Climate Change Impacts upon Shared Water Basins

Medjerda River Basin Case Study

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Basin area = 23,700 km²
(7,870 km² in Algeria)

Largest dam embankment:
Sidi Salem (814 Mm³ storage capacity) serves as flood protection, irrigation, water supply, hydroelectric power

Ave annual discharge at Jendouba (   ) = 10 m³/s (2000-2016)

Average Monthly Precipitation (May-Oct)
Medjerda River Basin

Algeria

Tunisia

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Average Monthly Precipitation (Nov-Apr)
Medjerda River Basin

Algeria

Tunisia

RCP4.5  RCP8.5

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

Algeria

Tunisia

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Standardized Precipitation Index (SPI) – Drought Indicator
6-month (Nov-Apr) – Agricultural Medjerda River Basin
Rainfed Croplands

Rainfed cultivated land, Harmonized World Soil Database v1.2 (2014)
Vulnerability
Water Availability
(Mid-Century RCP8.5)
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
Thank you