Economic and Social Commission for Western Asia

Climate Change Impacts upon Shared Water Basins

Medjerda River Basin Case Study

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Shared Prosperity Dignified Life

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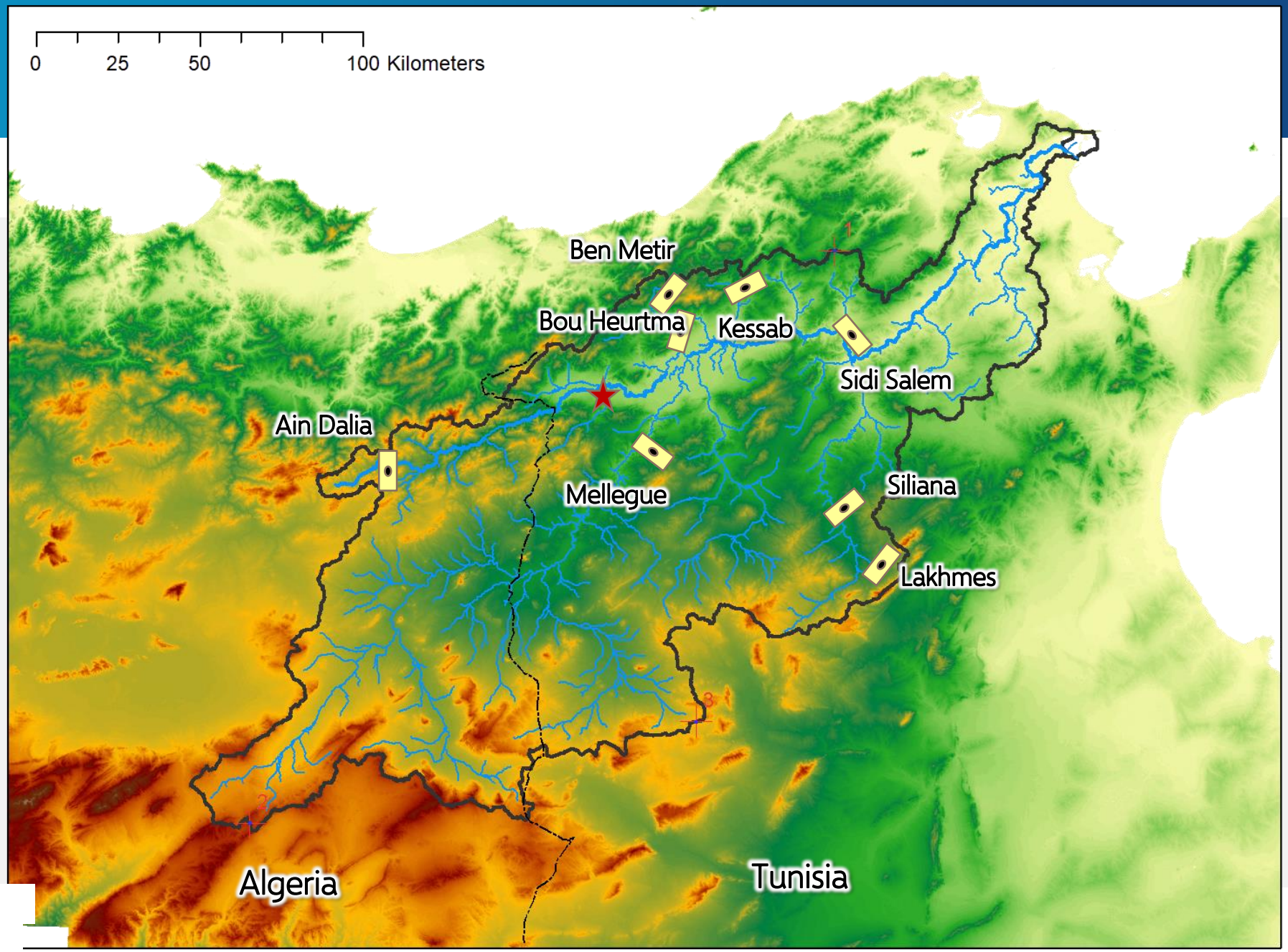
Medjerda River Basin

Basin area = 23,700 km^2 (7,870 km^2 in Algeria)

Largest dam embankment: Sidi Salem (814 Mm^3 storage capacity) serves as flood protection, irrigation, water supply, hydroelectric power

Ave annual discharge at Jendouba ( ) = 10 m^3/s (2000-2016)[1]

