Carnegie Rise
SSAWRN

Sub-Saharan Africa Water Resources Network

Denis Hughes
Institute for Water Research
Rhodes University

Components of SSAWRN:

- Makerere University, Uganda:
  - Faculty of Veterinary Sciences & Makerere Water Network.
- University of Botswana:
  - Harry Oppenheimer Okavango Research Centre (HOORC).
- Eduardo Mondlane University, Mozambique:
  - Department of Geology
- Rhodes University, South Africa:
  - Institute for Water Research


Kampala, Uganda
Harare, Zimbabwe
Maun, Botswana
Maputo, Mozambique
Grahamstown, South Africa
Image © 2008 TerraMetrics
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Image NASA
©2007 Google™
Pointer 16°11'25.03" S 30°28'44.97" E
Streaming 100%
Eye alt 4495.13 km

Students from:

- Node countries:
  - Botswana, Mozambique, South Africa & Uganda.
- Non-Node countries:
  - Democratic Republic of Congo, Ghana, Nigeria & Zimbabwe.

Primary Objectives of SSAWRN

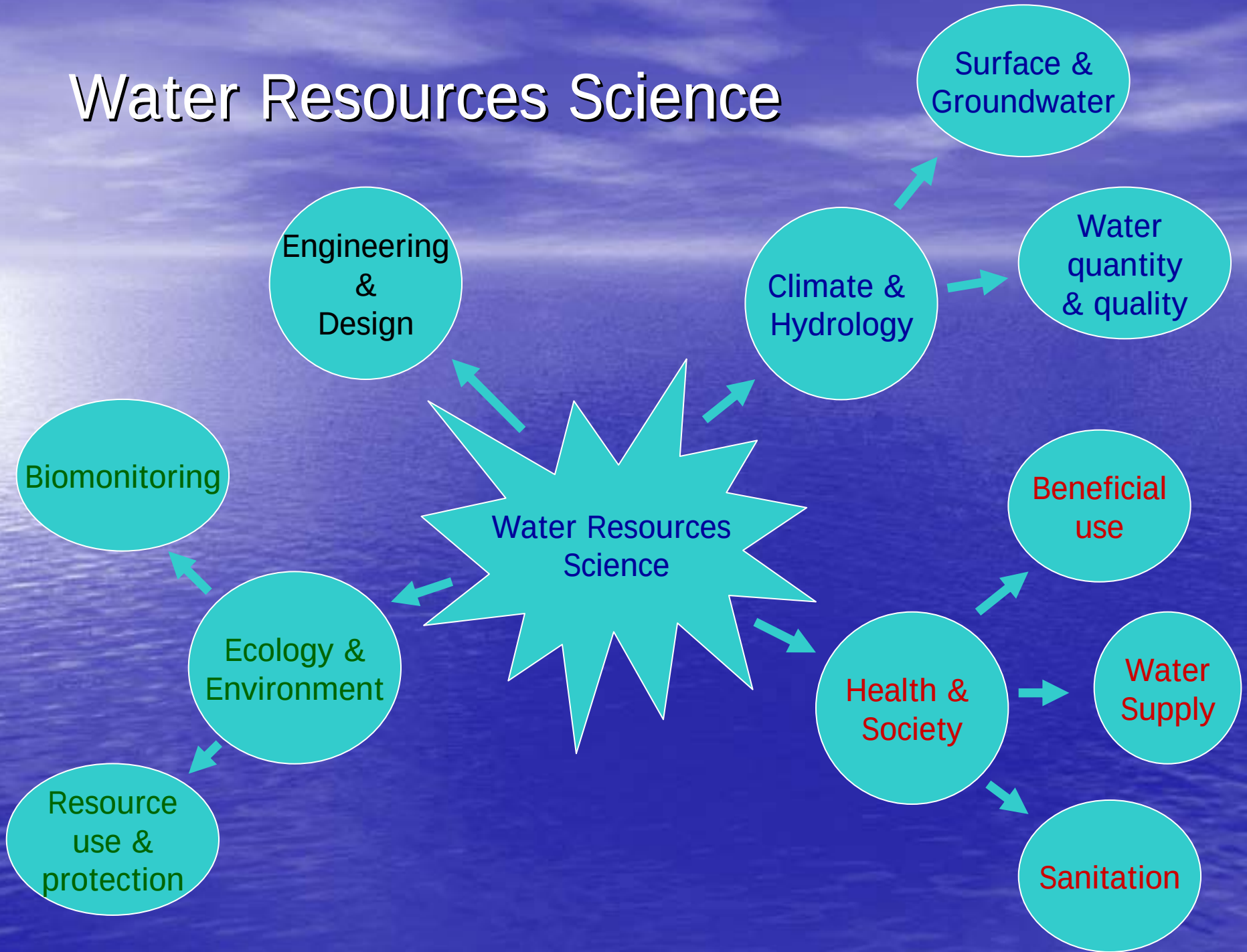
- Build research capacity in water resources science within Sub-Saharan Africa.
- Focus on the development of post-graduate students.
- Retain research capacity within the region.
- Encourage trans-disciplinary understanding within water resources science.
- Ultimately contribute to improved capacity for water management in the region.

