

Global Drought Snapshot 2023

THE NEED FOR PROACTIVE ACTION

Alliance
International Drought
Resilience Alliance



United Nations
Convention to Combat
Desertification

United for land





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Drought quietly wreaks havoc on the only inhabitable planet we know of with far-reaching consequences for ecosystems, economies, and human lives. Unlike other disasters that attract media attention, droughts operate in silence, often going unnoticed and failing to provoke an immediate public and political response. This silent devastation perpetuates a cycle of neglect, leaving affected populations to bear the

A critical aspect of building global drought resilience is the promotion of land restoration, sustainable land management and nature-positive agricultural practices. By adopting nature-positive farming techniques, such as drought-resistant crops, efficient irrigation methods, no-till and other soil conservation practices, farmers can reduce the impact of drought on their crops and incomes. Several findings in this report highlight this fact.

Another key component of global drought

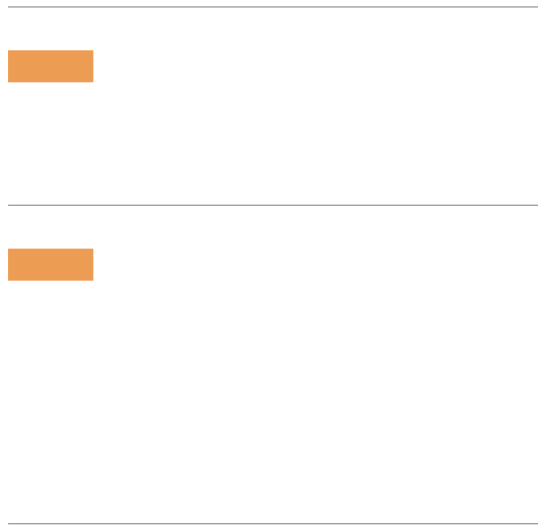
PRESENT IMPACTS





DROUGHT AT A GLANCE

GLOBAL The drought we made:
Humans are responsible for all global heating over the past 200 years leading to a current temperature rise of 1.1°C above pre-industrial levels.





GLOBAL Drought creates forced migration:
98 per cent of the 32.6 million new disaster
displacements in 2022 were the result of
weather-related hazards such as storms, floods
and droughts. (Migration Data Portal, 2023)

NORTH AMERICA


HOW ARE IMPACTS BEING DETECTED?

GLOBAL A recently developed method combined satellite measurements with high-resolution meteorological data, improving the resolution of the water distribution maps that are generated from around 300 kilometers to 50 kilometers (Gerdener et al., 2023)







GLOBAL Drought has multiple negative impacts even within a single domain. For example, droughts severely impact ecosystems with homogeneous vegetation, which are most susceptible to drought, especially under long-term drought conditions (Ding et al., 2020). Besides, drought can lead to the migration or even the extinction of entire animal



CASCADING EFFECTS ON ECOLOGICAL SYSTEMS

ASIA Glaciers in the High Mountain Asia region have lost significant mass over the past 40 years, and the loss is accelerating. In 2022, exceptionally warm and dry conditions exacerbated the mass loss for most glaciers (WMO, 2023c)





GLOBAL Between 2010 and 2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability (IPCC, 2023)

GLOBAL

GLOBAL

GLOBAL

THE ECONOMICS OF DROUGHT

AFRICA According to the International Disaster Database (EM-DAT), drought occurrences between 1950 and 2021 affected close to half a billion people on the African continent (Ayugi et al., 2022)

