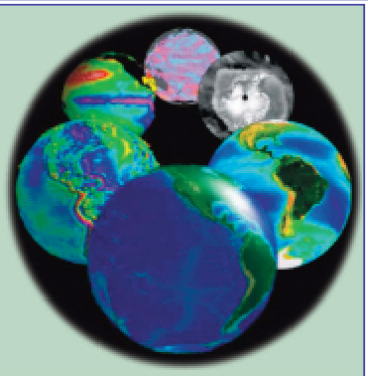
BULLETIN of the PORSEC Association



Volume 2.1 March 2008

Dear Readers of the bulletin of the PORSEC Association,

In this first issue of the second volume of the Bull. PA we have 2 reports in conjunction with the Golden Anniversary of space flight. The first one is from the conference in Vladivostok, Russia, celebrating 50 years since Sputnik's launch (by L. Mitnik); the second one is about a NASA sponsored Future Forum held at the Museum of Flight in Seattle (by K. Katsaros). We also have a press release about NASA's tsunami research and its impact on the science community featuring the work of our PORSEC member Tony Song. Under Porsec News you can find some details about a climate data workshop, the planned tutorial courses, which will be offered just before the PORSEC 2008 conference, as well as a link to the Second Announcement provided by the Local Organizing committee (LOC) with many more details about the PORSEC 2008.

There is a copy of the press release about the recognition by the government of Shandong province, China, of our long-time member, Werner Alpers, for his work with the Ocean University in Qingdao and Prof. Mingxia He.

For members of the Scientific Organizing Committee (SOC), please note that our meeting will be held on the afternoon Dec 1, before the opening of the conference. We will be voting on nominations for officers of the PORSEC Association and discussing future conferences. We encourage all current association members to attend as observers. Volunteers for committee work are always in demand.

The Special issue of the International Journal of Remote Sensing (IJRS) is headed to press with 26 papers based on PORSEC 2006. With prompt collaboration of all authors of accepted papers, this special issue will be out in November, just before PORSE 2008. All leading authors should have received a communiqué from IJRS editor with request for final minor revisions. If you are a lead author and have not provided those revisions yet, please do so immediately. Another special issue of IJRS is planned following PORSEC 2008 with a deadline for submission of December 31, 2008.

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

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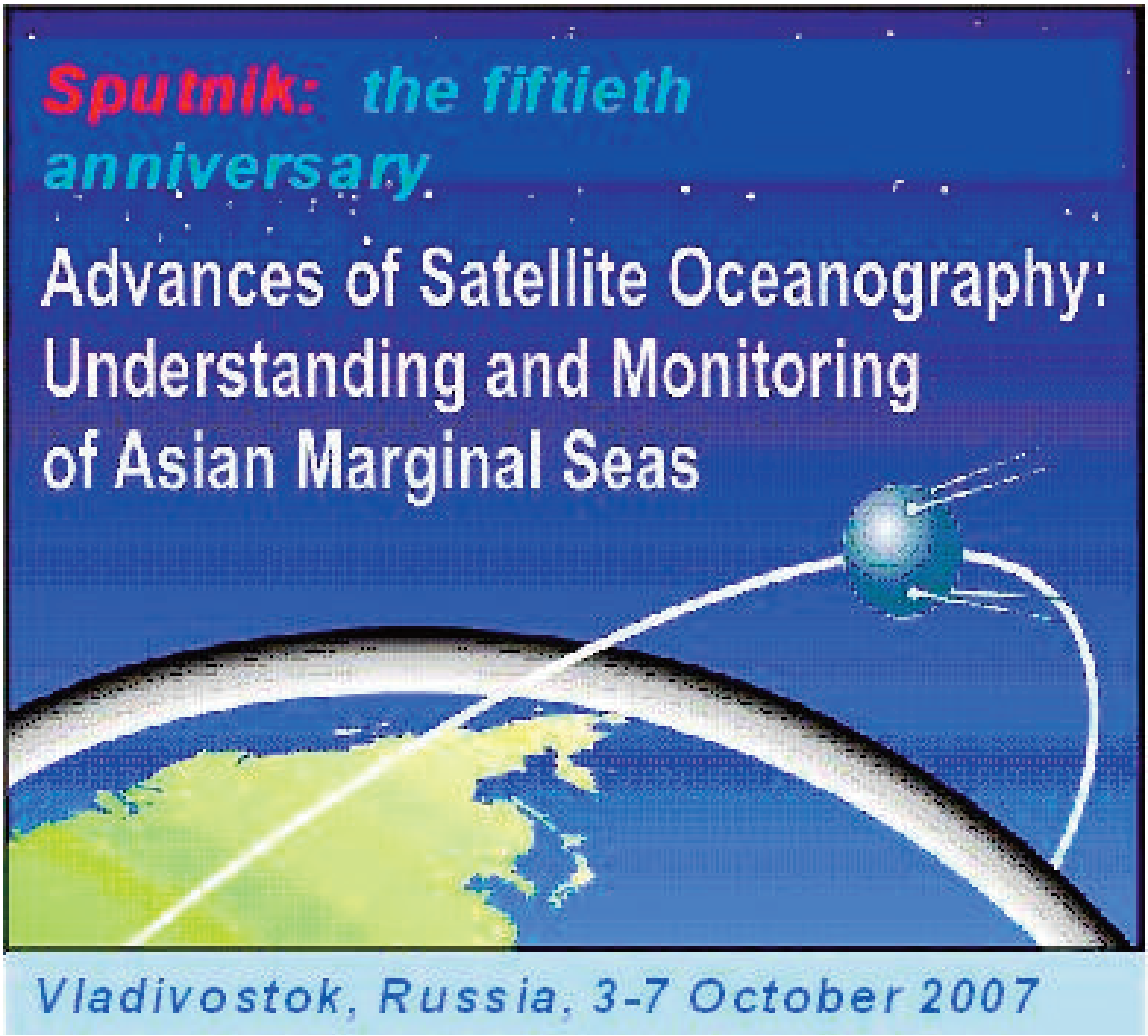


INTERNATIONAL CONFERENCE "ADVANCES OF SATELLITE OCEANOGRAPHY: UNDERSTANDING AND MONITORING OF ASIAN MARGINAL SEAS"

