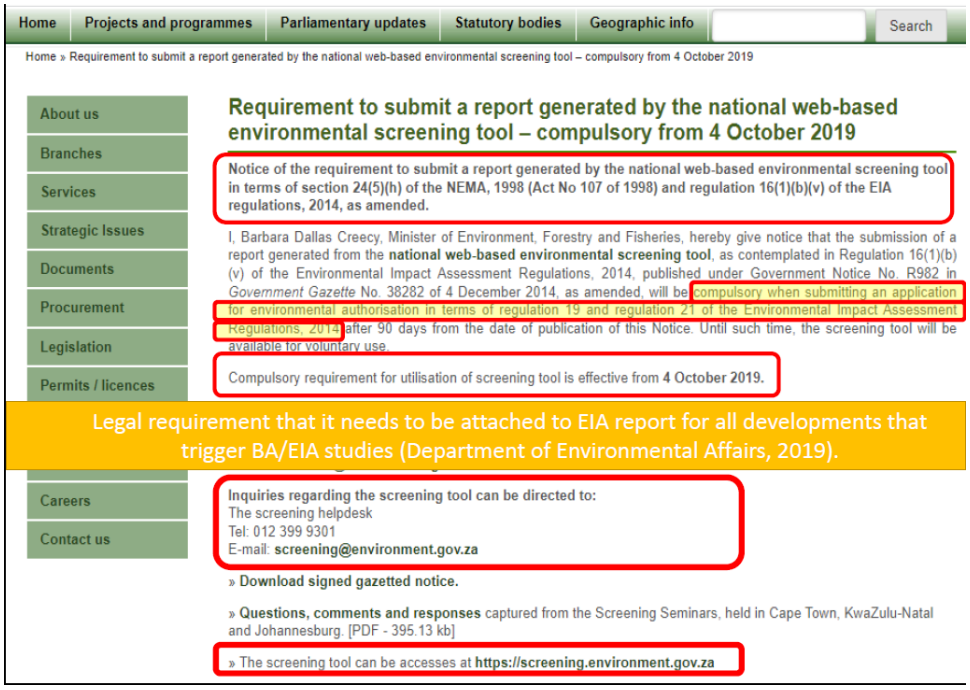
ENVIRONMENTAL RESEARCHERS' DRIVE TOWARDS CAPACITY BUILDING

During the last Quarter of 2022/23 financial year the environmental scientists took part in the capacity building sessions of the Provincial Policy Planning and Research Forum (PPPRF) of the Office of the Premier. Seven presentations were given on the virtual Teams platform attracting on average around 27 attendees from nearly all the provincial departments. The presentations included topics on what sustainability is in terms of species and ecosystems (by Natalie Uys and Elsabè Swart), what the Critical Biodiversity Areas map is and used for (by Enrico Oosthuysen), what we expect how climate change would impact on the province and its people (by Christine Kraft), what Biodiversity Offsets are (by Elsabè Swart) and how to use the National Environmental Screening Tool to see whether planned developments might have significant environmental impacts (by Samantha de la Fontaine). The remainder of the presentations focused more on renewable energy developments in the province (by Peter Cloete & Samantha de la Fontaine) and the extent of developmental pressures being, and to be, experienced within western and eastern parts of the Northern Cape respectively (by Elsabè Swart on behalf of Louise Geldenhuys and Samantha de la Fontaine).

One internal training session was also held 28 March 2023 in Kimberley (by Samantha de la Fontaine and assisted by Natalie Uys), supporting our Environmental Management colleagues towards capacitating them in using the web-based National Environmental Screening Tool. Due to the success and requests received for further training sessions, the environmental scientists will be providing one training session per quarter also for 2023/24. So, look out for notifications and invites to these training sessions!

