

SOUTH AFRICA'S WATER HISTORY IN A GLOBAL SOUTH CLIMATE CHANGE CONTEXT

Southern Africa

Johann Tempelhoff
Focus Areas for Social Transformation
Faculty of Humanities
NWU

Johann.Tempelhoff@nwu.ac.za

Mobile: 082 5629510

UNESCO Water History conference Tampere
University 2023.06.01

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

Google Earth

OUTLINE

- Precolonial indigenous water knowledge and Namib Desert
- SA's preoccupation with water Anno 1912
- 1970s Climate change and the rise of environmentalism in West (future GN)
- Southern African decolonisation and growing climate change awareness
- 1990s transition to democratic SA and re-integration in global community
- 2000s SA water demand intensifies (Urban/rural protests) in era of growing climate change awareness
- Reality check: Cyclone Freddy 2023

PRECOLONIAL NAMIB DESERT WATER

- Namib oldest desert in the world ~50-70 myBP
- Indigenous knowledge San/Khoe (Bushmen)
- “**Water useful in food preparation**”
- “Water from the **moon** and able to **resurrect the near-dead**”
- “**Water snake** watering fountains and streams”
- **Eland bull** the ‘rainmaker’ – agency role for turning desert droughts into abundances of life”
- **2023: Global uncertainty over future water and climate:** Water in $\frac{3}{4}$ of all disasters active agent
- Illustration: Allen, J and NASA (2001)
<https://tinyurl.com/2plgxmmo>



MISSIONARY TRAVELS

AND

RESEARCHES IN SOUTH AFRICA :

INCLUDING A SKETCH OF

SIXTEEN YEARS' RESIDENCE IN THE INTERIOR OF AFRICA,

AND A JOURNEY FROM THE CAPE OF GOOD HOPE TO LOANDA ON THE WEST
COAST; THENCE ACROSS THE CONTINENT, DOWN THE RIVER
ZAMBEZI, TO THE EASTERN OCEAN.

BY DAVID LIVINGSTONE, LL.D., D.C.L.,

FELLOW OF THE FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW; CORRESPONDING
MEMBER OF THE GEOGRAPHICAL AND STATISTICAL SOCIETY OF NEW YORK;
GOLD MEDALIST AND CORRESPONDING MEMBER OF THE ROYAL
GEOGRAPHICAL SOCIETIES OF LONDON AND PARIS.
F.R.S., &C., &C.



Tsetse Fly—Magt/ed—See p. 612.

WITH PORTRAITS, MAPS BY ARROWSMITH, AND NUMEROUS ILLUSTRATIONS.

NEW YORK: PUBLIC
HARPER & BROTHERS, PUBLISHERS,
FRANKLIN SQUARE.
1858.

