

AIACC Africa Regional Group Projects

**AIACC Climate Scenarios Workshop
Tyndall Centre
15-25 April 2002**



	AF06	AF14	AF20	AF23	North Africa
	Nigeria ,Mali	Sudan	West Africa	Nigeria ,Niger	Egypt, Tunisia, Morocco
Objective	Rural, livelihood and drought Building capacity and technology transfer	Agriculture system, Environmental management, extreme event Building capacity and technology transfer	Regional climate modelling , GCM assessment, Building capacity and technology transfer	Food security , Crop modelling, Building capacity and technology transfer	Food security, regional validation, water resources
Climate data	T_x, T_m, PPT , rainy days, length for the rainy season, PET,	T_x, T_m, PPT , rainy days, length for the rainy season, PET, Radiation	T_x, T_m, PPT , T , upper air data, satellite data , 4 GCM outputs	T_x, T_m, PPT , rainy days, length for the rainy season, PET, Radiation	T_x, T_m, PPT , rainy days, length for the rainy season,, Radiation
Temporal and Spatial	Daily Regional level	Daily National level	4 times Daily data Regional level	Daily Regional , farm level	Daily Regional level
Non-climate data	Populations growth rate, economy growth rate, etc.	Populations growth, livestock , trades ,GDP, etc.	Non	Populations growth rate, economy growth rate, employment, etc.	Populations growth, livestock , trades ,GDP, GDP per capita, access to services.
GCM	4 GCMs, Annual, 2020-2100 T, PPT	4GCM daily 2020-2050 T, PPT, cloud	At least 4 6 hrs interval, up to 2100 6 parameters	4 GCM Daily 2020-2050 T, PPT, cloud	4 GCMs Monthly 2020-2050 T, PPT

AF07	AF38	AF42	AF47	Indean Ocean	Lake vectoria basin