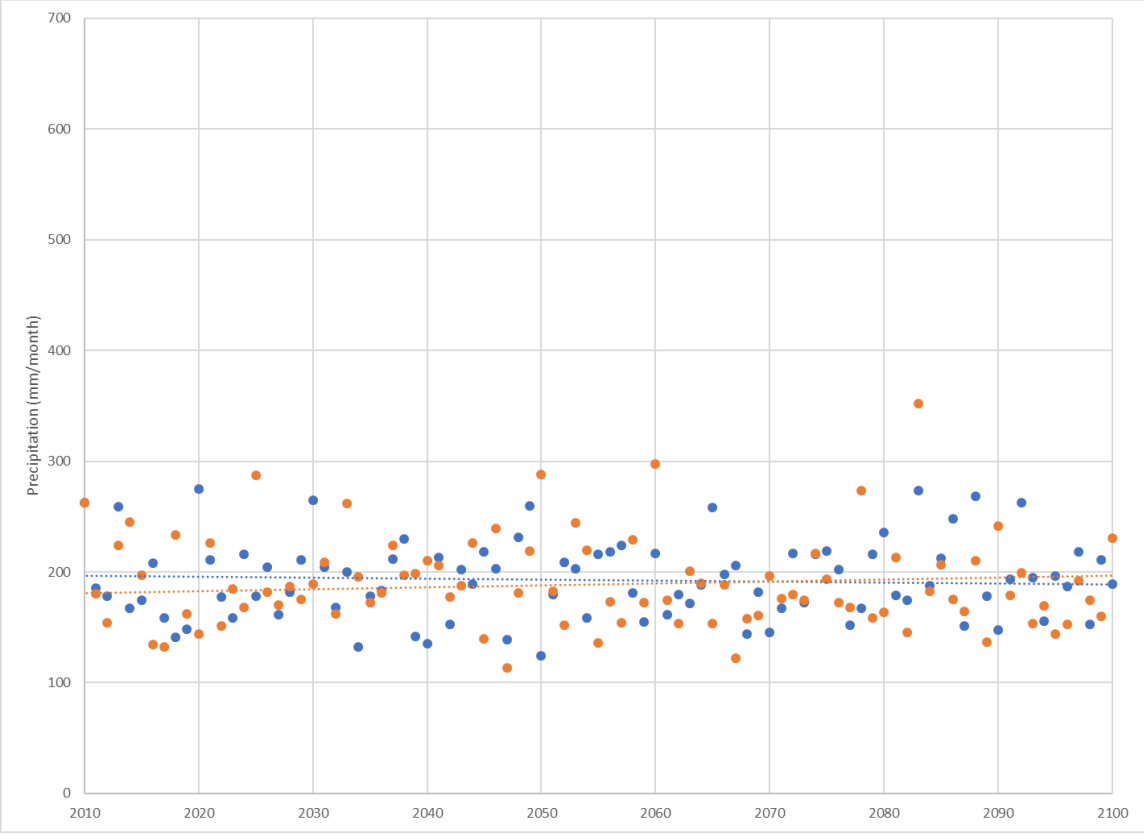


[1] Fehri, R., et al. (2019). Disaggregating SDG-6 water stress indicator at different spatial and temporal scales in Tunisia. *Science of the Total Environment*. 694.

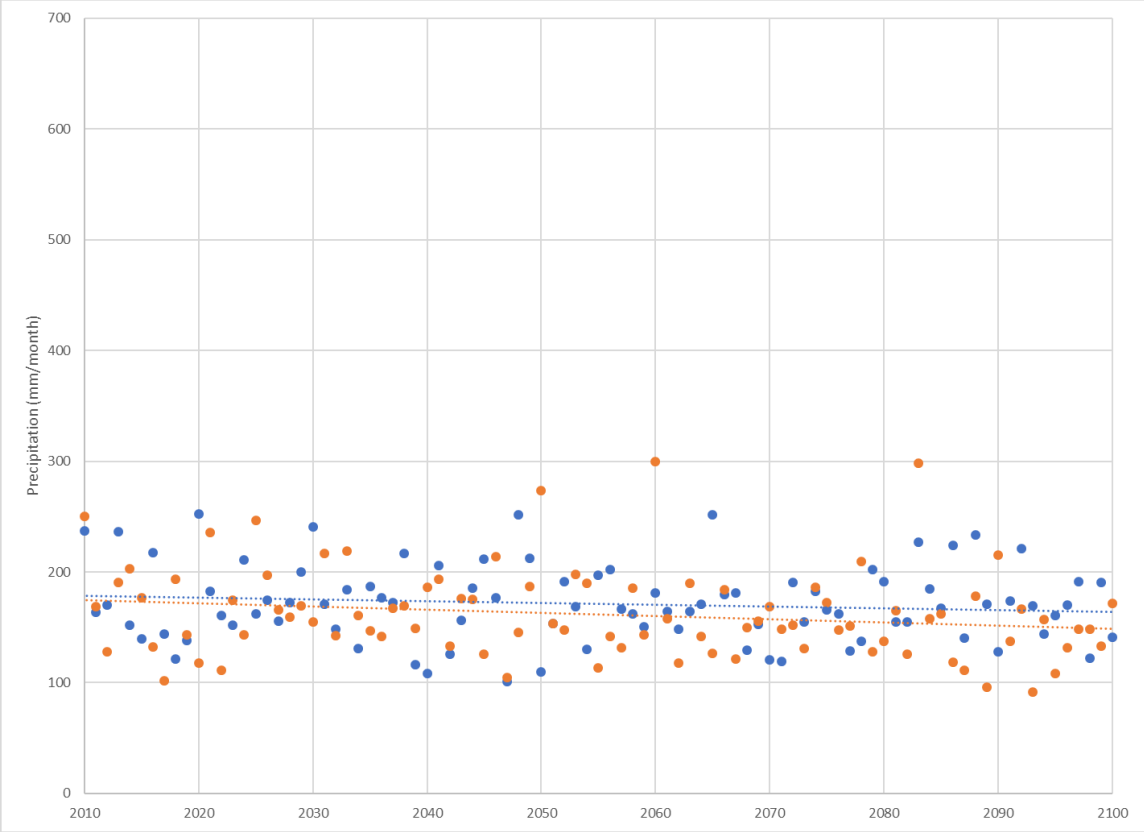
Average Monthly Precipitation (May-Oct)

