There is a good news and bad news. The Good news first. In November 2015, the Highest Court in Italy has exonerated all the six Geoscientists, including Prof. Enzo Boschi, in the famous L’Aquila Earthquake Court Case. The Highest Court repealed the harsh sentence of the lower court which sentenced these six Geoscientists to jail and imposed a heavy fine on them, on the count of negligence to warn the society about the impending risk of L’Aquila Earthquake. It is agreed that Geoscientists can’t predict the exact timing of an earthquake but could they be held responsible for communication (or lack of it) with the general public? Or do we agree that the Geoscientists should only give their studied, expert opinion to the Government and it should be the Government’s responsibility to warn the public through proper information channels. Moreover, the people living in earthquake-prone zones should learn to stay alert all the time, especially when tremors are felt, because the tremors could be a pre-cursor of a major event. The lower court in Italy had unfortunately held the six Geoscientists personally and legally responsible for the death of 307 persons caused by the L’Aquila Earthquake. This had caused an uproar and resentment in the Geoscientists’ community, world over. The details of the case are given in this issue, in Environment section.
Now the bad news! The Geohost grant in the 35th IGC in Cape Town (August 2016) will be restricted to delegates from low-income countries as defined by the World Bank. This list made by the World Bank excludes most of the countries from which we expect Papers for AGID’s Theme 13 “Geosciences for Benefitting Low-Income Countries” under the core topic “Geosciences & Society” of the 35th IGC. In Asian countries, the Authors from Afghanistan, Nepal and Bangladesh would be eligible for Geohost grant but all others would be left-out. AGID President Afia and me are receiving e-mails from various Authors about financial support to attend the IGC but unfortunately our own financial position is critical. I am requesting the Organizing Committee to consider Authors from Developing Countries also for awarding Geohost grant but I have not received positive response so far. The IGC still eight months away and let us hope that the policy of awarding Geohost grant is modified.

I hereby wish a Happy & Active NEW YEAR 2016 to all the readers and well-wishers of AGID.

Shrikant Daji LIMAYE; Honorary Editor and Past President of AGID

ENVIRONMENT:

The L’Aquila Case: Good News from Highest Court in Italy

I am very happy to report to the readers the good news that the Final Appeals’ Court or the Highest Court in Italy has confirmed that the harsh verdict of the Lower Court in which six senior geoscientists were sentenced to jail under the crime of ‘manslaughter’ in the L’Aquila Earthquake Court Case, stands as cancelled. One of the Geoscientist was Dr. Enzo Boschi, the Retired Director of National Institute of Geophysics and Volcanology (INGV-Rome), the prestigious Institute which is also housing the head-office of International Association for Promoting Geoethics (IAPG).

Now the details:
(At 3.32am on 6 April 2009, an earthquake of 6.3 magnitude hit the mountainous region of Abruzzo in central Italy. An event that lasted just a few seconds resulted in a final death toll of 307, mainly in the town L’Aquila. About 70,000 people were made homeless and much of the historic medieval town of L’Aquila and the villages around it were damaged or destroyed. In economic terms, the damage was estimated to be around €4 billion.)

The Lower Court, in the L’Aquila case before them, imposed a punishment of 6 years in jail plus a sumptuous fine of on six senior Italian volcanologists under the clause of ‘manslaughter’. The court held them responsible for their incorrect interpretation of available data, especially the level of Radon emissions and for indirectly passing on a false sense of security to the public. This judgment caused a great turmoil and resentment in the global community of Geoscientists, Geoscientific Associations and Professional Societies. Serious concerns were expressed world over about such harsh judgments holding Geoscientists personally and legally responsible for the death of 307 people.

It is true that no one expects geoscientists to give the exact prediction of an earthquake. What is expected of them is just a word of caution. But is it their duty to communicate with the Society or should they just to give a studied opinion to the Government so that the Government may take appropriate steps to inform the Society without causing any panic? Anyway, L’Aquila case has underscored the need for better lines of communication between the Geoscientists, Government authorities and the Society. The Society in such vulnerable areas must also understand and appreciate the limitations of scientific forecast about natural hazards and stay alert and prepared all the time. Moreover, if Geoscientists are to be punished for a wrong technical judgment then why not punish the architects, engineers and builders who did not build ‘earthquake proof’
houses in a seismically active zone such as L’Aquila? And the Public who went to stay in these houses without proper enquiry about their safety in earthquakes?

