



First International Environment Forum for Basin Organisations

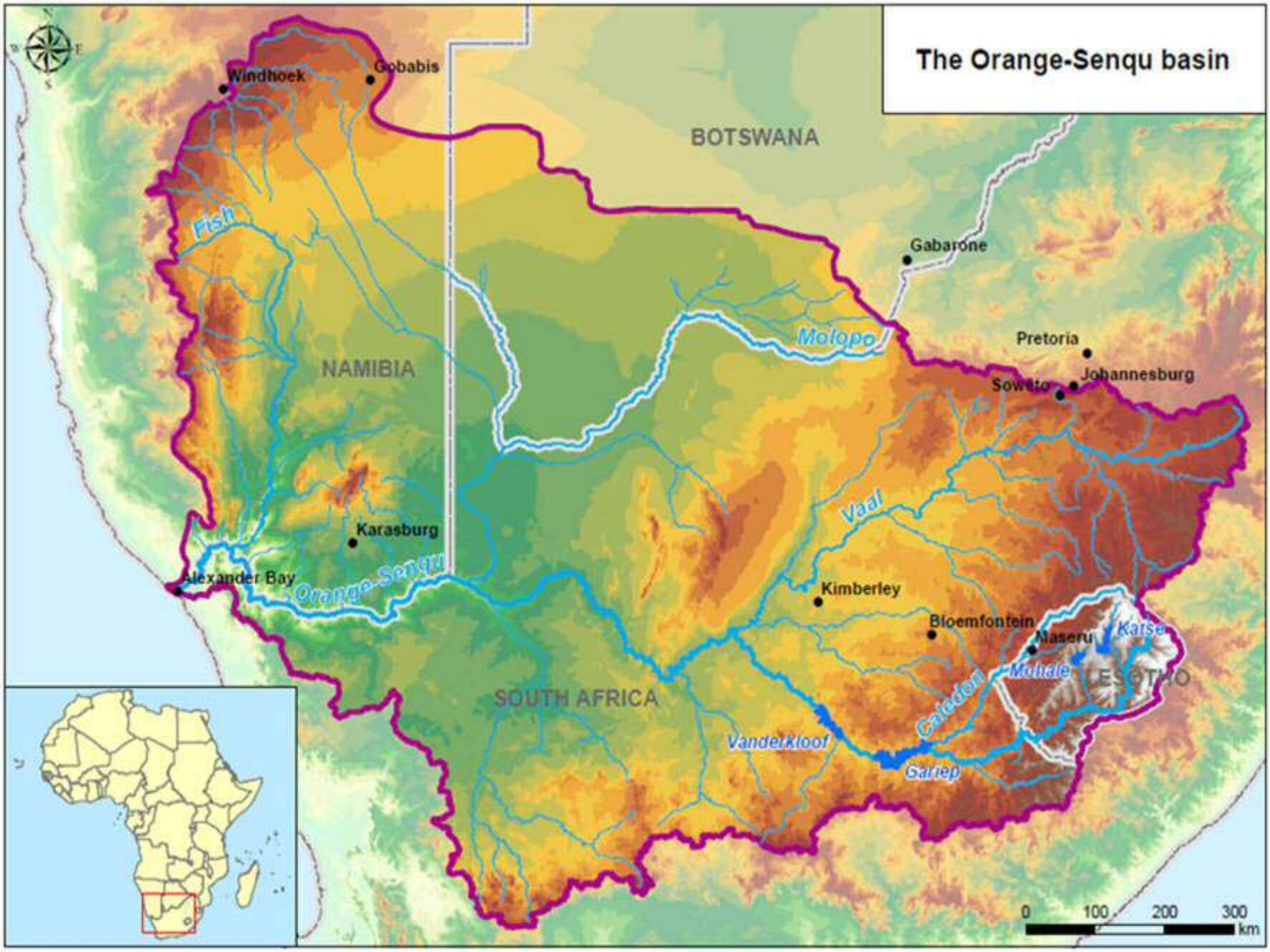
Towards Sustainable Freshwater Governance