Over 120 scientists from 7 countries, employees of Primorsky Office for Hydrometeorology and Monitoring of Environment and Vladivostok University teachers and students participated in the conference, which was held at the POI FEB RAS (Pacific Oceanological Institute Far Eastern Branch, Russian Academy of Sciences) in Vladivostok on 3-6 October to commemorate the 50-th Sputnik anniversary. History changed and the cosmic era began on October 4, 1957, when the Soviet Union successfully launched Sputnik I, the first satellite. This caused a major breakthrough in geosciences by drastic increase in volume of information. The date of the Sputnik-I launch should be considered as a beginning of satellite remote sensing in the Earth sciences and in particular in oceanography. Fifty years have passed since then. Satellite data became common in modern oceanographic studies. A new vision of the processes taking place in ocean and atmosphere became available. The main goal of this memorable conference was to present the current advances in investigation of the Asia Marginal Seas carried out with the use of satellite data.

A total of 80 talks and posters were presented in six topic areas: (1) Remote sensing of sea surface temperature and surface wind, (2) Remote sensing of oceanic dynamic phenomena, (3) Satellite monitoring of ocean color and oil pollution, (4) Monitoring of ice cover and climate change, (5) Marine weather systems and (6) Modern technologies of satellite data processing and GIS (Geographic Information System). Kristina Katsaros, President the Pan Ocean Remote Sensing Conference (PORSEC) Association and several members of the PORSEC scientific organizing committee participated in the Conference.

History of space research, especially in the field of satellite oceanography and meteorology was considered by Leonid Mitnik and Tamara Sushkevich (both USSR), Kristina Katsaros (USA) gave a talk, which put in context the Russian and U.S. space race. She emphasized the valuable result of space research opening communications between many countries of the world and easing the cold war tensions. The enhanced funding for scientific pursuits was also an advantage for her generation of scientists. Hiroshi Kawamura (Japan) reviewed some of the prominent research programs of

2007. The Arctic region has been the focus of many climate change studies in recent years as was emphasized by Josefino Comiso (National Aeronautics and Space Administration, Goddard Space Flight Center, USA). The most remarkable climatic signal revealed by satellite data has been the rapid decline of about 10% per decade in the perennial sea ice cover. The summer sea ice cover was extremely low in 2007 and it is evident that the decline will be even faster than initially expected. The extent and area of the Artic ice cover as of 5 September 2007 are 4.4 and 3.7 million square km, respectively, which are already considerably less than the previous record lows of 5.4 and 4.9 million square km, both reached on 21 September 2005. He also discussed the impacts of such changes on the Arctic environment in terms of satellite observed changes in marine primary productivity and land productivity and in the overall implications on the ecosystem at high latitudes.

Climatic trends in the Chukchi, Bering and Okhotsk Seas were also analyzed by V.A. Eremeev et al. (Moscow, Russia) using multichannel satellite data collected in 1979-2006. Their studies suggest that sea ice retreat away from the Siberian coast toward Greenland and Alaska is most likely due to natural causes such as a shift in wind patterns and many other factors. Vladimir Plotnikov (POI, Russia) in his study of evolution of ice conditions in the Far-Eastern Russian Seas used all in situ and airborne and satellite data collected since 1960. He concluded that all probable reorganization of interrelations in the climatic system of the Northwest Pacific Ocean is observed.

Currents, eddies, internal waves and other oceanic dynamic phenomena and processes were studied with the usage of satellite-derived fields of SST. In addition, sea surface wind and chlorophyll-a concentration, which served as the main source of spatial information, ship measurements and modeling were employed. These studies covered the basin-scale areas (V.B. Darnitskiy et al.: "Kuroshio and nearby waters of the Northwest Pacific Ocean in second half of the XX century: Study using oceanographic and satellite data", TINRO-Center and POI), individual seas (A.A. Nikitin, TINRO-Center and G.I. Yurasov, POI: "The surface thermal fronts in the Japan Sea" and "Synoptic eddies of Japan Sea seen with satellite data") and bays and straits (S.Y. Ladychenko et al., POI: "Mesoscale eddies in Peter the Great Bay", Konstantin A. Rogachev, POI: "Transverse anticyclonic circulation in the Academy and Sakhalin Bays, Sea of Okhotsk", I.A. Zhabin and V.A. Dubina, POI: "Spatial structure and temporal variability of the Amur River plume: study with satellite and survey data," George Shevchenko, and Alexander Romanov, SakhNIRO: "Detection of small-scale variations of diurnal tides near the North Kuril Islands from satellite altimetry data.").

For a study of the small-scale phenomena such as internal waves, spiral eddies, oil spills, etc. as well as for high-resolution retrieval of sea surface wind a satellite SAR defied competition with other satellite sensors. It was demonstrated in papers by V.A. Dubina et al., POI: "Mesoscale oceanic phenomena in Peter the great bay: Study using multisensor satellite data," Antony K. Liu et al., NASA GSFC: "Ocean surface drift and feature tracking using sequential SAR images," Ming-Kuang Hsu et al., Technology and Science Institute of Northern Taiwan: "Using SAR to study the environment of Spratly Islands," V.V. Novotryasov et al., POI: "Usage of satellite SAR images to study internal waves in the shelf zone of the Japan Sea".

In Antony Liu's et al. study, internal wave refraction around the Dong-Sha Island in the South China Sea has been tracked and demonstrated by sequential satellite images. Based on the wavelet tracking analysis, ocean surface backscattering images provided by ERS-2 SAR and Envisat ASAR have been used to derive ocean surface drift near a surface film and around a big eddy.

Cho-Teng Liu et al., National Taiwan University considered evolution of non-linear internal waves (NLIW) in Luzon Strait. A packet of NLIW was recorded on an ERS-2 SAR image. Field observations were carried out in studying the evolution of NLIW from Luzon Strait. It was shown that the packets will eventually develop solitons after one day's evolution over a distance of about 300 km. The generation and evolution process of NLIW from Luzon Strait can be explained with dnoidal function as proposed by Apel (2003).