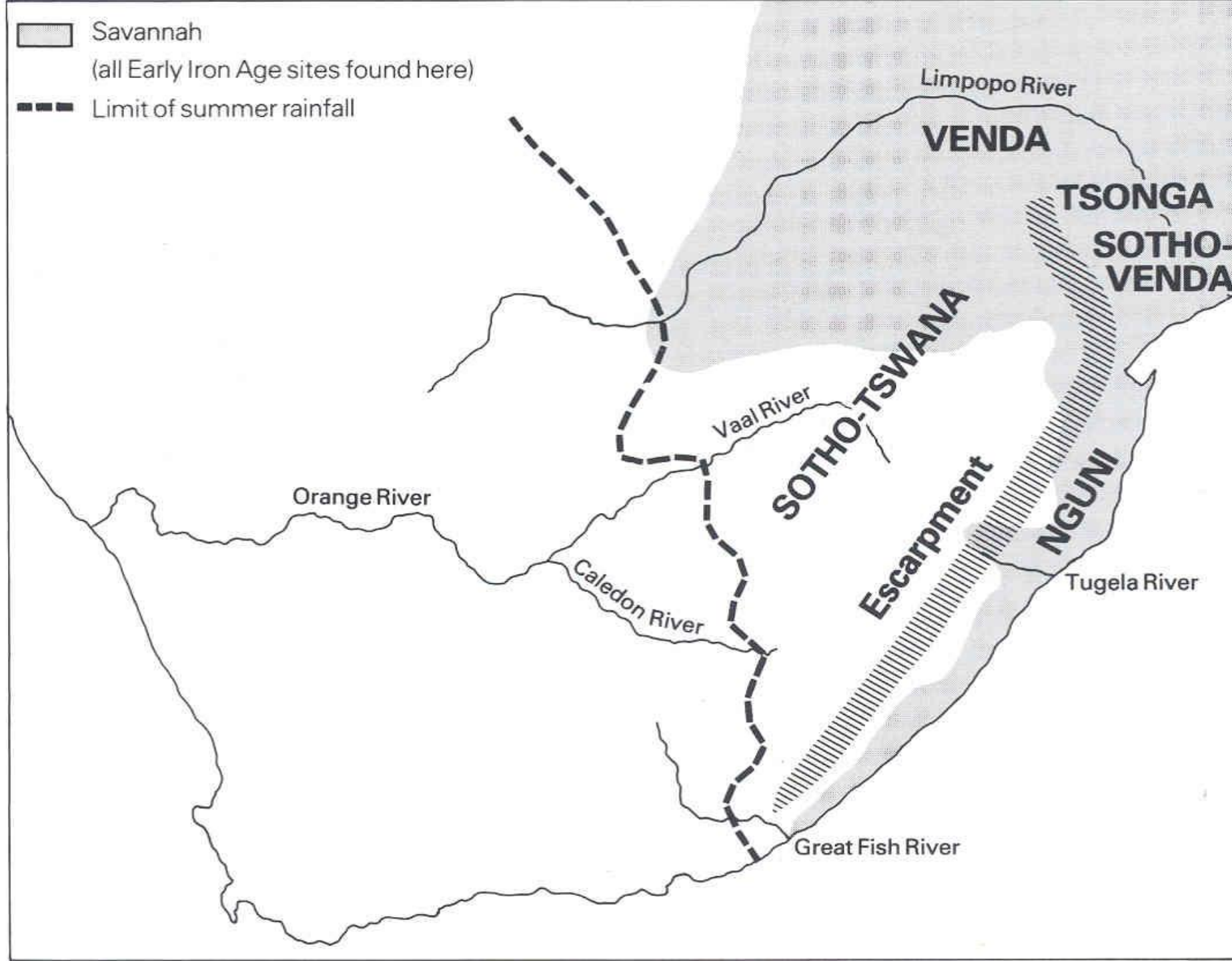


Livingstone in mid-19th C engaged with indigenous people and their water technologies in arid central Southern Africa

