

**T**he Center for Integrated Study of the Human Dimensions of Global Change involves a collaboration of over forty scientists from twenty institutions in eight countries around the world. Center activities are coordinated from the Department of Engineering and Public Policy at Carnegie Mellon University in Pittsburgh, Pennsylvania, USA.

Our philosophy and focus are reflected in our name:

**Integrated Study** – because real world problems do not respect disciplinary boundaries. They demand the combined and coherent application of social and natural science knowledge.

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**Human Dimensions** – because both the deliberate and reactive actions of humans shape the world around us. These actions are motivated by aspirations about individual, social and environmental welfare and informed by subjective perceptions and an evolving understanding of the world.

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**Global Change** – because local human activities often follow a repeated pattern on a global scale. Local decisions can and do have global consequences, often unintended. In many domains, existing national and international organizations are unable to exercise adequate oversight or control.

**The Center has four principal objectives:**

- to bring together fields of study that reflect our understanding of the patterns of human activity and environmental change in the real world, but which have been treated as disparate disciplines in traditional academic practice
- to explore the limitations of current knowledge and analytical methodology in application to problems of global environmental change and develop new approaches for their framing and analysis
- to study how assessments are used by decision-makers and develop new methods for framing and analyzing problems in public policy which involve substantial natural and social scientific issues
- to conduct outreach activities including the development of new curriculum material for colleges, communication brochures for the general public, and focused briefings for government and industry decision-makers



**Selected research projects:**

- assessment of impacts from climatic extremes, variability, & change, and of the value of climate forecast information
- understanding how objectives, expectations, and preferences evolve over time and developing new adaptive paradigms for long-term environmental decision-making
- development of coupled and dynamic models for climate, atmospheric chemistry, and vegetation cover
- elicitation of expert opinion (and uncertainty) about climate change and ecological change
- exploration of different approaches for characterizing technical change as an endogenous process in policy assessments
- geographically explicit integrated assessments of land use in the Yucatan, Bali, and the Ganges River basin
- integrated assessment of climate change and analysis of adaptive management techniques for mitigating its effects
- integrated assessment of public health as affected by development, air pollution, and climate change
- regional assessments of development, technology choice, environmental change, and science-policy interactions in India and China
- analysis of the interactions of policies to control traditional pollutants and greenhouse gas emissions, e.g., how the electricity sector's response to near-term air pollution requirements may affect CO<sub>2</sub> emissions in the future
- development of methods to scale up regionally specific assessments to determine global impacts
- evaluation of barriers to the utilization of global change research