The Asian marginal seas and especially their coastal zones are strongly impacted by pollution due to the enhanced shipping, tanker operation, river outflow, and other reasons. SAR is a most effective instrument for oil spill detection as was shown in papers and posters by A.A. Feoktistov et al. (ROSKOSMOS Research Center for Earth Operative Monitoring): "Space monitoring of sea surface oil spills", A. Matveyev and A. Boev (Kharkov, Ukraine): "Radar method for estimating the parameters of oil pollutions on the sea surface," L. Mitnik (POI): "Web site: oil spill monitoring by remote sensing (http://cearac.poi.dvo.ru)." Discrimination between oil spills and natural slicks is one of the most difficult problems in sea monitoring. Satellite ocean color data can be used to solve this problem under clear sky and weak winds when biogenic slicks are observed in areas of the enhanced plankton concentration.

Jim Gower et al. (IOS, Canada) presented a global survey of intense surface plankton blooms using MEdium Resolution Imaging Spectrometer, MERIS, Maximum Chlorophyll Index (MCI). The MCI measures a local peak in water-leaving radiance at 709 nm, which indicates the presence of high surface concentrations of chlorophyll a against a scattering background. A bloom search based on MCI has resulted in detection of a wide variety of bloom events. It has

also led to detection of extensive areas of pelagic vegetation, Sargassum seaweed and Antarctic "superblooms,", whose detection in satellite imagery has not been previously reported.

DanLing Tang (South China Sea Institute of Oceanology, Chinese Academy of Sciences) discussed some results showing responses of phytoplankton ecosystem in the South China Sea to the ocean environments and atmospheric conditions. It was shown, in particular, that in the western South-China Sea in summer season phytoplankton blooming, including harmful algal blooms, was associated with upwelling. Both typhoon winds and typhoon rains can nourish marine phytoplankton and might increase primary production.

P.A. Salyuk et al. (POI) indicated in his talk, that advancement of satellite ocean color sensing and ship borne lidar sensing of the atmosphere and the upper layer of the ocean and joint analysis of data obtained from space and from ship allows to investigate impact of various natural processes on the state of phytoplankton communities at spatial scales from meters to thousands of kilometers and at temporal scales from days to decades.

Genki Terauchi, Special Monitoring and Coastal Environmental Assessment Regional Activity Centre (CEARAC), Japan, informed about "Eutrophication Monitoring Guidelines by Remote Sensing" developed at CEARAC for the Northwest Pacific Action Plan (NOWPAP) area. See http:// diurac.nowpap.org/Publication.htm. It is expected that the Guidelines will help to utilize remote sensing techniques for monitoring the oceanic parameters important for early detection of harmful algae bloom.

Applications of remote sensing to study marine weather systems were discussed by Kristina Katsaros who emphasized remarkable progress in tropical cyclones (TCs) studies. Among the new findings she mentioned the wave-like features along the inner wall, which agree well with theoretical work on eyewall instability structures, microwave retrieval of precipitation, humidity profiles and SST as well as airborne microwave radiometry of sea surface wind and precipitation in the central areas of TCs. However, much research work remains to be done to achieve better prediction of intensity and reliable track forecasts all over the world. Mesoscale winter cyclones, in particular polar lows over the Asian marginal seas, were investigated by Gurvich et al., POI using multisensor data obtained by Envisat Advanced SAR, Aqua AMSR-E, SeaWinds on QuikSCAT and Terra and Aqua Moderate Resolution Imaging Spectroradiometer, MODIS, and surface analysis maps. This combination allowed retrieving atmospheric and oceanic fields and tracing their evolution during life cycles of mesoscale cyclones.

Sea surface SAR signatures of atmospheric fronts located off the east coasts of Taiwan and Vietnam and atmospheric gravity waves over the Bohai Sea, the Yellow Sea and the Strait of Taiwan were analyzed by Werner Alpers (Hamburg, Germany). Interpretation of SAR signatures was confirmed by satellite cloud images, QuikSCAT-derived wind fields, radiosonde data as well as by model calculations.

Hiroshi Kawamura, Tohoku University, Japan described a New Generation Sea Surface Temperature (NGSST) product for monitoring the East Asian Seas. Satellite SST observations from infrared radiometers (AVHRR, MODIS) and a microwave radiometer, Advanced Microwave Scanning Radiometer- E, (AMSR-E) are objectively merged to generate the NGSST-O product. The product is a quality-controlled, cloud-free, high-spatial resolution (0.05 degree-gridded), wide-covering (13-63°N, 116-166°E), and daily SST digital map. A NGSST-O demonstration operational system has been developed through cooperation with regional operational and Research and Development (R&D) agencies. Its operational demonstration continues for about three years without large gaps in product generation. Comparing with the in-situ SSTs measured by drifting buoys, the rms error of NGSST-O has been kept at about 0.9°C.

Better calibration of the 6-GHz brightness temperatures measured by Aqua AMSR-E allowed the accuracy of SST-retrieval to reach between 0.1 and 0.3ºC, which was evaluated on monthly and 10 degree latitude interval averages (Akira Shibata, JAXA, Japan).

Masanori Konda (Kyoto University, Japan) and Akira Shibata analyzed the sea surface wind speed (SSWS) measured by a microwave radiometer and demonstrated that the relative wind direction (RWD should be considered to improve accuracy of retrieval. The method proposed by the authors earlier was applied to AMSR and AMSR-E brightness temperatures.

Spatial resolution of the AMSR-E-based SST and wind speed retrievals is low and the mesoscale structures of SST and wind fields are smoothed. A WiSAR methodology enables retrieval of high resolution ocean surface wind vectors from satellite C-band SAR data acquired with either vertical (VV) or horizontal (HH) polarization on a fully operational basis as was shown in a paper by Jochen Horstmann and Wolfgang Koch (GKSS Research Center, Institute for Coastal Research, Geesthacht, Germany). The paper was presented by Werner Alpers. Wind directions are extracted from wind induced streaks that are very well aligned with the mean surface wind direction and are visible in SAR images at scales above 200 m. The applicability of SAR wind retrieval in the high wind speed regions (tropical cyclones) was discussed.

Within a demonstration project WiSAR is running on an operational basis at the GKSS Research Center delivering wind maps of the North Sea on a daily basis that are made available via the internet (http://coast.gkss.de/ksd/KSD_WiSAR_op.html).