Medjerda River Basin

Algeria



Tunisia



RCP4.5 RCP8.5

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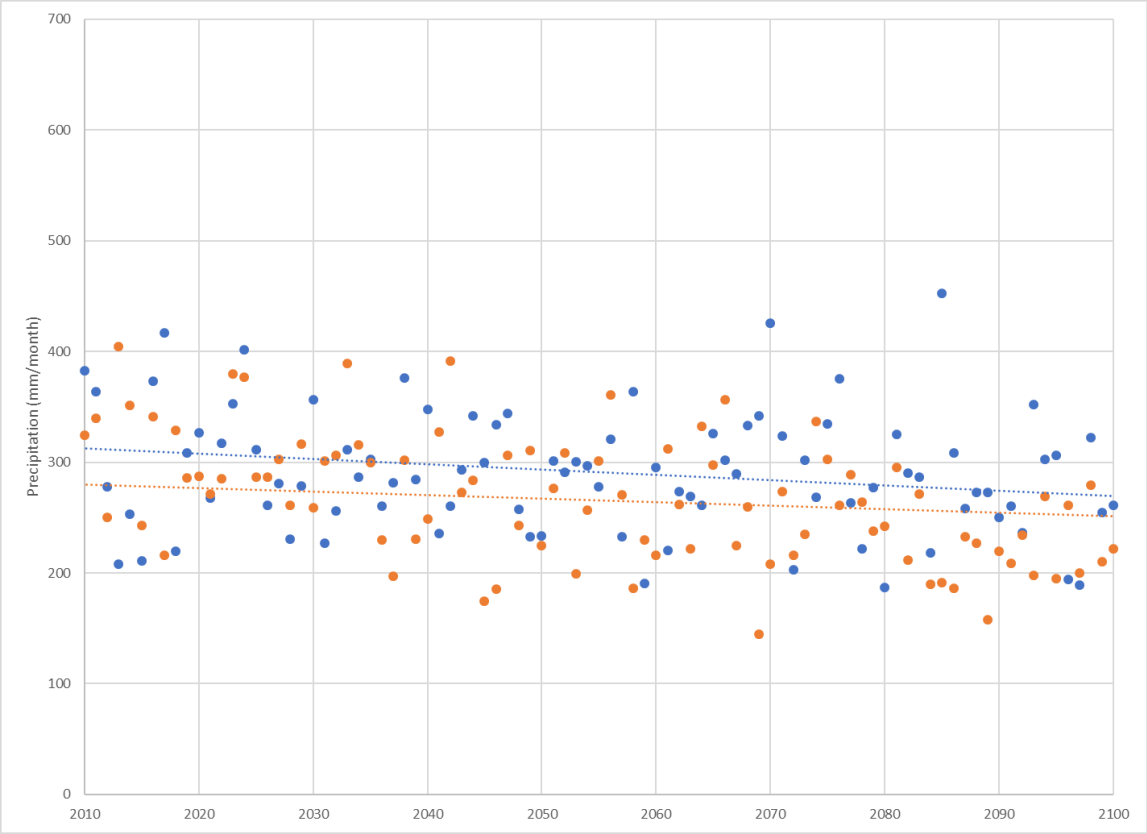
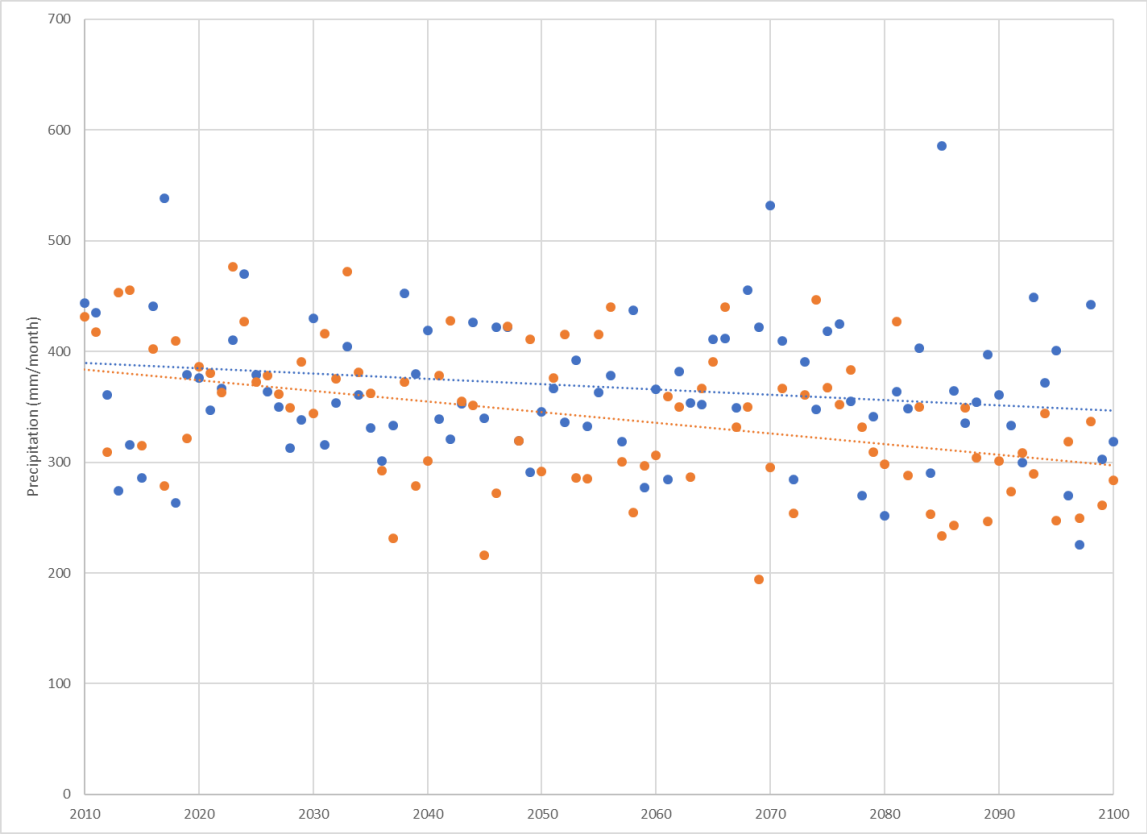
Average Monthly Precipitation (Nov-Apr)

