



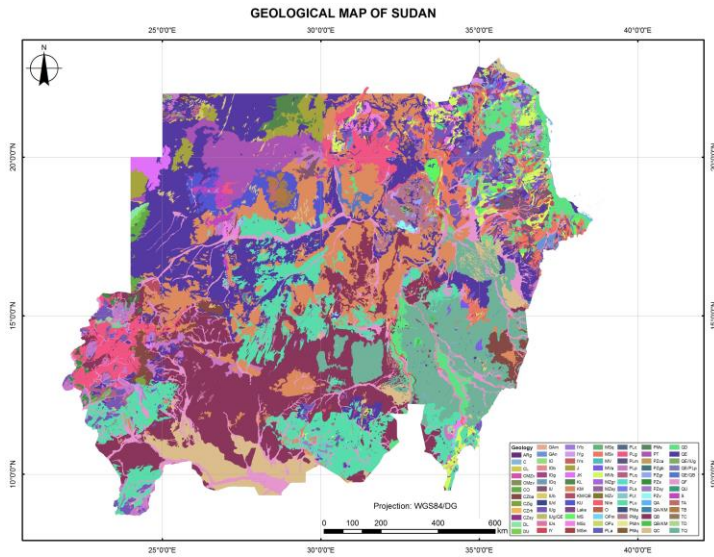
# Green Roads for Water Training in Sudan

Wad Madani, 15-20 January 2023

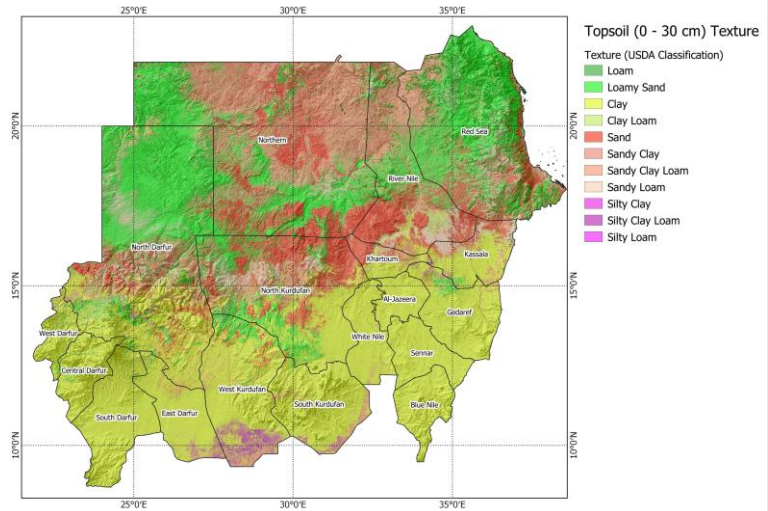
GR4W strategies and techniques for the different agroecological zones of  
Sudan  
(Taye Alemayehu)



