EGU Today

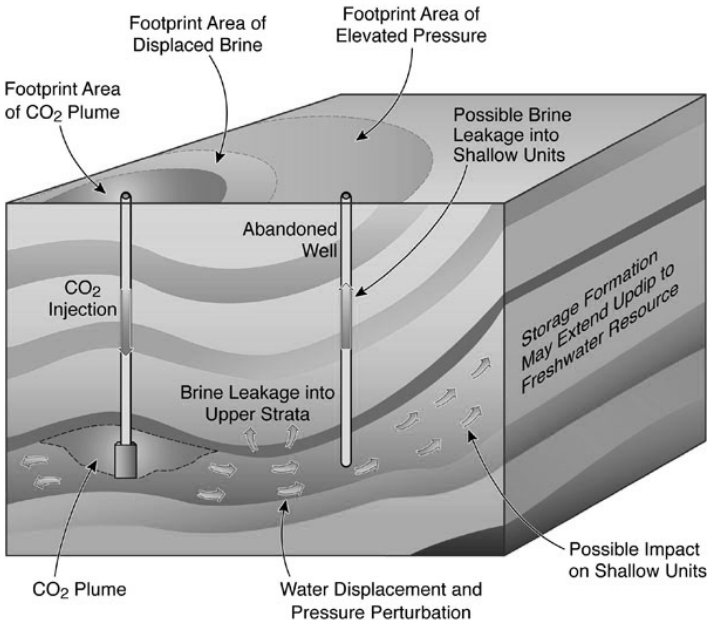
DAILY NEWSLETTER
FROM THE GENERAL ASSEMBLY

TUESDAY
APRIL 21
2009

Long term storage of CO_2 in geological systems

Storage of carbon dioxide (CO_2) beneath Earth's surface may help to mitigate climate change. By injecting CO_2 into an appropriate storage formation, one can possibly compensate CO_2 emissions to the atmosphere. The success of carbon capture and storage (CCS) depends, however, on a combination of physical and geochemical trapping mechanisms. Can we monitor CO_2 reliably enough to detect leaks? Is it possible to predict the long-term storage? A broad spectrum of activities in the field of carbon capture and storage (CCS) will be highlighted at EGU 2009. Geophysical methods (session ERE4) play a key role in the non-destructive investigation and characterization of underground CO_2 storage sites. The first European storage site is located at Ketzin (Germany), where CO_2 is injected into a deep saline aquifer (session ERE 5).

ERE3, Tuesday 10:30-15:00, Room 11
Convener: Michael Kühn
ERE4, Tuesday 17:30-19:00, Room 11
Convener: Christopher Juhlin
ERE5, Tuesday 15:30-17:00, Room 11
Convener: Frank Schilling



Where the living and the lifeless world hook up: Earth's Critical Zone

The Critical Zone is the near surface environment of major interaction. Here rock, soil, water, air, and living organisms regulate the natural habitat and determine the availability of life-sustaining resources. What is the extent of this Critical Zone, how strong are these interactions, and on what time scales do they operate? How is the Critical Zone established how does it respond to external forcing, for example by human activities or climate change, and how does it affect the composition of the atmosphere? Today, two sessions will focus on pertinent questions and key challenges in critical zone research.

US3, Tue 13:30-15:00, Room D
Convener: Michael Ellis
GMPV19/GM3.1/SSS43, Tue 08:30-12:00, Room 35
Convener: Jerome Gaillardet

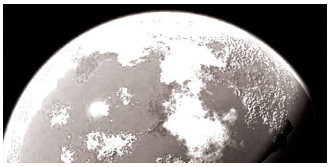
Excursion to the inner solar system

Scientists have acquired a wealth of information on the chemistry and mineralogy of the terrestrial planets and the Moon over the past decade. From chemical analyses on the nanometre scale to numerical models of large-scale differentiation in Earth and Mars, this session takes you on a whirlwind tour of the inner solar system. Contributions from geophysics and geochemistry combine to reveal both significant differences and surprising similarities between the evolution of Mercury, Venus, Earth, Moon and Mars.

GD13/GMPV9/PS2.11, Tuesday 13:30-17:00, Room 17
Convener: Wim van Westrenen

April 22: Earth Day

Within the context of the EGU 2009, Europe's largest geoscientific event,



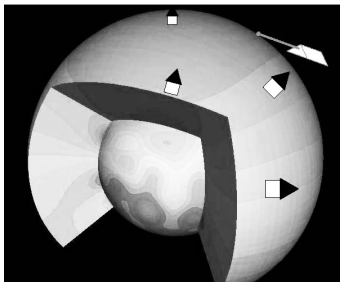
Earth Day becomes even more meaningful. Is mankind responsible for climate change? To what extent is the IPCC report accurate? Climatic changes interact and affect the rate of global change through atmosphere-terrestrial-cryosphere feedbacks and through strong biogeophysical and biogeochemical couplings. The Earth is undergoing significant changes associated with warming climate and with socio-economic changes during the entire 20th century. Climate change is, therefore, among the most important EGU 2009 issues and debates for an entire week - not just on Earth Day.

http://www.earthday.net/

Examining the outer core from space: Earth's dynamical magnetic field

The geomagnetic field changes rapidly on decadal to sub-annual timescales. Thanks to the joint use of satellite and ground-based data in the last decade, we now have magnetic field models of unprecedented spatial and temporal resolution. This session will discuss the dynamical processes responsible for the fast changes of Earth's magnetic field we now see occurring.