Medjerda River Basin

Algeria



Tunisia



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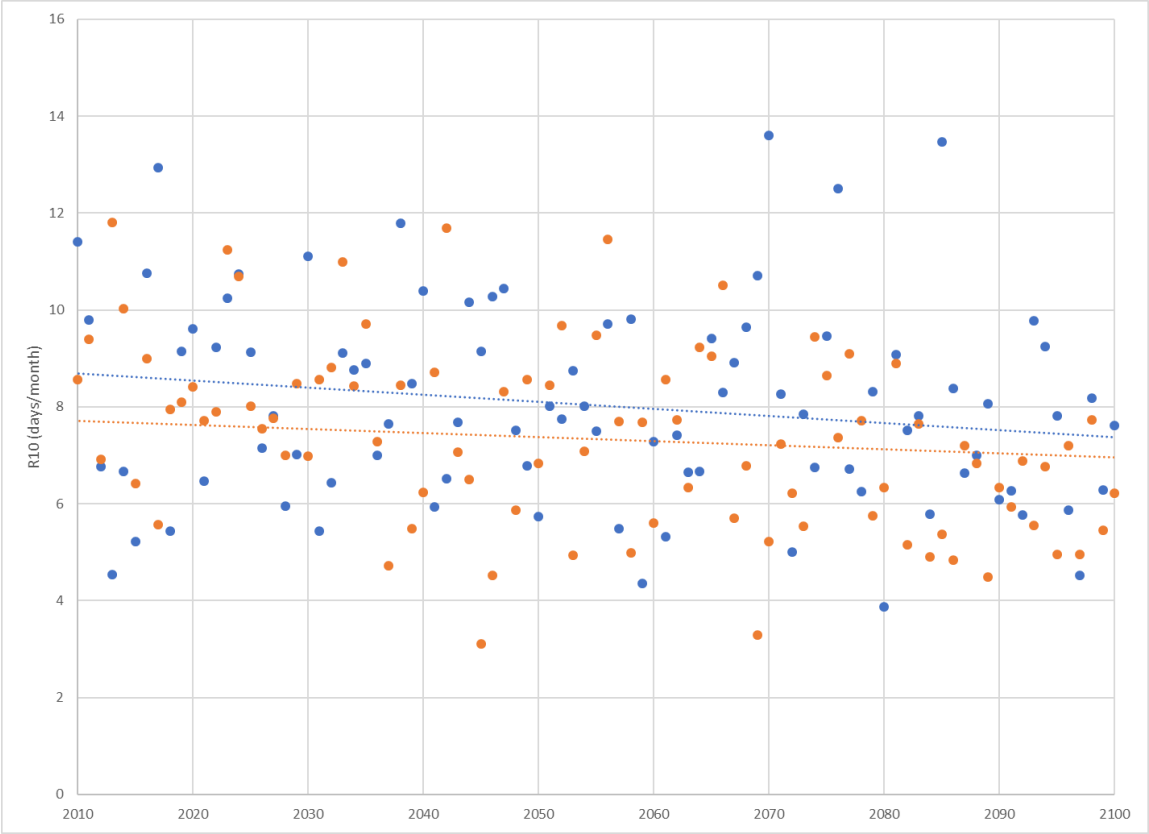
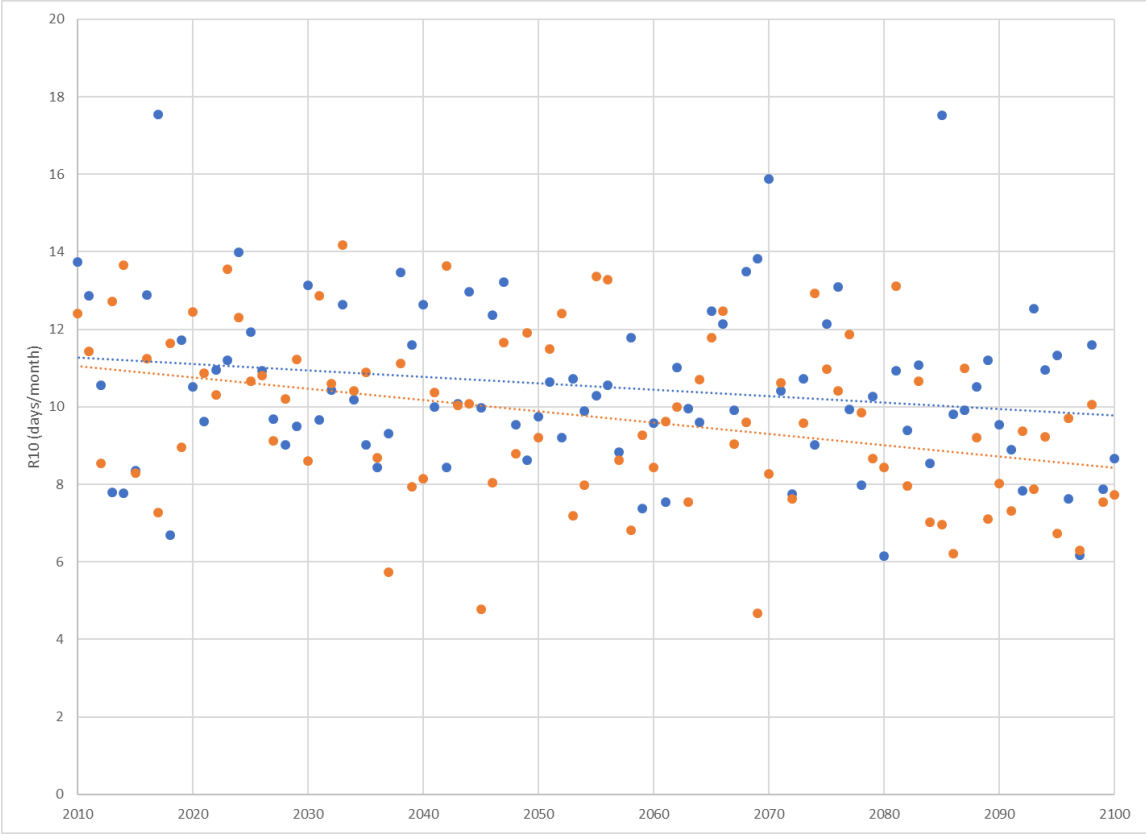
Average Number of Heavy Rain Days (> 10 mm) (Nov-Apr)