Implementation of Water-Energy-Food Nexus – Lessons from the Orange Senqu River Basin

UNEP, Nairobi, Kenya, 26-28 November 2014

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Executive Secretary
Orange Senqu River Commission (ORASECOM)**

The Orange-Senqu basin





OUTLINE OF PRESENTATION

1. Basin Profile

2. Challenges :

- a. Energy sector.**
- b. Crop production.**
- c. Climate.**

3. Responses :

- a. Programmatic and Institutional.**

4. Reflections

Basin Profile

Basin Area : approx.
1 million sq km.

**Population
Depending on Basin
Water:** 19 million
(Earle et al. 2004).

**Population Living
Within Basin:** 14,27
million

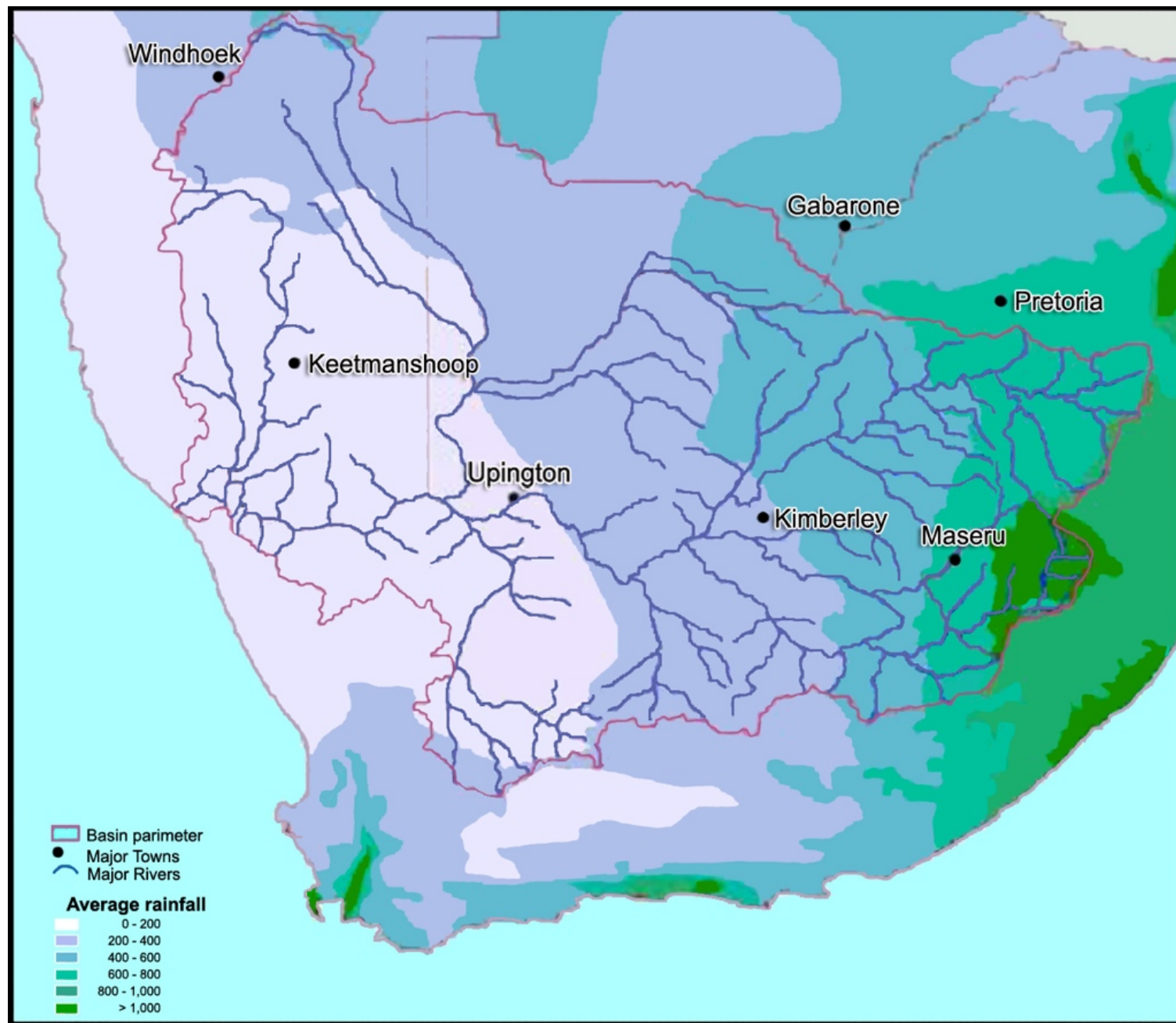
Basin States:

Botswana,
Lesotho, Namibia
and South Africa.





Rainfall/Precipitation Distribution



Energy Sector

- a. Power generation to reduce deficit (power outages).
- b. Increasing use of coal resources for power generation.



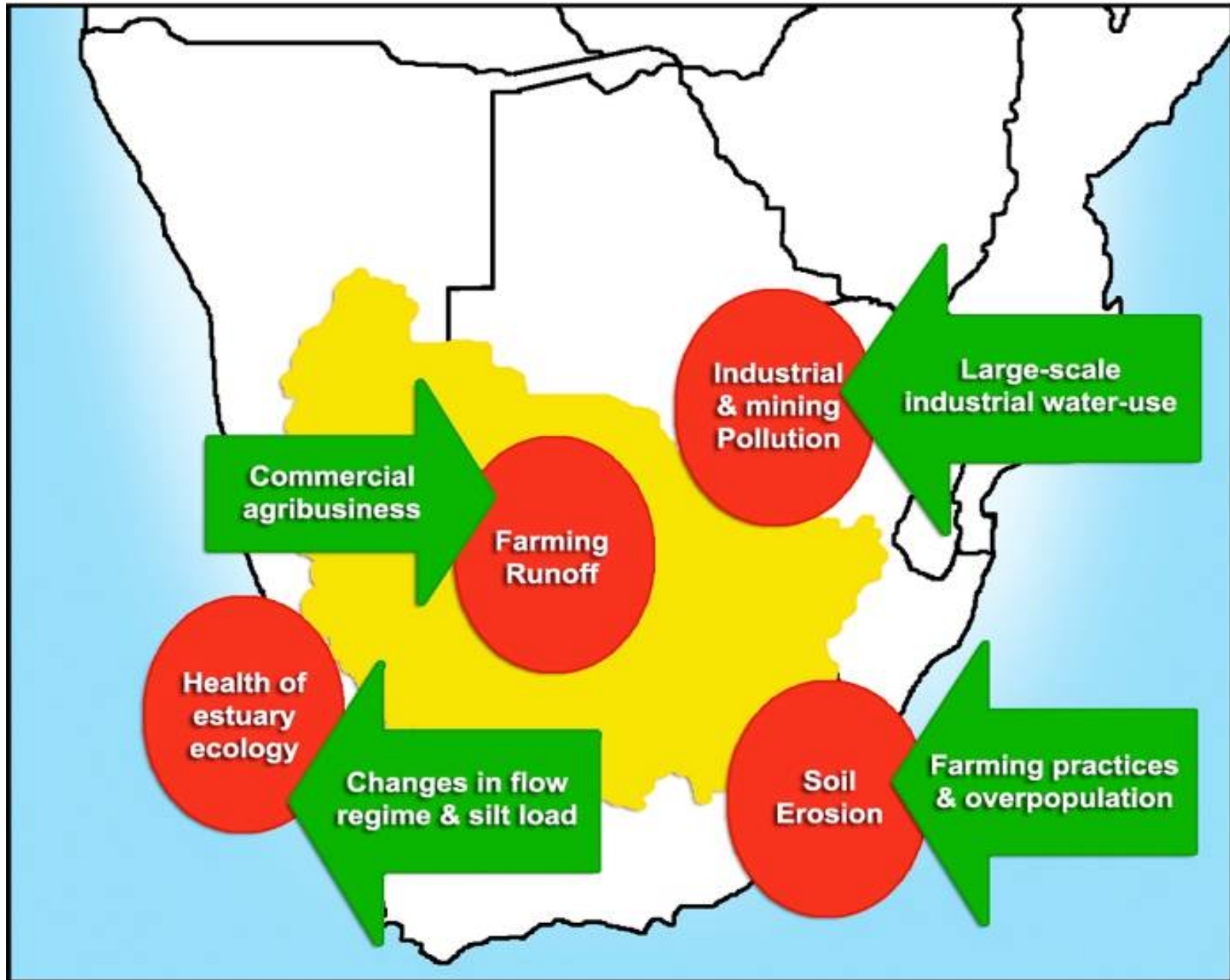
Crop Production

- a. Irrigation consumes more than two third of water resources.