Images of slides presented: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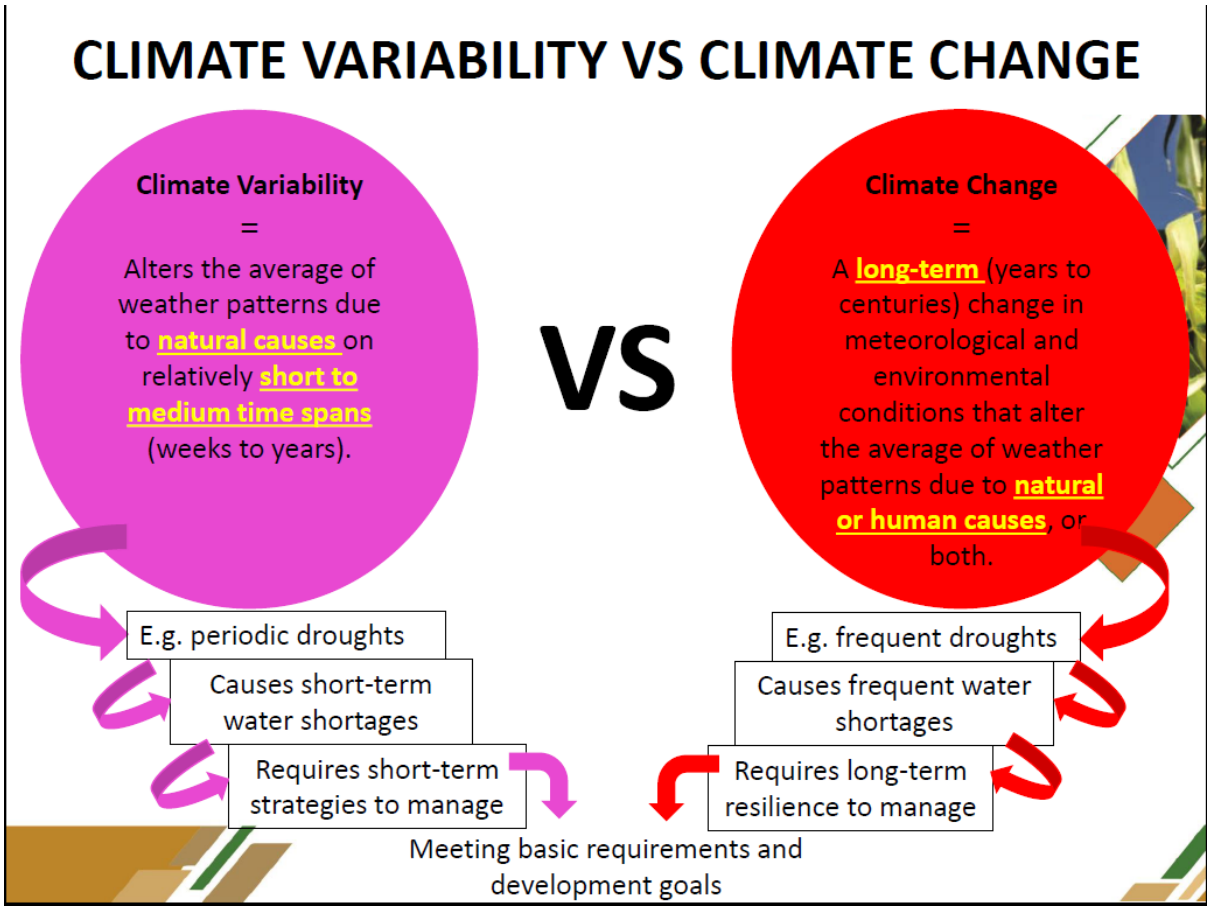
Requirement to submit a report generated by the national web-based environmental screening tool – compulsory from 4 October 2019
Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA, 1998 (Act No 107 of 1998) and regulation 16(1)(b)(v) of the EIA regulations, 2014, as amended.
I, Barbara Dallas Creecy, Minister of Environment, Forestry and Fisheries, hereby give notice that the submission of a report generated from the national web-based environmental screening tool, as contemplated in Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations, 2014, published under Government Notice No. R982 in Government Gazette No. 38282 of 4 December 2014, as amended, will be compulsory when submitting an application for environmental authorisation in terms of regulation 19 and regulation 21 of the Environmental Impact Assessment Regulations, 2014 after 90 days from the date of publication of this Notice. Until such time, the screening tool will be available for voluntary use.
Compulsory requirement for utilisation of screening tool is effective from 4 October 2019.
Legal requirement that it needs to be attached to EIA report for all developments that trigger BA/EIA studies (Department of Environmental Affairs, 2019).
Inquiries regarding the screening tool can be directed to:
The screening helpdesk
Tel: 012 399 9301
E-mail: screening@environment.gov.za
» Download signed gazetted notice.
» Questions, comments and responses captured from the Screening Seminars, held in Cape Town, KwaZulu-Natal and Johannesburg. [PDF - 395.13 kb]
» The screening tool can be accesses at https://screening.environment.gov.za


