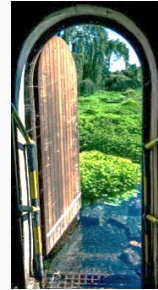




URBAN HYDROLOGY: WATER IN THE CITY OF TSHWANE
Plant Sciences Auditorium, University of Pretoria
23 – 24 January 2014

ABOUT THE WORKSHOP

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URBAN HYDROLOGY



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URBAN HYDROLOGY

- Why this workshop?
 - Adopt Moreletaspruit Initiative
 - WRC: Vadose Zone Hydrology
 - WRC: Pretoria's Springs

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URBAN HYDROLOGY

Atmospheric Water

Surface Water

Subsurface Water

COMPLETE WATER CYCLE

Environment

Potable Water

Urban Development

Management and governance of water in urban areas

Appropriate land use and infrastructure development

Promoting biodiversity and environmental protection

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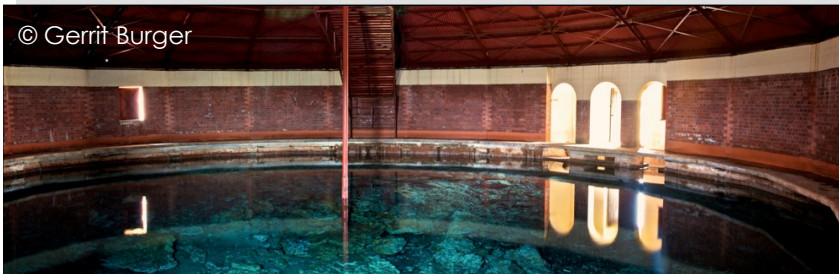


URBAN HYDROLOGY

- Springs:
 - Where groundwater flows out on the land surface

Lower Fountain

Grootfontein



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URBAN HYDROLOGY

- Wetlands:
 - Periodically to permanently wet aquatic habitats
 - Interaction between surface water and groundwater

Lower Fountain

Hartbeesspruit



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URBAN HYDROLOGY

- Impacts of water on infrastructure
 - Shallow seepage and interflow



OUTLINE

- Session 1.1. – Water Cooperation
 - Communication between scientists, engineers, legal professions, managers, economists, social scientists and legal professions
 - Better appreciation of the importance of proper management of all aspects of the hydrological cycle
 - Selling the water message as the most important natural resource which is often most vulnerable in urban settings
 - Showcasing research



OUTLINE

- Session 1.2. – Urban Hydrology
 - Integrated Catchment Management towards the protection and equitable allocation of water to Man and the environment
 - Climate and Hydrometeorology to assess hydrometeorological risk
 - Urban Hydrogeology in the understanding of the influence of the subsurface on the water cycle
 - Impacts on Urban Water Quality resulting from the increases contamination sources
 - Wetlands and Community Project in the CoT

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OUTLINE

- Session 1.3. – Water and Urban Development
 - Dolomite and Karst, addressing the karst aquifer, its susceptibility to contamination, and associated risks of sinkhole and doline formation due to water abstraction
 - Impacts of Land Use and Urban Densification on surface water drainage, stormwater and wetlands
 - Water Sensitive Urban Design to promote sensible land use delineation with respect to water
 - Ecological Infrastructure

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OUTLINE

- Session 2.1. – Water and the Environment
 - Land Use Change Impacts on Benthic Macroinvertebrates as assessed in the Hartbeesspruit over five varying land uses
 - Wetlands in Urban Areas and, notably, the City of Tshwane, outlining the occurrence and importance of these sensitive ecosystems

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OUTLINE

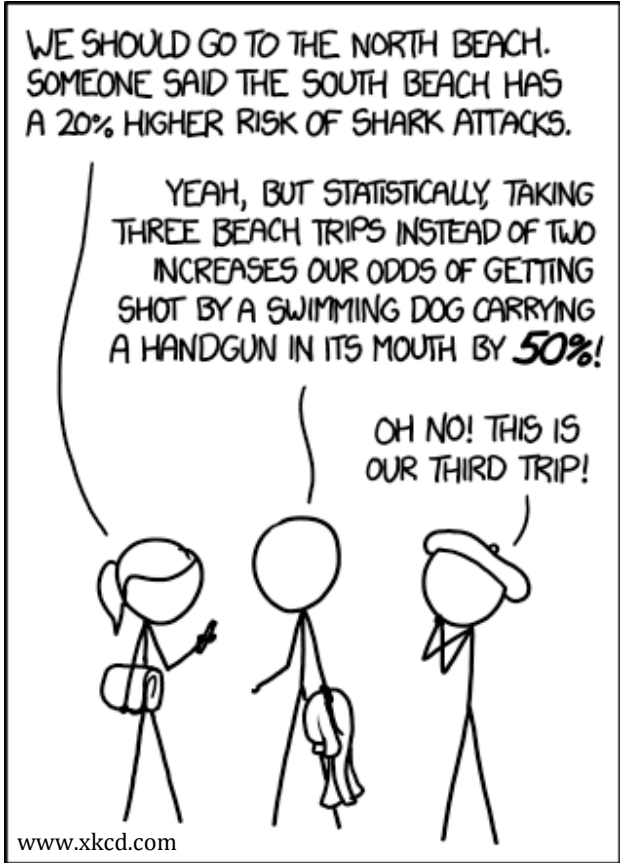
- Session 2.2. – Showcasing the Moreletaspruit
 - Adopt Moreletaspruit Initiative showcasing the catchment and their efforts in its protection

