



**ASSOCIATION OF GEOSCIENTISTS FOR  
INTERNATIONAL DEVELOPMENT**

**(AGID)**

**GEOSCIENCE NEWSLETTER**

**76<sup>th</sup> Issue: December 2018 – January 2019**

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[www.saawg-agid.org](http://www.saawg-agid.org)

## 76<sup>th</sup> Issue: December 2018 - January 2019

### From Honorary Editor's Desk

Ms. Afia Akhtar, President of AGID will be organizing the International Conference on "Geoscience for Society (Geo-Soc)" to be held in Dhaka from 14th to 17th March 2019. So far, about 100 foreign geoscientists from 17 countries have expressed their interest to attend the conference. However, on the request of foreign delegates, the last date of abstract submission has been extended up to 31st December, 2018. Please send Abstract of Paper for this Conference to President- AGID, at [afia@agni.com](mailto:afia@agni.com). This would probably be the last conference to be organized by AGID before the 36th IGC in New Delhi in March 2020."

I started AGID Newsletter in 1986 through encouragement from Dr Antony Berger from Canada, who was the Secretary General of AGID at that time. So, by the end of 2018, the Newsletter would complete 32 years.

**I wish to thank the IUGS Officers and the IUGS H.Q for their continued financial support to AGID from which this Newsletter is funded.**

**I wish all the readers and well-wishers of AGID a VERY HAPPY and FRUITFUL NEW YEAR 2019.**

Dr Shrikant Daji LIMAYE. Honorary Editor.

## **ENVIRONMENT**

### **Ground Water Pollution in Michigan State (USA)**

Groundwater in Michigan, what FLOW (a non-profit organization named 'For Love of Water') calls as the sixth Great Lake, (the underground great lake in addition to the five surface lakes: Erie, Ontario, Michigan, Huron and Superior) is "compromised and deteriorated." Threats come both from legacy sites and current practices: abandoned industrial sites, military bases, dry cleaning facilities, landfills, septic tanks, underground tanks that store petroleum fuels, and fertilizers spread on farm fields. The Michigan Department of Environmental Quality has identified more than 4,000 potential sites where contaminated groundwater and soil could release toxic vapors into buildings. Other connections are just as hard to see. Excessive groundwater pumping in fast-growing Ottawa County has been found to worsen water quality because it pulls deeper, saltier water into wells.

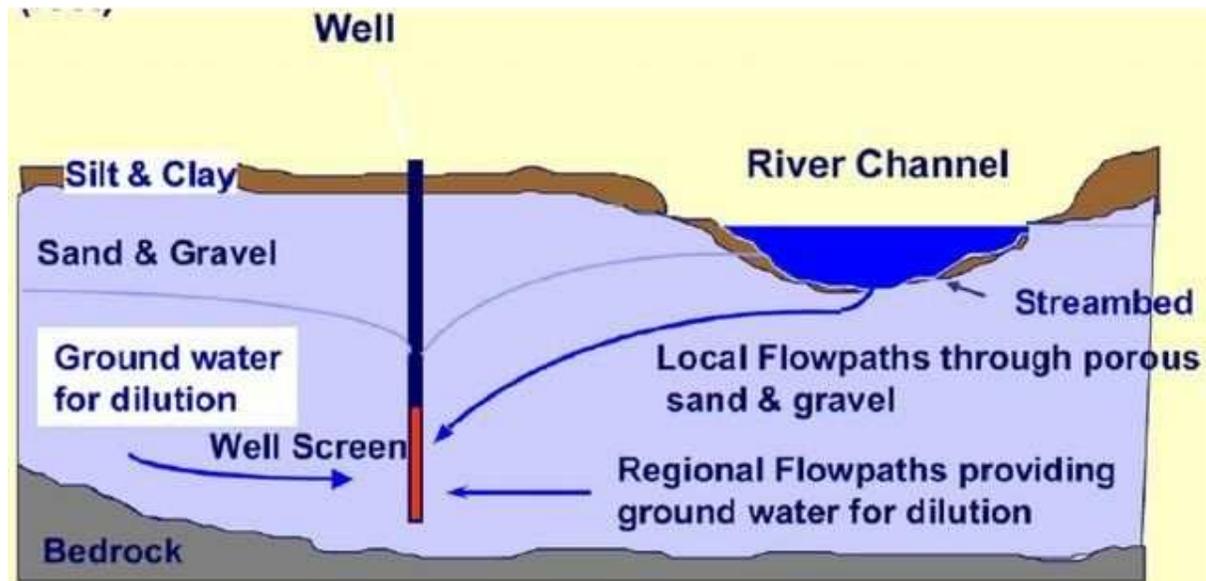
FLOW criticizes Michigan Government on two fronts: for inconsistent policies that over decades allowed pollutants to accumulate in groundwater reserves, and for failing to provide adequate funds for cleanup. Groundwater is treated as a place where wastes go, not a place to keep wastes out.