CLIMATE VARIABILITY VS CLIMATE CHANGE
Climate Variability
=
Alters the average of weather patterns due to natural causes on relatively short to medium time spans (weeks to years).
VS
Climate Change
=
A long-term (years to centuries) change in meteorological and environmental conditions that alter the average of weather patterns due to natural or human causes, or both.
E.g. periodic droughts
Causes short-term water shortages
Requires short-term strategies to manage
E.g. frequent droughts
Causes frequent water shortages
Requires long-term resilience to manage
Meeting basic requirements and development goals

PROJECTED CLIMATE CHANGE IMPACTS

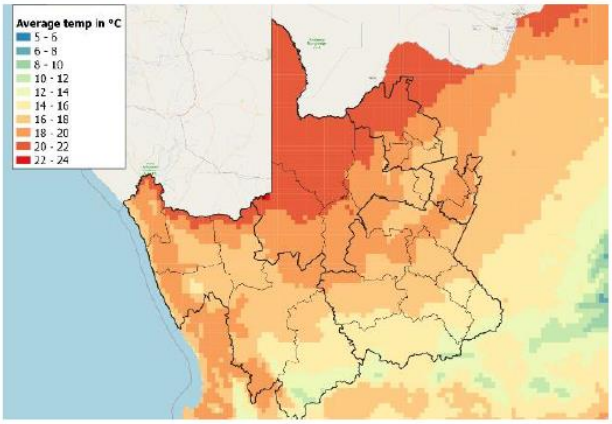


Fig. 1: Annual average temperatures in the Northern Cape using a baseline period of 1961–1990 (CSIR 2019).

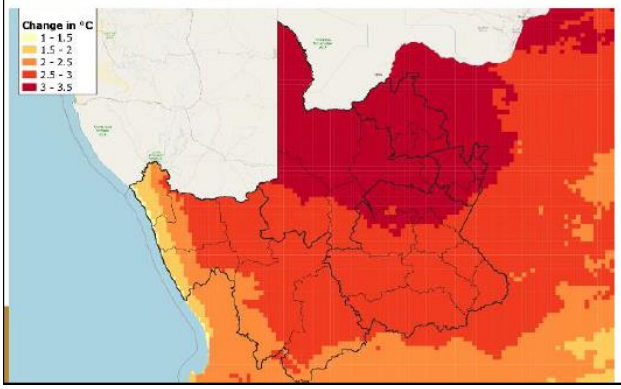


Fig. 2: Projected changes in annual average temperatures throughout the Northern Cape over the period 2021-2050 under the RCP 8.5 scenario (CSIR 2019).

(Obtained from NCDAERL 2021)

PROJECTED CLIMATE CHANGE IMPACTS

Fig. 7: Annual average rainfall throughout the Northern Cape using a baseline period of 1961–1990 (CSIR 2019).