- b. Growing demand in sector for crop production (food, feed, biofuel production).
- c. Increasing demand with rising temperatures (effect of changing climate).





Basin Challenges (summary)



Climate – temperature change

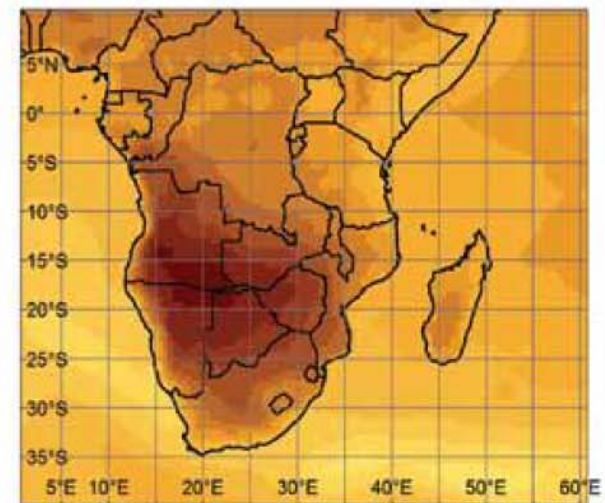
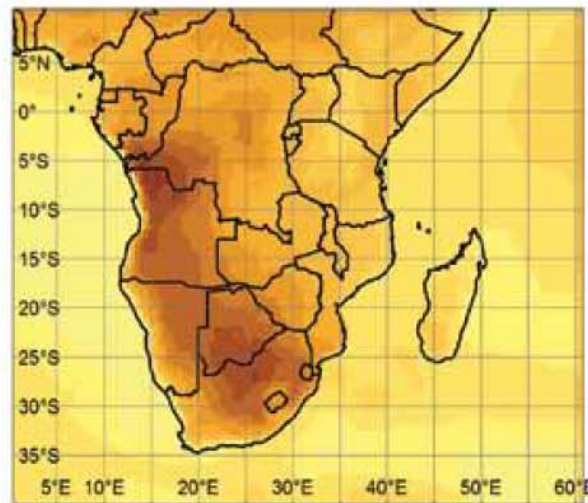
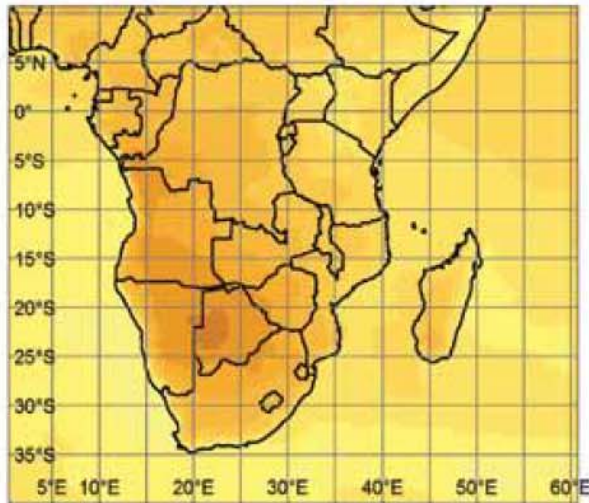
By 2050

