



# The Great Green Wall

The Largest Adaptation Project in  
Africa?

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# The Great Green Wall

- Eleven countries of the Sahel have agreed to work together to address desertification and land degradation, which are exacerbated by climate change, under the rubric of the Great Green Wall (GGW).
  - They will address institutional and policy barriers that hamper efforts of reversing these trends
- Fully endorsed by African heads of state; each country has a National Agency for the Great Green Wall to develop and implement
- WWF is working in partnership with Michigan State University, African Forest Forum, GOFC Gold, NEPAD, country partners, and the WWF Network to support the technical and scientific decision support functions critical for successful implementation of the GGW



# WWF's Decision Support Portfolio: Science and Technology Tools to Support Decision-makers

## Three Critical Information Challenges:

1. What is actually happening on the ground, now – using earth observations and remote sensing, based on remote sensing and earth observation satellite technologies
2. What is going to be (or what will survive) on the ground in the future – using climate impact assessment modeling, based on the most up to date IPCC-approved science
3. What should be planted and managed given local realities and what people are willing or able to do – using best practices and learning dissemination, based on the latest ICT tools



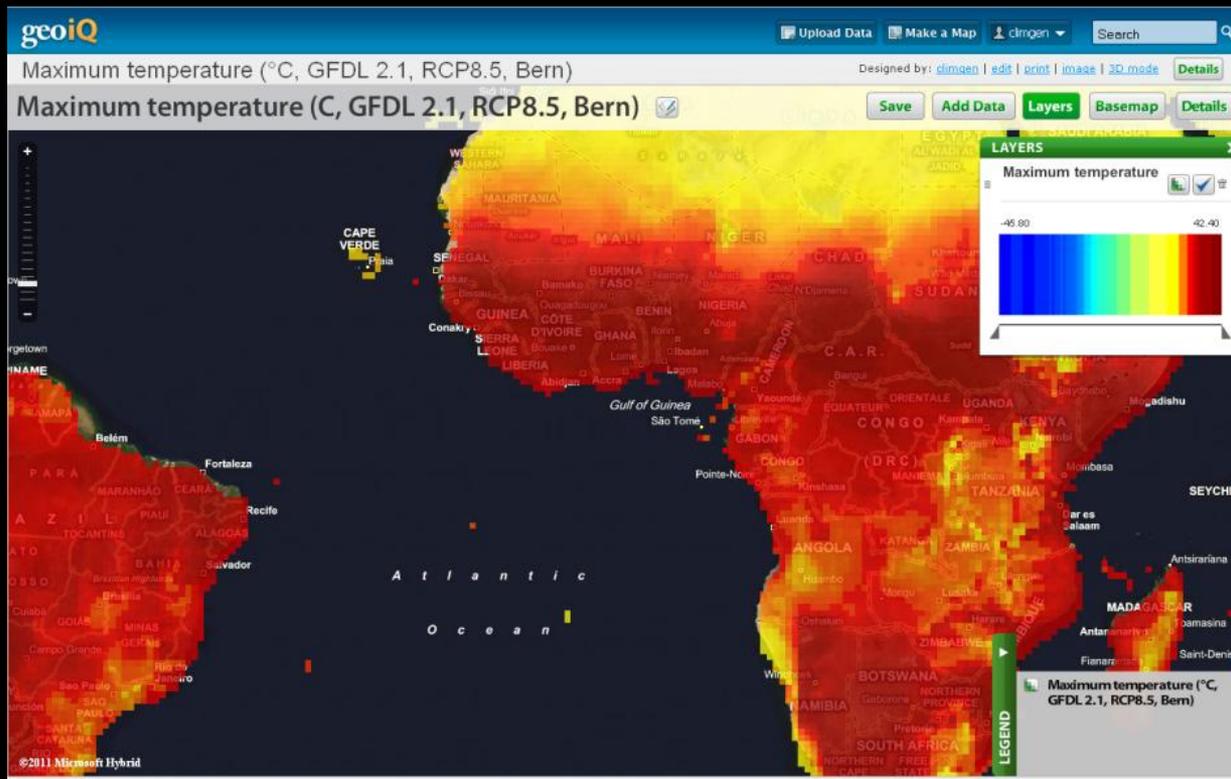
# Adaptation: Critical

- WWF will bring together
  - Climate change information created by General Circulation Models (GCMs)
  - Plant and animal physiological characteristics and geographic distribution
  - And combine this with best practices and learning/dissemination throughout our networks in the GW, while measuring and monitoring change on the ground through remote sensing and earth observations
- We work with policy and decision makers, through NEPAD and in country projects, to examine potential climate change impacts and to develop effective adaptation strategies – including deciding which species to use in projects from the list of “official” Great Green Wall Species.



# Tools for Adaptation Modeling: ClimaScope

- Maps, charts and data on projected global climate changes.
- From a variety of potential emissions scenarios (18 GCMs).
- Provides climate change projections for a selected area that include:
  - Temperature (min, max, mean, extremes), precipitation, drought return rates, sea surface temperature





# Tools for Adaptation Modeling: Wallace Initiative

Mapping species range shifts, refugia and climate migratory pathways, including 50,000 species and 50 major food crops

By integrating climate, species and expert information it is possible to examine potential climate change impacts on species of interest in the Great Green Wall Initiative and use this information in developing effective adaptation strategies.

The screenshot displays the Wallace Initiative web application interface. At the top left is the Wallace Initiative logo, featuring a bird and the text "Wallace Initiative". To the right are links for "About us", "Contacts", and "Help", and a "Demonstration Site" link. Below the header is a navigation bar with dropdown menus for "Biodiversity data" (Plantae, Caparraceae, Boscia, Boscia senegalensis) and "BioClimate layers" (-Timelines-, -GCM-, -Emission Scenario-, -Bioclimate Variable-). The main area is a map showing the distribution of Boscia senegalensis across Africa and South America. The map is overlaid with a green shaded area representing the species' range. A legend on the right side of the map shows the current distribution and several future projections under different scenarios (e.g., 2050, 2080, 2050, 2050, 2050, 2050, 2050). The map includes labels for various countries and regions, and a "CLEAR" button is visible in the top right corner of the map area. At the bottom, there is a footer with "Map data ©2011 Europa Technologies, Geocentre Consulting, INEGI, Tele Atlas, Wharfedale Software Pty Ltd - Terms of Use".



# Example: The Climate Impact on *Boscia salicifolia*



- *Boscia salicifolia*, current range



- *Boscia salicifolia* : new range in 2080 (purple) significantly reduced, IPCC climate scenario (A1B scenario)



# The Partners



(Pan African Agency for the Great Green Wall)

