South Africa’s water situation and the construction sector

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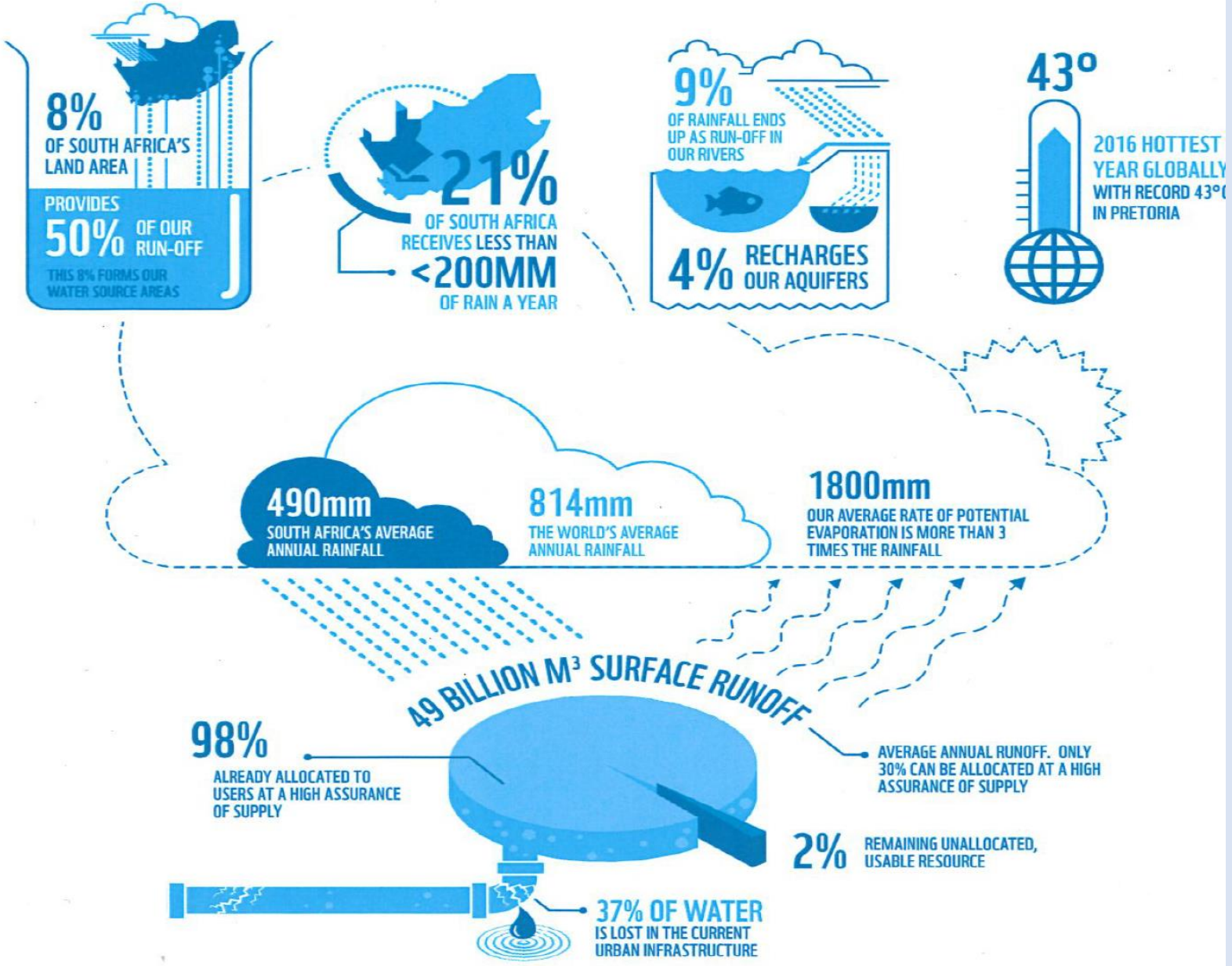
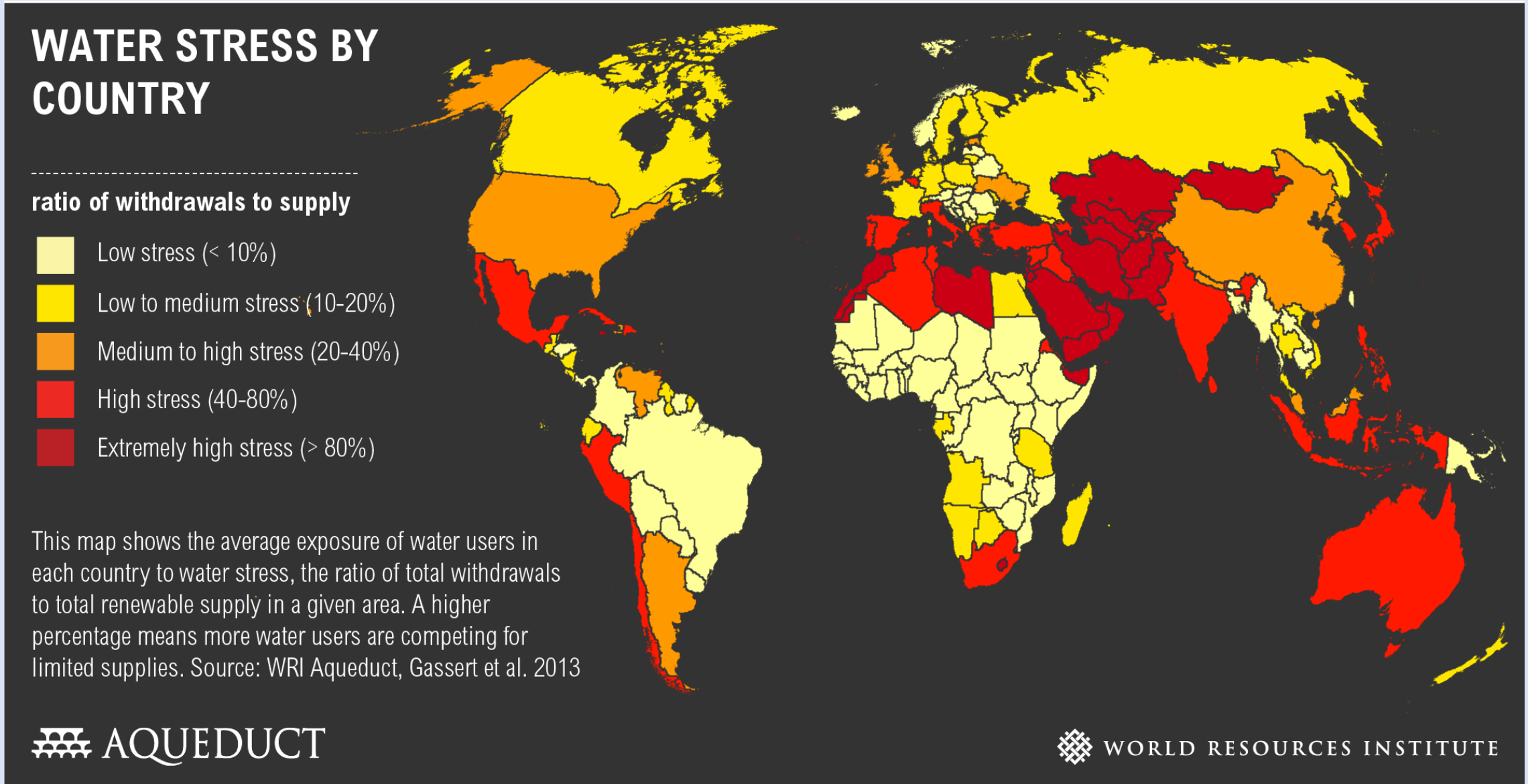
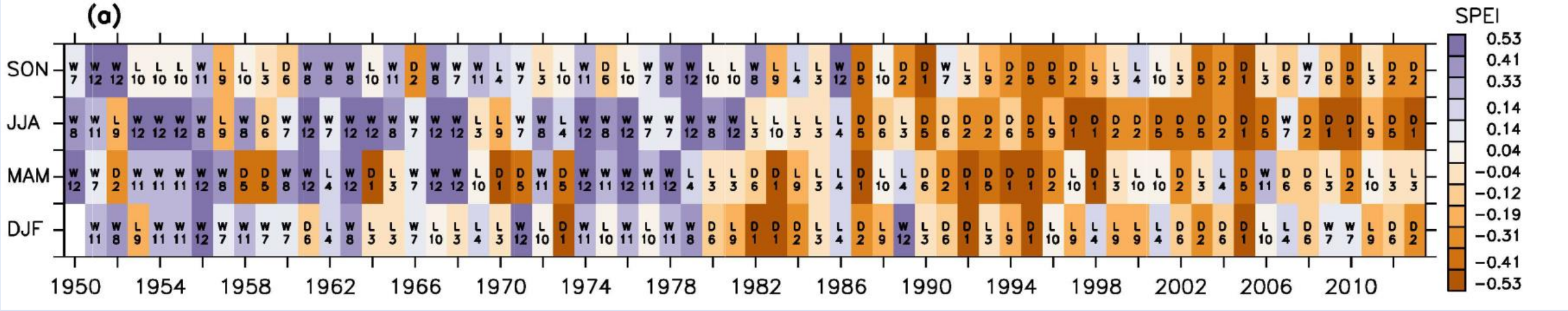
FIGURE 1: WATER FACTS