Medjerda River Basin

Algeria



Tunisia



RCP4.5 RCP8.5

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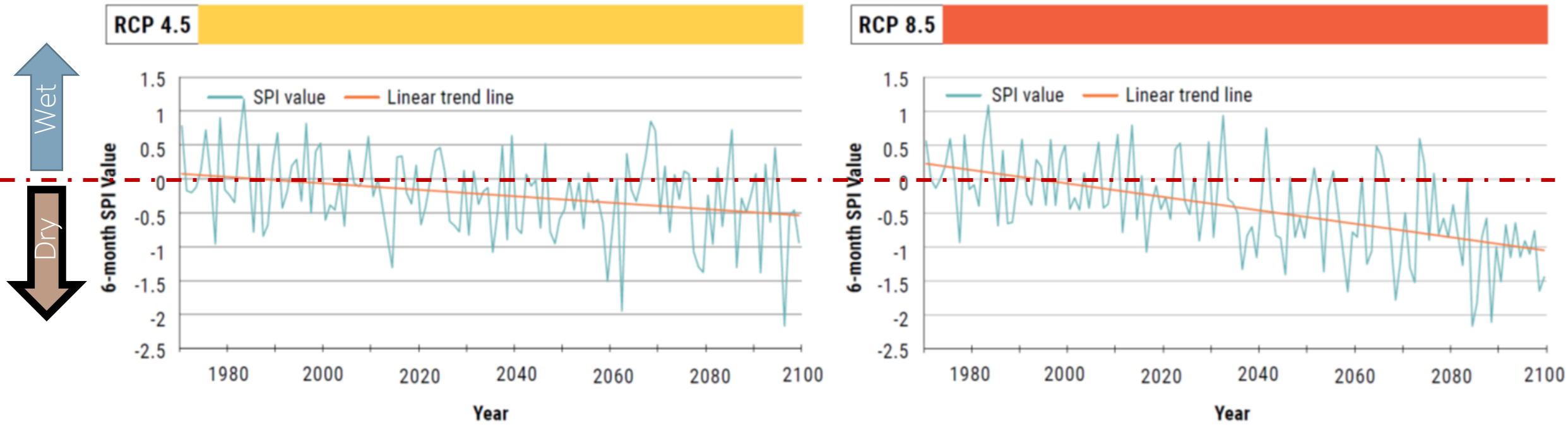
Standardized Precipitation