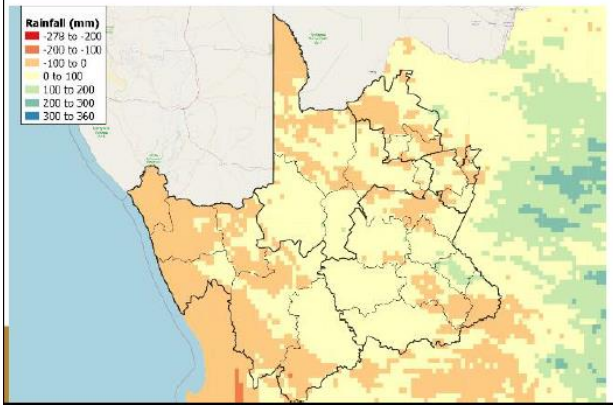
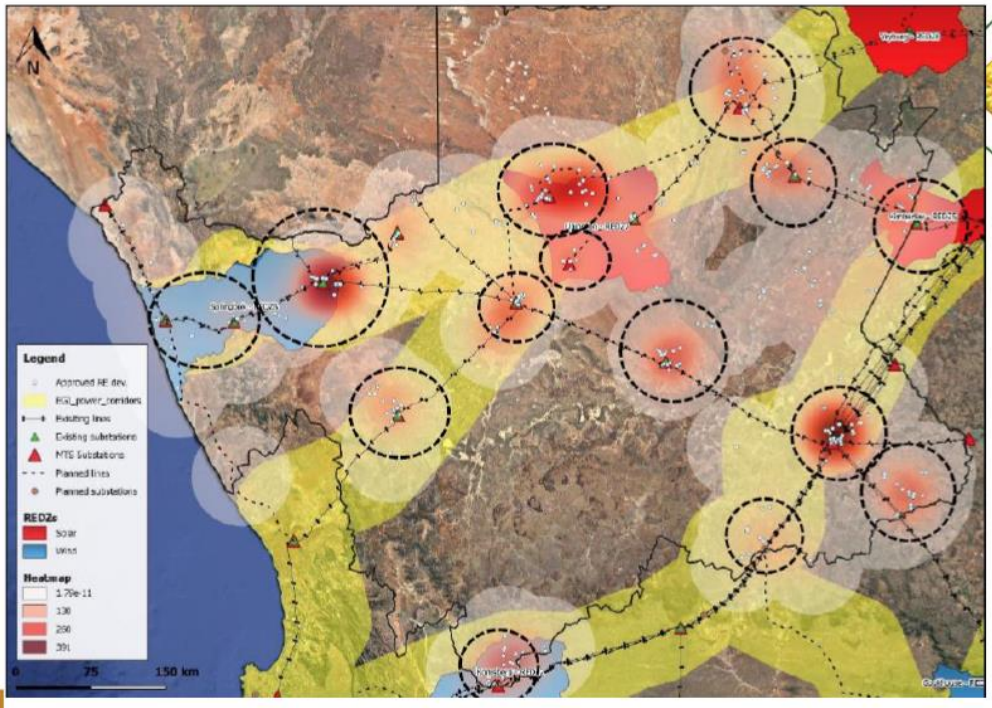


Fig. 8: Projected changes in annual average rainfall throughout the Northern Cape over the period 2021-2050 under the RCP 8.5 scenario (CSIR 2019).

(Obtained from NCDAERL 2021)

6.3 REDZ, EGI Power Corridors+ RE Concentration patterns

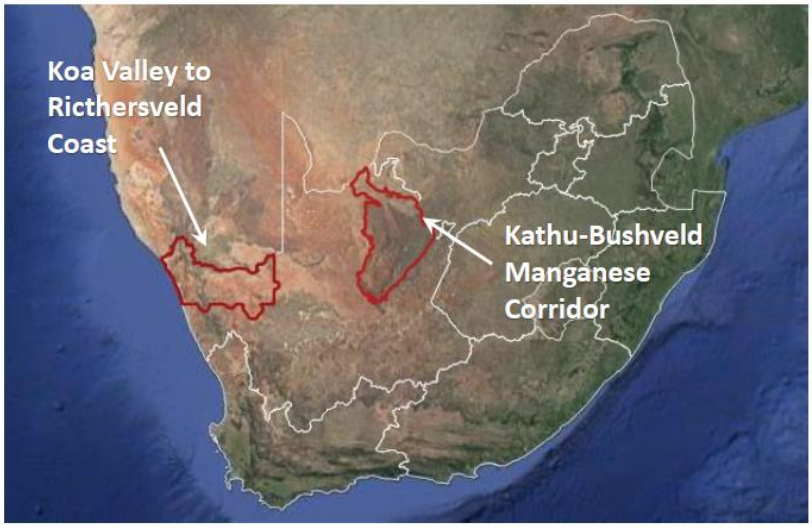


The RE development concentrations (black dashed circles) are more likely to be associated with electricity infrastructure as appose to the REDZs.

Slide on where renewable energy developments are in comparison to where national zonation (REDZ) are.