Human exposure to per- and poly-fluoroalkyl substances (PFAS) is a public health concern that the Centers for Disease Control and Prevention's (CDC) in USA is worried about. Over the last decade, interest in PFAS has been growing due to increased pollution due to them. PFAS are man-made chemicals that have been used in industry and consumer products worldwide since the 1950s. They have been used in non-stick cookware, water-repellent clothing, stain resistant fabrics and carpets, some cosmetics, some firefighting foams, and products that resist grease, water, and oil.

### **"Riverbank Filtration (RBF): A Cheap Solution for Safe Water Production**

RBF has been introduced by many research and review articles to be the magic solution for water treatment and easy production of safe drinking water with a minimum money.

That fits with the poor communities in developing countries especially with a limited budget for water solutions and big water demands. In addition, RBF has proven its resistance towards surface water pollution events as it depends on abstracting water that is filtered naturally through the river bank.



Many countries have been reported to use the RBF in producing drinking water. Here it comes to be an attractive option for the Egyptian technical, financial and environmental conditions. By investigating the feasibility of the RBF technology under the Egyptian conditions many research papers have proven its applicability and listed its advantages and benefits to the government and the community as well.

Egyptian community may however, reject the application and could threaten the sustainability of this technology in Egypt because of the tradition of using water flowing in the Nile. It is therefore necessary to educate the community through social media and mass-propaganda. NGOs have a valuable role here in helping Government's water supply department.

**Science Research Publications should be "free access" type and not "paid access type (excerpts from an Article by Mare Schiltz, President of 'Science Europe', Brussels, Belgium)**

In this initiative, a group of national funders, joined by the European Commission and the European Research Council, announce plans to make Open Access publishing mandatory for recipients of their agencies' research funding. Universality is a fundamental principle of science. Only the results of research which can be discussed, challenged, and, where appropriate, tested, and reproduced by others qualify as scientific results. Science, as an institution of *organized criticism*, can therefore only function properly if research results are made openly available to the community so that they can be submitted to the test and scrutiny of other researchers. Furthermore, new research builds on established results from previous research. The chain, whereby new scientific discoveries are built on previously established results, can only work optimally if all research results are made **openly available** to the scientific community.

Publication pay-walls are withholding a substantial amount of research results from a large fraction of the scientific community and from society as a whole. This constitutes an absolute anomaly, which hinders the scientific enterprise in its very foundations and hampers its uptake by society.

As major public funders of research in Europe, we have a duty of care for the good functioning of the science system (of which we are part), as well as a fiduciary responsibility for the proper usage of the public funds that we are entrusted with. As university and library negotiation teams in several countries (e.g., Germany, France, and Sweden) are struggling to reach agreements with

large publishing houses, we feel that a decisive move toward the realization of Open Access and the complete elimination of publication pay-walls in science should be taken now. The appointment of the Open Access Envoy by the European Commission has accelerated this process.

### **Which Specific Costs and Risks Do We Face from Climate Change?**

A new U.S. government report finds that climate change is already increasing risks to health, the economy, and ecosystems across the United States. These risks are expected to grow in the coming decades.

Today, scientists released a new report documenting the growing risks that climate change poses for communities across the United States.

The new report is part of the fourth edition of the [National Climate Assessment](#) (NCA4), developed by the U.S. Global Change Research Program (USGCRP). The new report reaffirms that evidence of human-caused climate change is robust, is extensive, and continues to strengthen. It also shows that risks to humans, ecosystems, and the economy are intensifying across the country [USGCRP, 2018].

The new report notes a number of key findings.

Without adaptation, cumulative damages to coastal property across the contiguous United States could reach \$3.6 trillion through 2100. Without adaptation; cumulative damages to coastal property across the contiguous United States could reach \$3.6 trillion through 2100 .

Wildfire Risks: In the western United States, increasing [wildfire activity](#) is damaging ranches and rangelands as well as property in cities near the wild land-urban interface. For example, wildfires around Los Angeles from 1990 to 2009 caused \$3.1 billion in damages (unadjusted for inflation). The report

notes that the area burned by wildfire across the western United States from 1984 to 2015 is estimated to be twice what would have burned had climate change not occurred.