# The basis for strategy Development and GR4W Intervention technology Selection



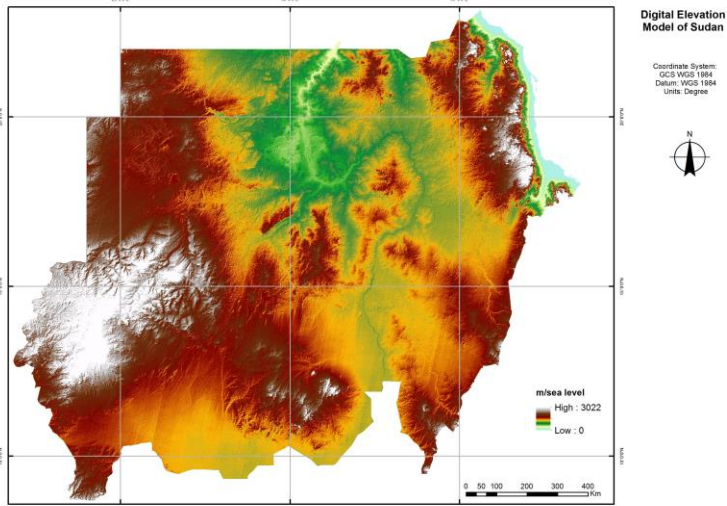
Geology and soil





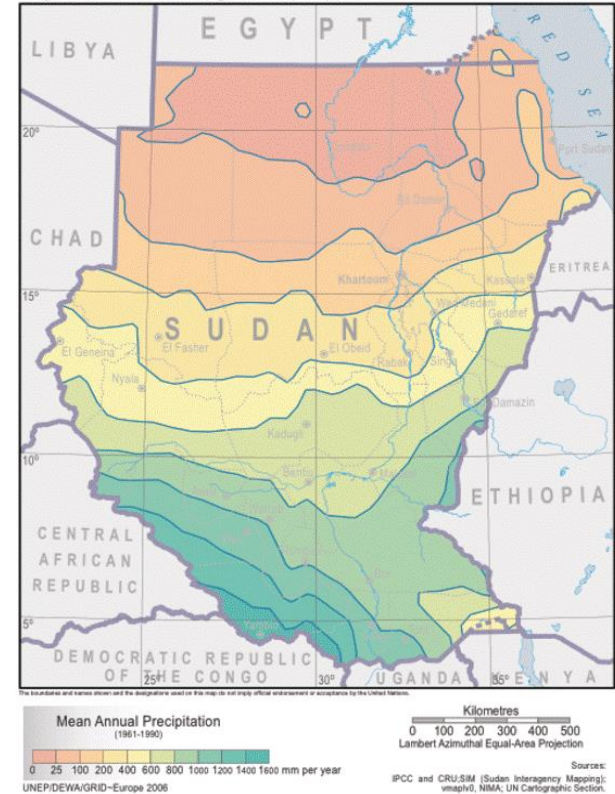
# The basis for strategy Development and GR4W Intervention technology Selection

## Topography and climate

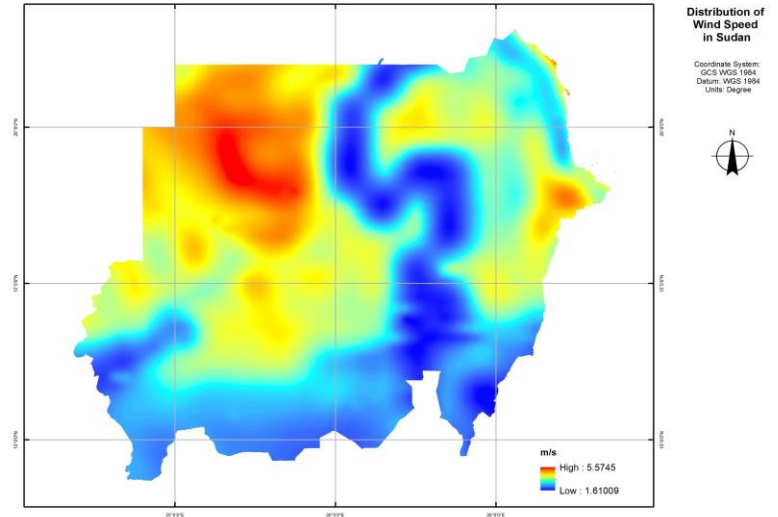
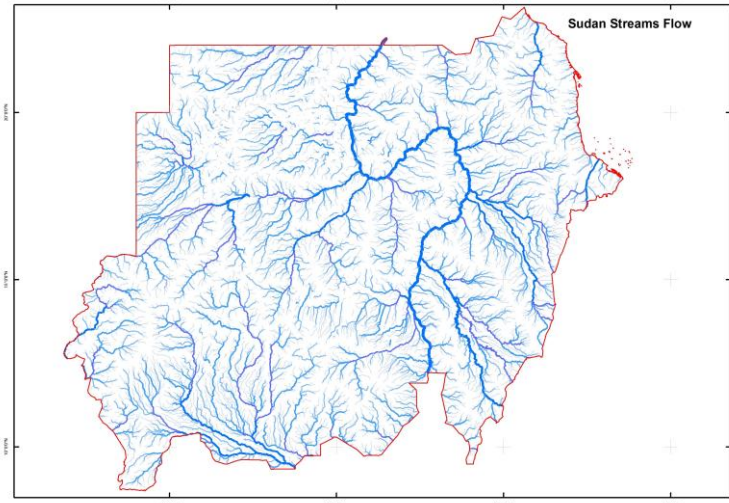