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SA, Zambia	Malawi, Zambia, Mozambique, Zimbabwe	Botswana	South and west Africa	Seychelles, Comoros	Kenya, Uganda, Tanzania
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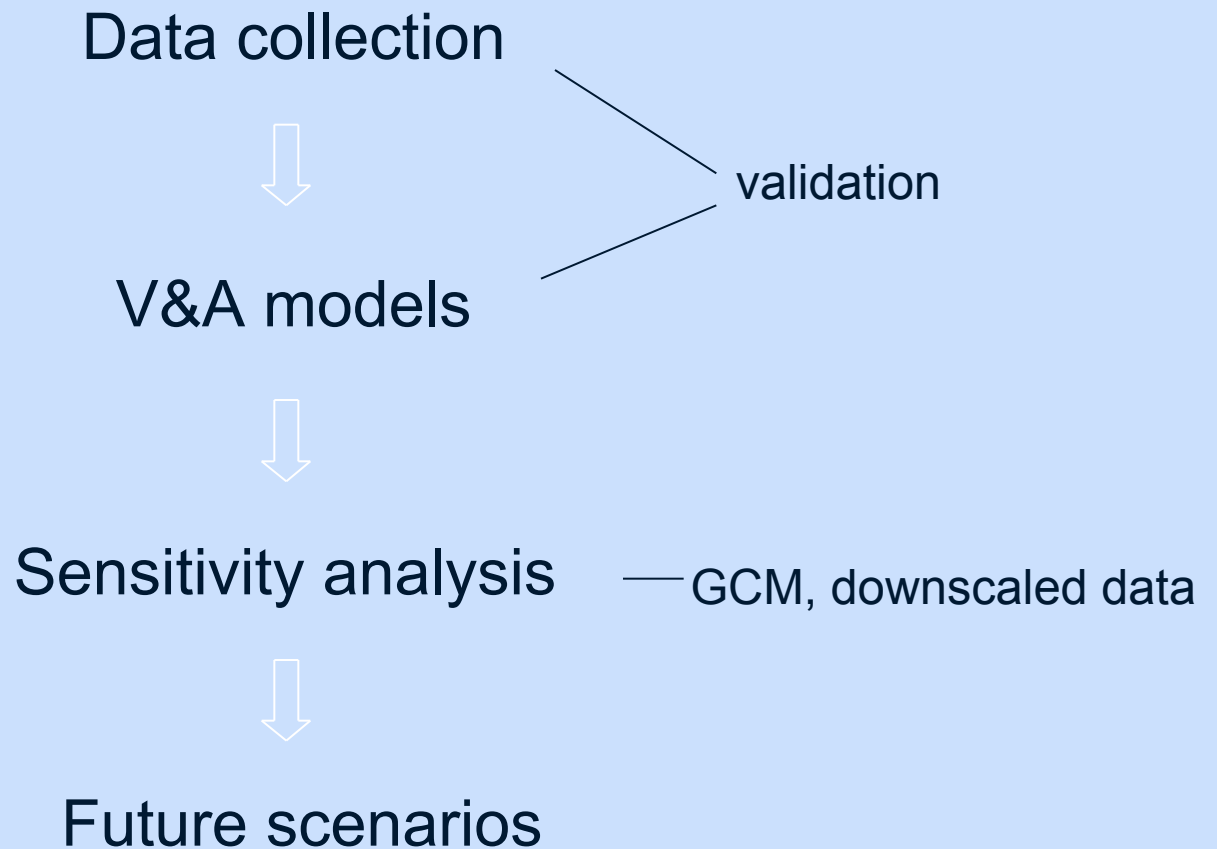
Objective	Generating CC scenarios for sub-Saharan Africa	V&A assessment for the Miombo region	I, V&A assessment in the Limpopo Basin	Cost benefit analysis of V&A studies	V&A assessment of the tourism sector for Island States	I, V&A assessment on water and health
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Climate data	3 GCM outputs based on A2, B2 scenarios	T_x, T_m, PPT , U2 discharge, sun shine hrs, Rh, lake level	T_x, T_m, PPT , U2 discharge, sun shine hrs, PET, Rh, lake level	T_x, T_m, PPT , U2 discharge, sun shine hrs, PET, Rh, lake level	T_x, T_m, PPT , U2 PET, Rh, sst, SLR, wave intensity	T_x, T_m, PPT , U2 discharge, sun shine hrs, PET, Rh, lake level
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Temporal and Spatial	Daily at GCM scale	Daily, monthly, annual Basin scale	Daily, monthly, annual Basin scale	Depending on data availability, Regional	Daily, monthly, annual, Country level	Daily, monthly, annual Basin scale
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Non-climate data	Incorporated in the SRES scenarios	Population growth, GDP and other economic indicators	Population growth, GDP, Agricultural production	Economic factors / indicators	Population growth, GNP, energy use / intensity	Population growth, Disease epidemiology (malaria), socio-economic indicators
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Approach