- 18th century settlement patterns of African polities in Southern Africa

- Dotted line = summer and winter rainfall areas

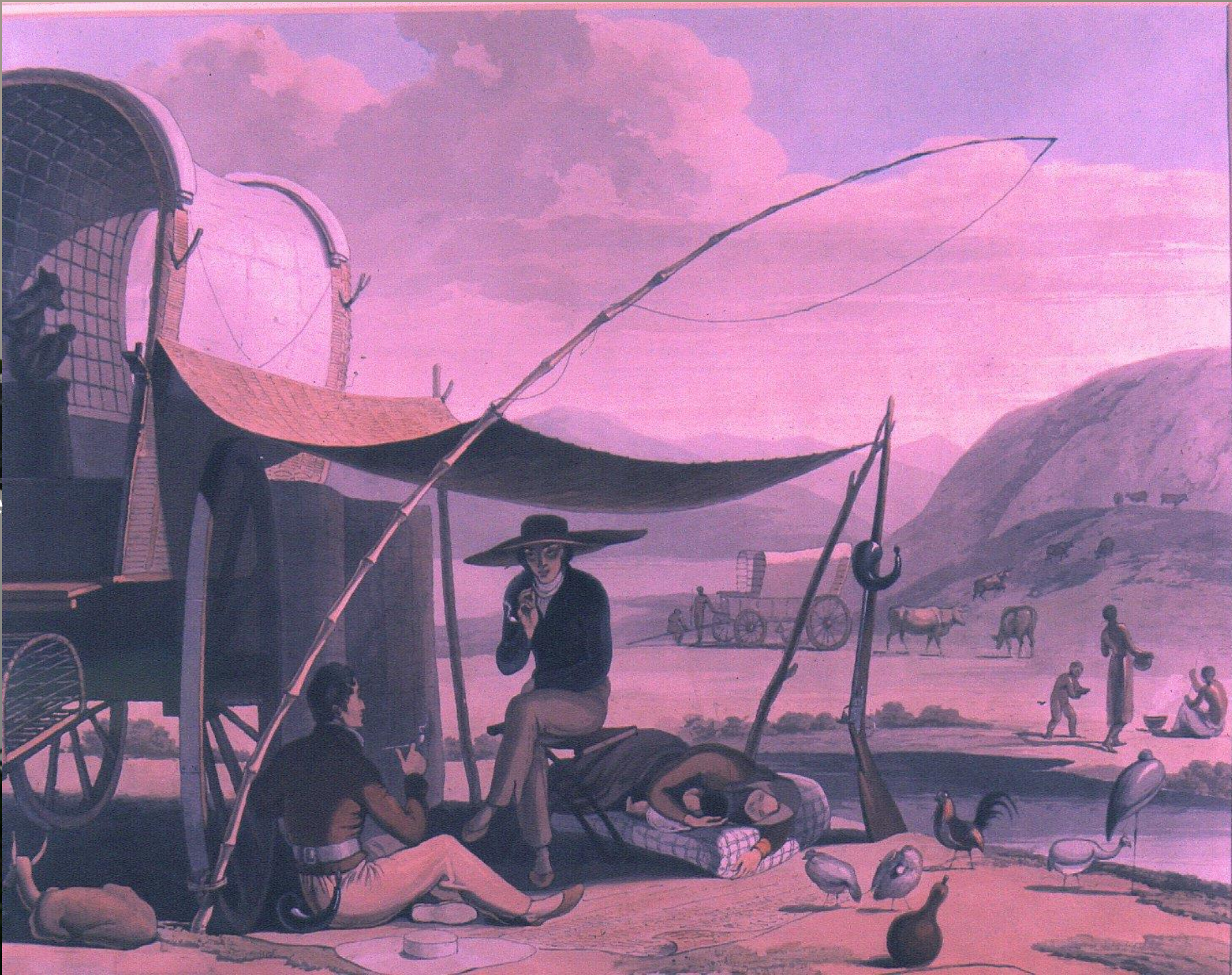
- Source: Hammond-Tooke 1993



- Iron Age smelting in the Lowveld c. 1880s

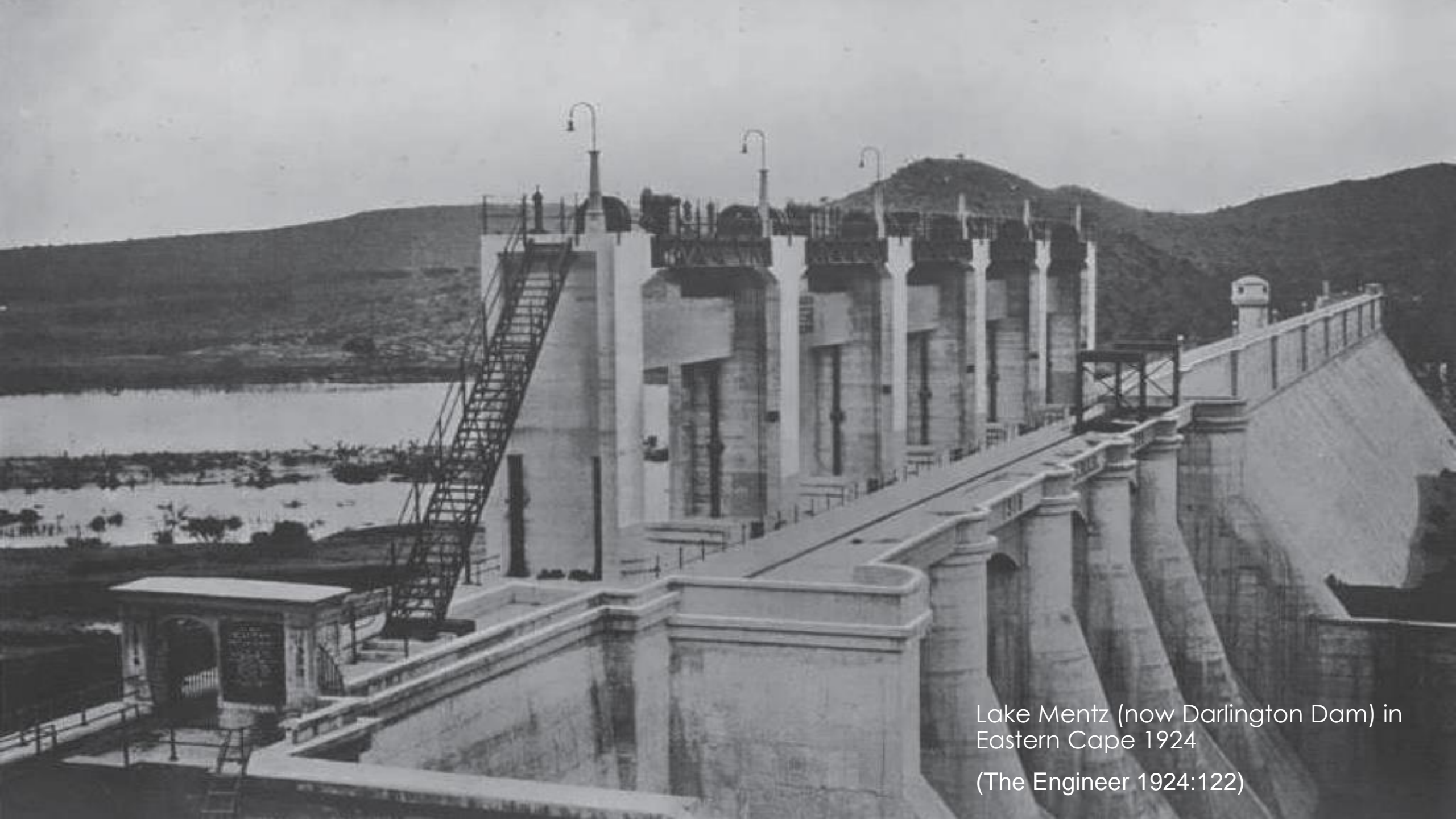


- Northern Hemisphere frontier explorers, farmers and hunters in the 18th century
- Confirmed aridity in interior
- W Fehr Collection



SA'S PREOCCUPATION WITH WATER AND CLIMATE

- Union of South Africa 1910: *Irrigation and Conservation of Waters Act (1912)*
- Nexus theory: WEF Food = paramount.
- Govt's prime focus on arid regions of SA – development of irrigation schemes
- 1930s SA drought/world depression: 'Poor white' labour; water irrigation construction projects
- Later government up-skilled labour. Many became farmers.
- 1940s Saldanha water transfer scheme. WW2. Strategic engineering intervention benchmark.
- Mid-20th C rapid urbanisation in South Africa
- Late-1950s plans for Orange River scheme – central SA
- 1960s severe drought; Vaal River system development (Apartheid: SA international isolation)
- 1970 Report of commission on water security for SA up to 2000s

