



European Geosciences Union – General Assembly

GEOSCIENCE INFORMATION FOR TEACHERS (GIFT) WORKSHOP 2012

Water!

Austria Center, Vienna, April 23-25 2012

PRELIMINARY PROGRAM AND APPLICATION FORM

The 2012-GIFT (Geosciences Information for Teachers) symposium will take place on April 23-25, 2012 during the General Assembly of EGU in Vienna Austria. The general theme of the workshop is « Water!» and will be dedicated to the study of the hydrological problems of our planet.

The water cycle, also known as the hydrological cycle, describes the continuous movement of water on, above and below the surface of the Earth. It also involves the exchange of heat energy, which leads to temperature changes. The water cycle figures significantly in the maintenance of life, society and ecosystems on Earth. However, several problems threaten water resources today, which are related to the unsustainable use of water and the lack of adequate supply of water in many parts of the world. Such problems are caused by an ever increasing population, consumerism, urbanization and changes in agricultural practice.

In addition, as the water cycle involves heat exchange, it has a two-way feedback with our climate as well. In particular, the effects of atmospheric global warming on the water cycle are significant. Observed warming over several decades has been linked to changes in the large-scale hydrological cycle such as:

- increasing atmospheric water vapor content;
- changing precipitation patterns, intensity and extremes;
- reduced snow cover and widespread melting of ice;
- and changes in soil moisture and runoff.

As a consequence, water resources have already been deeply affected by global warming: sea levels have risen, glaciers have retreated. The hydrological cycle is heavily affected by land use change which in turn affects groundwater recharge. The above problems cause concerns in almost every sector of everyday life, and geo-engineers are seeking ways of mitigation. All water bodies are going to be affected by global warming, making knowledge of the water cycle essential for any kind of human activity. Entire regions on Earth would face extreme temperatures eventually associated with torrential rainfalls whilst other regions would experience scarcity of water and droughts.

In the GIFT workshop “**Water!**” all the different aspects of the water cycle will be described and discussed. Talks will focus on global freshwater availability and distribution, overexploitation of water, strategies for sustainable use of water in the future and the threats by environmental change. Particular regions where global warming will have a major impact, such as the regions depending on the water supply from the Himalayan, Alpine and Andes mountain glaciers will be

used as exemplars. The use of naturally occurring isotopes to "fingerprint" sources of water in precipitation and rivers, and the presence of 'ancient' water beneath the deserts and other areas, will also be discussed. Focus will also be put on climate model simulations for the 21st century, mitigation measures to reduce the magnitude of impacts of global warming on water resources, and water resources management and its impacts on other policy areas.

As in every GIFT Symposium, contributions by the attending teachers on particular "off-the-program" activities that they may have had in their classrooms are particularly welcomed, either as poster or oral presentations, even if their subject is not directly related to the theme of the workshop.

Also, a first step will be a guided visit to the Vienna Museum of Natural Sciences, on Sunday April 22 afternoon, followed by a small reception as an ice-breaker event.

How to apply?

Applicants from UK schools should submit the following information Dr. Phil Smith, coordinator of the Teacher Scientist Network and UK representative for the EGU's Committee for Education. See also, <http://www.tsn.org.uk/GIFT.htm>

- Applicant's name, contact information, E-mail address
- School name and address
- List the subjects you teach, and the ages of students
- The workshop will be conducted in English. Please describe your capability to understand and speak in English.
- A description of any leadership activities you have taken at your school or in national educational activities (examples: training new teachers, developing curriculum, etc.)
- The relevance of this year's topic to your teaching practice.
- A letter of recommendation from the headteacher in your school supporting your application bearing in mind you will need 3 days out of the classroom to attend GIFT.
- (Optional) There will be opportunities for teachers to present any creative science activities they have developed for their classrooms to other teachers at the workshop. These presentations can be in the form of a talk, a poster or a demonstration. If you would like to present a science activity, please provide a title and description for inclusion in the program.

Applications should be received no later than **9th December, 2011**. Teachers are notified swiftly so they can plan their trip early in the New Year. If you have difficulty getting support for your application by this date, please email us and let us know the situation, we will try to help and be supportive.

Dr. Phil Smith, phil.smith@nbi.ac.uk