Water Resources Science

- Diverse subject including:
  - Physical sciences.
  - Biological and Ecological sciences.
  - Human sciences.
  - Health sciences.

- Success of water resources management depends on trans-disciplinary understanding.

Water Resources Science



SSAWRN – Projects:

- Hydrology:
  - Congo River Basin: Quantifying resources (now and into the future) in a data deficient region.
  - Zambesi River Basin: dealing with climate variability and change.
  - Zambesi River: Improved multi-reservoir operations through hydrological modelling.
  - Surface – Groundwater interactions: Understanding the components of the natural resource as a whole.
  - Mozambique: Improved management of groundwater resources.

SSAWRN – Projects:

- Ecology and Environment:
  - Biomonitoring: Various projects on the use of biological indicators to assess aquatic environmental contamination.
  - Aquatic toxicology: Determining the sensitivity of aquatic organisms to water quality variations and pollutants.
  - Okavango Delta: Seasonal flooding and food chains.
  - Okavango Delta: Flooding and the spatial distribution of soil nutrients.
  - Okavango Delta: Habitat partitioning & biological variability.

SSAWRN – Projects:

- Water and Health/Society
  - Lake Victoria: Sources of water borne diseases.
  - Molecular epidemiology of water contaminants.
  - Options for improving household water quality in rural communities in southern Africa.
  - Okavango Delta: Rural livelihoods and droughts.

Key Achievements:

- All student projects are progressing satisfactorily.
- Students attended a thesis writing course during 2010 – very positive feedback.
- Some students have managed to attract co-funding from a variety of sources.
- Student attendance at conferences (including):
  - SANCIAHS, 2009: Special session for SSAWRN students to present their proposals.
  - WATERNET, 2010: All students presenting papers at this major regional conference.
  - Opportunities for scientific networking.

Challenges:

- Language skills:
  - Many of the students 1st language is not English.
  - Impacts on their writing skills.
- Diversity of topics within SSAWRN:
  - This is the reality in water resources science research.
  - However, constrains interactions and networking between students within SSAWRN.
  - We are encouraging trans-disciplinary thinking.
- Travel distances and costs:
  - Sub-Saharan Africa is a large region and travel costs are high.

Addressing the challenges:

- Encourage co-supervision and trans-disciplinary research.
  - Use post-docs and senior students as mentors to prove additional supervision.
- Encourage engagement between students (within and outside SSAWRN) from different disciplines.
  - WaterNet conference in Victoria Falls (Oct. 2010).
- Encourage students to write and self-criticize their own work:
  - Provide on-going courses and support to develop writing skills.

Priorities:

- Develop trained water resources scientists.
- First step is the completion of their post-graduate degree programmes:
  - This is our highest priority!
- Ensure that the students can communicate their science:
  - Scientific papers and report writing.
  - Develop presentation skills.

Future career paths:

- Objective is to retain students as faculty members or research staff:
  - Need job opportunities and some are clearly available.
  - Need funding opportunities and skills/knowledge to access those opportunities.
  - Need to assist the students to develop links with international partners.
  - Need exposure to, and participation in regional and international cooperative projects.