



Vulnerability

Hotspots:

Mapping the Development Challenge in the Arab Region

Marlene Tomaszekiewicz
Climate Change and GIS Expert
ESCWA
Lebanon

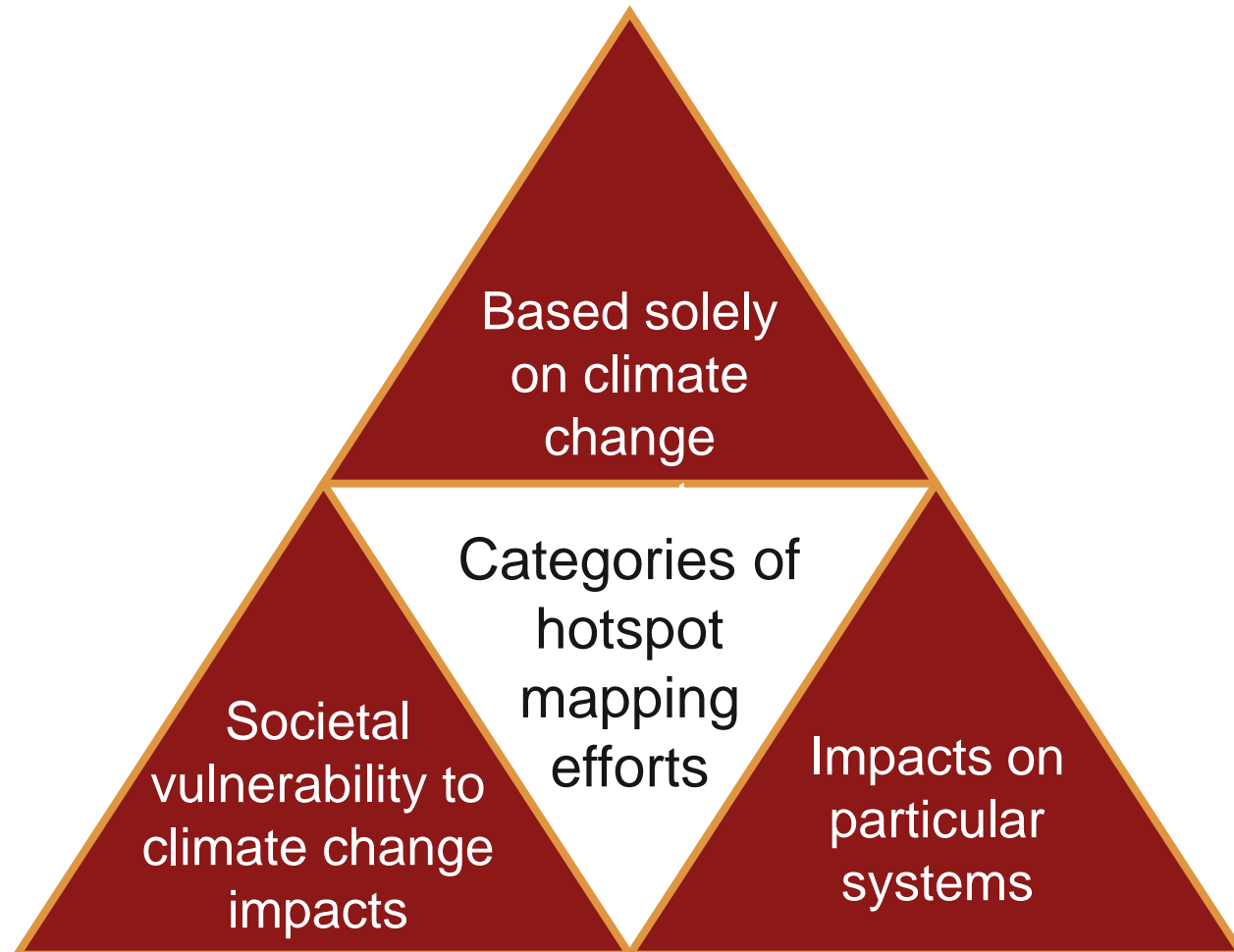
What are vulnerability “hotspots”?

Areas most susceptible to
climate change impacts



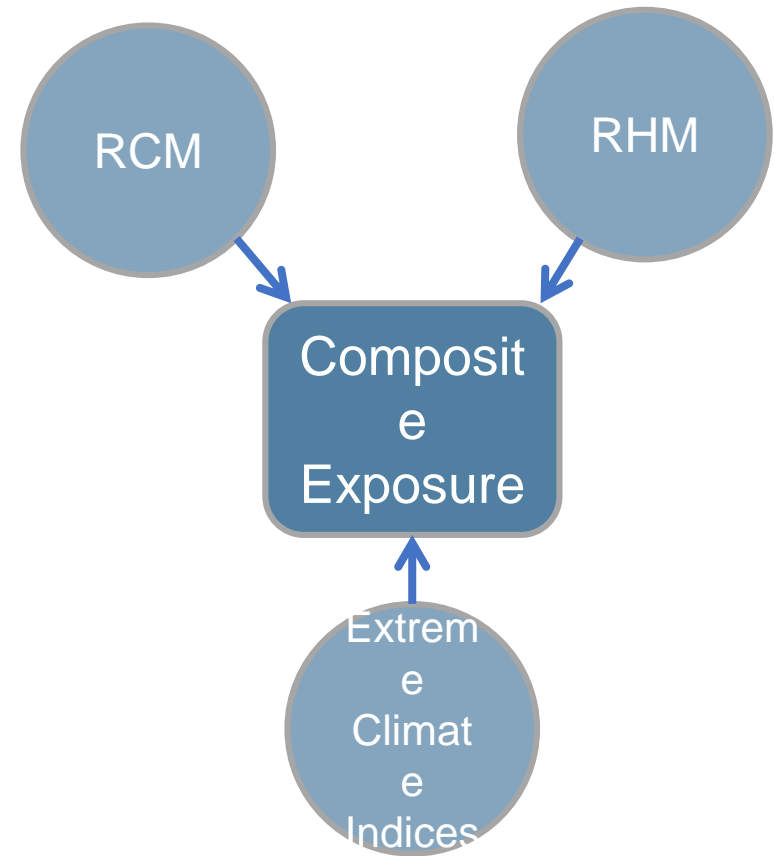
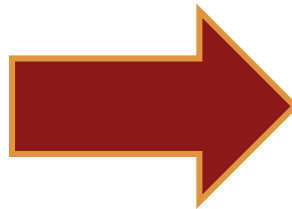
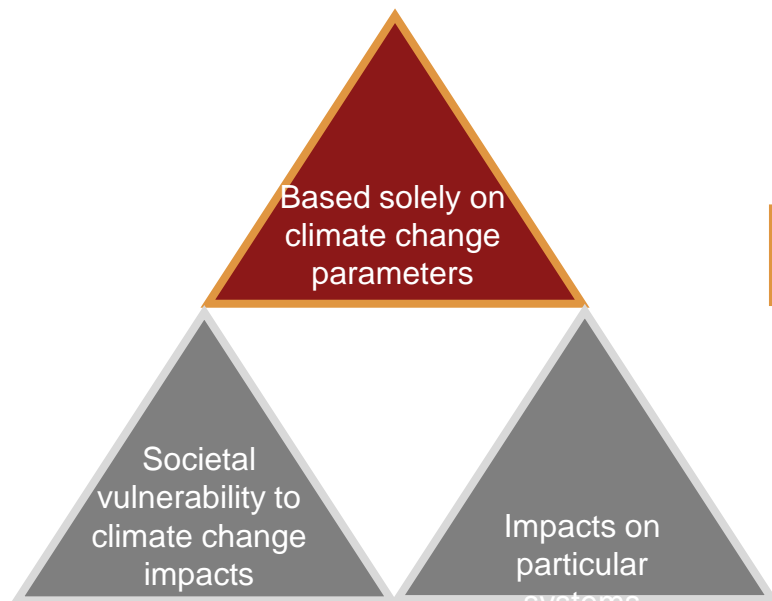
Visual and effective
tools for decision
makers