GD6/MPRG20, Tuesday 08:30-12:00, Room 37
Convener: Alexandre Fournier



Today's EGU Medal Lectures

Louis Agassiz Medal
Eric W. Wolff
ML4, 19:15-20:00, Room 16

John Dalton Medal
Jeffrey J. McDonnell
ML12, 18:30-19:30, Room 31

Ralph Alger Bagnold Medal
Gerard Govers
ML6, 17:45-18:30, Room 19

Vilhelm Bjerkness Medal
J. Ray Bates
ML8, 13:30-14:15, Room 28

Outstanding Young Scientist Lecture
Andreas Philipp Weigel
ML28, 10:30-11:15, Room 13

Christiaan Huygens Medal
Valery Korepanov
ML15, 19:15-20:15, Room 4

Jean Baptiste Lamarck Medal
Maurice E. Tucker
ML16, 19 :00-20 :00, Room 36

Augustus Love Medal
Ulrich R. Christensen
ML17, 19:00-20:00, Room 17

Vening Meinesz Medal
Susanna Zerbini
ML18, 19:00-20:00, Room 26

Hannes Alfvén Medal lecture
by Lev Zelenyi
for Albert A. Galeev
ML5, 13:30-14:15, Room 5

Louis Néel Medal
Yves Guéguen
ML22, 19:00-20:00, Room 33

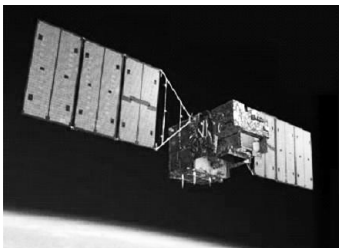
Stephan Mueller Medal
Stefan M. Schmid
ML20, 17:30-18:15, Room 16

Robert Wilhelm Bunsen Medal
Jonathan F. Stebbins
ML9, 15:30-16:15, Room 23

Philippe Duchaufour Medal
Fiorenzo Cesare Ugolini
ML14, 11:15-12:00, Room 24

Satellite remote sensing of atmospheric carbon dioxide and methane

The upcoming launch of two satellites, OCO and GOSAT, promise a revolutionary improvement in our ability to monitor the greenhouse gases carbon dioxide (CO_2) and methane (CH_4). To date, significant uncertainties remain in our knowledge of global CO_2 and CH_4 cycles. As a result, many of the observed year-to-year changes in the atmospheric growth rate of these gases are poorly understood. The large number of measurements and global coverage as provided by these new satellite instruments will lead to a much better understanding of atmospheric CO_2 and CH_4 evolution, which is a prerequisite to climate change prediction. **AS3.16, Tuesday 15:30-19:00, Room 12**
Convener: Sander Houweling



How to manage natural hazards?

This session puts a paradoxical development at its centre: Despite a constant accumulation of knowledge about natural hazards, the damage and losses caused by them are not decreasing. On the contrary, for most hazards they are constantly increasing. With speakers addressing risk assessment, economic aspects and societal decision making, the floor is open for a far-reaching debate.

NH10.13/EG6, Tuesday 13:30-17:00, Room 30
Convener: Sven Fuchs

Long term weather forecasts put to the test: How accurate is a prediction?

The continuing advancement of computer technology continues to enable new possibilities for weather forecasting. The weatherman might still be wrong about tomorrow, though. Andreas Weigel studies forecast accuracy and methods, as well as ways to improve their performance. Weigel, researcher at the Swiss Office of Meteorology and Climatology, works on improving ensemble prediction systems used for seasonal weather forecasting. Ensemble forecasts can be improved by examining the error in past forecasts. With these past error statistics, the model can then be corrected. Moreover, different types of models can be applied, and their results combined. In his lecture Weigel will discuss their potential and limitations. **ML28, Outstanding Young Scientist Lecture, Tuesday 10:30-11:15, Room 13**
Convener: Gerrit Lohmann

Ocean acidification: An underestimated problem

Atmospheric CO_2 is partially absorbed by the ocean. Currently, the ocean has taken up about one-third of human carbon emissions, some 430 billion tons. This absorption has significantly lowered greenhouse gas levels in the atmosphere. However, oceanic CO_2 also lowers the pH of the water, posing a little-known but potentially devastating threat to ocean life. The film 'A Sea Change', the first documentary about ocean acidification, will be screened at the EGU 2009. The film will be introduced by Dr Jelle Bijma and María José Viñas. The screening will be followed by a Questions and Answers with panellists Jelle Bijma, Gert-Jan Reichart, and Michiko Hama of the European Science Foundation. **SC8, Tuesday 12:15-13:15, Room D**
Convener: Angela Alston

Uncertainty should be climate research focus

Most climate research aims for best estimates of climate itself. But the associated uncertainty may be just as important. Uncertainty will increase if one combines climate estimates from different sources that vary in space and time. This session encourages climate researchers to think and talk about understanding, quantifying and modelling the various sources of uncertainty that have an impact on their work. **CL50, Tuesday 13:30-17:00, Room 27**
Convener: Caitlin Buck

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