The conference offered numerous opportunities for social interaction; a banquet was held at POI with many congenial speeches and exchange of songs from various cultures; on a beautiful day the participants took a nature walk a couple of hours bus-ride from Vladivostok at an arboretum founded in 1935. During this outing we had tour at the nearby Sun Observatory of Mountain-Taiga Station named after V.I. Komarov followed by a picnic.

At the approximate time of day of the Sputnik launch 50 years earlier, on October 4, 1957, the conference participants gathered outside the institute to shoot off a celebratory rocket (a fireworks-type mini-ditto) –to general cheer!

Leonid Mitnik
V.I. Il'ichev Pacific Oceanological Institute
Far Eastern Branch, Russian Academy of Sciences, e-mail: mitnik at poi.dvo.ru

Participants in Vladivostok, on the steps of the V. I Il'ichev Pacific Oceanological Institute, cheering off the celebratory rocket.

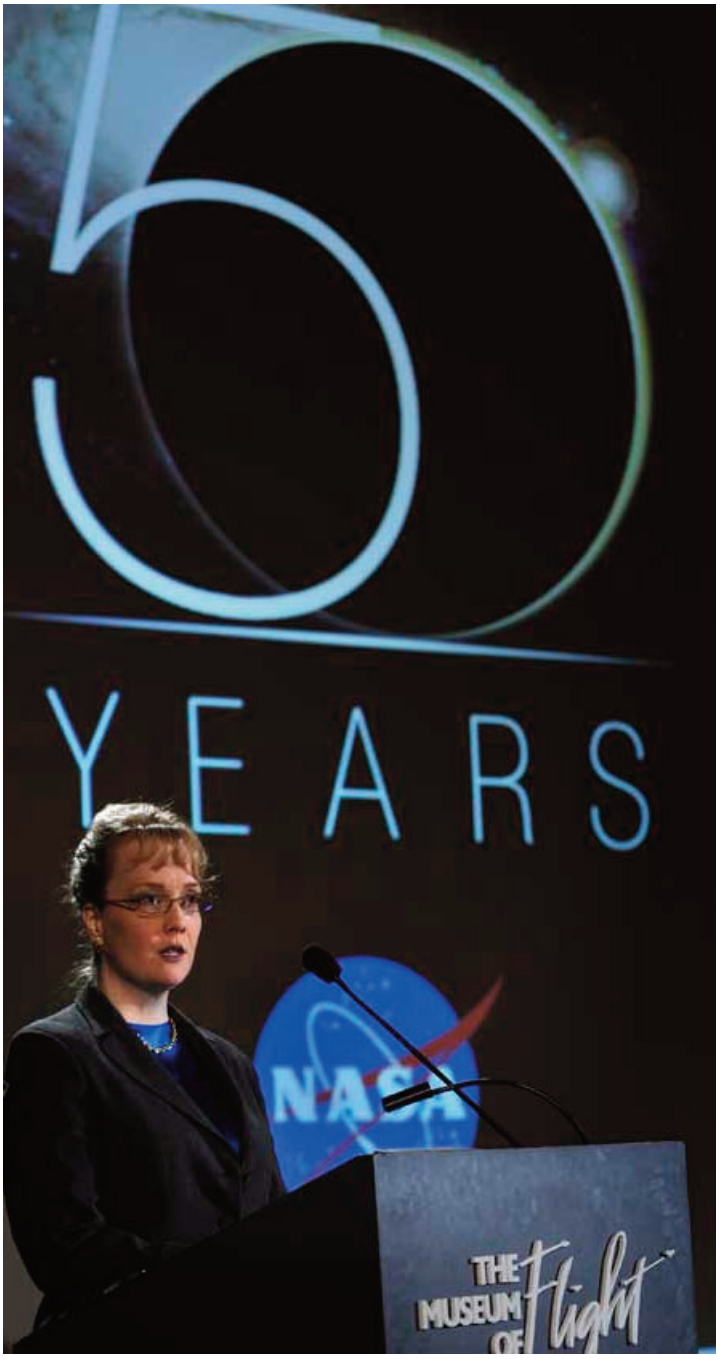
NASA 50 years — FUTURE FORUM

The first of several FUTURE FORUMS took place in Seattle, Washington, USA on January, 25, 2008. As your president I thought I would go and learn what they are thinking about and report back to you.

It was a stimulating day with many high level representatives of space science in attendance. A

NASA exhibit had been arranged in the Museum of Flight, which was also the venue of the forum. The emphasis was on exploration of space, mostly manned space flight, but Earth observation was also well covered. I was pleased to see a very good display of the early Russian contributions (at the time the Soviet Union, USSR). The famous Gagarin's photograph, the Soyuz capsule, the dog, Laika…

The museum's new director, Dr. Bonnie Dunbar, a 27 year NASA veteran with astronaut experience on 3 flights in space, was the host of the Future Forum. There was much emphasis throughout the program on education of students at all levels including educating the general public about the space program and its benefits.



NASA Deputy Administrator, Shana Dale

The themes of the discussions in the forum were: Innovation, Discovery and Inspiration. A panel consisting of 5 members, including an astronaut active in education now, a manufacturer of rockets, a Microsoft person and a NASA official discussed these topics in relation to NASA's general space program developments. How do we encourage innovation for something as complex as space science, which requires large infrastructure investments and long-range planning? What is the role of Discovery? How do we reach young people to Inspire them o work hard on math, physics, chemistry, engineering and the life sciences and want to be the next generation to fulfill the many unfinished avenues of research and exploration?

We heard speeches from three astronauts, the Deputy Administrator of NASA, the Lt. Governor of the State of Washington. It was really quite glamorous and interesting. A general theme of all the speakers and panel members was the importance of Opportunity and the value of Mentoring. Almost all of them remember early exposure to the Apollo missions with men walking on the moon as the drawing card that made them proceed to a career related to space (as astronauts or in the various roles to enable the endeavor). It was made clear that our schools (kindergarten through the first 12 years) and college/university must provide the solid grounding in the basics, so called STEM: Science, Technology. Engineering and Math, from which the Inspired young person can take a leap to Innovation. STEM is a United States program to improve the STEM education and allow the USA to excel. It also has the goal to improve the scientific literacy of the general public. This is important since so much of scientific advances depends on support by the politicians and the public through public financing.