## 2 COUNTRY CONTEXT

Figure 2.4 Sudan average annual precipitation



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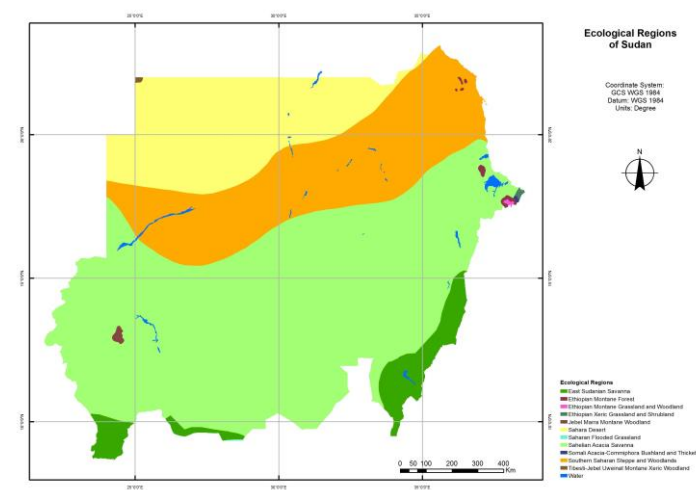
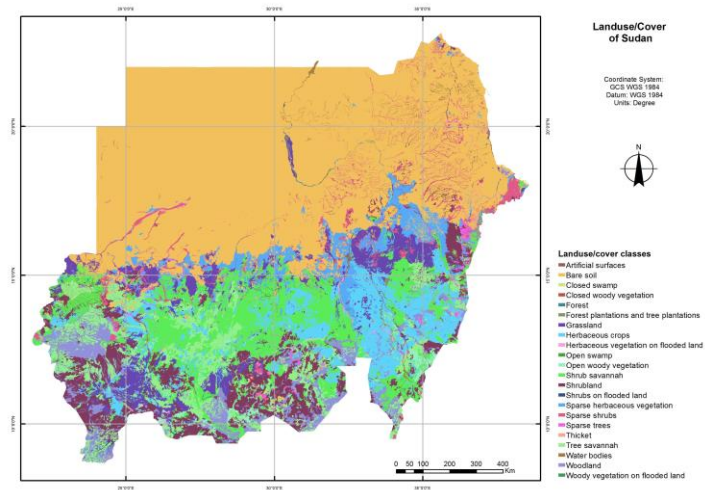


Topography and climate





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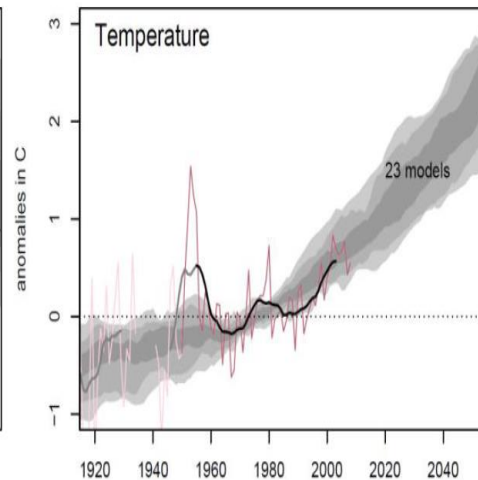
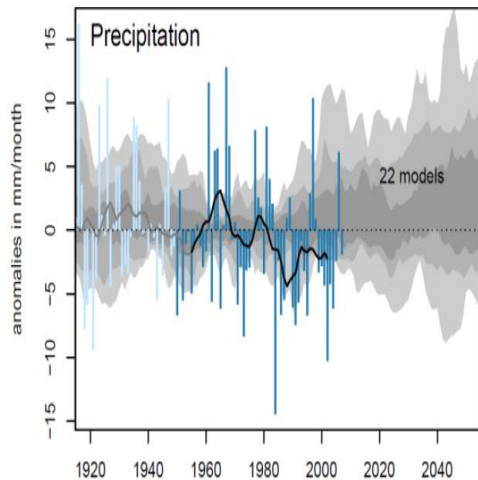
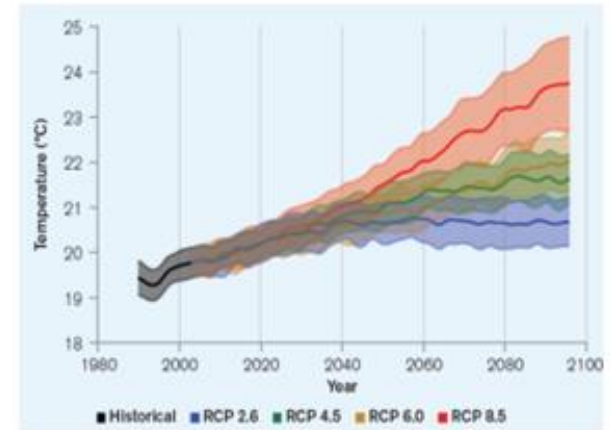
## Landuse & Landcover