AFRICA

AFRICA

AFRICA

POSSIBLE FUTURES

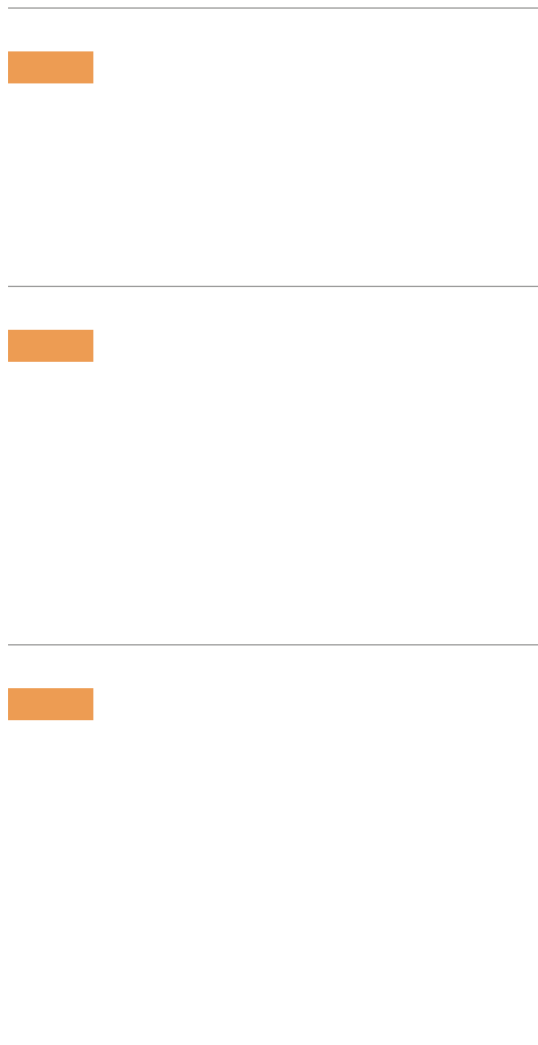





FALSE FACTS AND FAKE SOLUTIONS


GLOBAL No need for climate action:

A cross-national study shows a considerable spread of misconceptions about climate change in the surveyed countries. 33% of the surveyed



GLOBAL Global heating and changes to how the land is used, especially deforestation, are among the biggest factors responsible for humanity's transgression of this [water-related] planetary boundary. Their combined influence indicates that the planetary boundaries interact and need to be treated as one networked system (Tobian






THE OPTIONS ON THE TABLE

GLOBAL A study shows that sustainable development would reduce population exposure to drought by 70% compared to fossil-fuelled development (Tabari & Willems, 2023)

GLOBAL

GLOBAL

GLOBAL The UN Decade on Ecosystem Restoration is helping to deliver on commitments to restore 1 billion hectares of land by 2030. In 2022, the Decade awarded the first 10 World Restoration Flagships, which seek to restore more than 68 million hectares and create nearly



AFRICA Every US dollar invested into land restoration [in the Great Green Wall] yields on average US\$1.2 under the base scenario, ranging from US\$1.1 to US\$4.4 across the scenarios. At most, ten years are needed for land restoration activities to break even from the social perspec-



THE SCALE AND COMMITMENT WE NEED

GLOBAL The threat of a mass extinction of plant and animal species led 195 nations to agree to protect and restore at least 30% of the Earth's land and water by 2030 (CBD, 2022)

GLOBAL





EPILOGUE





EPILOGUE

All facts and figures point to one direction: the need to move forward to a more drought-resilient future is immanent and without alternative. We are facing an unprecedented emergency on

*You didn't come into this world.
You came out of it, like a wave
from the ocean.*