Mapping vulnerability hotspots



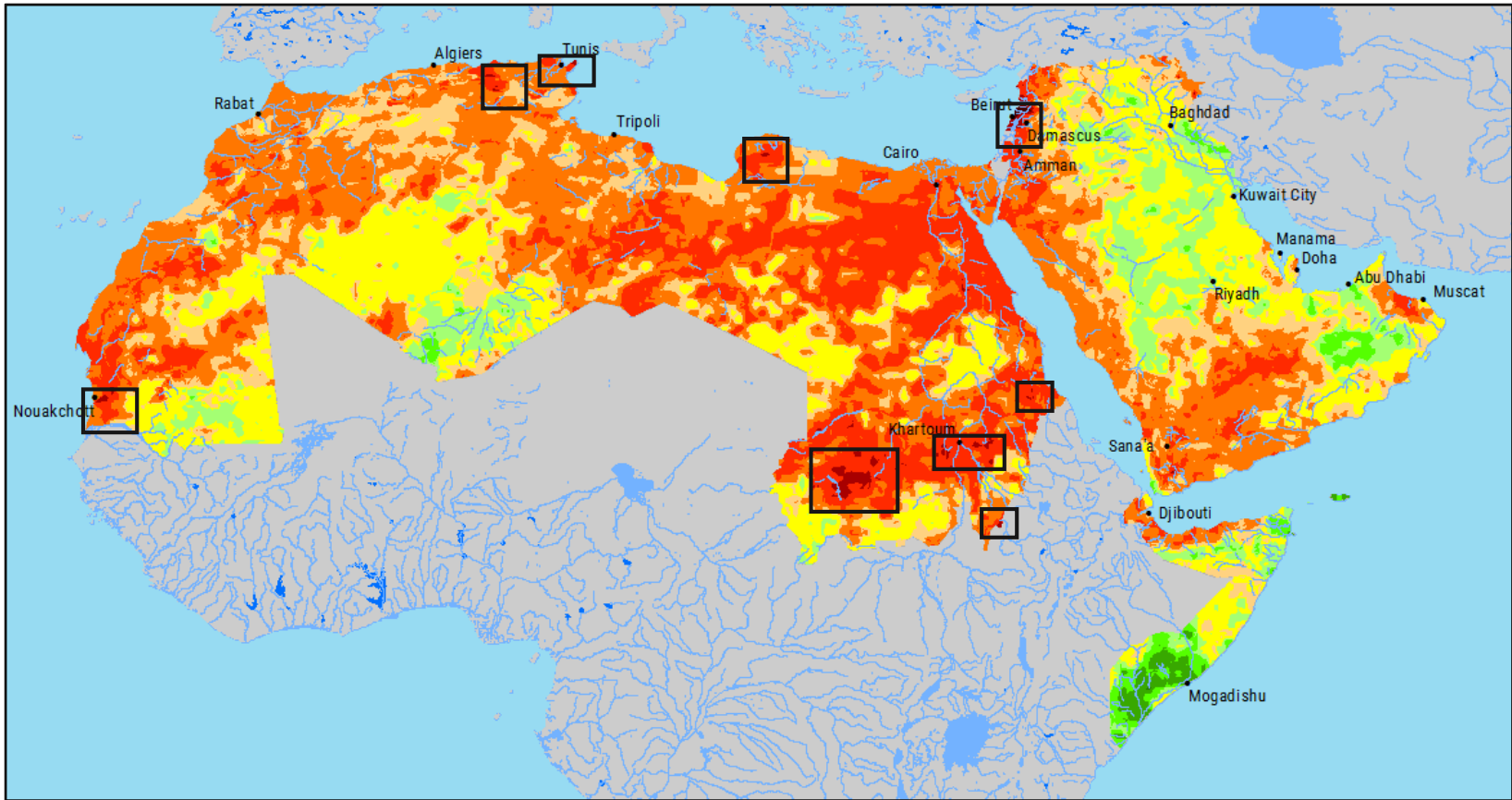
Mapping hotspots:

Based solely on climate change parameters



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SAMPLE EXPOSURE
RCP8.5 END-CENTURY (2081-2100)

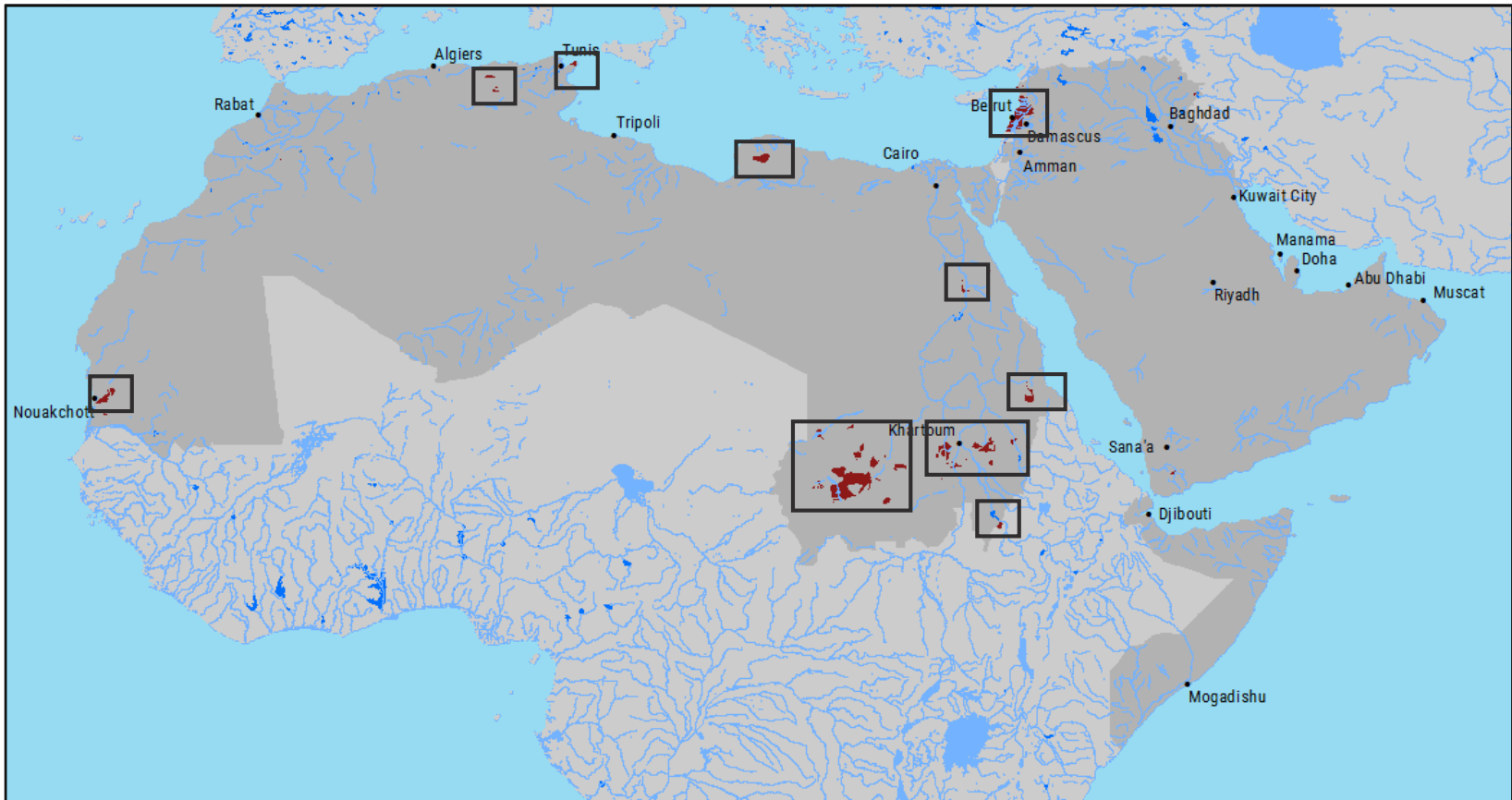
Legend

- Lakes
 - Reservoirs
 - Rivers
 - Intermittent rivers
 - Major cities
- Low Exposure

High Exposure

Mapping hotspots:








Based solely on climate change parameters



SAMPLE HOTSPOTS

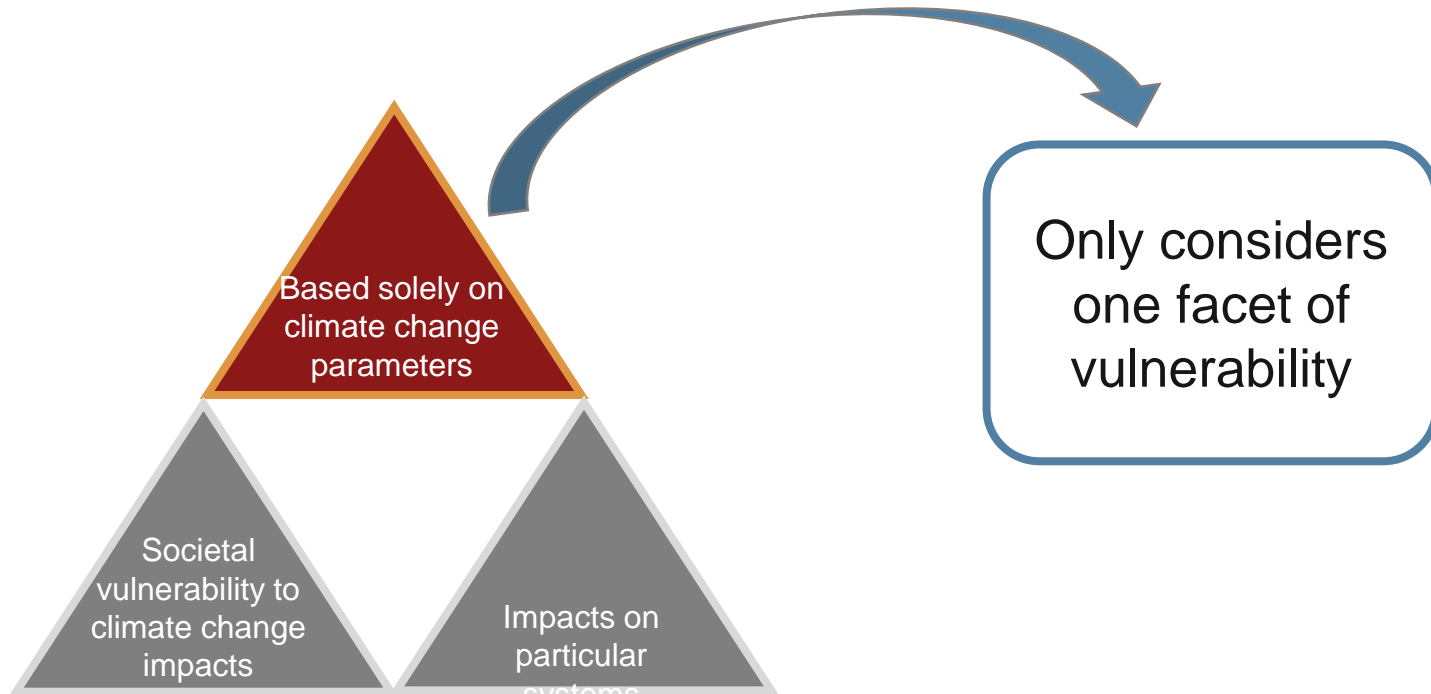
RCP8.5 END-CENTURY (2081-2100)