One of the justifications of the space program in the USA has been the tremendous amount of spin-offs that have improved our daily lives and lead to numerous earth-based enterprises. This aspect was presented at some length by the NASA Deputy Administrator, Shana Dale. Such advances include: imaging of cancers, the whole of the internet, cell-phone technology, radar transmissions, GPS, and knowledge about human body functions under

stress and much more.

Washington State is home to the Boeing Company, Microsoft, and Aerojet (who build rockets), where much of the high tech "stuff" that makes space flight come about is manufactured, so there was much interest. Below are the internet links to the program and Seattle's Museum of Flight if you would like to learn more. You can even listen to The Deputy Administrator's speech.

http://www.nasa.gov/50th/future_forums/seattle.html ;

http://www.museumofflight.org/

True to form, I had to bring up the role of the international space agencies during the question and answering period. I heard strong enthusiasm from the panel about what is happening in many countries outside the USA. They all agreed that it is of great importance for the next 50 years of space research and exploration. They mentioned the Chinese and Russian plans for lunar probes. I hope they keep the focus on our home planet as the #1 priority even though exploring the moon and other planets also has great value.

Aren't we scientists in the PORSEC Association awfully fortunate to be living in this exciting time of science and be able to participate in the enterprise of understanding the Earth and its vital processes? Our obligation, therefore, is to make the most of it and pass it on to young colleagues coming into the field of remote sensing. We do this by mentoring, teaching and sharing with our communities and international partners in the most congenial and open manner we can conceive of. For a senior person who has followed the full 50 years of space research, I don't see it in any way as a competition, but as a tremendous adventure –that should be of benefit to the whole human race. From my perspective, it is so exhilarating, thrilling, fantastic that it can outdo movies like Startrek in a heartbeat or any science fiction story. The crux is that we are relatively few, who have had the privilege of a fine education so that we can thoroughly appreciate the marvel what remote sensing from space really is. That elitist status must change and allow many more scientists full use of the new data sources.

I dedicate this report to the armies of technologist, engineers, scientists and dreamers, who have consistently striven forward towards the advances in every frequency of the electromagnetic spectrum that we see today. The Future discoveries are awaiting us!

Report by K. B. Katsaros

Dr. Werner Rudolf Alpers

Qilu Friendship Price to Werner Alpers

Prof. Werner Alpers was honored with the "Qilu Friendship Prize" on October 12, 2007 in Jinan, the capital city of the Chinese province Shandong (90 Million inhabitants). Qilu is the old name of the Shandong province. This prize is given annually by the Shandong government to foreigners, who have earned this recognition in a major way through friendly exchanges and cooperation between their countries and China. Werner Alpers received this recognition because of his cooperation for many years with Ocean- University of China, located in the harbor city of Qingdao in the Shandong province. Since 1999 Werner Alpers is guest professor there. Until his retirement in 2001 he was a professor at the Institut of Ocean studies at the University of Hamburg. The announcement states: Mr. Werner Rudolf Alpers is recognized for the remarkable advances that he has brought through his activity in the province of Shandong.

NASA TSUNAMI RESEARCH MAKES WAVES IN SCIENCE COMMUNITY

WASHINGTON – A wave of new NASA research on tsunamis has yielded an innovative method to improve existing tsunami warning systems, and a potentially groundbreaking new theory on the source of the December 2004 Indian Ocean tsunami.

In one study, published last fall in Geophysical Research Letters, researcher Y. Tony Song of NASA's Jet Propulsion Laboratory, Pasadena, Calif., demonstrated that real-time data from NASA's network of global positioning system (GPS) stations can detect ground motions preceding tsunamis and reliably estimate a tsunami's destructive potential within minutes, well before it reaches coastal areas. The method could lead to development of more reliable global tsunami warning systems, saving lives and reducing false alarms.

Conventional tsunami warning systems rely on estimates of an earthquake's magnitude to determine whether a large tsunami will be generated. Earthquake magnitude is not always a reliable indicator of tsunami potential, however. The 2004 Indian Ocean quake generated a huge tsunami, while the 2005 Nias (Indonesia) quake did not, even though both had almost the same magnitude from initial estimates. Between 2005 and 2007, five false tsunami alarms were issued worldwide. Such alarms have negative societal and economic impacts.

Song's method estimates the energy an undersea earthquake transfers to the ocean to generate a tsunami by using data from coastal GPS stations near the epicenter. With these data, ocean floor displacements caused by the earthquake can be inferred. Tsunamis typically originate at undersea boundaries of tectonic plates near the edges of continents.

"Tsunamis can travel as fast as jet planes, so rapid assessment following quakes is vital to mitigate their hazard," said Ichiro Fukumori, a JPL oceanographer not involved in the study.

"Song and his colleagues have demonstrated that GPS technology can help improve both the speed and accuracy of such analyses," Fukumori added.

Song's method works as follows: an earthquake's epicenter is located using seismometer data. GPS displacement data from stations near the epicenter are then gathered to derive seafloor motions. Based upon these data, local topography data and new theoretical developments, a new "tsunami scale" measurement from one to 10 is generated, much like the Richter Scale used for earthquakes. Song proposes using the scale to discriminate earthquakes capable of generating destructive tsunamis from those unlikely to do so.

To demonstrate his methodology on real earthquake-tsunamis, Song examined three historical tsunamis with well-documented ground motion measurements and tsunami observations: Alaska in 1964; the Indian Ocean in 2004; and Nias Island, Indonesia in 2005. His method successfully replicated all three. The data compared favorably with conventional seismic solutions that usually take hours or days to calculate.

Song said many coastal GPS stations are already in operation, measuring ground motions near earthquake faults in real time once every few seconds. "A coastal GPS network established and combined with the existing International GPS Service global sites could provide a more reliable global tsunami warning system than those available today," he said.

The theory behind the GPS study was published in the December 20 issue of Ocean Modelling. Song and his team from JPL; the California Institute of Technology, Pasadena, Calif.; University of California, Santa Barbara; and Ohio State University, Columbus, Ohio, theorized most of the height and energy generated by the 2004 Indian Ocean tsunami resulted from horizontal, not vertical, faulting motions. The study uses a 3-D earthquake-tsunami model based on seismograph and GPS data to explain how the fault's horizontal motions might be the major cause of the tsunami's genesis.