Observational Data

☼ Climatic data:

- Climate variables
- Source of data: national met. Bureaus, alternatively CRU, NCEP, NCAR
- Paying for data - cost of processing
- Baseline data period selected: 1961-1990 (?)

☼ Non climatic data:

- Diverse variables depending on project e.g. population growth, GDP, agricultural production, energy consumption
- some socio-economic factors already inherent in GCMs (SRES)

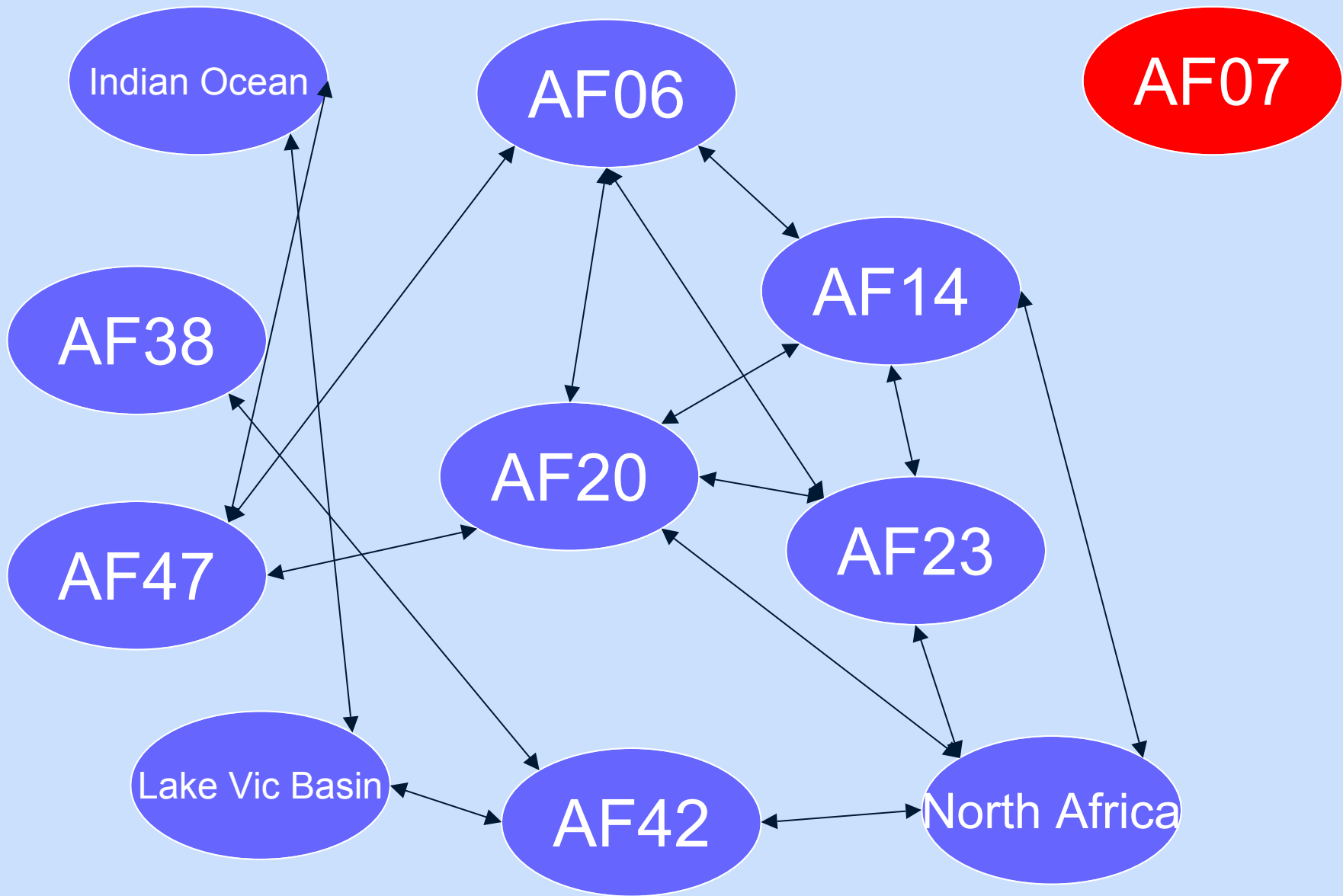
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Tools

- **Tools are project specific e.g EPIC (crop model), DSSAT (crop model), FAO-Index model (crop model), CLIRUN (water balance model)**
- **PRECIS, MAGICC/SCENGEN (to be decided)**
- **Additional tools such as impact models may be developed specifically by projects**

Cross-project collaboration

- **Data to be distributed/provided by AF07 and AF20**
- **Communication amongst projects has led to some collaborations where possible**
- **Common approaches in methods, the sharing of knowledge and expertise**



Collaborative links

Obstacles to achieving scenarios

- **Data availability & access, data resolution, downscaling**
- **Uncertainty: of future emissions, changes in seasonal/interannual variability, GCM skill and spread-scenario assumptions**
- **Socio-economic scenario obstacles: based on many assumptions, political stability, high uncertainties**
- **Access to literature**

Actions to overcome obstacles

- **Project - have agreed to use GCM data for now (until RCM data available), and statistical downscaling**
- **Regionally - hold small workshops - on topics that arise as the projects progress**
- **AIACC - support MAGICC/SCENGEN, PRECIS models; speeding up process of getting output from GCM modelling centres, literature availability**

Desired Ongoing inputs

- **Xianfu - updating on tools e.g. MAGICC/SCENGEN**
- **AIACC - ongoing training or online tutorials e.g. UNIX, GIS, crop modelling; AIACC should be in contact with ACMAD, AGRHYMET and DMCs for data**
- **Regional mentors - availability and informing on new developments in the field.**

Recommendation

- **AIACC's strategies in getting modellers together to discuss projects and share ideas should be encouraged amongst other international funding organisations**
- **Establish a data base bank for daily observed data for base period 1960-2000**
- **Need for GCM output results for four base scenarios, such as rainfall, temperature on a daily basis**
- **Regional training initiative in climate change I, V & A methods**