The prayers from the Geoscience fraternity showing solidarity, sympathy and compassion to the unfortunate six Geoscientists in Italy have now been answered. The Highest Court has annulled the harsh sentence of lower Court and all the six senior Geoscientists have all been exonerated. The only person who would go to jail for 2 years is the Government Officer Bernardo De Bernardinis, former vice-president of Civil Protection Agency’s technical department.

NEW PUBLICATIONS

SEGMITE JOURNAL

Society of Economic Geologists and Mineral Technologists (SEGMITE) has successfully published five volumes (10 issues) of the International Journal of Economic and Environmental Geology (IJEEG) since 2010 from Department of Geology, University of Karachi, Pakistan.

This journal has been recognized by Pakistan’s Higher Education Commission in “Z” category in 2014 and now the process of status upgradation to “Y” is under consideration. The International community of Economic and Environmental Geologists is requested to submit technical Papers for this Journal to Prof. Viqar Husain, Chief Editor, International Journal of Economic and Environmental Geology. Prof Husain is the Convener SEGMITE & is AGID’s Vice President Asia. He has also worked as Chairman Department of Geology & Dean Faculty of Science, University of Karachi, Pakistan. E mail: SEGMITIE International segmite@gmail.com and <prof.viqarhusain@yahoo.com>

The Global Water System in the Anthropocene. Challenges for Science and Governance

Edited by: Bhaduri, Anik; Bogardi, Janos; Leentvaar, Jan; Marx, & Sina

For one decade, the Global Water System Project (GWSP) has coordinated and supported a broad research agenda to study the complex global water system with its interactions between natural and human components and their feedback processes. This peer-reviewed
book addresses the worldwide experiences on the responses of water management to global change within this last decade.

With selected contributions from the GWSP Conference “Water in the Anthropocene” held in Bonn, Germany in May 2013, the book reflects the shift in mind-set that is required to address the water challenges of tomorrow, discussing issues like water governance and related institutional and technological innovations as well as variability in supply, increasing demands for water, environmental flows, and land use change.

With 28 chapters this edited volume embraces a wide variety of disciplinary and interdisciplinary perspectives that correspond to the four sections of the book:

Part I: Global Water System: Current State and Future Perspectives

The papers under this theme present assessments of global water resource availability, deal with earth observations and the role of indicators, data and models of the global water system. They discuss aspects of how to account for water and uncertainties globally, covering both physical processes and socially mediated water fluxes, water withdrawals and uses as well as virtual water trade.

Part II: Dimensions of Change in River Basins and Regions

The theme focuses on adapting to global changes at the river basin and regional scale. It includes contributions about adaptive resource management towards water security in river basins, papers addressing institutions and governance challenges in water scarce regions as well as papers bringing in historical perspectives to understand river systems in the Anthropocene.

Part III: Ecosystem Perspectives in Water Resources Management

The third theme presents different approaches to ecologically sustainable water management drawing on various case studies. The section focuses on how to mitigate the negative impacts of anthropogenic activities on the resilience of social-ecological systems.

Part IV: Governing Water in the Anthropocene

The fourth section concentrates on the crosscutting issue of global water governance, acknowledging the fact that the global “water crisis” is in fact a governance crisis. Case studies in water governance and management under global change from different parts of the world are complemented
by contributions dealing with issues like water law, ethics and institutions in water governance.

**CONGLOMERATE**

**Global Warming and Ocean Salinity**

The “State of the Climate Report” in Bulletin of the American Meteorological Society (BAMS) shows 2013 was among the 10 warmest years on record at the global scale, both at the Earth’s surface and through the troposphere. Minimum sea-ice extent in the Arctic was the sixth lowest since satellite observations began in 1979. Including 2013, all seven lowest extents on record have occurred in the past seven years. The North Pacific reached a historic high temperature in 2013 and on balance the globally-averaged sea surface temperature was among the 10 highest on record.

The ocean is the heart of Earth’s water cycle, and changes in the rate of evaporation and rainfall are reflected in the relative freshness or saltiness of the ocean surface. In addition, differences in salinity from place to place, along with temperature, drive the currents that move heat from the equator toward the poles. Any changes in salinity and ocean currents can affect regional climates and marine life.

The high-latitude regions, where precipitation dominates over evaporation, are generally fresher than average, while the already dry subtropics are even saltier than the long-term average, except in the South Pacific and the south Indian Ocean off Australia. This freshening in South Pacific and near Australia, may be linked to huge amounts of rain that fell over Australia during La Niña events that occurred between 2010 and 2012. A similar pocket of unusually fresh waters in the eastern Pacific north of the equator was associated with unusually heavy precipitation in that region.