Scientists have long believed tsunamis form from vertical deformation of seafloor during undersea earthquakes. However, seismograph and GPS data show such deformation from the 2004 Sumatra earthquake was too small to generate the powerful tsunami that ensued. Song's team found horizontal forces were responsible for two-thirds of the tsunami's height, as observed by three satellites (NASA's Jason, the U.S. Navy's Geosat Follow-on and the European Space Agen-

cy's Environmental Satellite), and generated five times more energy than the earthquake's vertical displacements. The horizontal forces also best explain the way the tsunami spread out across the Indian Ocean. The same mechanism was also found to explain the data observed from the 2005 Nias earthquake and tsunami.

Co-author C.K. Shum of Ohio State University said the study suggests horizontal faulting motions play a much more important role in tsunami generation than previously believed. "If this is found to be true for other tsunamis, we may have to revise some early views on how tsunamis are formed and where mega tsunamis are likely to happen in the future," he said.

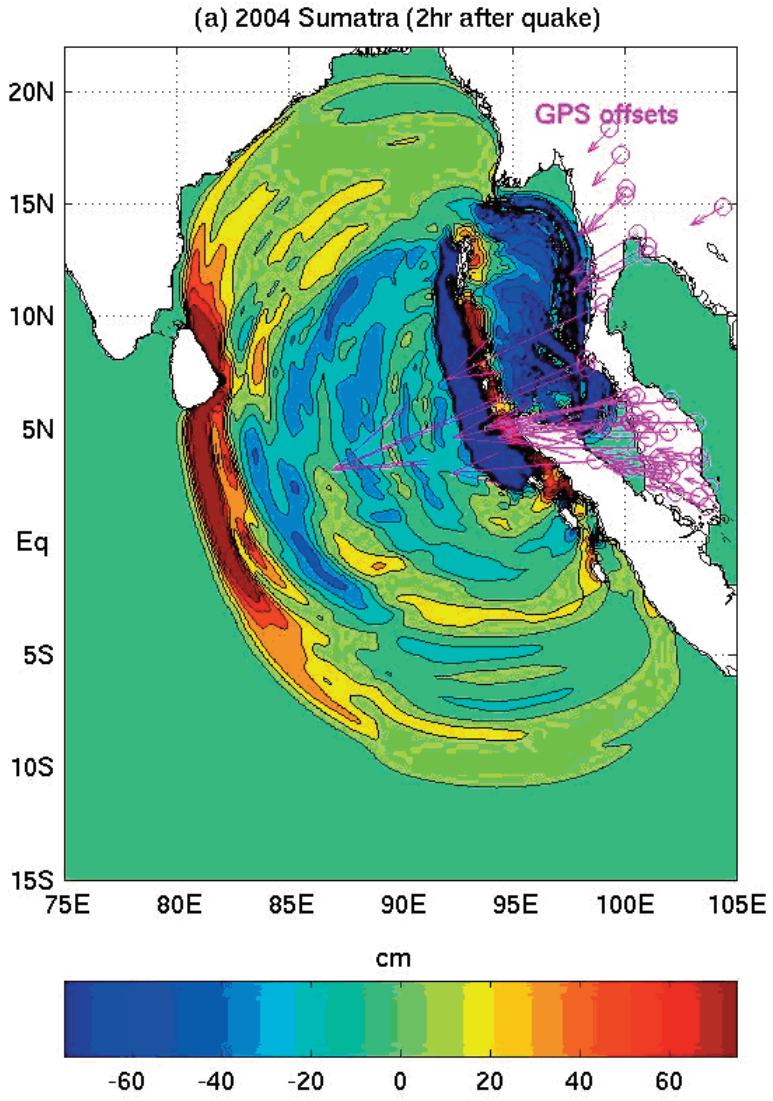


Figure caption: Using GPS data (purple arrows) to measure ground displacements, scientists replicated the December 2004 Indian Ocean tsunami, whose crests and troughs are shown here in reds and blues, respectively. The research showed GPS data can be used to reliably estimate a tsunami's destructive potential within minutes. Image credit: NASA/JPL

Notices

News & Announcements of Opportunity

A consortium of 14 nations establishes Arctic Regional Ocean Observing System: For further information, please go to: http://arctic-roos.org/
Indian satellite (Oceansat-2) has Announcement of Opportunity for data utilization (15 January 2008)
The Indian Space Research Organization will launch later in 2008 an ocean observing satellite known as Oceansat-2 with an onboard scatterometer and ocean color monitor. An Announcement of Opportunity is available at the organization's official website (http://www.isro.gov.in) and invites proposals for utilizing the data. Further details are available on the website.

Workshops & Conferences

Drought Workshop, Oct 20-24 2008
NOAA's 33rd Climate Diagnostics and Prediction Workshop (CDPW) will be held jointly with a US CLIVAR Drought Workshop in Lincoln, NE, on 20-24 October 2008. The workshop will be hosted by the National Drought Mitigation Center, University of Nebraska, Lincoln; and co-sponsored by the Climate Prediction Center (CPC) of the National Centers for Environmental Prediction / NOAA and the U.S. Climate Variability and Predictability (US CLIVAR) Program.
The workshop will focus on the status and prospects for advancing climate monitoring, assessment and prediction, with major emphasis on drought. This includes three major themes: (i) improving climate predictions / predictability, (ii) understanding and attribution of drought and its impacts, and (iii) incorporating climate predictions / projections in the development and delivery of drought products. Note that in a departure from past years, the 2008 CDPW will address drought across multiple time scales and for multiple regions (North America, South America, Africa, Asia, etc.). Thus, papers that assess the role of ocean, land, and seasonal cycle are strongly encouraged.
The Workshop will feature focused oral sessions with a mix of invited and submitted presentations, thematic poster sessions (including an evening reception), and a drought Town Hall discussion. The majority of contributed papers will be presented in poster sessions.
To submit an abstract, please go to the webpage: http://www.cpc.ncep.noaa.gov/products/outreach/workshops/CDPW33/Abstract-form.shtml
Please select a session and fill the form on the web. If you have problem to do so, please send the required information on the web form as an attachment via email to kingtse.mo at noaa.gov
The abstract deadline is AUGUST 4, 2008.
Meeting information, including lodging, registration and other information will also appear on the Workshop webpage: http://www.cpc.ncep.noaa.gov/products/outreach/CDPW33.shtml