Projected change in mean annual maximum temperature based on 6 dynamically downscaled GCMs

10th percentile

Median

90th percentile



degrees C per annum



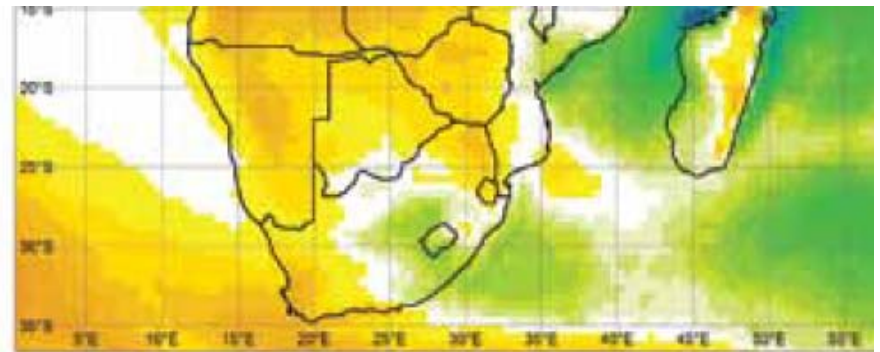
CSIR

our future through science

Created by Claire Davis, 2011

Climate – precipitation change

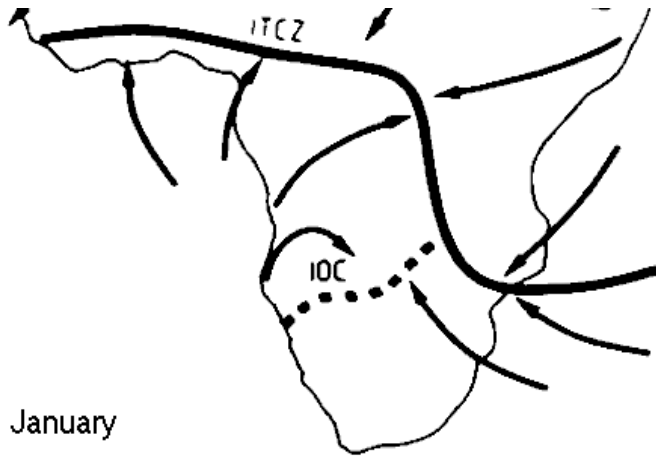
By 2050



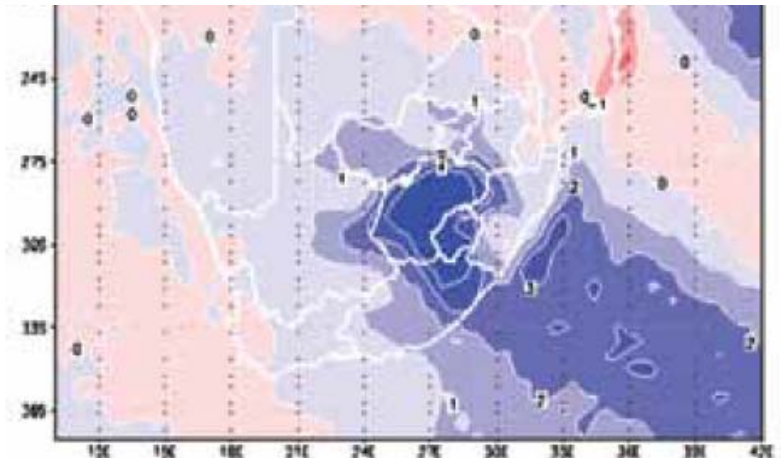
mm per annum



CSIR



January

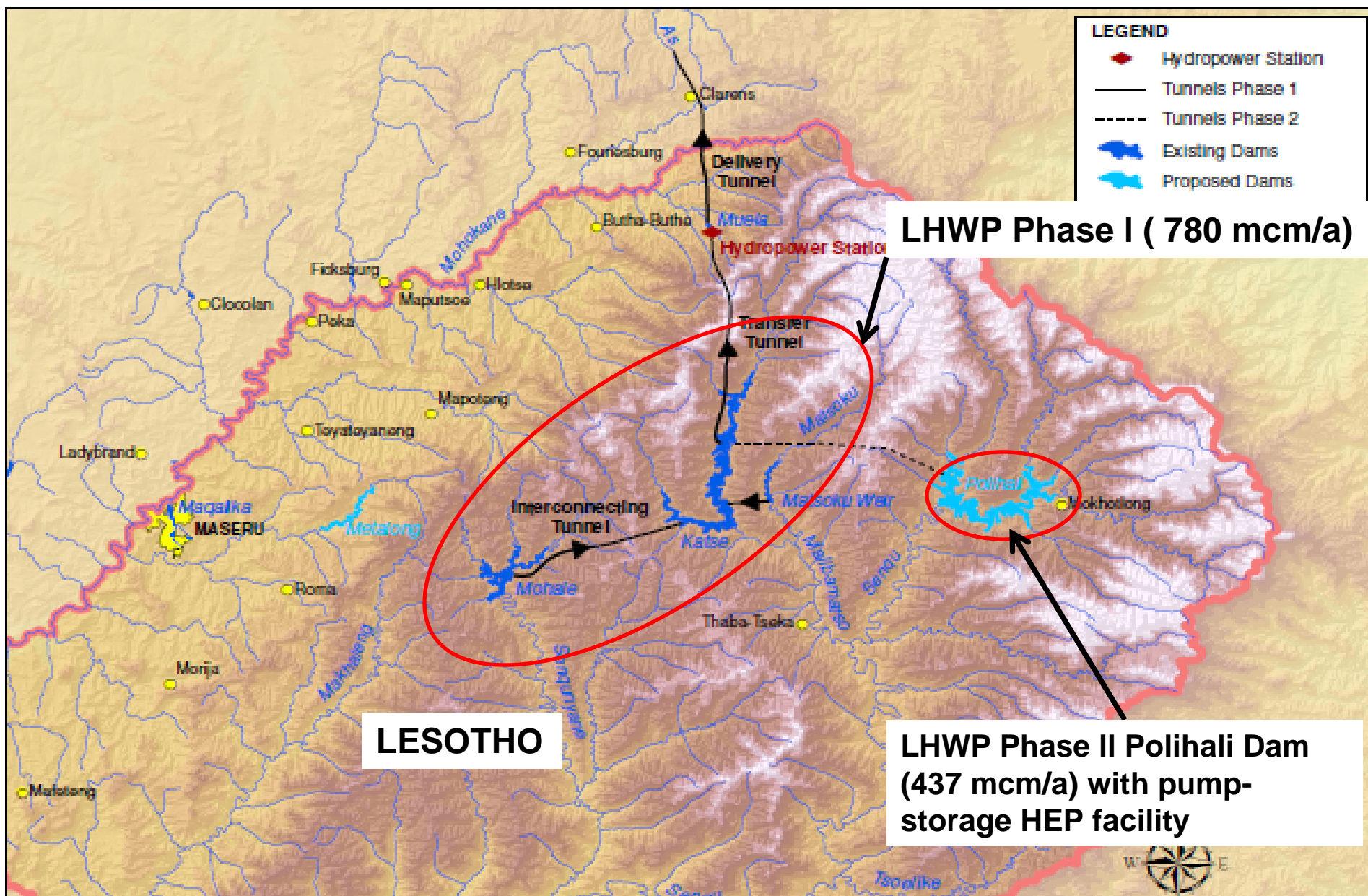


Basin Level – Joint IWRM Planning – ORASECOM

Table 4-1: Summary of strategic objectives

Central Objectives (CO 1 to 4)	Enabling strategic objectives (EO 1 to 5)	Cross-cutting strategic objectives (XO 1 and 2)