Study area

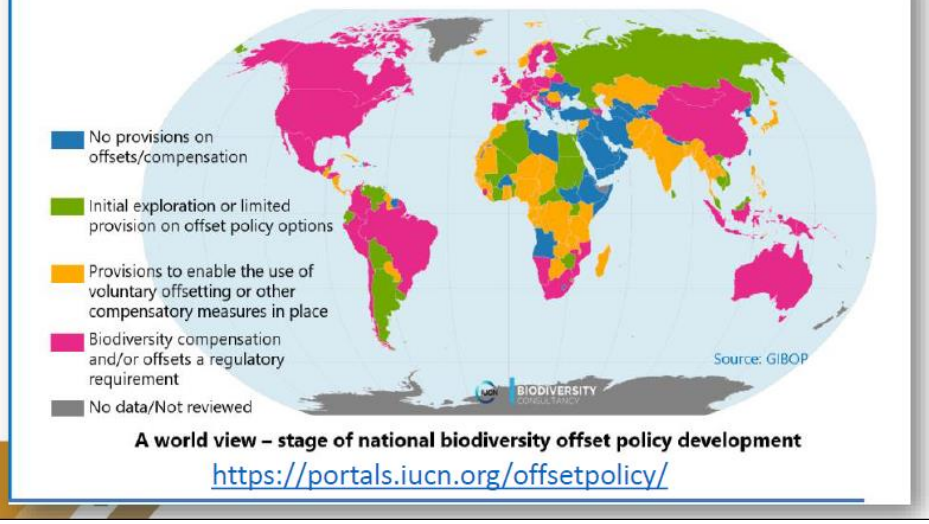
- We focussed on two areas for spatial assessments:



Where spatial assessments were done to establish the extent of development pressures and where concerns are from an environmental and underground water perspective.

International: Biodiversity Offsets

1992 2004 2010 2014 2016 2017 2018 2020-22



A world view – stage of national biodiversity offset policy development

https://portals.iucn.org/offsetpolicy/

South Africa: Biodiversity Offsets

NC1st offset

WC: Info doc on BO

Forestry: Guidance on Offsets

KZN: Guideline on BO

WC: Guideline on BO (revised)