Conference: Teleconnections in the Atmosphere and Oceans

17 - 20 November 2008 ICTP, Trieste, Italy
The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy, is organizing a Conference on Teleconnections in the Atmosphere and Oceans. It will be directed by In-Sik Kang (Seoul National University, Korea), David Straus (George Mason University, USA), Martin P. King (University of Alaska Fairbanks, USA) and Fred Kucharski (ICTP, Trieste).
Atmospheric and oceanic teleconnections govern the variability in our climate system on a broad range of time and spatial scales, in both the tropics and extratropics. On interannual time scales, the connection between the El Nino Southern Oscillation and the Asian Monsoon system influences rain amounts in regions particularly sensitive to floods/draughts. On interannual and decadal time scales, Sahel rainfall variability appears to be governed to a large extent by teleconnection patterns related to the Pacific region, Indian Ocean and the Atlantic Ocean. Examples of tropical-extratropical links in the Pacific region include the Tropical-Northern Hemisphere (TNH) pattern, which is forced by ENSO related SSTs, and the Pacific Decadal Oscillation (PDO) and Pacific North American Pattern (PNA) which govern the subtropical and extratropical atmospheric and oceanic flow patterns on interannual to decadal timescales. The decadal behavior of the North Atlantic Oscillation (NAO), influencing climate in Europe, Asia and northern Africa, is also likely to be connected to both tropical and extratropical sea surface temperatures in the Indo-Pacific and Atlantic regions. The climate trends observed in the 20th century, project as well, onto patterns like the NAO and the PDO.
The proposed Conference will bring together scientists and graduate students of both modeling and observational aspects of atmospheric and oceanic climate variability on interannual to centennial time scales.
The Conference is intended for scientists and post-graduate fellows working in the areas of Climatology and Oceanography from all countries, which are members of the United Nations, UNESCO or IAEA. The activity will be conducted in English.
Limited funds are available for some applicants, who are nationals of, and working in, developing countries only, to be selected by the Organizers. Such support is available only to those attending the full four days. There is no registration fee.

For those interested in presenting a contribution in oral or poster form during the conference, kindly ***submit a one-page abstract (size A4) no later than 30 June 2008*** to smr1968 at ictp.it. File attachments should be in PDF format. Poster boards available: 8 wall-mounted boards, of m. 1.75 (width) x 1.90 (height) and 4 mobile boards of 4 faces each of m. 1,20 (width) x1,90 (height). Each board will hold 2 posters.

REQUEST FOR PARTICIPATION

The Application Form is obtainable via Web server at: http://cdsagenda5.ictp.it/full_display.php?email=0&ida=a07177
Applications should be completed, signed and returned by either e-mail, fax or post, to arrive no later than 30 June 2008 to:
Teleconnections in Atomosphere and Oceans - smr1968 (c/o M. de Comelli) the Abdus Salam International Centre for Theoretical Physics Strada Costiera 11,
34014 Trieste, Italy

International Conference on S. Hemisphere Meteorology and Oceanography

9-13 February 2009, Melbourne, Australia
The Ninth International Conference on Southern Hemisphere Meteorology and Oceanography is a joint conference of the American Meteorological Society (AMS) and Australian Meteorological and Oceanographic Society (AMOS) and will be held from 9-13 February 2009 in Melbourne, Australia. Preliminary programs, registration details, hotel, and general information will be posted on the AMS Web site (http://www.ametsoc.org) and on the Local Organizing Committee web site (http://9icshmo.org).
Poster as well as oral presentations are solicited on all aspects of the meteorology and oceanography of the Southern Hemisphere. The meeting is organized around the broad theme: "Extremes: Climate and Water in the Southern Hemisphere".
The Program Committee also encourages submissions on recent scientific accomplishments and synthesis for the Southern Hemisphere for global programs like WCRP, CLIVAR, GEWEX, IGBP, GCOS, GOOS, GEOSS, and IPCC.

Please submit your abstract electronically via the Web by 1 August 2008 (refer to the conference Web page at http://9icshmo.org for instructions).

There will be a limited amount of funding to support the participation in 9ICSHMO of graduate students, young scientists, or scientists from developing countries, and information on that will be available on the conference web site.

For additional information please contact the Program co-chairpersons as follows: Howard Diamond (tel: +1-301-427-2475; e-mail: howard.diamond at noaa.gov) Kevin Walsh (tel: +61-3-8344-6523; email: kevin.walsh at unimelb.edu.au).

Positions:

Postdoctoral Position
Surface Ocean Lower Atmosphere Interactions
Bigelow Laboratory for Ocean Sciences
West Boothbay Harbor, Maine, USA

The Bigelow Laboratory for Ocean Sciences announces a postdoctoral position to examine the impact of light levels, sea surface temperature, upwelled nutrients, and winds on the production of dimethyl sulfide (DMS) and its emission to the atmosphere. The ultimate goal is to determine the significance of biotic feedbacks in controlling the radiation budget of the Southeast Pacific Ocean. The position is funded by the National Science Foundation and is part of the VOCALS Rex program.

Applicants should have a PhD in biological or chemical oceanography, atmospheric chemistry, or a related field; a proven research and publication record; and experience in experimental design, gas chromatography, and data analysis. The successful candidate will have the opportunity to participate in the Arctic Ocean (89N) ASCOS expedition in August-September 2008. The successful candidate will lead the field work in October-November 2008 and therefore must be willing to work flexible hours at sea, as well as interact with both PIs, Patricia Matrai and Barry Huebert (University of Hawaii). The appointment is a fixed-term position (up to two years).
To apply, submit a cover letter, curriculum vitae, and names and contact information of three referees to: jgardner at bigelow.org, or by post to:
Jane Gardner
Bigelow Laboratory for Ocean Sciences
P.O.B. 475
West Boothbay Harbor, ME 04575 USA
Review of applications will start 1 March 2008, and will continue until the position is filled. This is a full-time appointment to begin as soon as possible. Bigelow Laboratory is an equal opportunity employer.