Drier conditions are expected to increase the risk of wildfire and damage to property and infrastructure in the coming decades as climate continues to change. Land use and forest management decisions can reduce—or exacerbate—risks to people and property from wildfires.

Risks to Agriculture.: Yields of major U.S. crops such as corn, soybeans, and cotton are expected to decline, on average, across the country over this century as a result of climate change. Increases in temperatures during the growing season in the Midwest are projected to be the largest contributing factor to declines in the productivity of U.S. agriculture.

### **How landscapes and water mitigate climate change**

Policy Brief Published: November 2018 (from Stockholm International Water Institute)

Trees, forests and agriculture are the key to reducing carbon emissions and assisting countries in adapting to the adverse effects of climate change. In addition, sustainable forest and land management provide essential ecosystem services that regulate both surface and groundwater flows. To achieve the Paris Agreement and meet major water challenges, water wise management and productive multi-functional landscapes are crucial.

We therefore recommend combining the different aspects of management of water in the landscape in a flexible, adaptive and integrated manner.

- Sustainable management of water in the landscape can contribute to both climate change mitigation and adaptation, as it can enhance carbon stocks and sinks as well as support adaptation of forest management and agriculture to more extreme climate conditions.
- The forest-water nexus needs to be considered and integrated into both policy and practice and effectively monitored. Simply recognizing the forest-water nexus is not enough and there is a need to improve the ability to design,

implement, and learn from landscape approaches that rely on the relationships between forests and water.

- More research and monitoring of forest-water interactions in multi-functional landscapes are required and should be integrated into forest restoration and landscape initiatives.
- Strengthened multi-level governance arrangements that allow for genuine stakeholder participation is a prerequisite for sustainable landscape management.
- Scaling up of best management practices and innovative tools can provide practical on-the-ground solutions to sustainable management and monitoring of the forest-water nexus.

## **COMING EVENTS**

- **14 - 17 March 2019**

International Conference on Geoscience for Society, Dhaka, Bangladesh

[1st announcement](#)

[2nd announcement](#)

- **18 - 21 March 2019**

Geoscience & Society Summit, Stockholm, Sweden

Website: <https://connect.agu.org/gss/home>

- **24 - 27 March 2019**

Geo-Congress 2019, Philadelphia, Pennsylvania, USA

"Eighth International Conference on Case Histories in Geotechnical Engineering"

Website: <https://www.geocongress.org/>

- **7 - 12 April 2019**

European Geosciences Union (EGU) General Assembly 2019, Vienna, Austria

Website: <https://www.egu2019.eu/>

- **16 - 19 April 2019**

IMCET 2019 - 26th International Mining Congress and Exhibition, Antalya, Turkey

Website: <http://www.imcet.org.tr/>

- **24 - 26 April 2019**

International Symposium on Structural Geology and Global Tectonics, Trabzon, Turkey

Website: <http://www.generalgeology.com/>

• **12 - 13 May 2019**

HEGC-I - 1st Himalayan Engineering Geological Congress, Kathmandu, Nepal  
"Engineering Geology and Geotechniques for Developing Countries"

Website: <https://nseg.org.np/hegc-i/>

• **12 - 15 May 2019**

GAC-MAC-IAH Conference "Where geosciences converge", Québec, Canada

Website: <http://gacmac-quebec2019.ca/>

• **3 - 6 June 2019**

LuWQ2019 - 4th International Interdisciplinary Conference on Land Use and Water Quality, Aarhus, Denmark;

Website: <https://www.luwq2019.dk/>

• **10 - 13 June 2019**

7th International Conference on Debris-Flow Hazards Mitigation, Golden, Colorado, USA

Website: <https://dfhm7.csmospace.com/>

• **3 - 6 June 2019**

LuWQ2019 - 4th International Interdisciplinary Conference on Land Use and Water Quality, Aarhus, Denmark. Website: <https://www.luwq2019.dk/>

• **10 - 13 June 2019**

7th International Conference on Debris-Flow Hazards Mitigation, Golden, Colorado, USA

Website: <https://dfhm7.csmospace.com/>

• **12 - 13 August 2019**

Earth & Geo Science 2019 - 2nd International Conference on Earth Science & Geo Science, Prague, Czech Republic

"Insight into Innovations in Earth System Sciences and Climate Change Challenges"

Website: <https://www.scientificfederation.com/earth-science-2019/>