Legend

- | | | | |
|--|---|--|--|
|  Lakes |  Rivers |  Major cities |  Hotspots |
|  Reservoirs |  Intermittent rivers |  Arab region | |

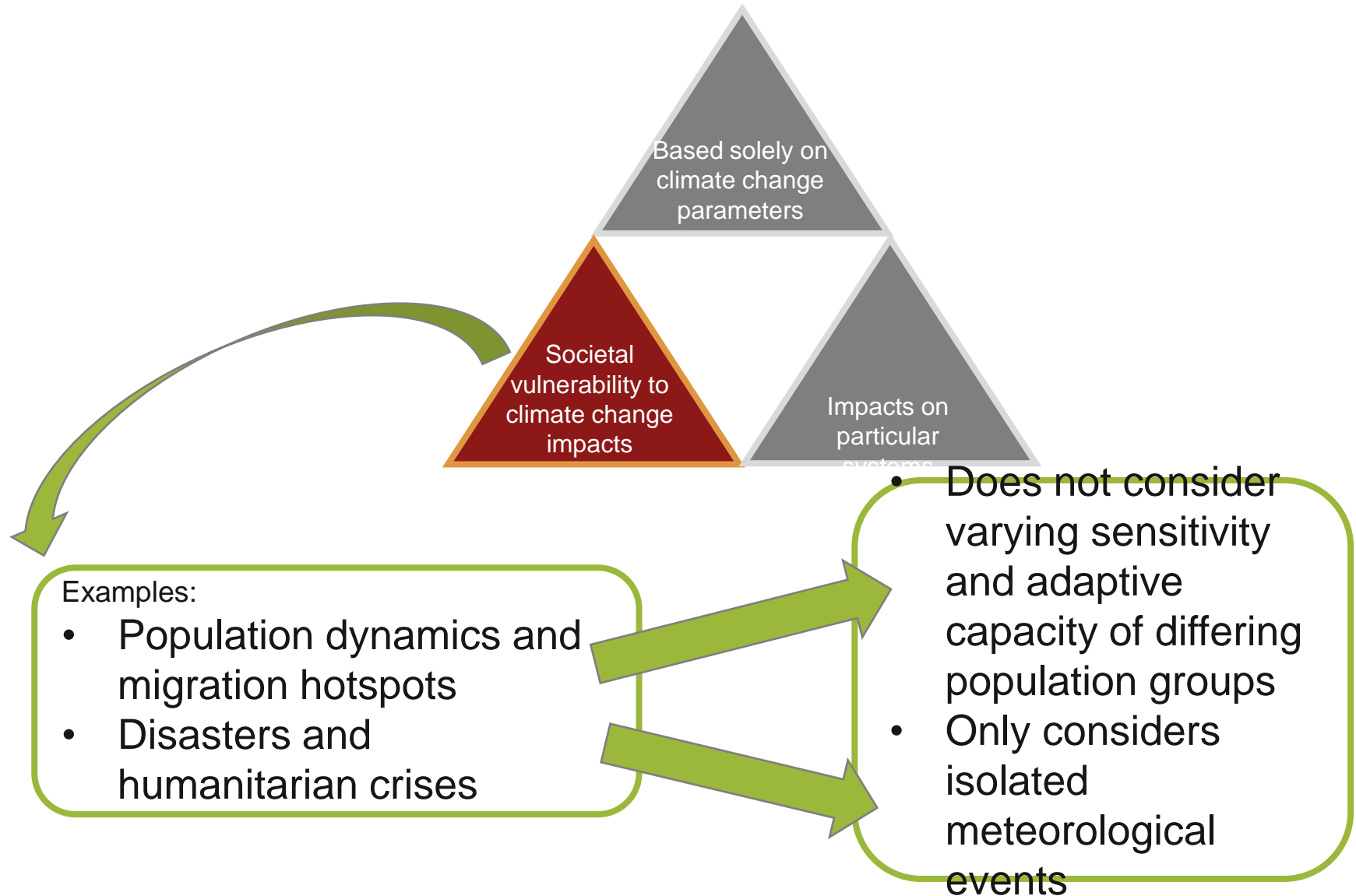
Mapping hotspots:

Review of differing approaches



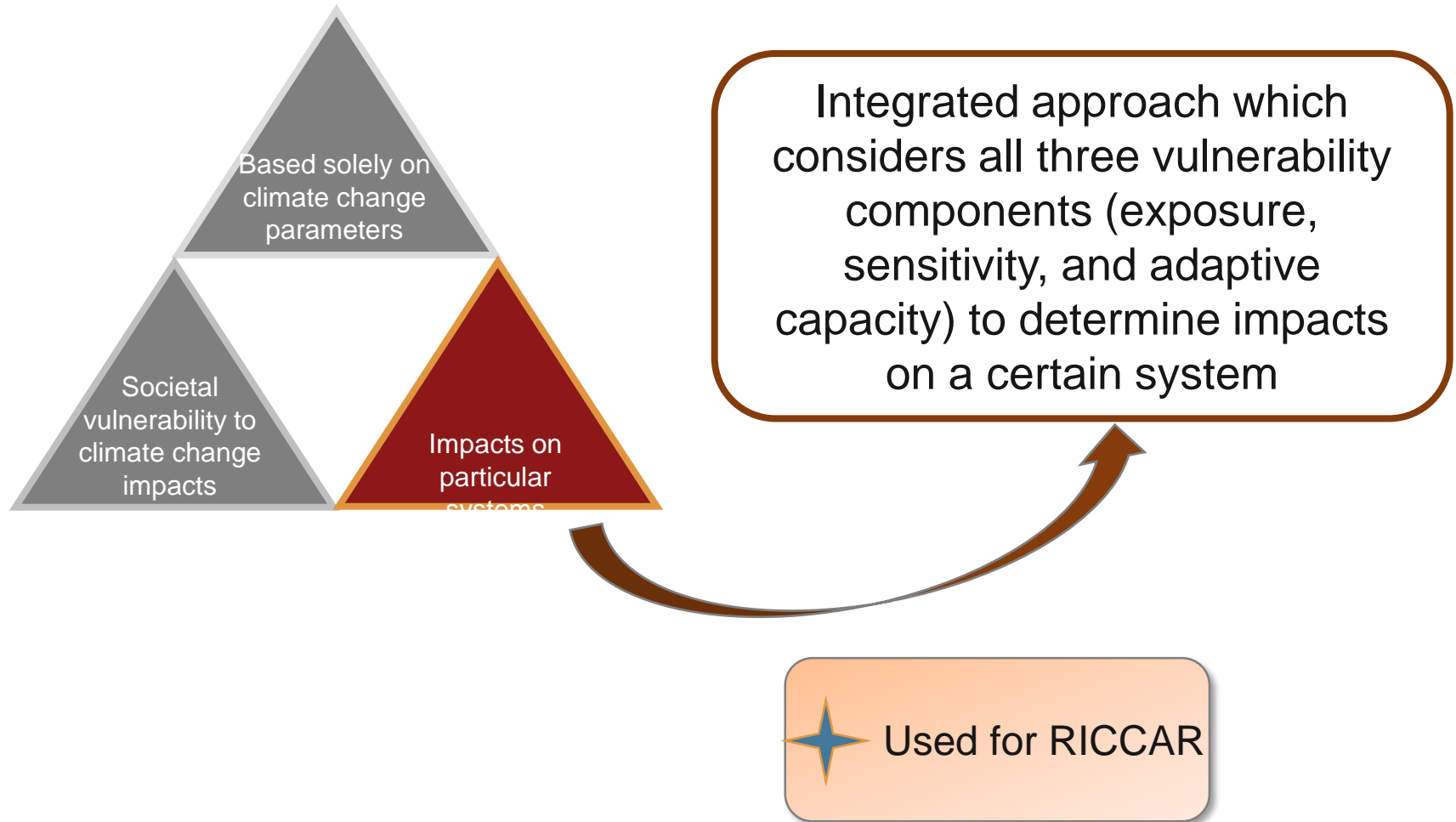
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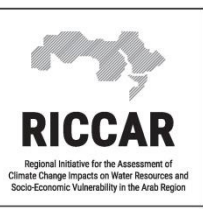


Mapping hotspots:

Review of differing approaches



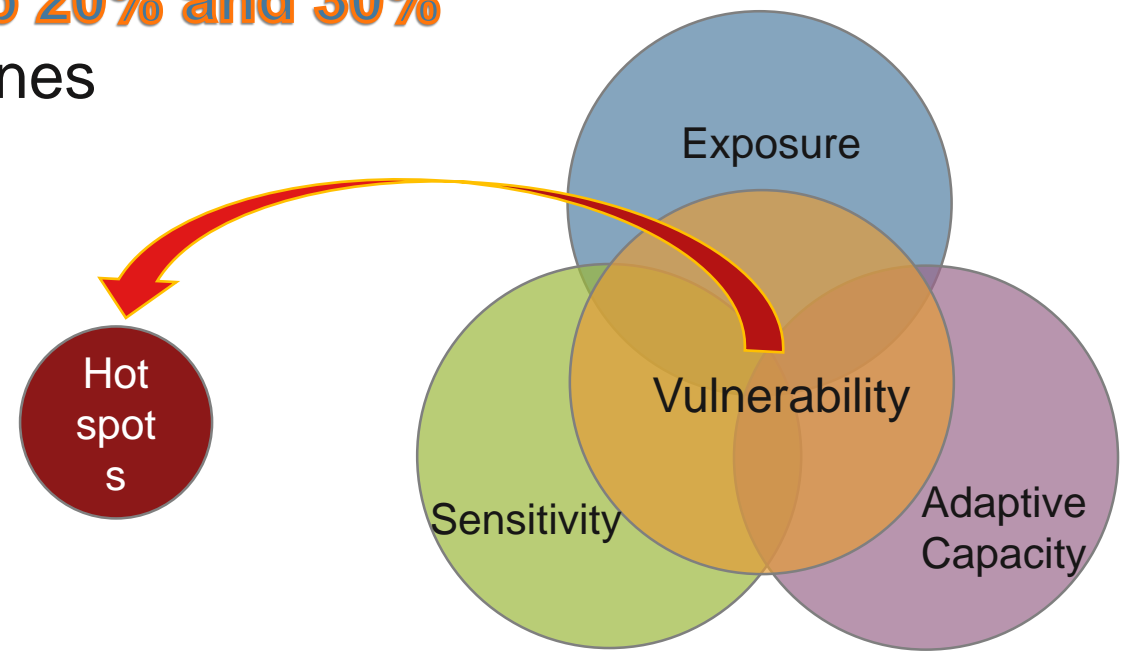
Defining vulnerability hotspots



Hotspots are those areas that indicate the **highest vulnerability** (as determined from the vulnerability assessment)

Defined as top 10% of vulnerable areas within the subsector **study area**, combined with the **top 20% and 30%** as **hotspot buffer zones**

Sector hotspots represent a **composite** of subsector hotspots





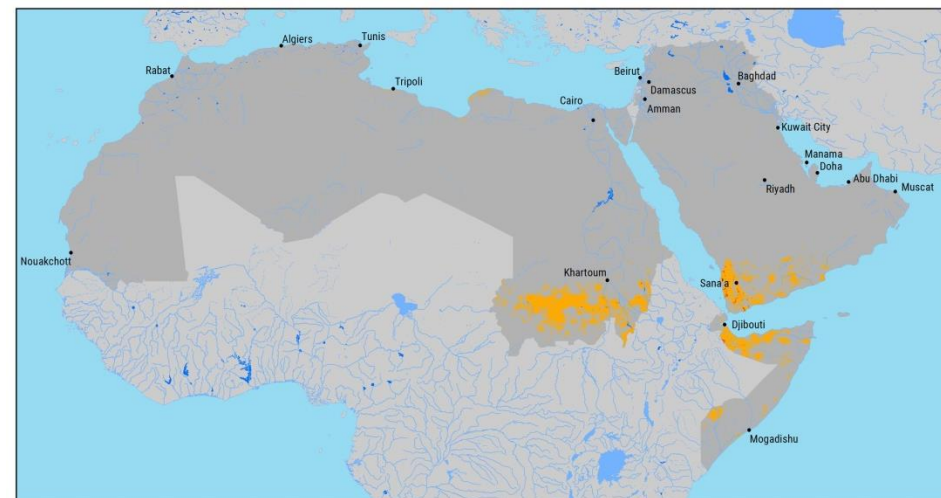
WATER SECTOR
VULNERABILITY HOTSPOTS: RCP4.5 MID-CENTURY (2046-2065)

Legend

- Lakes
- Reservoirs
- Rivers
- Intermittent rivers
- Major cities
- Area not relevant to sector

Hotspots

Top 30% Top 20% Top 10%



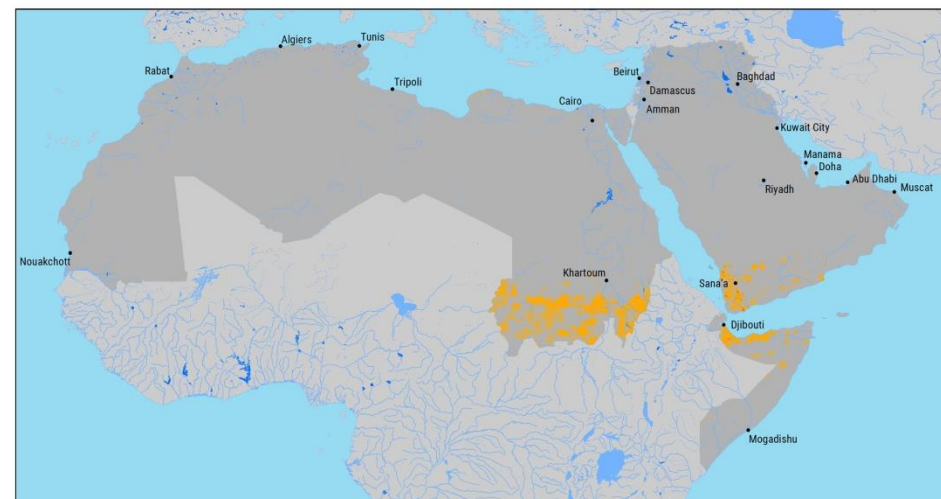
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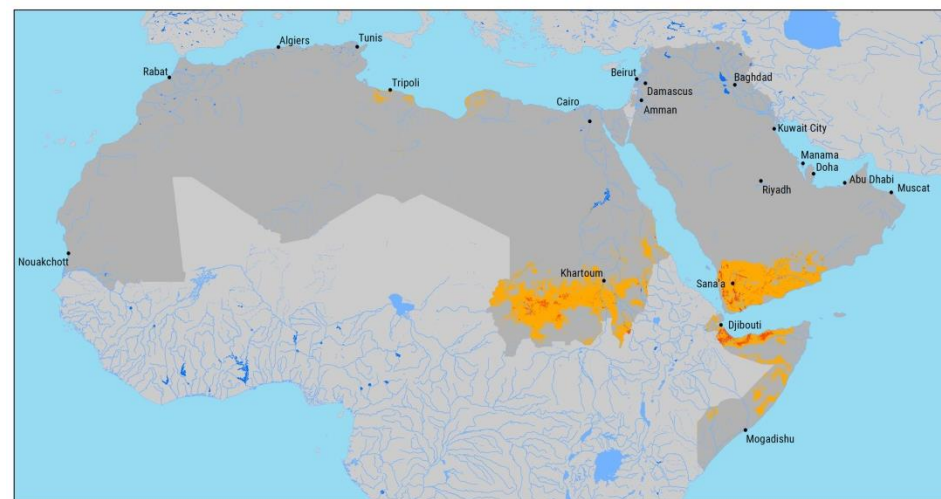
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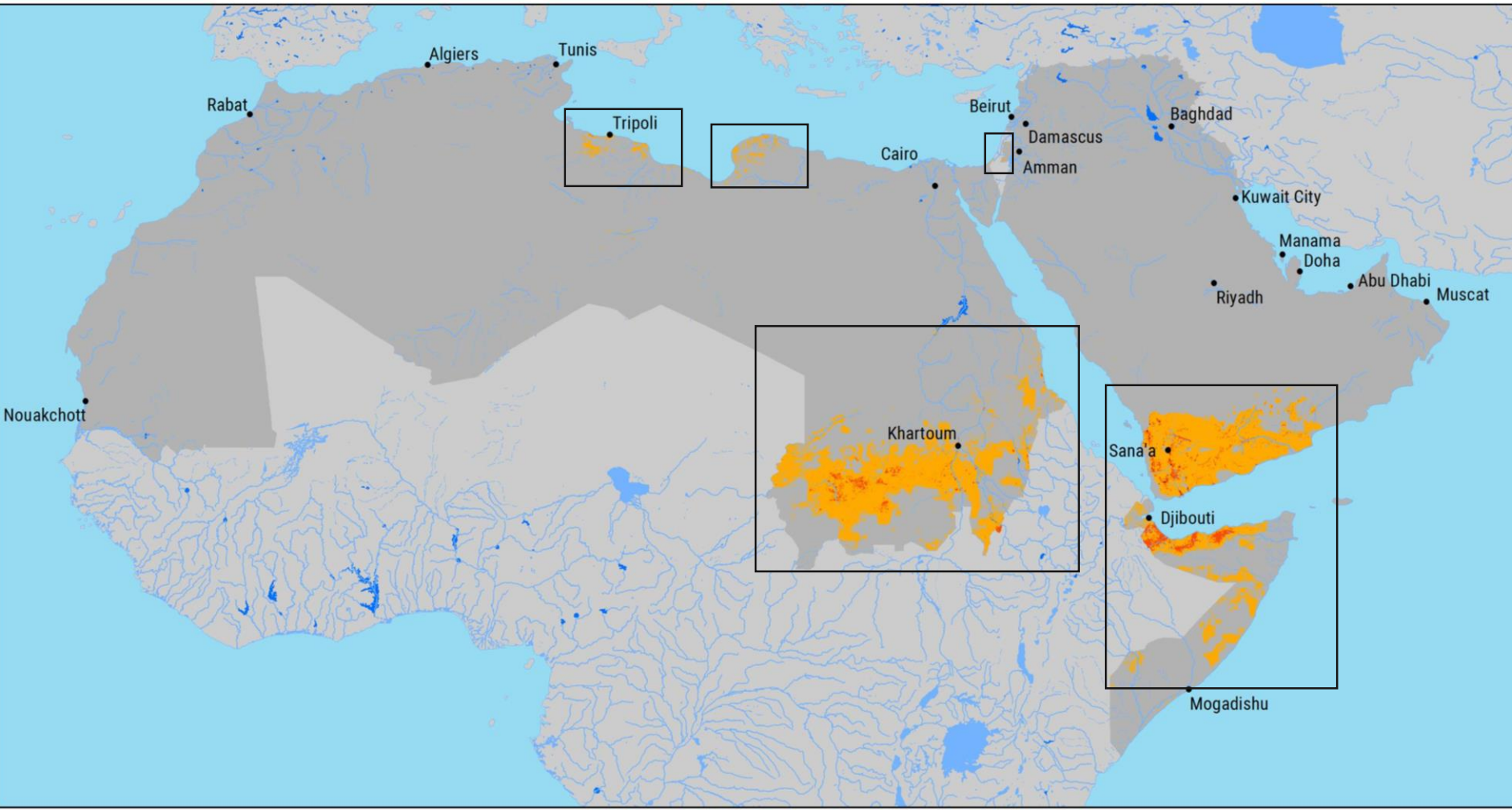
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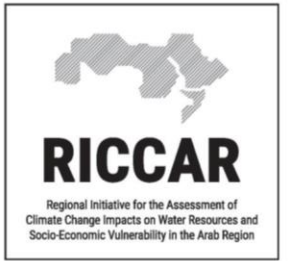
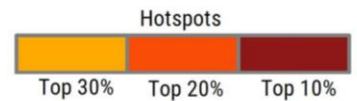