Index (SPI) – Drought Indicator 6-month (Nov-Apr) – Agricultural

Medjerda River Basin



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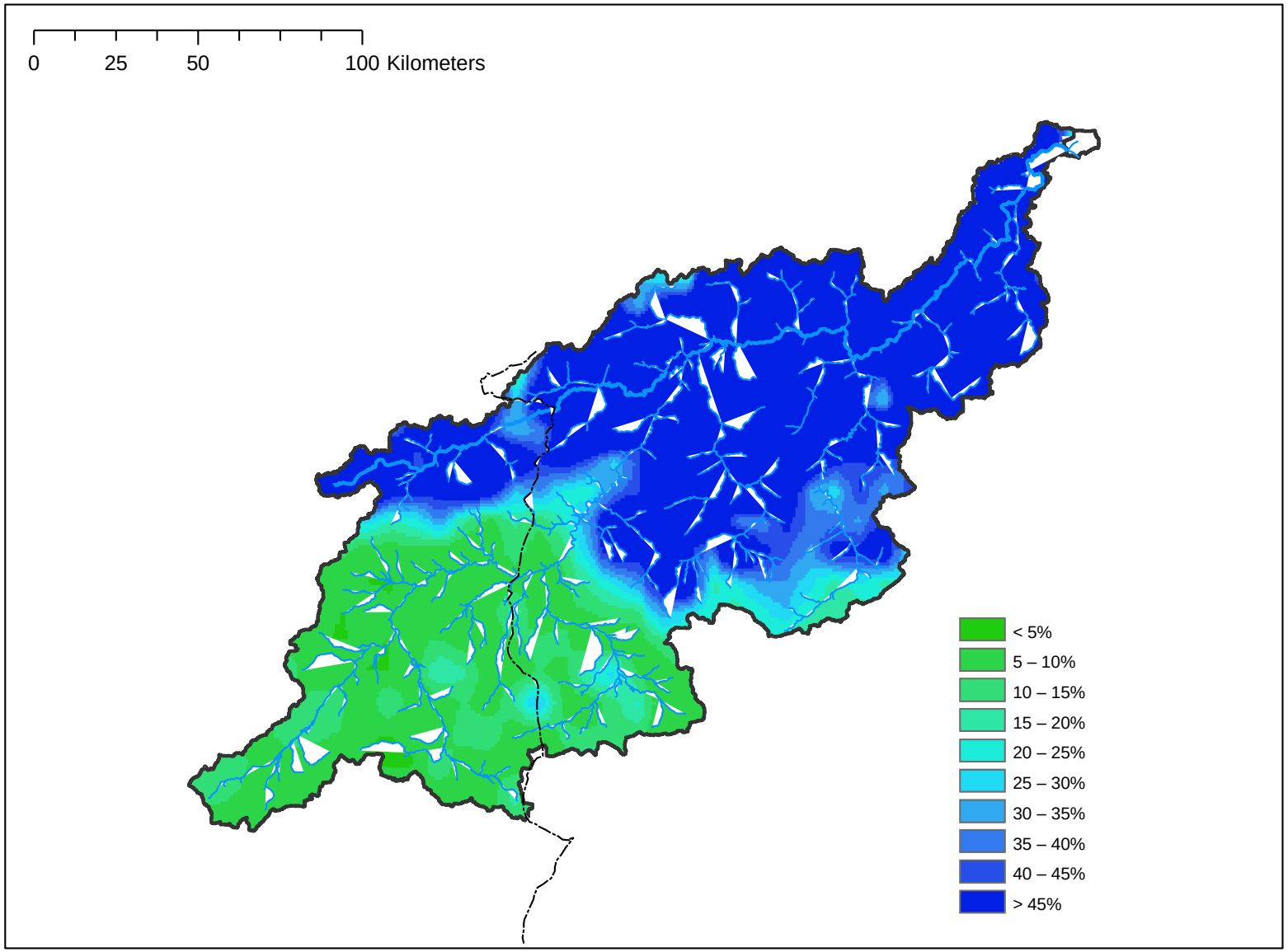