Positions Available

Sea Ice Research and Modeling

Max Planck Institute for Meteorology

Hamburg, Germany

For further information, please go to:
http://www.mpimet.mpg.de/institut/jobs/mpi-job3.html#c4854

The Max Planck Institute for Meteorology in Hamburg, Germany, is seeking one postdoctoral fellow for sea ice research and one scientific programmer for sea ice modeling. The newly founded research group "Sea ice in the Earth System" will develop, implement, and use a next-generation sea ice model for climate studies. The model will be based on as few empirical approximations as possible, allowing a more realistic representation of air-ice-sea interaction both on a local and a global scale. The research group is actively involved in laboratory and field experiments and is running a cold lab that allows the development of new parameterizations for numerical and analytical models of sea ice.
The research group is seeking one postdoctoral fellow to develop new parameterizations of air-ice-sea interaction from theoretical or experimental studies and one scientific programmer for the numerically efficient implementation of the new sea ice model. Possible research topics include, but are not limited to, the summer melt cycle, the frazil-pancake cycle, and the modeling of snow on sea ice. A background in physics, mathematics, geophysics, or a related subject is required. Previous experience with sea ice modeling is of advantage.
The positions are initially offered for three years, with the possibility of an extension to five years, starting as soon as possible. The selection process for both positions will start on Saturday, March 15 2008, and will continue until the positions are filled. The Max Planck Institute for Meteorology seeks to increase the number of female scientists and encourages them to apply. Handicapped persons with comparable qualifications receive preferential status.
Applicants should submit a letter of interest, curriculum vitae, summary of research achievements, research plan (for the postdoctoral position), and the names, addresses, and phone numbers of three references to:
Max Planck Institute for Meteorology Administration/Mr. Letscher
Reference: SNWG08/1 (for postdoctoral position) or SNWG08/2 (for programmer)
Bundesstrasse 53
D-20146 Hamburg
Germany
For further information, please contact:
Dirk Notz E-mail: dirk.notz at zmaw.de

Position Announcement

Arctic Environmental Technology

University Centre in Svalbard, Longyearbyen, Norway

Application Deadline: Monday, 31 March 2008

For further information, please go to:
http://www.unis.no

The University Centre in Svalbard (UNIS) in Longyearbyen, Norway, invites applications for a faculty position in Arctic Environmental Technology.
The position as professor / associate professor at the Department of Arctic Technology includes the principal responsibility for the development of environmental technology at UNIS. This includes technological competence aimed at teaching and research on the spread, distribution, source elucidation, and remediation of pollutants both on and offshore.
The department has established research activity within the two topics: pollution related to petroleum activity in the Arctic and organic pollutants (including emerging contaminants) in the Arctic. Applicants that can continue the activity within one of these two topics will be preferred.
UNIS provides access to a new laboratory for organic environmental chemistry including modern trace analytical equipment (GC/MS, GC/ECD and HPLC-DAD instruments).
The position includes the responsibility two courses: "Pollution in the Arctic" and "Fate and modeling of pollutants in the Arctic." The candidate will also be partly responsible for other courses at the department.
It is expected that the scientist chosen for the position will conduct research within the general activity at UNIS and participate in the supervision of Masters and PhD students in co-operation with the other universities. The candidate is also expected to participate actively in the recruiting of students to UNIS.Inquiries about this position may be directed to:
Aleksey Marchenko, Associate Professor
Phone: + 47-79-02-33-65
E-mail: aleksey.marchenko at unis.no

Roland Kallenborn, Professor
Phone: + 47-79-02-33-51
E-mail: roland.kallenborn at unis.no

Announcement of Workshop on Sampling etc. and Request for White Papers

During PORSEC 2008, we are planning a half-day workshop, where we will discuss needs for sampling of climate and environmentally important variables and consider strategies to meet these needs. We expect researchers and agency representatives to participate in these discussions. The first hour will be devoted to short presentation of the issues defining global climate variability with the use of satellite data. We will have to focus on only specific climate variables: sea surface temperature, SST, wind patterns, cloudiness, surface radiation, evaporation and precipitation. (The ozone issue we leave for other forums more focused on the atmosphere. Carbon dioxide on the other hand is intimately related to SST.) We will then have a panel discussion about the strategies of constellation planning in order to obtain sufficient sampling for accurate definition of climate variability (including interannual, El Nino- type variations, and seasonal patterns). During the third hour of the workshop we will break into smaller groups for defining data consistency, archiving and distribution. A workshop report, possibly in the IJRS - Special Issue of PORSEC 2008 is planned. PORSEC participants eager to contribute a white paper to this workshop ahead of time are encouraged to do so by writing to: K. Katsaros, katsaros at porsec.nwra.com. Such contributions are most welcome and would make the workshop more efficient.

The Second Announcement for PORSEC 2008 is now published: http://ledweb.scsio.ac.cn/porsec2008/. Time to begin to prepare abstracts and plan your travel. The Pan Oceanic Remote Sensing Conference 2008 will take place 2-6 December 2008 in Guangzhou, China. There will be pre-conference tutorials and at least one workshop (see herein). Post-conference tours are available for you to take into consideration in your travel planning. You should also allow time to get a visa to China.

Tutorial Courses The contents of the tutorial courses and the list of teachers will soon be posted on the PORSEC 2008 home page (see above) and on the Association's home page: http://porsec.nwra.com. Please look for this information in the near future. We will cover topics such as ocean color, SST, scatterometry, statistics and "How to publish your research in a peer-reviewed journal". The dates of the course offerings are still being defined, but will probably be from Nov 30 (a Sunday) through December 2, a Tuesday. They will be held on the SCSIO campus. We are attempting to keep the time between the course offerings and the conference short and at the same time not interfere with the conference sessions.

The Scientific Organizing Committee, SOC, will meet on Tuesday, December 2, in the afternoon. This is **the "congress" of the PORSEC Association** and an important event. SOC members vote, but anyone interested in the health of our organization is welcome to attend. The deliberations of the SOC will be reported on to the full membership at a Plenary Session during the conference.

PORSEC Database

For our database of the PORSEC Association members we would like the following information about you (even if you have 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.