

# ABCG Adaptation Workshop: Climate Tools

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**The Wallace Initiative** is a collaboration of WWF-US, Tyndall Climate Change Centre (University of East Anglia), Center for Tropical Biodiversity and Climate Change and Research Center (James Cook University), National Climate Change Adaptation Research Facility, Global Biodiversity Information Facility, and Center for Tropical Agriculture. It models projections of species changes under different climate scenarios and maps refugia, range shifts and extinction risks. Around 50,000 species have been modeled globally, including crops and natural resource species. The web portal is in testing and guidance is being prepared; Wallace Initiative will be fully launched around September 2011. WWF has started to pilot it in mainstreaming climate adaptation into conservation plans in the Amazon, Madagascar, and elsewhere.

**ClimaScope** is a tool that provides ready access to climate scenario projections, giving information on climate, and related uncertainty. It is designed for policy makers and practitioners, including in vulnerable developing countries. It provides access to data from 18 climate models, for the new IPCC representative concentration pathway (RCP) scenarios ranging from stabilization from 490 pp to >1300 ppm for six variables at a resolution of 0.5° latitude and longitude, as well as the older IPCC SRES scenarios. It will be launched in the last quarter of 2011. It will be possible to integrate other data layers into ClimaScope, including, for example, socio-economic data on poverty, health, disaster risk and food security, as well as project sites, river basins, vegetation types, etc.

The **WCS Albertine Rift Climate Assessment** employed numerical modeling tools developed for other applications to provide insights into how regional ecological systems and human livelihoods might respond under changing climatic conditions over the course of the present century. First we retrieved and downscaled IPCC multi-model ensemble output of standard climate parameters under two SRES emissions scenarios (A2 and B1) for the entire Albertine Rift domain. We then used this as inputs to two types of dynamic vegetation models. (1) The Lund-Potsdam-Jenna (LPJ) model is one of a number of Global Vegetation Models currently used to simulate changes in vegetation and associated biogeochemical processes in response to climate change. We utilized the LPJ model to develop an understanding of the potential impacts of climate change on the ecosystem function of the Albertine Rift, in addition to evaluating the potential impacts on major habitat (vegetation) types. (2) The Decision Support System for Agro-technology Transfer (DSSAT) is a global agricultural management model, which incorporates soil, climate, crop, phenotype and management data to determine agricultural productivity. In the model that was constructed for our project, only the climate component changed, therefore predictions assume that management, soils & crop phenotypes will remain in their present state. These outputs were then compiled into spatially and temporally explicit products through GIS procedures. The products thus derived now offer a wealth of information that can aid in informing adaptation planning far beyond what the original inputs -- temperature, precipitation and cloud cover variables - can offer.

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**Flowing Forward:** Written by WWF and commissioned by the World Bank, *Flowing Forward* provides guiding principles, processes, and methodologies for incorporating climate change adaptation into water sector projects. Although the initial focus of the report was freshwater ecosystems, the general methodological framework developed can be used more generally for conducting ecosystem vulnerability assessments. The Flowing Forward approach to vulnerability assessments has been piloted in many locations, including the Indrawati Subbasin in Nepal, the Siphandone-Stung Treng Region of the Mekong and the Okavango River Basin. A copy of the report is available online at [www.floatingforward.org](http://www.floatingforward.org).

**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. Pre-calculated map products are viewable through a map interface where the user can easily toggle between a variety of climate conditions relating to different greenhouse gas emission scenarios for two future time periods. Additionally the user has the ability to examine the statistical variations of 16 different general circulation models used to generate these future climate projections by displaying individual model results or selected model combinations. Since the large climate datasets are stored and analyzed remotely on powerful computers, users of the tool do not need to have fast computers or expensive software, but simply need access to the internet. Using web technologies to develop tools that make climate change analysis more accessible scientists, managers, and policy makers now have the ability to assess the potential impacts of climate change and help guide decisions and actions to prepare for and mitigate those impacts to natural systems and the services they provide. Climate Wizard partners include The Nature Conservancy, Climate Central, University of Santa Clara, University of Southern Mississippi, ESRI and the University of Washington. [www.climatewizard.org](http://www.climatewizard.org)



ABCG's members are U.S.-based international conservation NGOs with field activities in Africa. ABCG's mission is to tackle complex and changing conservation challenges by catalyzing and strengthening collaboration, and bringing the best resources from across a continuum of conservation organizations to effectively and efficiently work toward a vision of an African continent where natural resources and biodiversity are securely conserved in balance with sustained human livelihoods.