

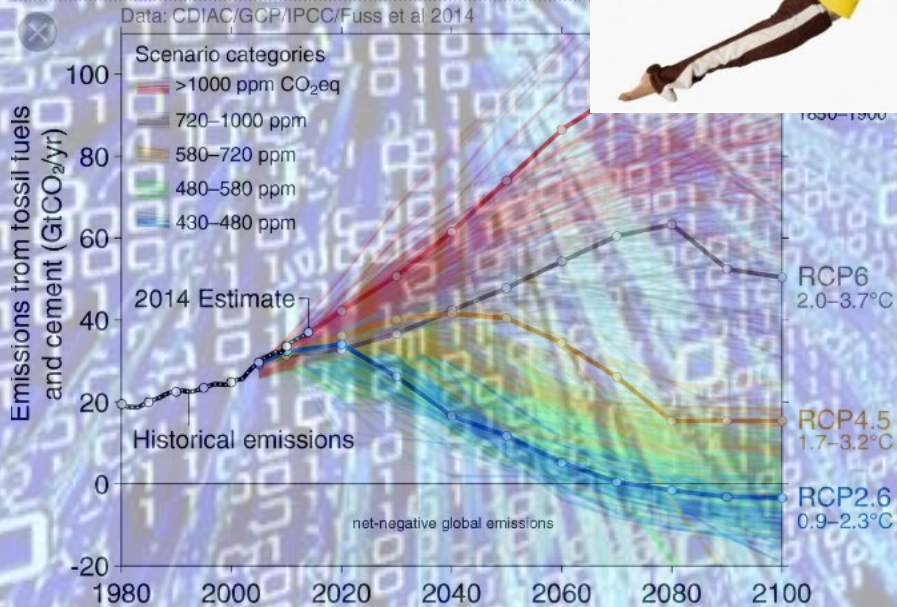
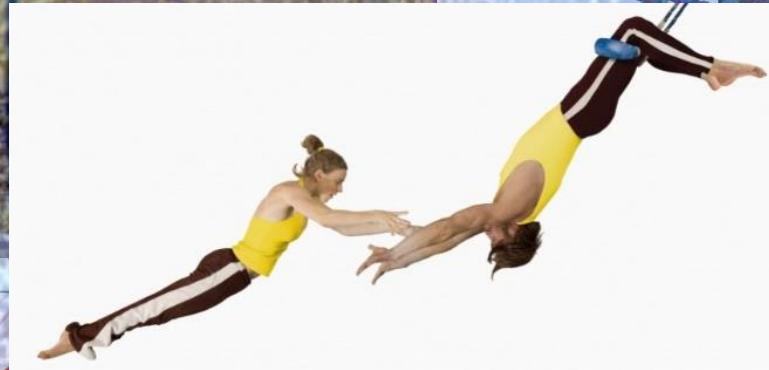
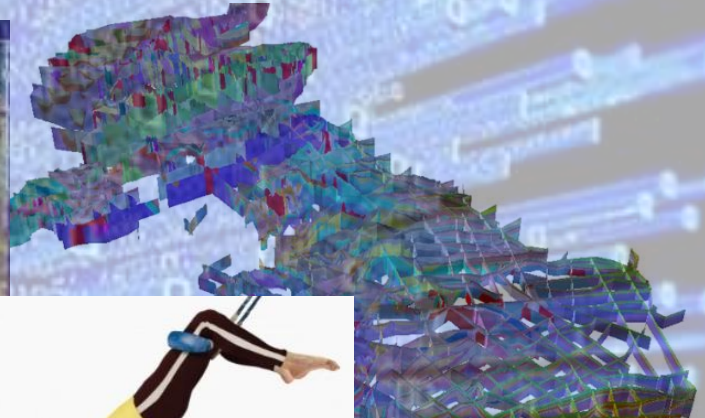
Shortage of groundwater: how to approach?

The background features a stylized landscape. On the left, a large tree with a thick trunk and sparse leaves stands on a brown ground surface. To its right are several smaller, thin plants with various leaves and flowers. Below the ground surface, a green area represents the groundwater table, which is shown as a wavy line. The overall color palette is muted, with browns, greens, and blues.

Rinke van Veen,
Province of Drenthe, The Netherlands

Several blue water droplets of varying sizes are scattered across the bottom half of the slide, some appearing to fall from the text area.

Ingredients for a successful climate change adaptation on drought



Steps for a successful climate change adaptation on drought

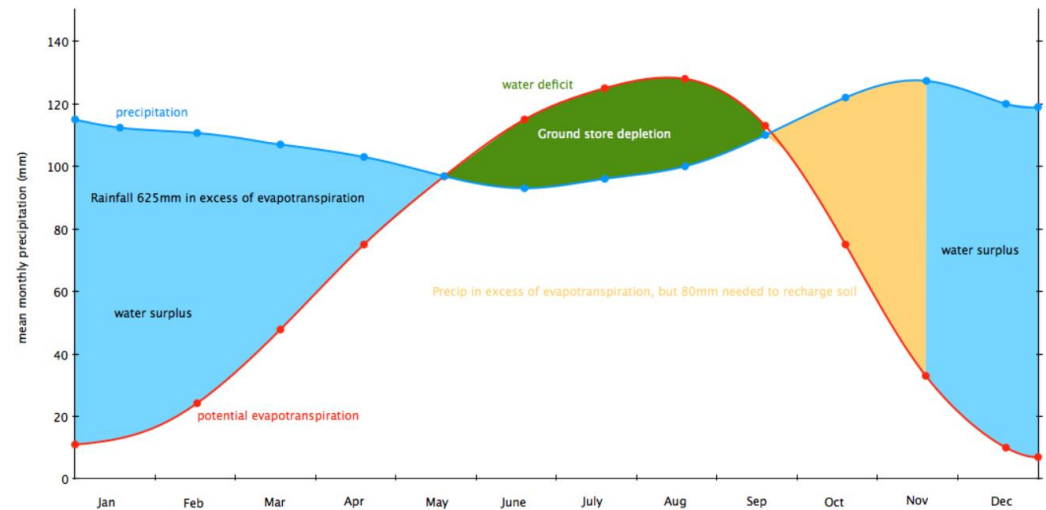
- We need to buffer groundwater for use in summer
- Integral approach is necessary
- Develop a long-term strategy on shortage of groundwater



