

European Geosciences Union – General Assembly



GEOSCIENCES INFORMATION FOR TEACHERS (GIFT) WORKSHOP 2014

OUR CHANGING PLANET

Austria Center, Vienna, April 27-30, 2014

PRELIMINARY PROGRAM

The 2014-GIFT (Geosciences Information for Teachers) workshop will take place on April 27- 30, 2014 during the General Assembly of EGU in Vienna, Austria. The general theme of the workshop is: Our Changing Planet and it will explore some of the recent complex changes of our environment, particularly in the framework of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

Numerous geological, geophysical and geochemical data acquired over many years have documented that, on geological time-scales, the Earth has continuously undergone large changes. We know that continents have widely moved (plate tectonics), that the chemistry of the atmosphere has changed, that the climate of the Earth has undergone hot and cold periods (even that the Earth has been so cold at some points that the term “Snowball Earth” has been used). The term natural variability is employed to refer to the continuous evolution of our planet.

A new trend in variability has been progressively documented for the last 100-150 years of the Earth’s history, i.e. after the industrial revolution. Many studies have demonstrated that new factors of anthropogenic origin are starting to govern the environment of the Earth’s outer shells, i.e. precisely those where we live. A main, impressive characteristic of these environmental new factors is that changes are occurring at a rate and reach values

unprecedented in the Earth's history, to the point that Nobel Prize Laureate Paul Crutzen has coined the term "Anthropocene" for this new era of the Earth's history.

Realization that human activities may be responsible for irreversible changes in the Earth's environment, has led to the establishment of the Intergovernmental Panel on Climate Change (IPCC), that was created in 1988 by two United Nations Organizations: the World Meteorological Organization (WMO) and the United Nations Environmental Program (UNEP).

IPCC is at the same time a huge and a very small organization: it does not generate research projects, rather it studies thousands of scientists' reports from all over the world to ensure an objective and complete assessment of current information about our environment, which is provided to decision makers. In 2007, the IPCC received the Nobel Prize for Peace (together with Al Gore) for its role.

The basic structure of IPCC comprises three working groups. Working Group I deals with "The Physical Science Basis of Climate Change", Working Group II with "Climate Change Impacts, Adaptation and Vulnerability" and Working Group III with "Mitigation of Climate Change". These three groups have provided four Assessment Reports so far.

The IPCC is about to publish its Fifth Assessment Report (AR5). It will provide an update on the scientific, technical and socio-economic aspects of climate change. In September 2013, Working Group I will release its summary for Policymakers. Working Group II will release an analogous document in March 2014, followed by Working Group III in April 2014. A synthetic report will also be published.

Given the major interest for human kind and the active debate between the IPCC scientists and the so-called "climate skeptics", there is no doubt that these questions will be discussed worldwide, in all the media. It therefore appears to us that teachers must be provided with sound scientific information in order to answer the questions that, invariably, they will have from their students.

The GIFT-2014 workshop will take the advantage of the presence of many IPCC lead authors to ask them to address the teachers about the different aspects of climate change, in its most general form (changes in the atmosphere and surface ocean, including ocean acidification, cryosphere, information from paleoclimatic archives to quantify natural versus anthropogenic variability, carbon and other biogeochemical cycles, clouds and aerosols, evaluation of climate models to ensure projections and predictability, sea level change...). Needless to say, we will also ask scientists who are not IPCC lead authors to address the teachers, if their field of research is appropriate.

The GIFT-2014 workshop will also comprise hands-on activities led by science educators and in a parallel poster session "Science in tomorrow's classroom" open to teachers and scientists attending the General Assembly of the European Geosciences Union.

In addition, a first step will be a guided visit to the Vienna Museum of Natural Sciences, on Sunday April 27, 2014 afternoon, followed by a small reception as an ice-breaker event.