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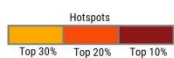


BIODIVERSITY AND ECOSYSTEMS SECTOR

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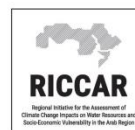
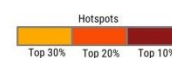


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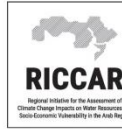
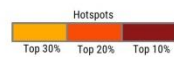


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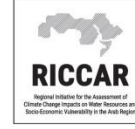
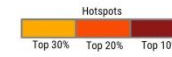


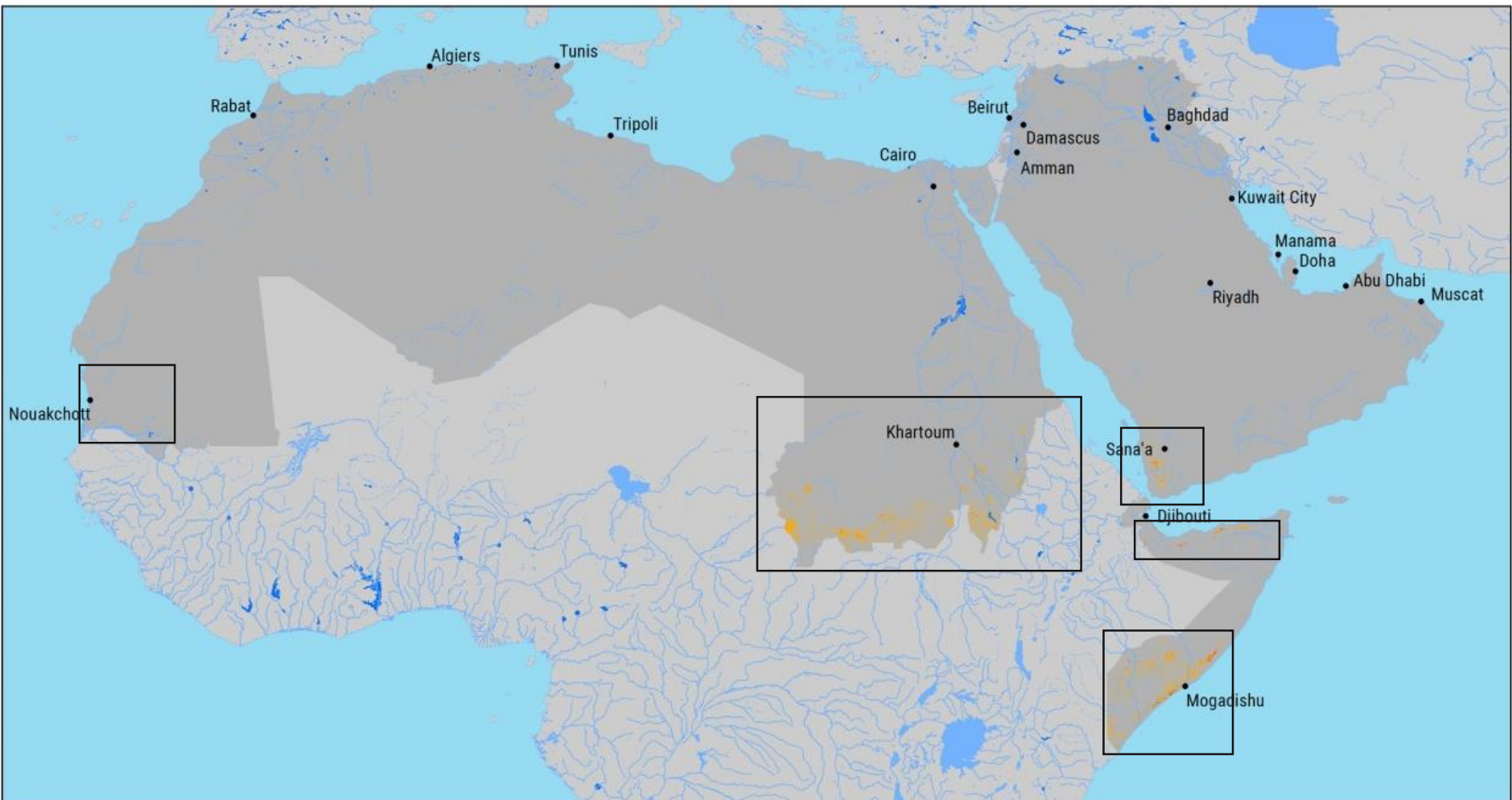
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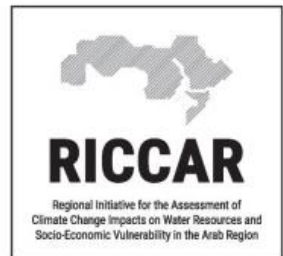
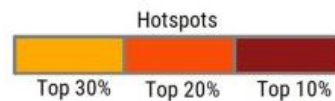


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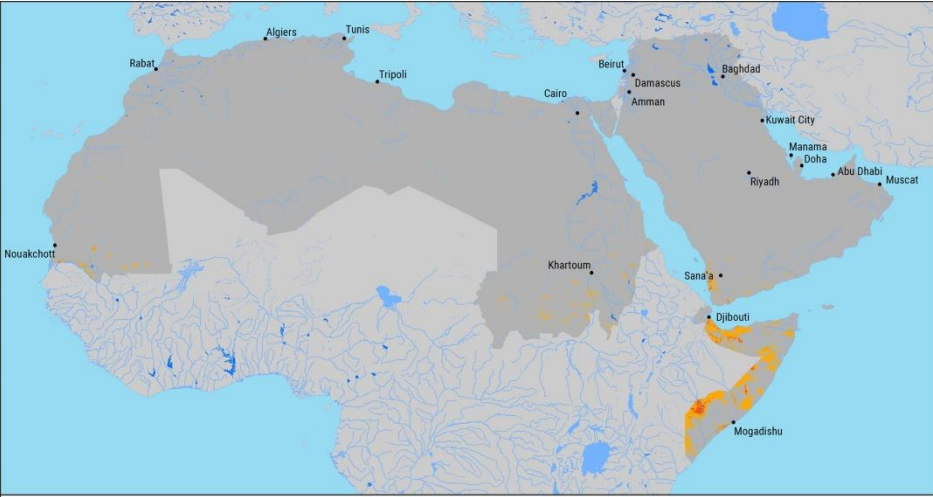
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RICCAR
 Regional Initiative for the Assessment of Climate Change Impacts on Water Resources and Socio-Economic Vulnerability in the Arab Region



