

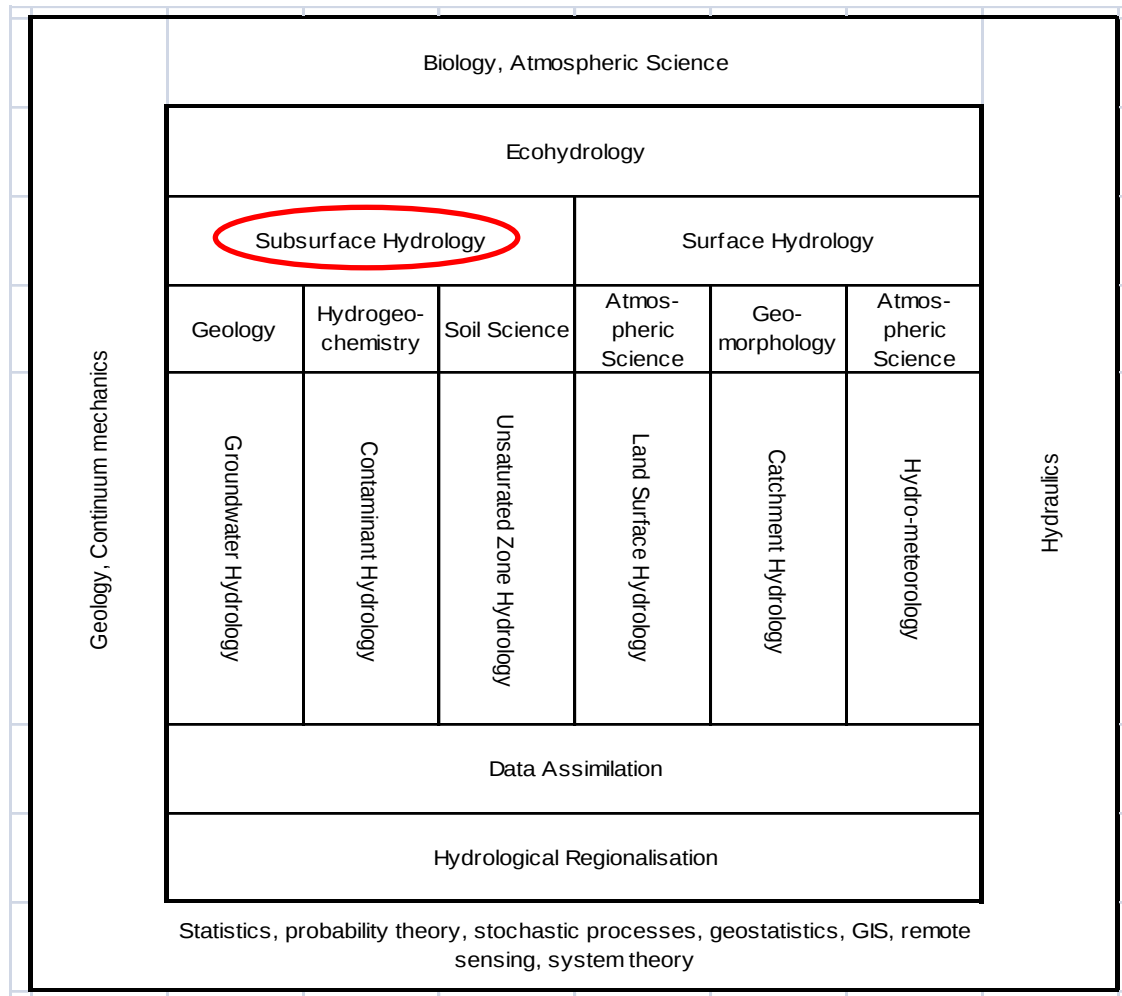
Overview of scientific disciplines of hydrology and their relation to other disciplines