Allan Watts

LIST OF REFERENCES

DATA SOURCES FOR
FIGURES

DROUGHT SPECIFIC
DATABASES AND
PORTALS

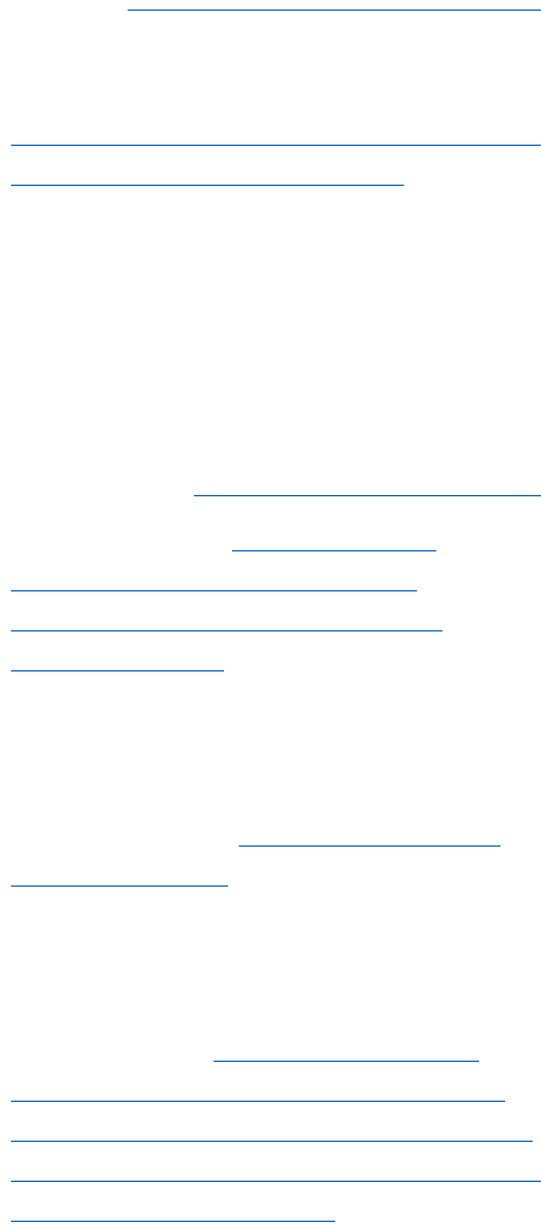


LIST OF REFERENCES

Ahmadi, B., & Moradkhani, H. (2019). Revisiting hydrological drought propagation and recovery considering water quantity and quality. *Hydrological Processes*, 33(10), 1492–1505.

Ha, T. V., Huth, J., Bachofer, F., & Kuenzer, C. (2022).
A Review of Earth Observation-Based Drought
Studies in Southeast Asia. *Remote Sensing*, 14(15),
3763. <https://doi.org/10.3390/rs14153764>

Rossi, L., Wens, M., De Moel, H., Cotti, D., Sabino
Siemons, A., Toreti, A., Maetens, W., Masante,
D., Van Loon, A., Hagenlocher, M., Rudari, R.,
Naumann, G., Meroni, M., Avanzi, F., Isabellon, M.
and Barbosa, P. (2023). European Drought Risk
Atlas, Publications Office of the European Union,



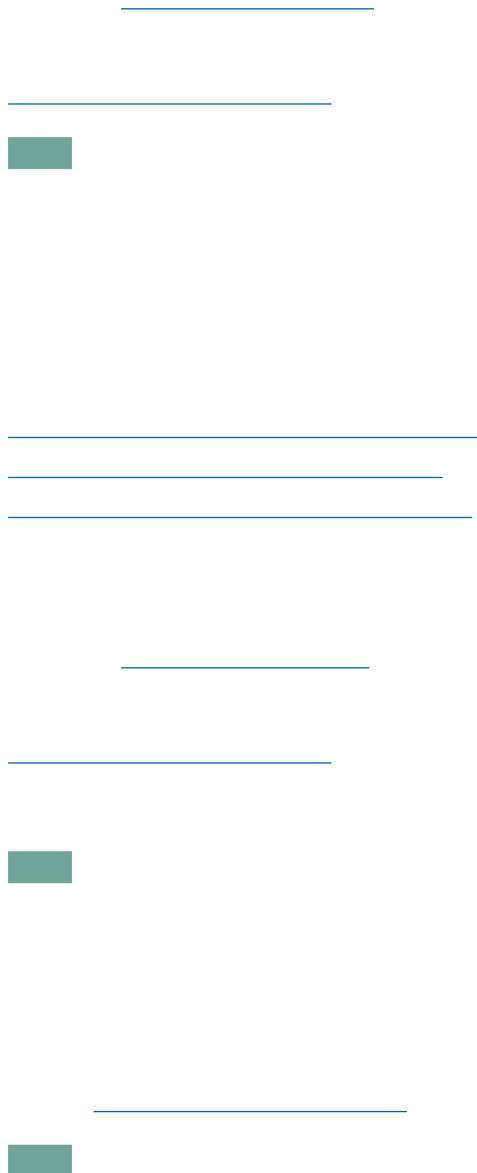
World Agroforestry. (2022). Asia's target res-

