

International Environmental Change Workshop Series: Earth Systems and Climate Change

The International Environmental Workshop Series is a series of 4-day teacher workshops on global environmental change to be presented during the summers 2003, 2004, 2005, and beyond. Each workshop in the series is co-sponsored and co-directed by the Wright Center for Innovative Science Education and will focus on environmental change from the perspective of one of Earth's spheres: the cryosphere, the biosphere, the hydrosphere, the lithosphere, and the atmosphere. These workshops will enable teams of teachers (K-12th grade) to investigate environmental change through classroom instruction and hands-on involvement in current scientific field and/or laboratory research. Workshop locations are currently scheduled for Montana, USA (the cryosphere, summer 2003), Maine, USA (the biosphere, summer 2004), the Caribbean (the hydrosphere, summer 2005), and potential workshops will be presented across the USA in future summers.

Goals for the workshop are;

- To encourage teachers to take a global systems approach when thinking about environmental change
- To provide direct experience with environmental change research and education.
- To enhance networking with other international educators.

Kindergarten to 12th grade teachers are eligible to apply in teams of two for participation in each workshop. Each team of teachers may come from an individual school, school district, state, local region, or country. In the event that not all participant slots are filled by teachers participating with a team then individual teachers may be considered for participation (teachers that apply in teams will be given consideration over teachers that apply as individuals). Team members should consist of science teachers and non-science teachers. Currently space is available for twenty teachers total per workshop. Each team of teachers, attending a workshop, will be required to disseminate that workshop's information to at least 25 other educators and develop one educational piece based on the workshop they attend. Materials developed from the workshops will be shared with all other participants and be made available to the worldwide educational community via the Wright Center web site.

Each team will work together with the Wright Center to develop the materials from each workshop specific to their needs. The teams can also provide information on the workshops, materials from each workshop, and support for teachers in their home area. Each teacher on the team will greatly benefit from participation in the individual workshops, from collaboration with team colleagues, and from the sharing of information among the entire group of teams. This workshop series will directly involve teachers from many different disciplines in research and provide them with a more complete picture of the complex and multi-faceted nature of understanding and teaching environmental change. Through participation of the teachers during the workshop series and the dissemination of the material produced to 25 additional teachers per team of

workshop participants, the workshop materials/information will be disseminated to over a thousand additional educators.

When possible, the team of ten teachers should be supported by a local, regional, state, or country level education organization that can help organize the team members and help disseminate information.

International Environmental Change: Workshop I - The Cryosphere July 7th - 11th, 2003, Kalispell, Montana, USA

In this four-day workshop, teachers from across the globe will participate in interdisciplinary teams to explore first-hand how environmental change can be interpreted from glaciers and the land surface. Teachers will participate in scientific data collecting on Grinnell Glacier, learn how GIS is used to monitor cryospheric change, interpret polar and temperate glacier data, and understand how environmental science can be used in non-science classrooms. Participants will also collaborate with international colleagues to develop materials custom-made for their science or non-science classrooms. This is one of a five-part workshop series on interpreting environmental change in the natural environment. The workshop is co-sponsored by the Crown of the Continent Learning Center at Glacier National Park and the Wright Center for Innovative Science Education, Tufts University.

International Environmental Change: Workshop II - The Biosphere June 25th - July 1, 2004, Wells, Maine, USA

In this four-day workshop, teachers from across the globe will participate in interdisciplinary teams to explore first-hand how environmental change can be interpreted from changes in the biosphere. Teachers will participate in scientific data collecting, learn how GIS is used to monitor biospheric change, interpret data, and understand how environmental science can be used in non-science classrooms. Participants will also collaborate with international colleagues to develop materials custom-made for their science or non-science classrooms. This is one of a five-part workshop series on interpreting environmental change in the natural environment. The workshop is co-sponsored by the Wright Center for Innovative Science Education, Tufts University.

International Environmental Change: Workshop III - The Hydrosphere June 26th - 30th, 2005, Caribbean Marine Research Center, Lee Stocking Island, Bahamas

In this four-day workshop, teachers from across the globe will participate in interdisciplinary teams to explore first-hand how environmental change can be interpreted from changes in coral reefs and the ocean. Teachers will participate in scientific data collecting on coral reefs, learn how to monitor ocean temperature and salinity change, interpret data, and understand how environmental science can be used in non-science classrooms. Participants will also collaborate with international colleagues to develop materials custom-made for their science or non-science classrooms. This workshop is co-sponsored by the Perry Institute.

Future potential workshops

International Environmental Change: Workshop IV - The Lithosphere

In this four-day workshop, teachers from across the globe will participate in interdisciplinary teams to explore first-hand how environmental change has resulted in changes in the lithospheric. Teachers will participate in scientific data collecting, learn how GIS is used to monitor land surface change, interpret data, and understand how environmental science can be used in non-science classrooms. Participants will also collaborate with international colleagues to develop materials custom-made for their science or non-science classrooms. This is one of a five-part workshop series on interpreting environmental change in the natural environment.

International Environmental Change: Workshop V - The Atmosphere

In this four-day workshop, teachers from across the globe will participate in interdisciplinary teams to explore first-hand how environmental change can be interpreted from changes in the atmosphere. Teachers will participate in scientific data collecting and analysis, learn how GIS is used to monitor land surface changes, and understand how environmental science can be used in non-science classrooms. Participants will also collaborate with international colleagues to develop materials custom-made for their science or non-science classrooms.