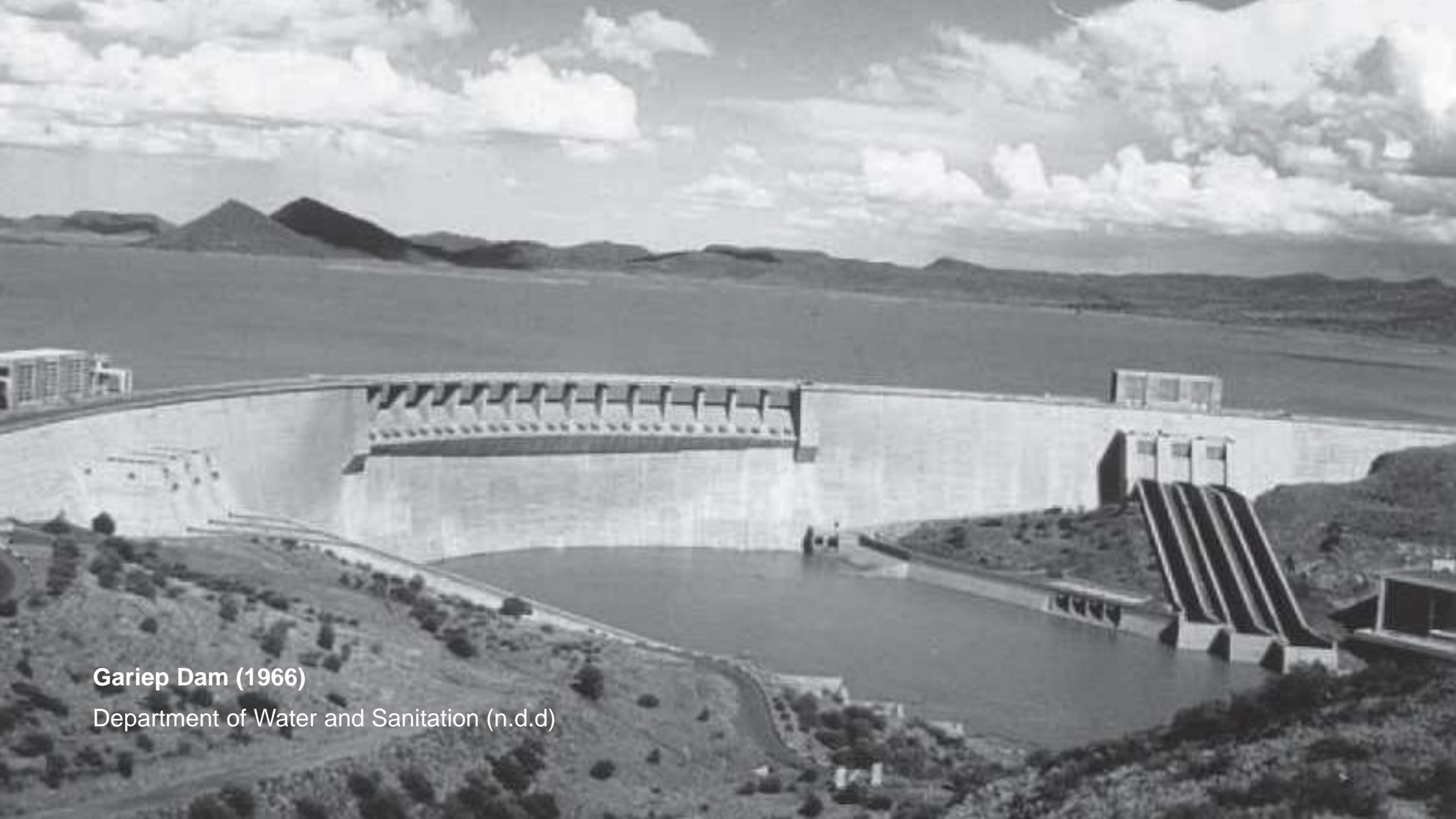


Lake Mentz (now Darlington Dam) in
Eastern Cape 1924
(The Engineer 1924:122)

White labourers were used on the construction site of the Marico-Bosveld Dam in the 1930s

SAWHAR AHCA25/132(e)
(n.d.).