Crisis begets opportunity



Seasonal and yearly occurrences of drought patterns



Source: WRC Project No. 2317/1/18 ISBN 978-1-4312-0973-6, May 2018

Challenges

- Insufficient **infrastructure maintenance** & **investment**
- **Recurrent droughts and floods** driven by climatic variation
- Inequities in **access to water** & sanitation
- Deteriorating **water quality at local level**
- Lack of **skilled water engineers to implement at local level**

Realities we face:

Safe water & sanitation

- 14.1 million people do not have access to safe sanitation.
- Only 64 % of households have access to a reliable water supply service.

Infrastructure

- 56% of (over 1,150) **waste water treatment** works are in a poor or critical condition
- 44% of (962 water) **water treatment works** are in a poor or critical condition
- 11% are **dysfunctional**

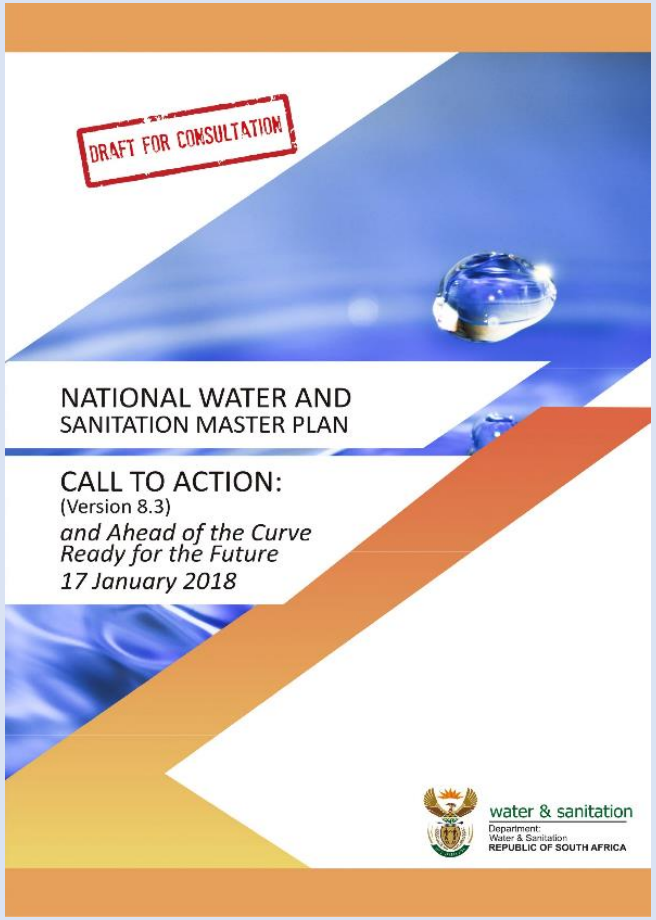
Wetlands & water sources

- More than 50% of South Africa's **wetlands have been lost**
- Of those that remain (3.2 million hectares), 33% are in **poor ecological condition**.

Sustainability

- 41% of municipal water does not generate revenue.
- 37% is lost through leakage.
- Municipalities are losing about R9.9 billion each year through non-revenue water.
- R33 billion more is needed each year for the next 10 years to achieve water security.

There is a plan



Water efficiency

Infrastructure investment

Smart Collaboration

Opportunities

- Energy used for water treatment and conveyance, and water used for energy generation present many opportunities for innovation and investment. Drivers include growing challenges to water and energy security; developments in renewable energy technology; and the rising cost of water and energy.
- **Road design and construction should align, and support these technologies.**

Opportunities

- Understanding and managing consumption by utilities and end-users is the vital first step towards holistic water conservation and demand management. There is a rapidly expanding market for technical solutions that measure, report and control water consumption at all scales of use.
- **Road design and construction should reduce demand, though utilisation of new materials and technology.**

Opportunities

Regional surface water resources are almost fully allocated, driving investments into development of local water resources. These include rain, storm and greywater; new groundwater resources; managed aquifer recharge; as well as brackish and seawater desalination.

- **Road design and construction should align to reduce,reuse,recharge and store surface water, and charge aquifers.**

Opportunities

Reducing municipal water losses is a national priority, and significant resource and financial benefits can be realised at any urban and system scale.

- **Road design and construction, should take into account municipal infrastructure and design, and collaborate to reduce municipal losses.**

What more can you do:

Consider:
Groundwater augmentation .
Renewable components
Regulation
On site water saving tips
Manage project and reputational risk
Achieve cost savings through water saving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