Shafick Adams

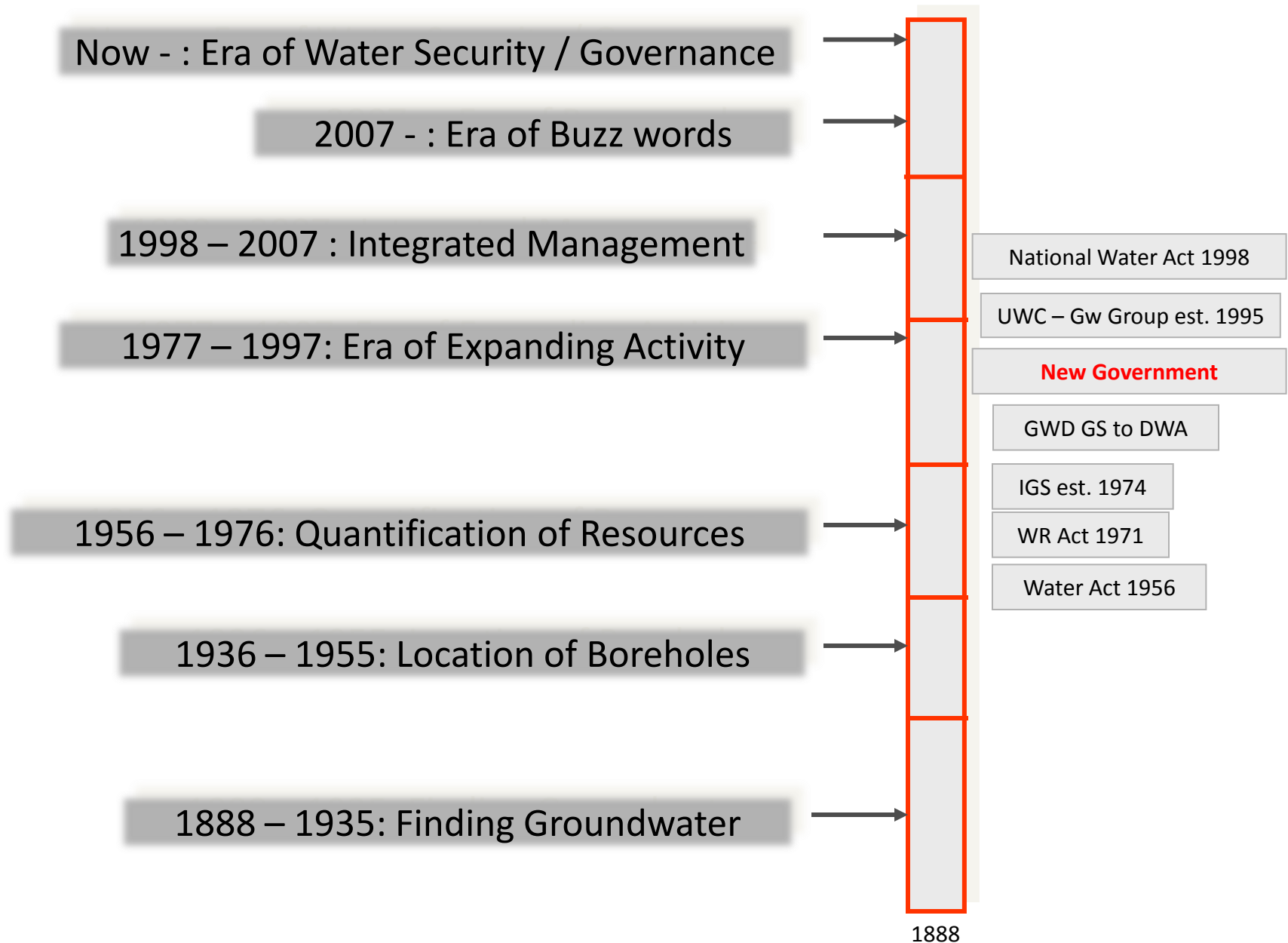


- WRC Dialogue on The State of Hydrology (Research) in SA
- 31 March 2014
- WRC (Pretoria)