# The basis for strategy Development and GR4W Intervention technology Selection



Roads, climate variability and developments in upstream countries



## Proposed GR4W regimes, interventions and main actors

| Regime                                  | Geo-environment                          | Issue/Risks   | Intervention               | Actors | remark |
|---|--|---|----------------------------|--------|--------|
| Areas of large irrigation schemes       | Clay cover zones<br>(Also, GERD vs GR4W) | Flood water management                                      |                            |        |        |
|   |  | Water allocation  |                            |        |        |
|   |  | Sediment management   |                            |        |        |
|   |  | Fertility management  |                            |        |        |
|   |  | Flood recession farming                                     |                            |        |        |
| Areas of spate irrigation               | Clay, sandy                              | Supplementary moisture                                      |                            |        |        |
|   |  | Flood recession farming                                     |                            |        |        |
| Flood plains                            | Neogene sediments in arid zones          | Flood hazard to human                                       |                            |        |        |
|   |  | Damages to infrastructure, mainly roads                     |                            |        |        |
| Eastern Bush and woodland zone          | Granitic basement                        |   |                            |        |        |
| Water-stressed rainfed agriculture zone | Dominantly clay                          | Water for humans and livestock                              |                            |        |        |
|   |  | Occasional high flood risk                                  |                            |        |        |
| Dominantly pastoral arid areas          | Sandy with basement underlay             | Water for humans and livestock                              |                            |        |        |
|   |  | Occasional high flood risk                                  | A                          |        |        |
|   |  | Wind erosion and dust-related problems (health, visibility, | Water spreading structure  |        |        |
|   |  |   | Livelihood diversification |        |        |
|   |  |   |                            |        |        |



# The basis for strategy Development and GR4W Intervention technology Selection

## Once the technical strategies and measures are ready:

- Stakeholder identification
- Identify roles and responsibilities of actors
- Establish a cooperation framework
- Consider PPP
- Develop short and long-term strategies, objectives and goals
- Identify and prioritize action areas
- Implementation
- Monitoring and evaluation
- Risk assessment

### Entrepreneurs help farmers hold back Somaliland's desert

Diaspora money is starting to green a nation that has been neglected by many international donors



Mustafa Duale surveys a herd of camels in Qoolcadey, western Somaliland. The animals no longer have to be sent to Ethiopia for grazing as a result of the reservoir he built. © Andrew Schepers



Lifeline: the reservoir that Duale built in Qoolcadey. "We are building an ecosystem," he says. © Mustafa Duale

... "Entrepreneurs are coming with their own money and expertise, establishing a water project or a farm — and they are capable," says Muse. "People are coming back just to herd camels and to farm. Some 15 years ago, you didn't have people from the diaspora coming back, or rich people in the business community creating farms, but now you have plenty of them. For that, they need a more constant source of water, so that's why they're building dams."

... Mohamed helped Duale — who invested \$120,000 of his own funds — to design the reservoir, and persuaded aid agency USAID to donate \$40,000-worth of polyethylene liner to prevent leakage.

<https://www.ft.com/content/78d1b4ac-263a-4b3a-a3d3-1bfa38a06fa8>







# Thank you!

For more information visit [www.roadsforwater.org](http://www.roadsforwater.org)  
or send an email to [adeligianni@metameta.nl](mailto:adeligianni@metameta.nl)