**Concerns about Whales & Oil Exploration**

During offshore oil exploration, sonic cannons are often fired continually for weeks or months, and multiple oil-mapping projects may operate simultaneously. To get permits, companies will now need to have whale-spotting observers onboard and do undersea acoustic tests to avoid
nearby species. Certain habitats will be closed during birthing or feeding seasons.

Still, underwater microphones have picked up blasts from these sonic cannons over distances of thousands of miles, and the constant banging — amplified in water by orders of magnitude — will be impossible for many species to avoid. Whales and dolphins depend on being able to hear their own much less powerful echolocation to feed, communicate and keep in touch with their family groups across hundreds of miles. Even fish and crabs navigate and communicate by sound, said Grant Gilmore, an expert on fish ecology in Vero Beach, Florida.

"We don't know what the physiological effects are. It could be permanent hearing damage in many of these creatures just by one encounter with a high-energy signal." Gilmore said.

More than 120,000 comments were sent to the U.S government, which spent years developing these rules. The bureau's environmental impact study estimates that more than 138,000 sea creatures could be harmed, including nine of the world's remaining 500 north Atlantic right whales. These whales give birth and breed off the coast of Florida, Georgia and the Carolinas.

"Once they can't hear -- and that's the risk that comes with seismic testing -- they are pretty much done for," said Katie Zimmerman, a spokeswoman for the South Carolina Coastal Conservation League based in Charleston, S.C. "Even if there were oil out there, do we really want that? Do we really want to see these offshore rigs set up?" she asked.

More than 16 communities from Florida to New Jersey passed resolutions opposing or raising concerns about seismic testing and offshore drilling.

The New Silk Road

The “Silk Road Gold Fund” will raise $16 billion (100 billion Yuan).. Once the funds are raised, China will start taking stakes in gold miners and gold mining projects. Specifically, China is targeting gold mines along the ancient Silk Road, traversing the Middle East and Central Asia. This is all part of a much larger “New Silk Road” initiative, China unveiled last year. The goal is to recreate the route with complementary land and sea routes that form a loop connecting Asia, Africa, and Europe.
Los Angeles uses plastic balls to present evaporation from Reservoir.

The sea of 96 MILLION plastic balls that LA hopes will save it from drought: Reservoir is covered in an ocean of black spheres to stop 300 million gallons of water evaporating.

- Black plastic balls were released into the 175-acre Los Angeles Reservoir in Sylmar, California. They are designed to cover the water, prevent evaporation and protect it from dust, rain, chemicals and wildlife,
as well as prevent 300 million gallons of water from evaporating each year.
- The polyethylene balls, around the size of an apple, cost 36 cents each and are black to help deflect the UV rays

With no apparent relief to California’s record-breaking drought, Los Angeles has turned to more unusual methods to protect the city’s water. Officials have released 96 million floating 'shade balls' into the 75-acre Los Angeles Reservoir in Sylmar, California.

**Big Boost in Desalination Plants using Solar Energy in the Middle East**

Only days after news emerged from Abu Dhabi that it plans to continue developing the world’s first full scale solar desalination plant, another such contract has been signed in Saudi Arabia. Spanish company Abengoa will work with Advanced Water Technology (AWT) to jointly develop a 60,000 m3/day solar powered desalination plant in the Kingdom of Saudi Arabia (KSA). The plant will produce drinking water for Al Khafji City in North Eastern Saudi Arabia.

The Al Khafji city’s 60,000 m3/day project will bring total desalination capacity of Abengoa to 1,500,000 m3/day. Earlier this week, France’s “SUEZ Environment” further developed a contract signed in Abu Dhabi to develop a 100% solar powered desalination plant. Moreover, in September 2015, a desalination plant in the emirate of Ras Al Khaimah started supplying 100,00 m3/day of drinking water for the emirate and neighboring areas.

**Volcanic Eruptions have Slowed-down Global Warming**

It has long been known that volcanic eruptions impact the climate, spewing ash and sulfur-rich particles into the atmosphere and blocking
out the warmth of the sun. These eruptions had been factored into climate modeling, though it is now the view of an international group of scientists that their influence has been majorly understated.