Overview of scientific disciplines of hydrology and their relation to other disciplines

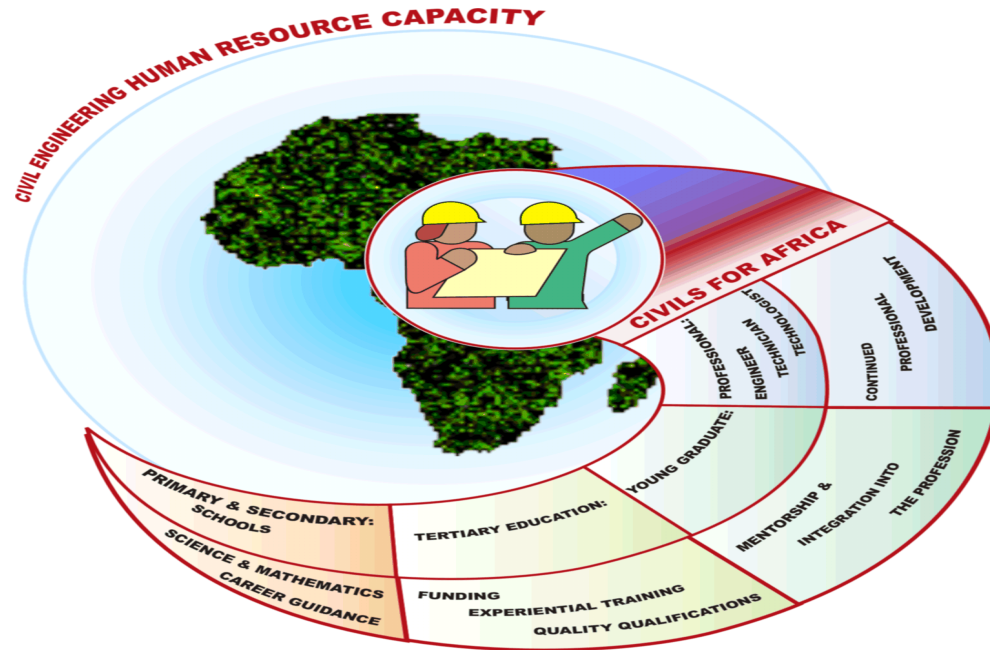


South Africa – Evolution of the Science



Groundwater professionals mostly land in the profession by mistake and not by design!

Unlike:



The · South · African · Institution · of · Civil · Engineering · :
Outreach Programme

We improve the quality of life

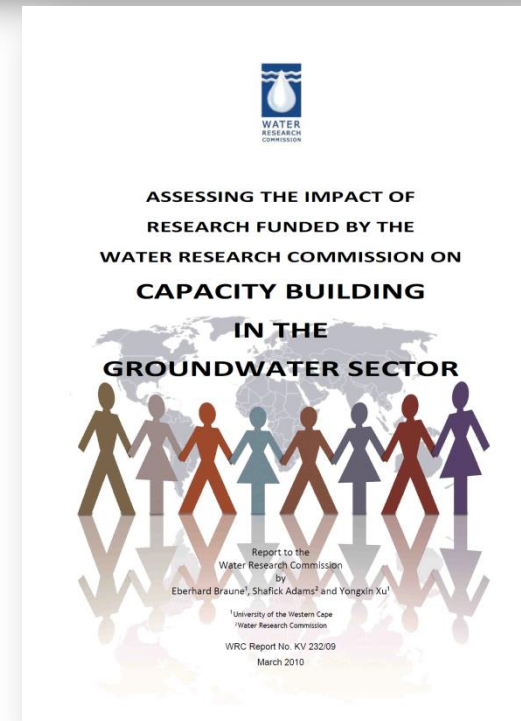
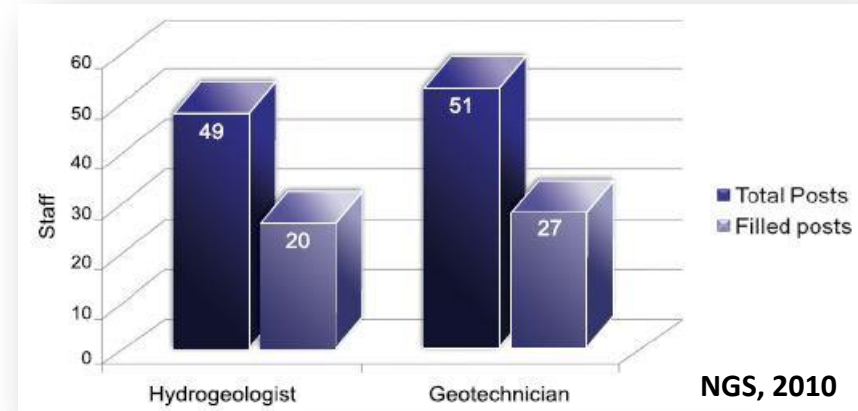
Bridging the gap

