and tentative route and itinerary, please go to:
<http://whiteholly.org/>

The research vessel WHITE HOLLY is undertaking a Northwest Passage Expedition in mid-2008 and has space available for polar or arctic researchers who would like to join for a segment or the entire journey.

Members of the arctic research community interested in joining the expedition are invited to submit research proposals. Expedition leaders encourage research programs that look into various aspects of, for example, arctic oceanography, natural sciences, anthropology, ornithology, marine biology, global warming effects, and marine microbes. The expedition also includes a research team attempting to locate the ships from the original Franklin expedition thought to be in the vicinity of O'Reilly Island. The cost of the trip for each researcher is estimated to be \$400 USD per day, which includes ship berth, all meals, and lab bench space.

The WHITE HOLLY, currently based in Sausalito, California, is a high-endurance expedition vessel. The ship is 133 feet long, with an all-steel hull, having a 10-ton main boom and bunks and bedding for twelve researchers.

Applicants are invited to submit research proposals by Friday, 15 February 2008, to:
arctic at whiteholly.org.

Proposals should include:

- brief project abstract, including goals and methods;
- designation of which portion of the tentative route best suits the project;
- estimated number of people in research team;
- investigator-supplied equipment (especially large items);
- electrical power required;
- bench space requested;
- weight and details of instruments, nets, and/or winch to be towed and deployed, if applicable;
- communication needs while on board (vessel carries an Iridium transceiver and provides daily e-mail transfers); and
- funding availability and sources.



The White Holly Research Vessel

ELECTIONS

Dear PORSEC members,

I wish you all a **Happy New Year**. Let us together wish a great 2008 for PORSEC as well.

Here, I would like to invite your attention for electing our new president and vice-president for PORSEC. As you know, the term of the present president and vice-president will be ending by PORSEC 2008, China. Therefore, I would like to invite nominations for these two executive positions, at the latest, by 15 February 2008. Before sending your nomination, please go through the PORSEC by-law on voting, given below.

Voting Rules:

1. No active ordinary member can represent or vote in place of other member.
2. Voting for President and Vice-President will be by secret ballot. Nominations for President and Vice-President candidates should be submitted to the Election Committee by no less than three active members.
3. Voting for SOC members and other members will be taken by a show of hands and by a simple majority of votes passed.
4. The duty term of PORSEC society officers including the President, Vice-President and is 4 years, with possible re-election. The duty term of individual SOC members may be extended for several periods if requested by the President and/or the SOC assembly.

The following details of your nominee are essential with the nomination letter/email:

1. Job title, 2. Short CV, 3. Earlier positions held.

Looking forward to receive your nominations.

Sincerely,
Pankajakshan Thadathil

*Pankajakshan Thadathil
Chair- Election Committee, PORSEC
Scientist F, National Institute of Oceanography
Dona Paula, Goa 403 004, INDIA
Fax: 0832 2450 602
Phone office: 0832 2450 212, Residence: 0832 2451 972
Email: pankaj at nio.org; pankajan99 at yahoo.com*

PORSEC Database

For our database of the PORSEC Association members we would like the following information about you (if you have not already given it to us in Busan '06): Your title, Your position (job title), Your place of work, full address, phone and fax numbers and email address — **HAVE YOU HAD ANY CHANGES LATELY?**

We would also like to list your current activity in PORSEC, such as SOC member, membership on a committee. We may not have all that information down correctly. We would appreciate a note soon to katsaros at porsec.nwra.com, so we can expedite getting it into the spread sheet.

Please work on getting us more members; use the PORSEC home page for information. The prospective member provides us with the same information as asked for above (and also a short CV). We will bill the person for the membership fee, which can now be paid via "Pay Pal" on the internet.

Information

For information about the association and links to Newsletters from the president and Bulletin issues go to: <http://porsec.nwra.com/>. To join the PORSEC Association go to membership on the web site or contact one of us directly. The Bulletin of the PORSEC Association is edited by Gad Levy and Kristina B. Katsaros. Production Editor Susanne Öhrvik. *We welcome contributions about your work and about any activities of our PORSEC members that may be of interest to other members for future issues of the Bulletin.* To submit articles for this Bulletin of the PORSEC Association, please contact gad at porsec.nwra.com or katsaros at porsec.nwra.com.