The scientists describe a range of factors determining whether or not volcanic eruptions go onto to shape the climate globally, including the amount of sulfur dioxide that is emitted. They found that the latitude of the eruption also plays a part, because air in the stratosphere in the Northern Hemisphere flows independently of that in the Southern Hemisphere. Therefore only volcanic eruptions that occur close to the equator can disseminate particles over both hemispheres. The research also uncovered evidence that the time of year is also a factor, with eruptions taking place in the summer, where solar radiation is stronger, found to have a bigger impact.

The Result from Best Water Idea Competition at World Water Week, Stockholm (August 2015)

Going Vegan won the Best Water Ideas campaign with as much 58% of the total 2,730 votes. People representing all ages, disciplines, and continents voted in the campaign over the past couple of months. Meat production has several effects on the environment, and is relatively water intense compared to producing other crops. It requires 15,500 liters of water to produce 1 kg beef; this can be contrasted to 180 liters for 1 kg tomatoes and 250 liters for 1 kg potatoes.

The virtual water we eat (i.e. the water needed to produce the crops on our plates) constitutes the majority of all water we use, and can be as large as 4000 liters of water/capita/day. If more consumers changed to less water intense diets and chose for example pulses, vegetables and grains over meat, a lot of water could be saved. (However, eating sea-food would be an alternative for meat-eaters. … Editor)
Department of Geology at Islamic Azad University organized a very successful IAGC at the holy city of Mashhad, Iran. This year’s event exceeded expectations in terms of the number of Papers, quality of work, and diversity of the submitted material. The scientific contribution of scholars, industry experts, and students from four continents of Asia, Africa, Europe, and North America brought a new level of sophistication to the 2015 Congress. Throughout the two days of the Congress, over 230 articles were presented in the form of verbal or poster covering various subcategories of geology including but not limited to: Economic Geology, Paleontology, Hydrogeology, Geophysics, Mining, Oil and Gas, Environmental Sciences and Remote Sensing.

The objectives of the Congress were met beyond satisfaction, such that an infrastructure was built for the scientists, industry representatives, and geology enthusiasts to collaborate in a professional manner. Moreover, the latest findings in the field were introduced and discussed.
The overwhelming participation of the domestic and international guests created a pleasant and ambitious framework for this Congress which will surely motivate the Organizers to hold such geoscience gatherings more frequently in Iran. We are certain that Iran’s academic potential coupled with its rich culture, varied Geology and breathtaking nature has plenty more to offer to the global Geo-scientific community.

Contributed by Dr. Saeed Saadat (Chairman of the Congress)

Kiel (near Hamburg) 22 July - 25 July, 2015

The 12th annual conference of the International Society for Environmental Ethics was held from July 22nd to July 25th in Kiel, Germany, at the Christian-Albrecht University (CAU), during the 350th anniversary of the University. Hosted by Konrad Ott and a hard-working team of organizers from CAU, this year’s conference was titled “Environmental Ethics between Action and Reflection.” The Conference was attended by 160 scholars from six continents and as far away as India, South Africa and New Zealand, making this the largest ISEE conference yet. Attendance of some of the participants from low-income countries, including that of Dr S D Limaye from India (AGID’s Past President & Vice President of IAPG, Rome), was sponsored by Heinrich Boll Foundation of Berlin.

Papers given covered a full range of issues within environmental ethics, from differentiated responsibilities to mitigate global climate change to the ethics of de-extinction. Compared to previous years, participants seemed more critical of mainstream economic approaches to environmental problems. Keynote speakers included Clare Palmer (Texas A&M
University) on “Staying in Place While the Climate Changes: Facilitated Adaptation and the Wildness of Wild Animals,” Thomas Potthast (Tubingen University) with an ecological talk titled “Biocoenosis or Living Community,” Darrel Moellendorf (Goethe University Frankfurt) on “Poverty and Dangerous Climate Change,” and Alan Warde (University of Manchester) on “Sustainable Consumption: Practices, Habits and Politics.” The full program included several session in parallel. Dr. Limaye presented a Paper on Geoethical aspects of development of earth resources for human use.

In addition to the scholarly talks and panel discussions, conference participants enjoyed half-day excursions to nearby places of healthy Bogs, and a full day trip to Wadden See National Park on the North Sea coast. All in all, the conference was a great success, thanks to all the good work put in by Prof. Konrad, Lieske, Christian, Gunda and the team of student Volunteers. Next year’s Conference will be at Pace University in New York City, June 29th to July 2nd.

— (modified from the Report by Dr. Phil Cafaro, outgoing ISEE President)

HAPPY NEW YEAR TO OUR READERS & WELL-WISHERS OF AGID

(With Greetings from Iranian Journal of Earth Sciences)