Universities that offer groundwater courses

University of the Free State	University of Venda
University of the Western Cape	Tshwane University of Technology
University of Pretoria	Nelson Mandela Metropolitan University
University of KwaZulu-Natal	Rhodes University
North-West University	Stellenbosch University
University of the Witwatersrand	University of Zululand

Groundwater sector human capacity

- **National government:**
 - Shortage of geohydrological staff and skills
- **Local government:**
 - No groundwater expertise
- **Private Sector:**
 - Experienced groundwater boom since the late nineties
- **SA's institutions of higher learning**
 - Weak cooperation among institutions
 - Staff losses in key positions
- **Other role players:**
 - **WRC**, Networks, Professional bodies



Groundwater Strategy - DWA

Some key priority actions related to **Capacity**

Human Capacity:

- DWA should develop adequate capacity to fulfil its groundwater functions
- DWA to develop and implement a national capacity building strategy
- DWA to mobilise private sector support where necessary to capacitate regional offices
- Implement practical, in-service training courses on priority aspects (e.g. licensing process, the Reserve, groundwater monitoring, etc.) for DWA staff

Institutional Capacity:

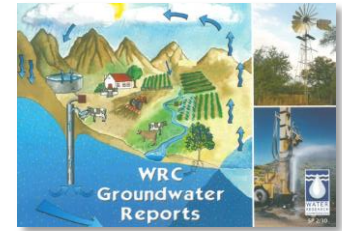
- DWA should capacitate and provide adequate resources to the DWA Regional Offices to fulfil their mandatory water resource management functions
- Improve cooperation and coordination within DWA, and between government departments and the private sector to leverage available capacity and resources
- Incorporate the All Town Studies Reconciliation Strategies into the IDPs and WSDPs
- Provide strategic support to water services institutions to develop business plans (i.e. WSDPs) for groundwater development, management and monitoring as well as for the operation and maintenance of groundwater infrastructure
- The roles and responsibilities for groundwater development and management, including monitoring of groundwater abstraction and quality, as well as the maintenance and operation of groundwater infrastructure across sectors should be improved and streamlined, and responsibilities clearly defined

Communication and Awareness:

- Develop a professional marketing and communication plan focussing on successful groundwater use and management



The Response



Awareness
Capacity building
Training

Hydrogeologists/Industry

Public

Tertiary Institutions

- Popular articles
- School curriculum dev.
- Visibility (media)
- Consumer guidelines
- Interactive community demonstrations

- Student support
- Recruitment
- Fieldwork/practicals
- Short courses (certification)
- Education and internships
- Symposia
- Curriculum development

- On the job training
- Workshops
- Networking
- Mentoring/Internships
- Short courses
- Registration (Professional Body)
- Guidelines

1. DWA
2. Science Councils
3. Private Sector

1. Undergraduate
2. Post graduate
3. Continuous/further education – of hydrogeologists

1. General public
2. Decision makers
3. Learners

- Research into Policy
- Stakeholder awareness
- Public appreciation

SACNASP

Awareness

Education and Training