FIG

Countries that reported on Drought 2022-23
(EM-DAT Data base)

Design: SEE-International

Guha-Sapir, D. & Below, R. & Hoyois, Ph. (2023).



Famine Early Warning Systems Network. (2023).
<https://fews.net/>

IOM. (2023) Report Displacement Tracking.

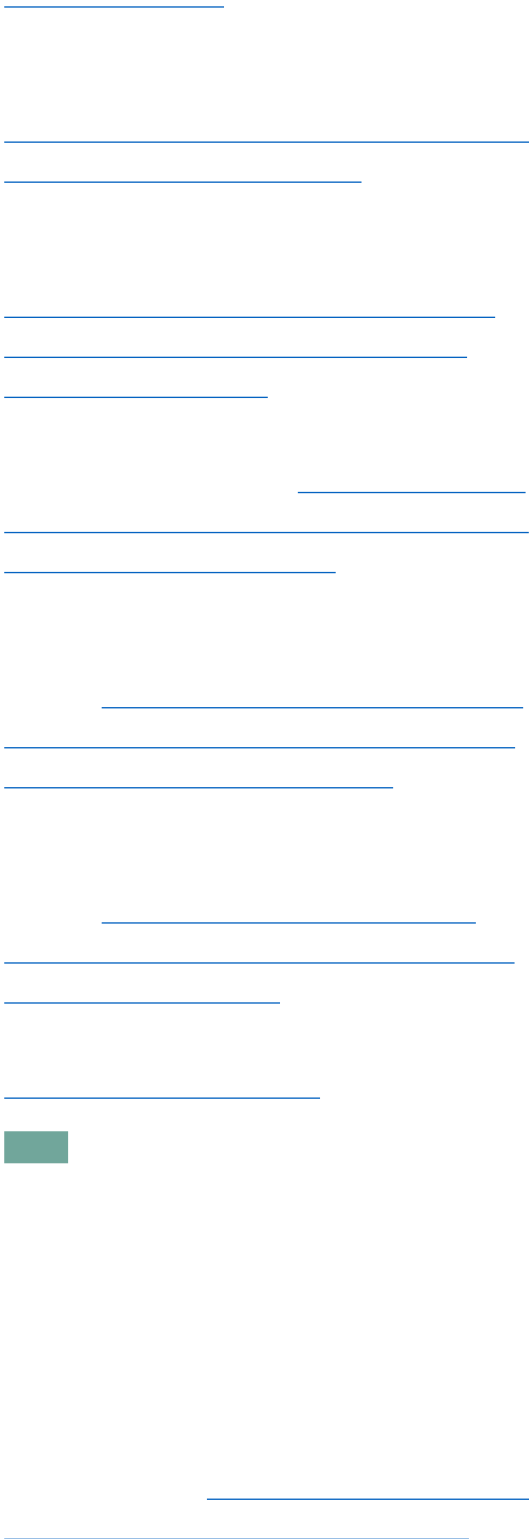


FIG.

Global map of scalable best practices

Design: SEE-International

UNESCO. (2023). Best practices on flood and



The United Nations Convention to Combat Desertification (UNCCD) – Drought Toolbox

<https://knowledge.unccd.int/drought-toolbox>

The UNCCD developed the drought toolbox for providing drought stakeholders with easy access to resources to support action on drought preparedness to boost the resilience of people and ecosystems.

Drought Calculator





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