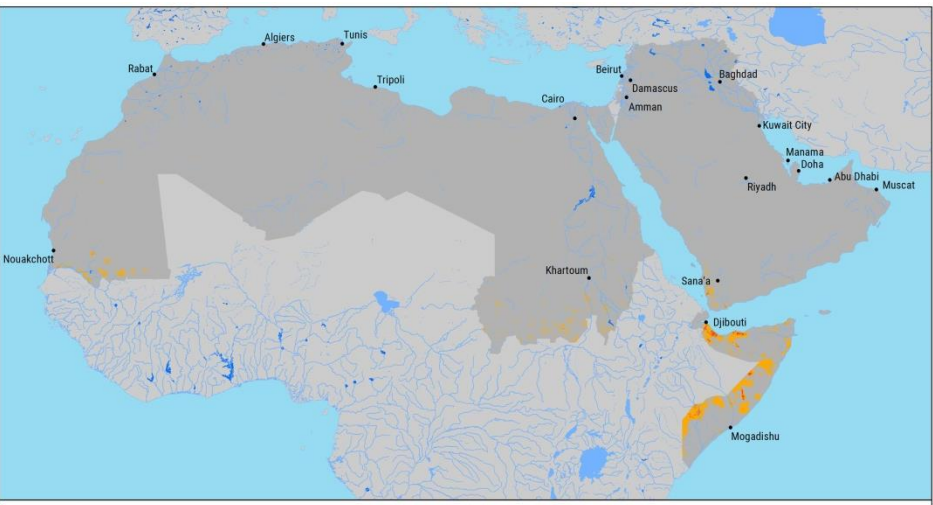
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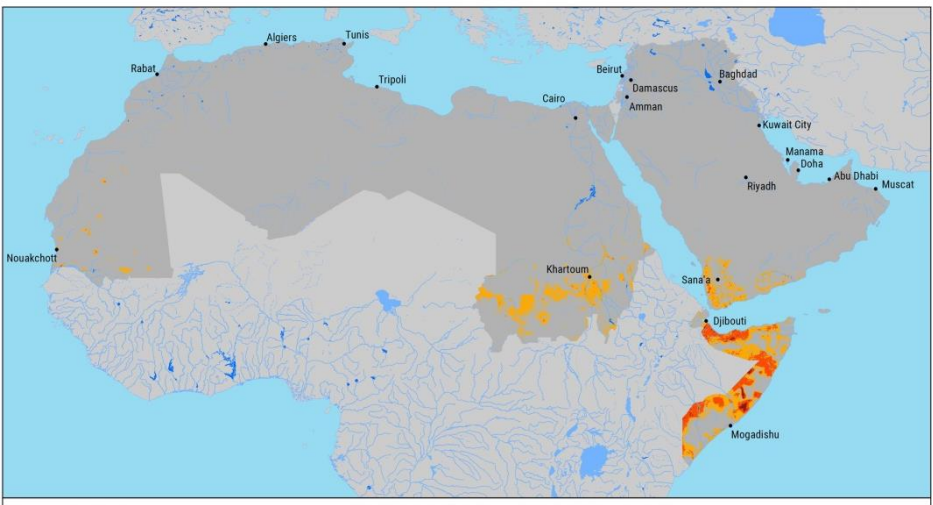
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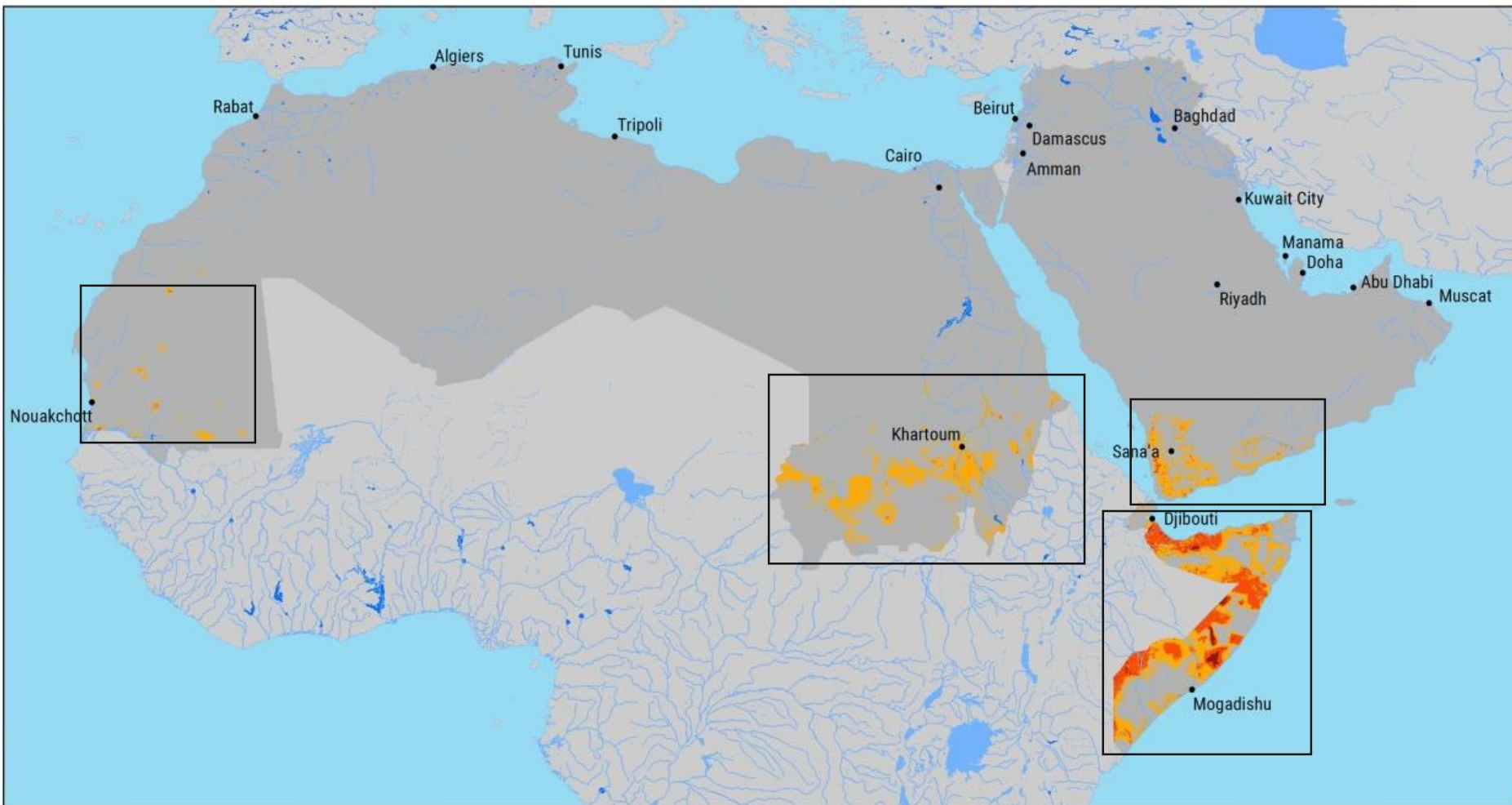
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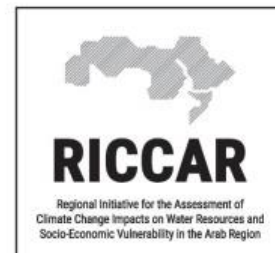
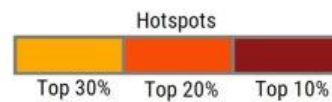


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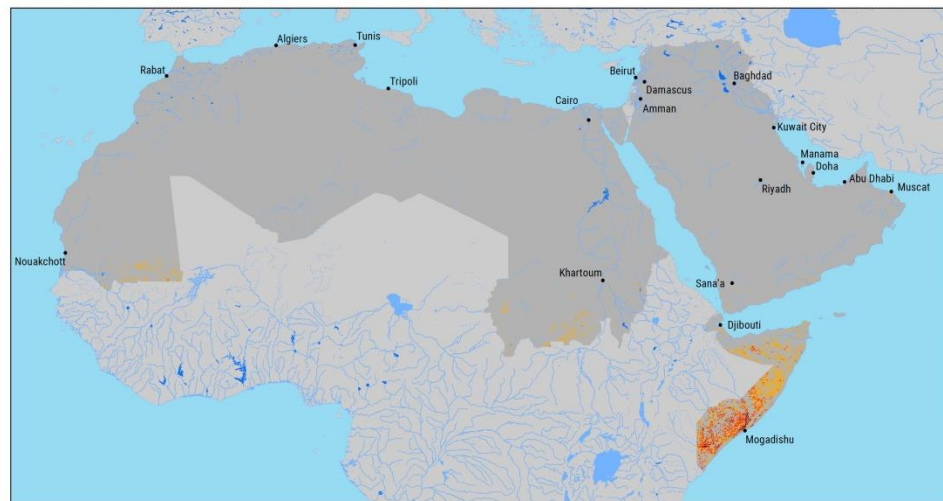
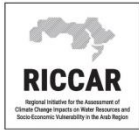
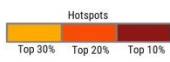


INFRASTRUCTURE AND HUMAN SETTLEMENTS SECTOR

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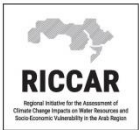
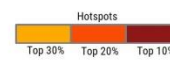