Gariep Dam (1966)

Department of Water and Sanitation (n.d.d)

REPORT
of the
COMMISSION OF ENQUIRY
into
WATER MATTERS

Published by Authority



REPUBLIC OF SOUTH AFRICA

R.P. 34/1970

1970s FIRST WORLD COUNTRIES AWARE OF ENVIRONMENT AND CLIMATE CHANGE

- First World countries by 1950s experienced 'great acceleration'.
- 1970 USA's Richard Nixon formalises the Environmental Protection Agency (EPA)
- 1973 OPEC countries placed fuel embargo on West after Yom Kippur War (Middle East/Israel) Severe economic recession in capitalist economies
- 1974 chlorofluorocarbons (CFCs) in atmosphere responsible for hole in Earth's ozone layer. Problem partially resolved by 1980s
- Western countries more aware of pollution, acid rain and climate change



Madrigal A "The '70s photos that made us want to save earth" *Wired*, 11 March 2018 at <https://www.wired.com/2010/03/epa-gallery/>

DECOLONISATION IN SOUTHERN AFRICA 1970S-80S AND CLIMATE CHANGE SIGNS

- Cold War: Southern African decolonisation and Mozambique (1974) Angola (1975) Liberation struggle in Zimbabwe, Soweto 1976.
- Since 1960s '3rd World syndrome'. Brandt report to UN (1980): "Global South" needs "Global North" support.
- 1980s Call in USA for political action on climate change. US political leadership slow to respond to science advisers. Setback for climate change mitigation
- 1988 UN establishes Intergovernmental Panel on Climate Change (IPCC)
- SA still in isolation and in need of for more water: In 1986 govt agreement with the Kingdom of Lesotho on LHWP (2003). Similar agreements with Eswatini and Mozambique
- Cyclone Domoina (1984) – precursor of climate change in Southern Africa
- 1990s end of the Cold War: paves way for emergence of Global North/South in 2000s
- World still dependent on fossil fuels for development. Ever-growing carbon and greenhouse gas releases in the atmosphere
- 1990 Nelson Mandela released from prison. Onset of democratic South Africa (1994)
- 1992: UN Framework Convention on Climate Change accepted by member states
- 1992 – **SA into the fray: on Environment and CC.** At UN Earth Summit in Rio; Dublin Agreement on water

SA'S TRANSITION 1990S

- Rapid urbanisation as SA prepares for transition to New SA
- Nelson Mandela
- Climate change awareness and drought/flood awareness
- Urban areas: populations increase contributing to anthropogenic environmental stresses
- Drought conditions linked to urbanisation; need for more water and sanitation services
- 1990s SCOWSAS rural poverty, water and sanitation (1985 Carnegie Report)
- WRC research focus on agriculture and climate change.
- 2000s Climate change comprehensive research foci: CSIR and SA universities.
- SA maintains a high stature in global water sector and also in the field of CC

SOUTH AFRICA AND CC IN 2000-2022

- 2003 LHWP online; 2005 plans for Phase 2. SADC agree on transboundary water management
- Nicholas Stern Report on Climate Change (2006): 'Rich states' must pay
- Extensive research 2000-2010s on climate change in Southern Africa
- COP21 Paris agreement (2015) SA one of 196 states agree to ensure CC remains at less than 2°C
- Drought 2014-20: Cape Town Day Zero (2018) and Vaal Dam at 25% Cyclone Idahi (2019) – Clear evidence of climate change
- COP26 (Glasgow 2021) first COP to accentuate water issues
 - SA case studies: Cape Town Day Zero 2018; Gauteng IVRS near-Day Zero averted by Cyclone Idai (2019) – worst drought since 1980s
- COP27 (2022) First consensus on Global North paying for CC. But 'zero tangibles' at time of COP.
- Victims were Global South ocean states. Critical rising sea levels.



CLIMATE CHANGE AND SA: DISRUPTIONS 2020/23

- 2020: onset of **COVID-19** also **ESKOM load shedding** starts (**First events in 2008**)
- 2022: power outages prevent water transfers to urban storage systems
- Exceptional heat in SA interior at onset of summer rainfall season; suburbia up/downstream domestic water users' crisis by September 2022
- **Discontent in SA:** loadshedding and urban water supply constraints – economic hardship 43% unemployment rate.
- CC: Wits' Prof. Colleen Vogel (2023) points out: scientific knowledge is available, but implementation at government level slow.
- The Climate Change Bill (2018) introduced by the Ministry of Fisheries, Forestry and the Environment (DFFE). 2022-3 circulates for public participation
- In water sector SA/Lesotho collaboration on LHWP2 continued: 'Online' by 2028

THANK YOU

