The Nature Conservancy
Protecting nature. Preserving life.™

Climate Wizard

Practical climate change analysis for science, management, and policy

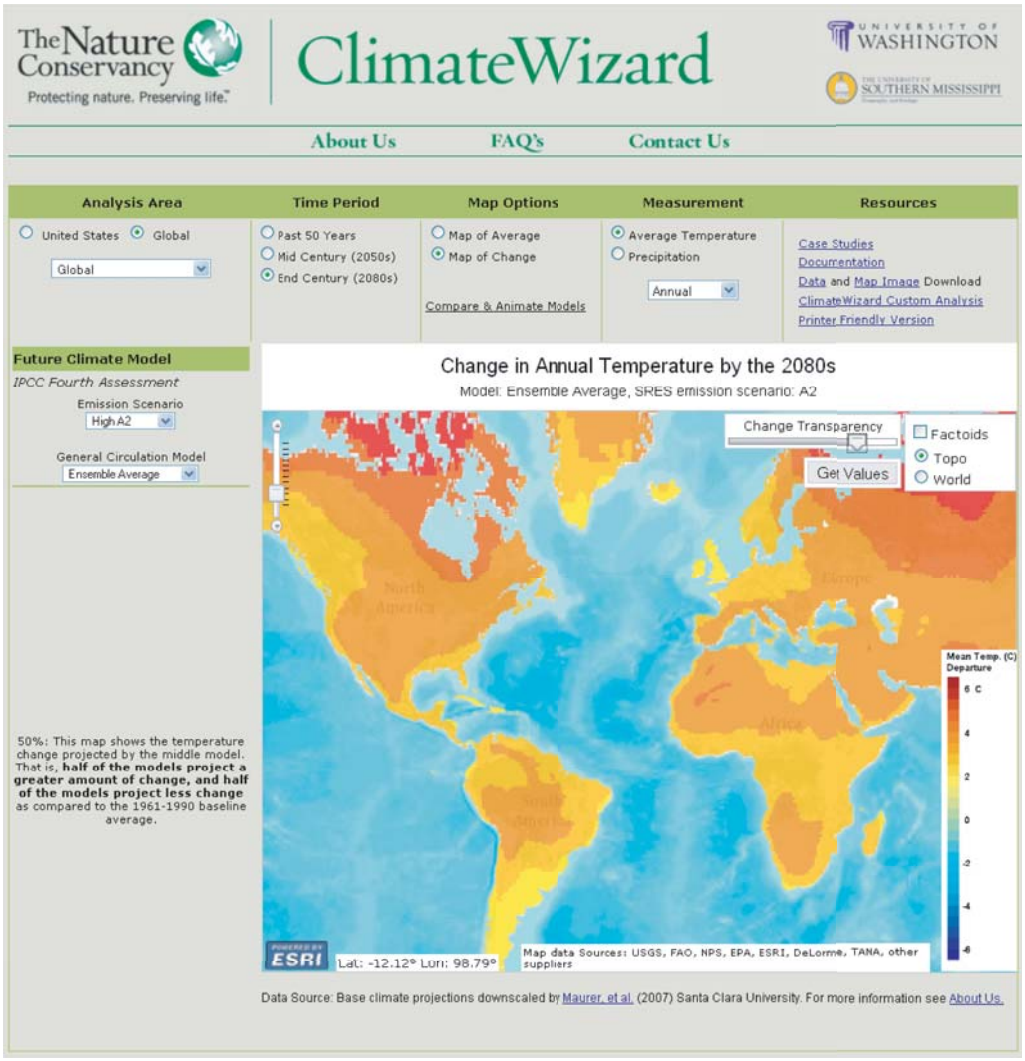
www.climatewizard.org

Scientists, managers, and policy makers need the ability to assess the potential effects of climate change on specific ecological systems within specific geographic areas at relevant spatial scales. Although large amounts of data exist regarding how climate has and is projected to change, these data are stored in databases that can be difficult to access. Furthermore, although analytical techniques are available for quantifying the potential effects of these changes, many require significant computing resources and analytical expertise.

Here we provide an example of how computer-based technologies can be used to develop tools that make climate change analysis more accessible, practical, and useful. Specifically, we provide a framework for practical climate-change analysis, and present an internet-based climate data analysis and mapping tool, which we call Climate Wizard. Climate Wizard is a web-based analysis tool that uses state-of-the-art climate models and advanced statistical analysis to examine both the current and future climate conditions of any place on the Earth. It is designed to run at a central location where large datasets can be stored and powerful computers can run intricate statistical analyses. The modular programming framework is designed so that additional climate data can be seamlessly added as they become available.

The Conservancy's goal is to make the impacts of climate change real for people by creating an intuitive, user friendly tool that:

- Provides access to a wide range of climate data for all levels of practitioners;
- Summarizes climate data that address relevant questions for specific geographic locations; and
- Creates products that clearly demonstrate changing climate conditions and supports the assessment of climate impacts.



The Climate Wizard uses two common approaches for representing climate change data: (1) climatic departures - comparing climate in a given year or time period to a baseline period and (2) trend analysis - calculating a statistical rate of change over a particular time period.

Currently, Climate Wizard offers future climate assessments based on models that predict temperature and precipitation for a region. This is particularly useful for agriculture-dependent regions and those concerned about increasingly frequent and severe droughts or flooding. Climate Wizard has already been useful in informing conservation and land use planning efforts to ensure long term resilience in the face of coming climate impacts, and the tool is beginning to inform conversations with opinion leaders and public officials across the country.

For more information email: climatewizard@tnc.org