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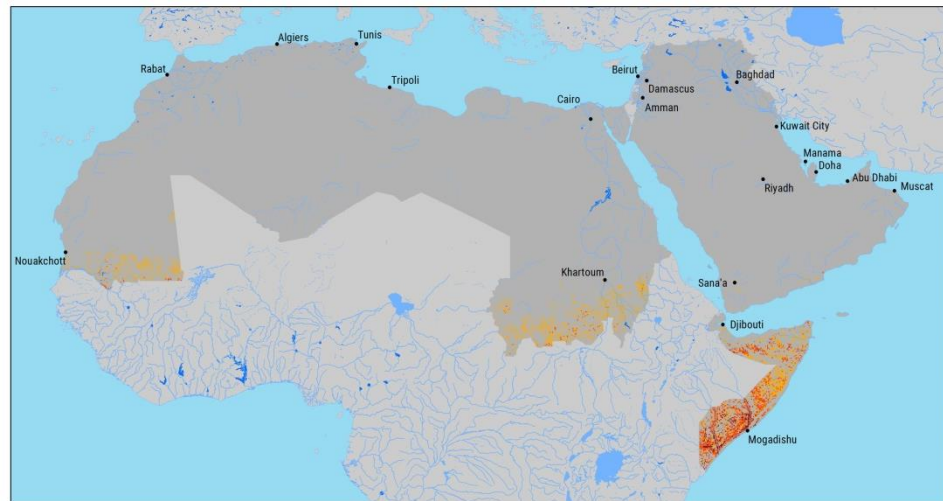
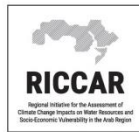
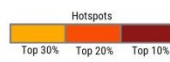


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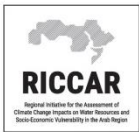
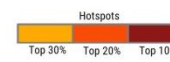


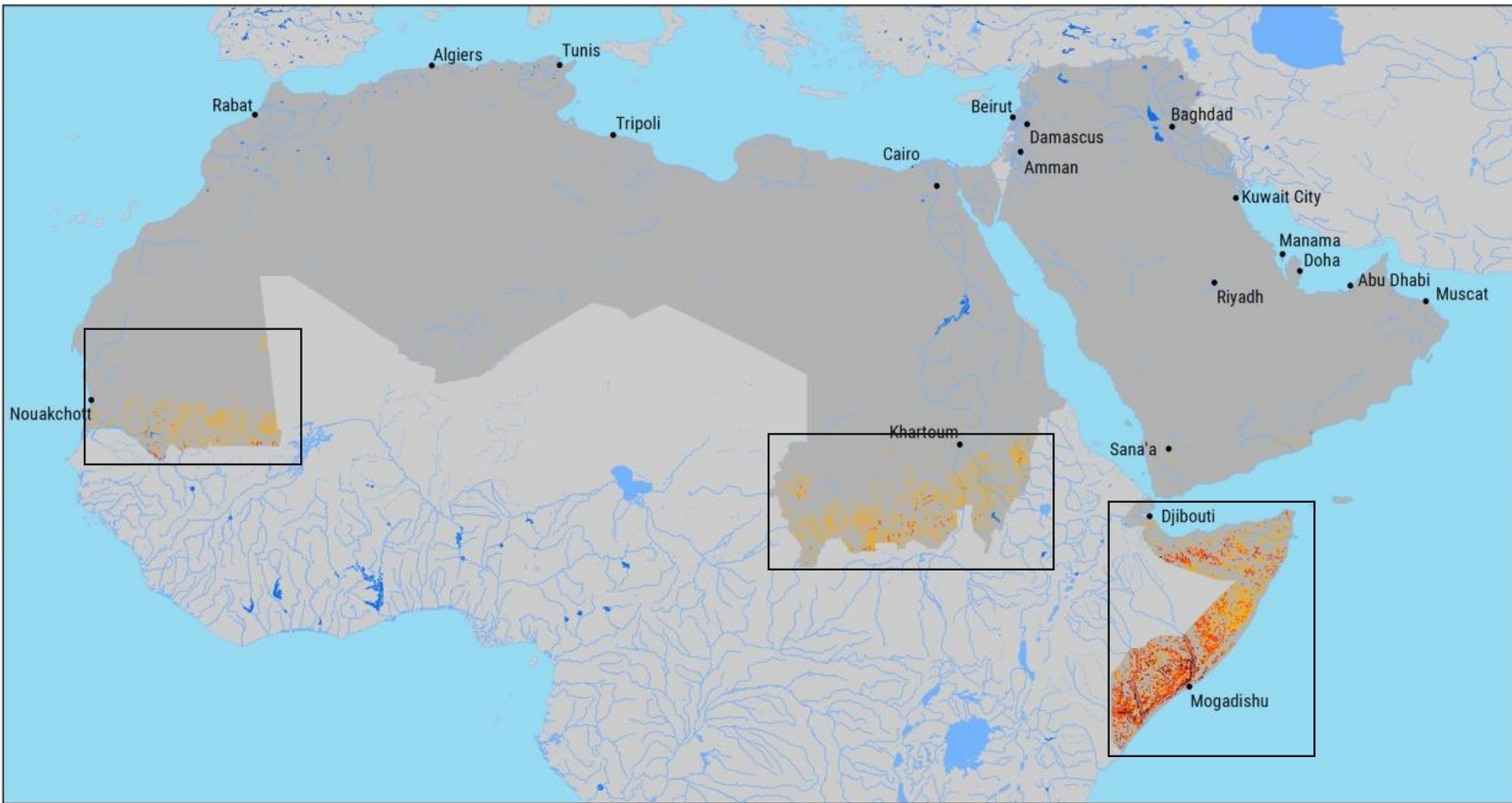
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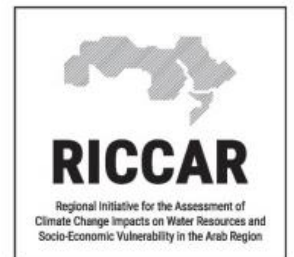
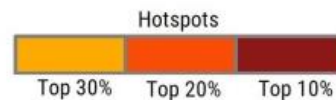


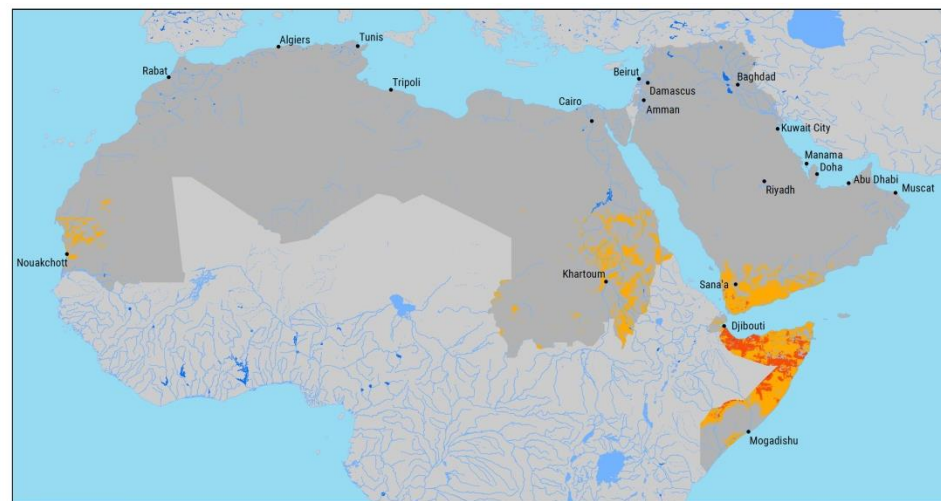
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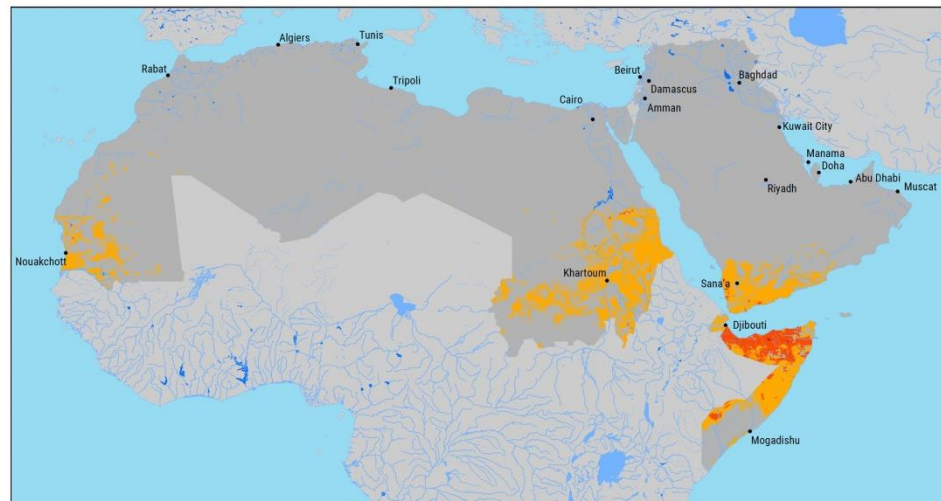
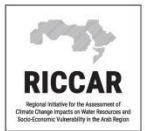
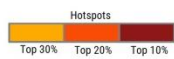