<ol style="list-style-type: none">1. Ensure the optimised sustainable management of the basins water resources2. Support socio-economic upliftment and eradication of poverty in the basin3. Ensure that the adverse effects of catchment degradation are reduced and the sustainability of resource use is improved4. Maximise security from water-related disasters (especially flood and drought)	<ol style="list-style-type: none">1. Put an adequate knowledge base in place,2. Build sufficient capacity and institutional strength,3. Promote high level of stakeholder engagement4. Ensure appropriate financing mechanisms are in place,5. Promote adaptive management and effective monitoring and evaluation systems.	<ol style="list-style-type: none">1. Promote the mainstreaming of adaptation to potential impacts of climate change into planned actions2. Ensure the mainstreaming of gender considerations into planned actions

Lesotho Highlands Water Project - LHWC



1. Botswana & South Africa:

-Cross border water supply projects for domestic, urban and livelihood needs - Joint Permanent Technical Committee.

2. Namibia & South Africa:

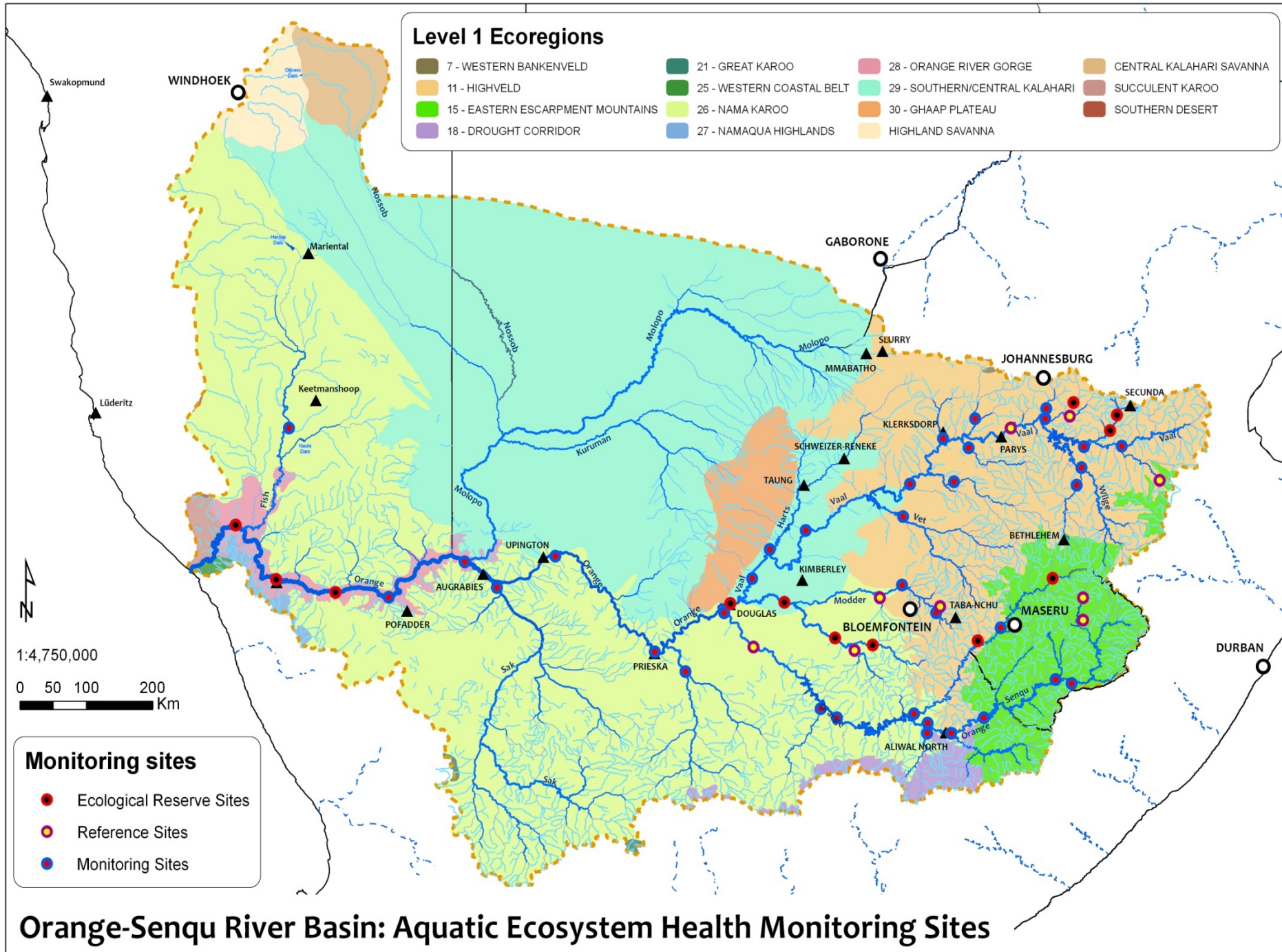
- Cross border & jointly managed irrigation facilities - Joint Irrigation Authority