Rainfed Croplands

Rainfed cultivated land, Harmonized World Soil Database v 1.2 (2014)

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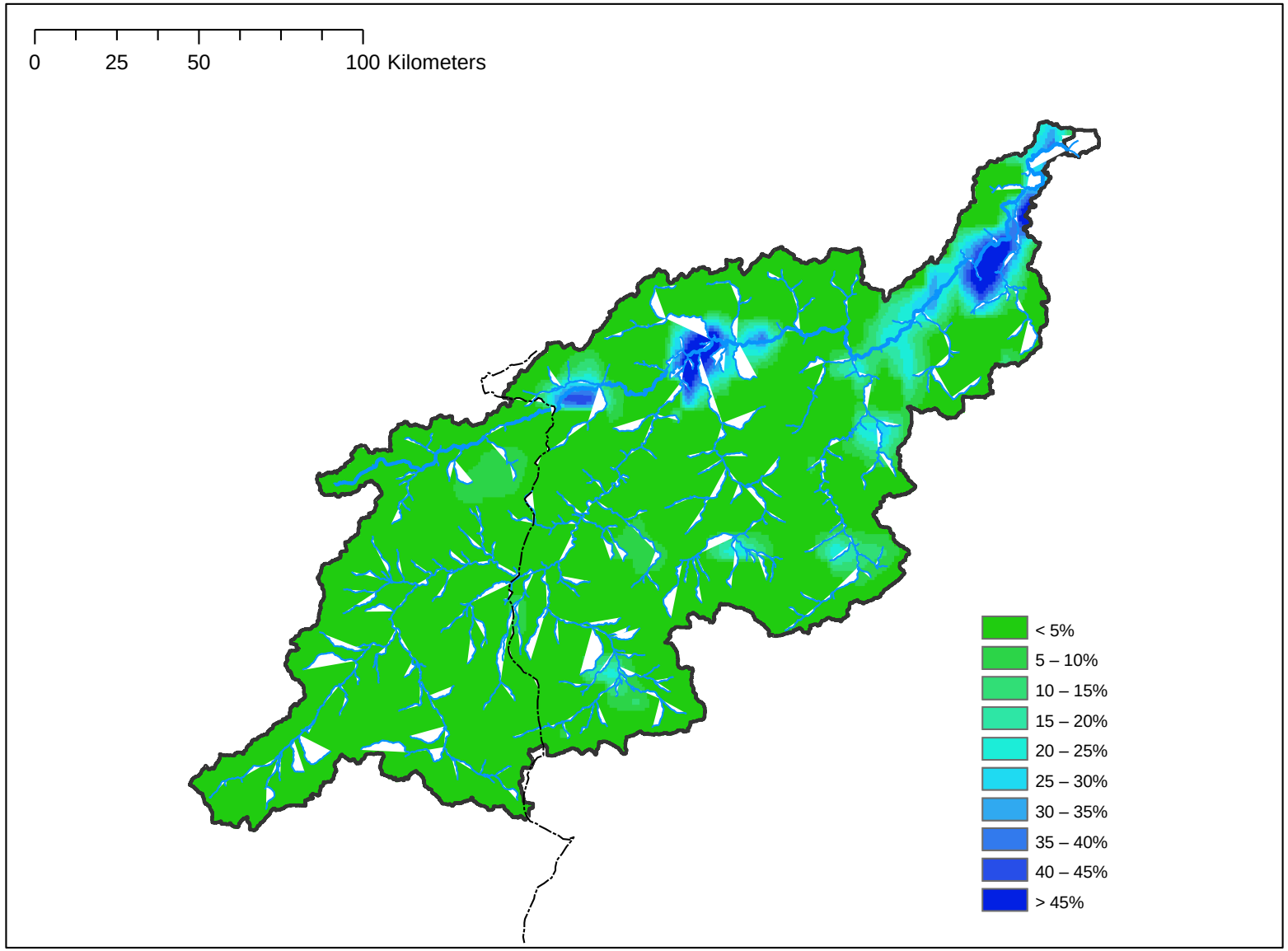