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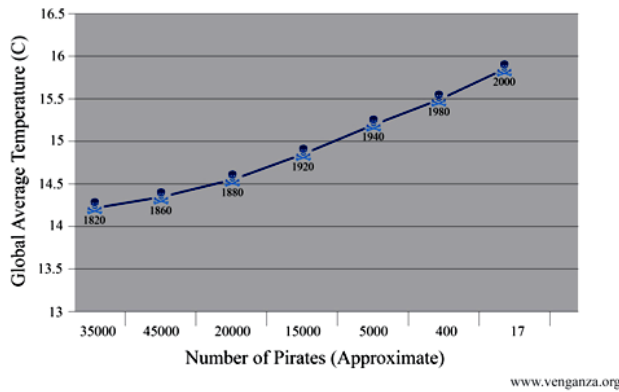


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REMINDER: A 50% INCREASE IN A TINY RISK IS **STILL TINY.**

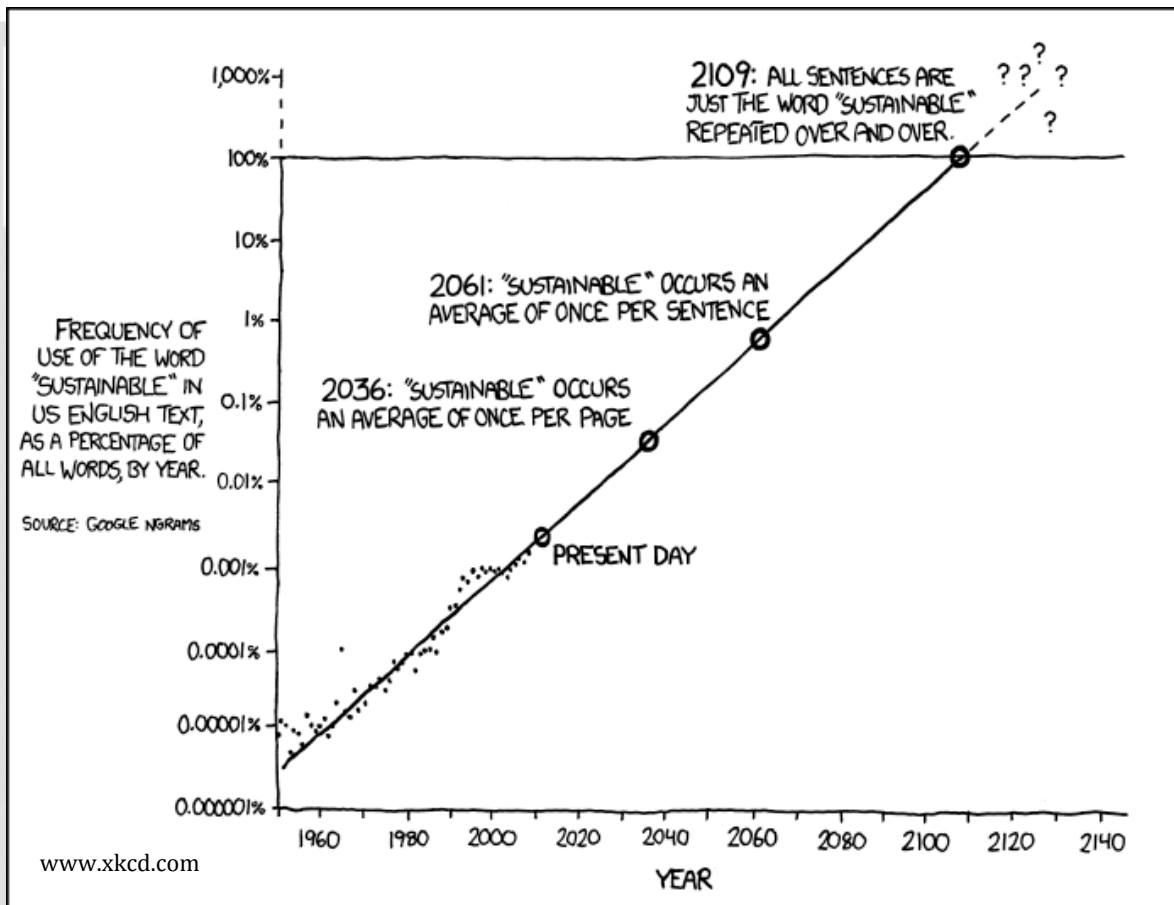
Global Average Temperature Vs. Number of Pirates