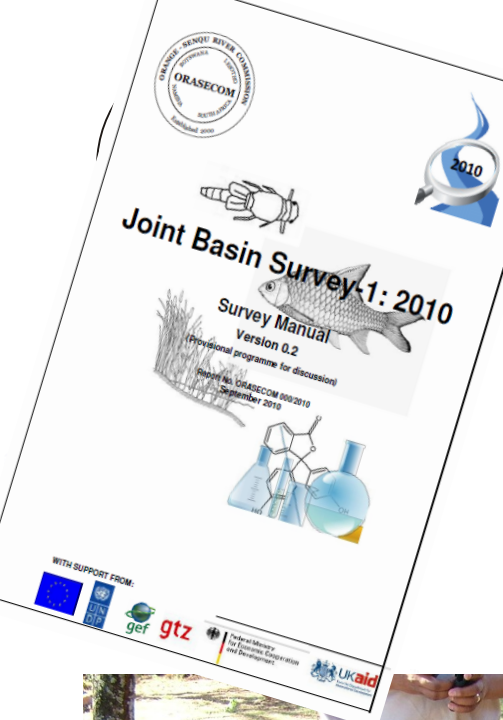


Joint Monitoring - JBS 2010 - ORASECOM

- **ORASECOM'S Joint Basin Survey of water resources quality – 5 yearly initiative.**
- **The planning of JBS-1 was undertaken by a 'Core Team' made up of 2 experts from each Member State. Supported by specialists from the ICP supported programmes.**
- **Five main elements of JBS: Aquatic Ecosystem Health; Water chemistry; POPs and metals; Inter laboratory benchmarking and Public events at five sites were scheduled**







Reflections

- a. Transboundary water cooperation requires long term commitment to realise benefits.
- b. Institutions (and interventions) should be strategic and add value to individual state initiatives and governance frameworks.
- c. Cooperation benefits and incentives (including nexus related) need to be pursued in multiple complimentary sectors.
- d. Inefficiencies and historical allocations (& developments) will continue to pose risk to realising full transboundary cooperation potential.
- e. Regional integration frameworks (e.g REC, other) broaden basket of opportunities for realising water, food, energy nexus approach.



Thank you.