NC: Contra-Account Research as form of Offset

NC: Streamlining BO implementation in NC

2010 2011 2012 2013 2015 2017 2017 2018 2022

Draft National Framework for Biodiversity Offsets Financial BO not an offset

Draft National Policy on BO

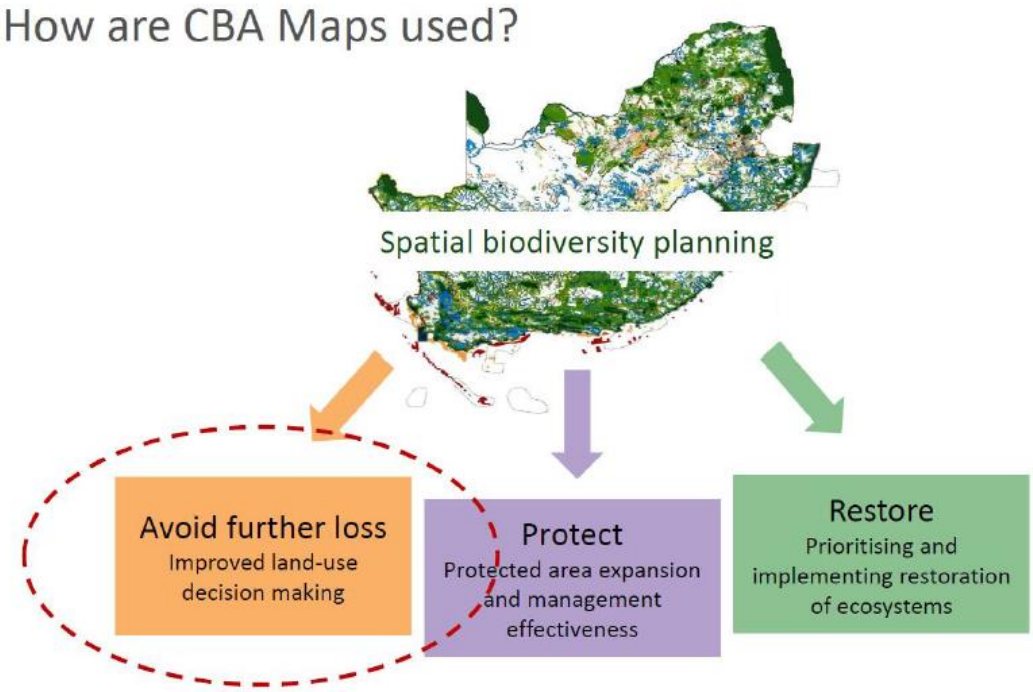
Gazette: Public Comment

Draft National Overall Policy on Environmental and Biodiversity Offsetting in SA

Draft National Biodiversity Offset Guideline

Gazette: Public Comment

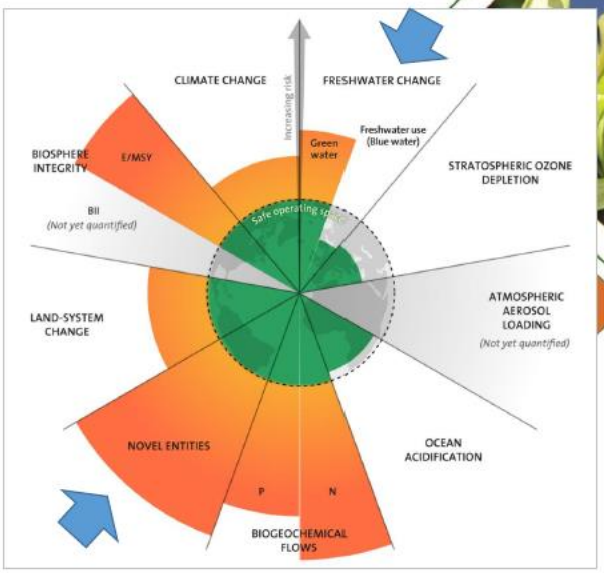
The two slides on offsets reflect how Biodiversity Offsets developed over time within an international and national context, down to Northern Cape level.



Slide on how the Critical Biodiversity Area map is / should be used.

Planetary boundaries

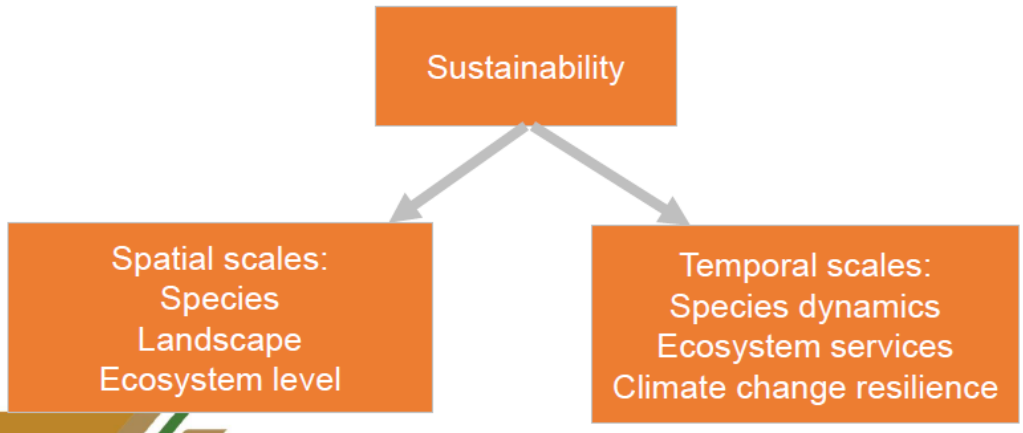
- Processes that regulate the stability and resilience of the Earth system.
- Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes.
- 6 of 9 boundaries crossed.
- January 2022 crossed:
  - environmental pollutants and "novel entities" including plastics.
- April 2022 crossed:
  - freshwater boundary



(Stockholm Resilience Centre, 2022)

Scales of sustainability

- Species
- Landscape
- Ecosystem level



The above two slides are on sustainability where the first reflect on international scale where unsustainable practices are threating our future existence and the second reflect that sustainability is assessed on various scales i.t.o. time and space.