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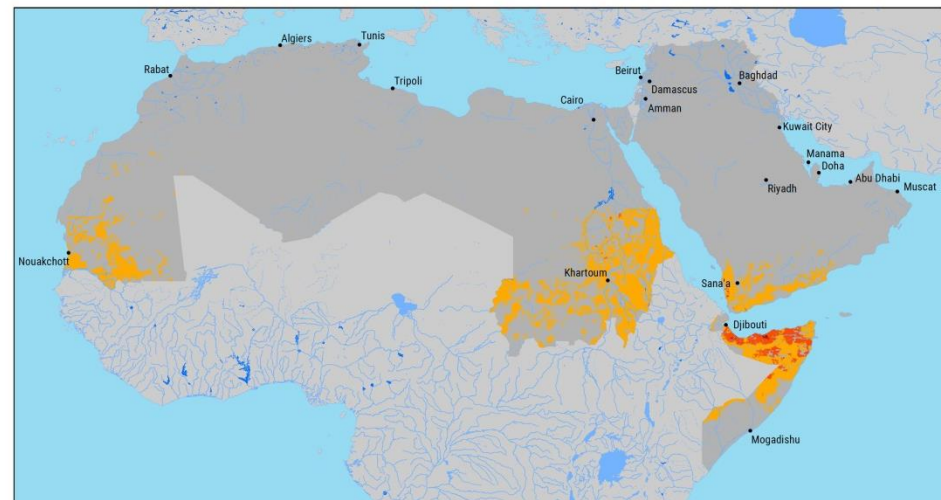
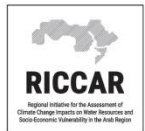
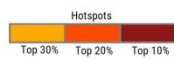
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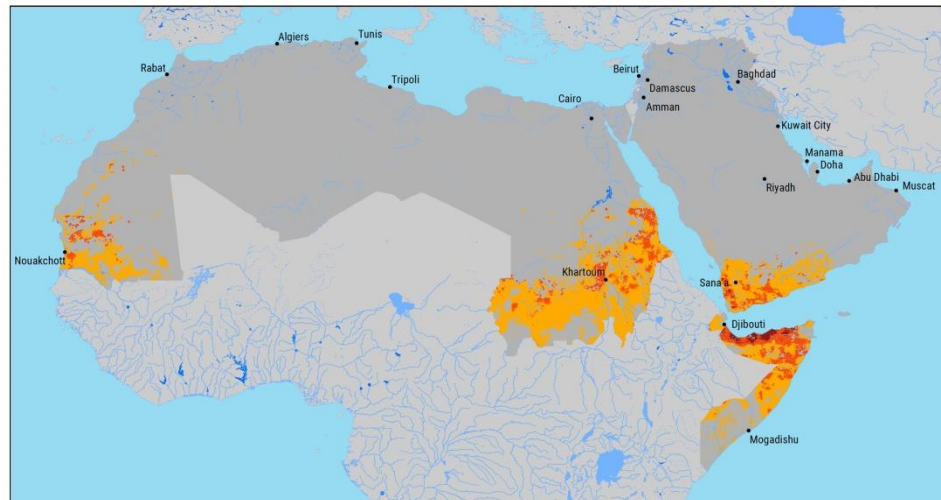
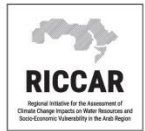
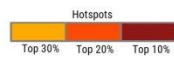
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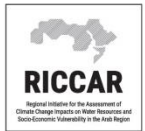
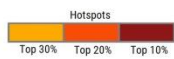
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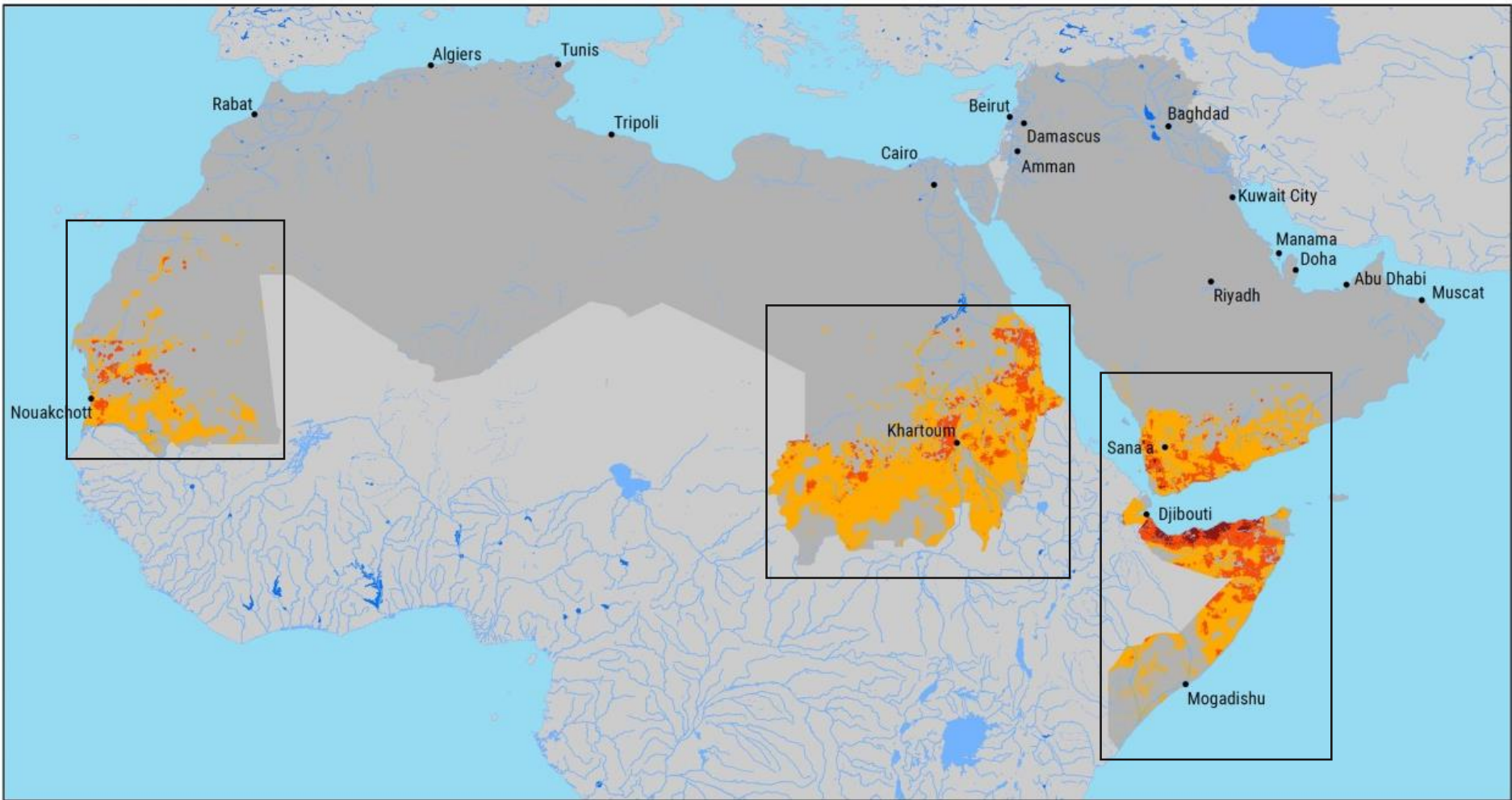


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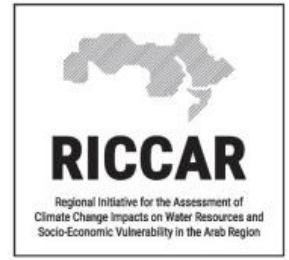
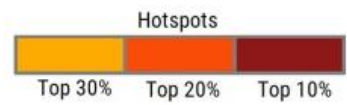


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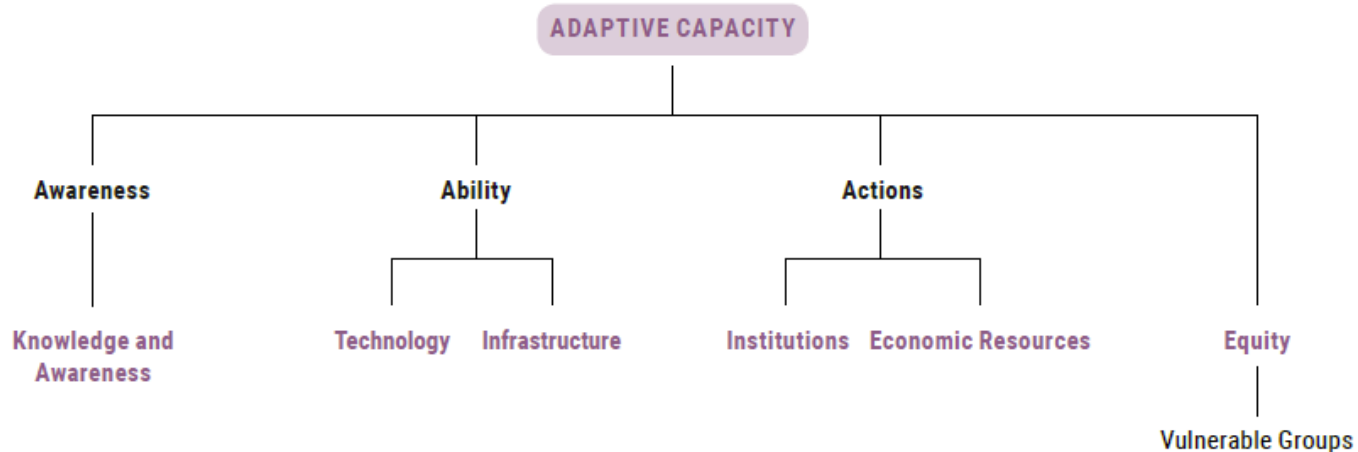
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- Area not relevant to sector



Hotspots: Key Findings

- Hotspots generally occur in the same geographic region regardless of sector
- All hotspots share low adaptive capacity



- Exposure in hotspot areas is variable, but even areas with low exposure is insufficient to counterbalance low adaptive capacity in the region's least developed countries



Thank you