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THE WORD "SUSTAINABLE" IS UNSUSTAINABLE.

Kruger Park river polluted by acid water

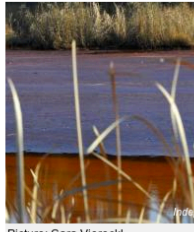
January 6 2014 at 06:28pm

Related Stories

- Elephant put down after Kruger Park attack
- Beautiful birdlife of the Kruger Park
- Elephant attacked KNP tourist

Johannesburg - South Africa is probing a major mine spillage into a river running through Kruger National Park, the country's biggest game reserve.

Highly acidic water flowed from a dam filled with waste rock into Selati River near Phalaborwa resulting in "a massive fish kill," South African National Parks said in a statement today.



Madibeng residents to march over ongoing water shortages

21 JAN 2014 15:21 | SAPA

Recommend 1 | Tweet 13 | Share 0

Residents in several parts of the Madibeng municipality will march to the municipal offices to protest over a water shortage.



Mixed reaction to Karoo fracking

2012-09-07 17:04

Cape Town - There has been mixed reaction to Cabinet's decision, announced on Friday, to lift a moratorium on applications to explore for shale gas in the Karoo.

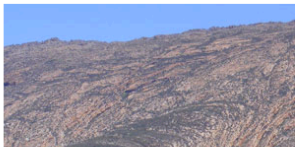
While Afriforum and the Freedom Front Plus both, in separate statements, condemned it, the Democratic Alliance suggested government proceed cautiously on the matter.

"The DA maintains that we have to proceed cautiously on this issue as the potential benefits in terms of job creation, cheaper energy and increased government revenue needs to be constantly weighed against the potential threats."

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More flooding expected in W Cape

January 9 2014 at 04:25pm

By STAFF REPORTERS
Related Stories

- Floods hit Laingsburg
- Heavy rain causes havoc
- Man swept away by Cape floods
- 2 swept away as Breede River floods

The South African Weather Service has issued a severe weather alert warning of localised flooding in the Overberg, Cape Winelands, Cape Metropole, Central Karoo and Eden District for Thursday and Friday.

- Cape Winelands District Municipality: Rainfall has decreased in the area, however the weather service has indicated that 20mm of rain is expected overnight. In Zwiwetemba the fire brigade is pumping water out of affected homes.

- Langeberg: The body of a mentally challenged person has not yet been recovered after he is believed to have been swept away by an overflowing river. The search is still under way. All major routes are open, with some secondary roads in the area still closed.

- Laingsburg: SAPS Joint Operational Centre in Laingsburg remains active. Farms in the Vleiland area



Residents watch floodwater near the Bergsig bridge in Laingsburg. Due to heavy rainfall the Karoo town has experienced its worst flooding since 1981. Photo: LAINGSBURG TOURISM

SA water polluted by mines to be mapped

2014-01-10 10:43

Dane McDonald, News24

Cape Town - The Water Research Commission (WRC) has embarked on an extensive study which aims to map surface and underground water currently influenced by mines.

"The atlas will be a significant and timely contribution that can inform the implementation of commitments made in the past two years," said Dr Jo Burgess, WRC research manager.

According to the WRC, the impacts of the mining industry on aquatic and terrestrial habitats are severe and have a long-term nature.

The atlas, comprising several chapters, will illustrate South Africa's hydrological characteristics and cover topics including water resources and water distribution.

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Water H₂O

Daily News

City under Fire for exceptional Water Supply

Working Water Infrastructure - Who's to Blame

National Water Act Contravention prosecuted: Fury

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ANTICIPATED OUTCOMES

- Cross-disciplinary language
- Intricate interaction between the water cycle, the environment and the urban landscape
- Improve communication and collaboration

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Past, present and future

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- “Water water everywhere, yet not a drop to drink”
 - The Rime [sic.] of the Ancient Mariner
 - Samuel Taylor Coleridge
- Raises the questions:
 - Is our water bad or do we sell that perception?
 - What can we do to improve the quality or change the perception?
- And now, apply this to all “problems” related to water