Irrigated Croplands

Global Map of Irrigation Areas, version 5 (2013)

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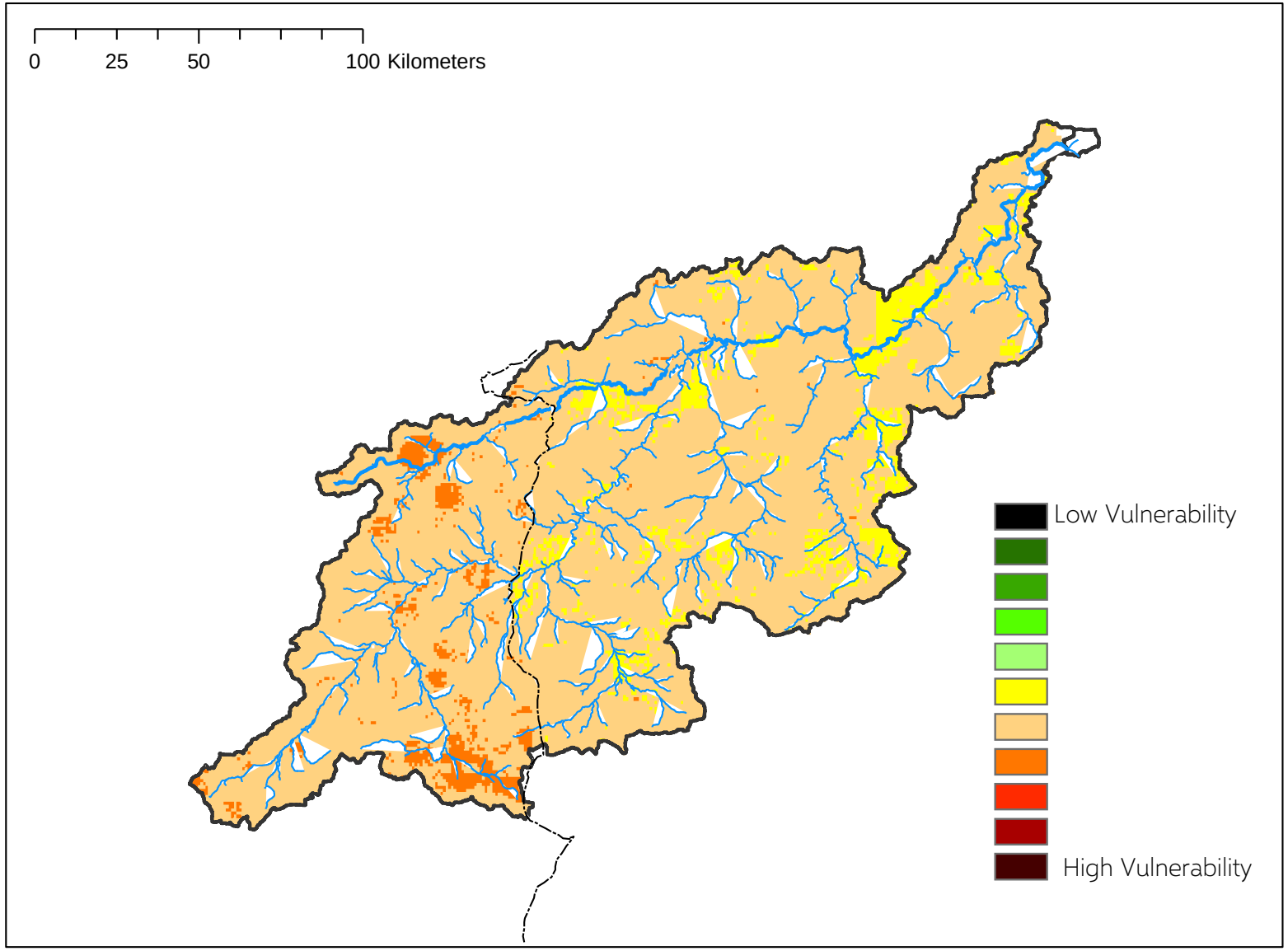

Vulnerability Water Availability (Mid-Century RCP8.5)

RICCAR

Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region

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Climate Change and Shared Water Basins

Key Messages

- Climate change impacts have no boundaries thus emphasizing need for transboundary cooperation
- Climate change can increase pressure on water resources
- A vulnerability assessment can be a key decision-making tool and is especially important for transboundary basins as reducing vulnerability in one subbasin area can affect vulnerability in another
- Basin-wide adaptation strategies should prioritize adaptation measures beneficial from the basin perspective

Medjerda River June 2008
https://www.flickr.com/photos/akhenaton_akhenaton/2578184975

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Thank you

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