We need to buffer groundwater for use in summer

Current situation
shortage precipitation
in summer

Climate change will
increase the shortage
in summer

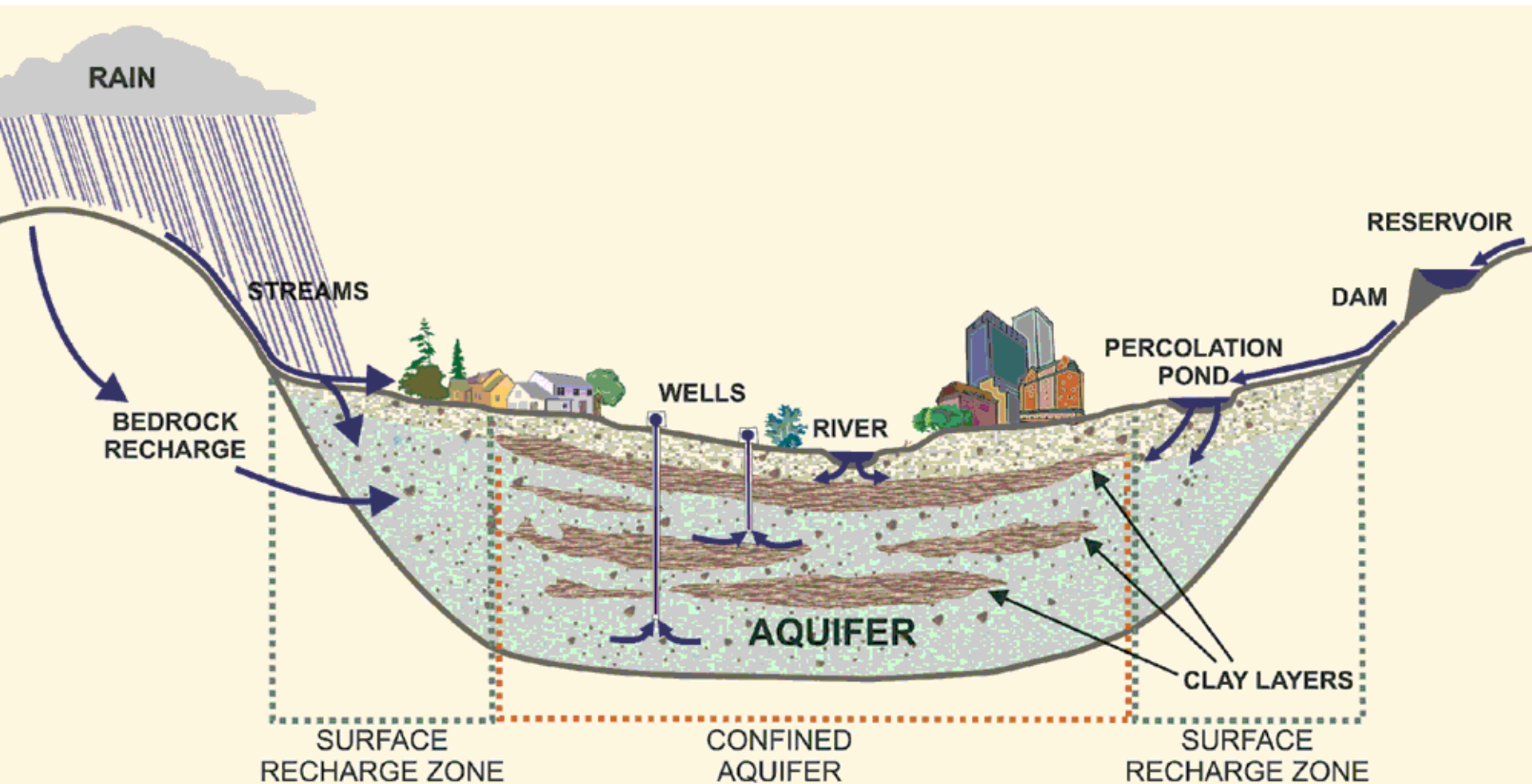


We need to buffer groundwater for use in summer

- Flanders
 - 50% less yield
- The Netherlands
 - Suffering water depending nature
- Germany
 - 68.000 m³/day extra
- UK
 - Extremely high irrigation demand



Integral approach is necessary



Integral approach is necessary

- Spatial relations
 - *Elbe / Weser area: Salinity and drought*
- Different functions
 - *Drentsche Aa: nature and agricultural land*
- Quality and quantity
 - *Drentsche Aa: Infiltration ponds + Nitrate surplus in dry years*
- Groundwater and surface water
 - *Uelzen: WFD demands*

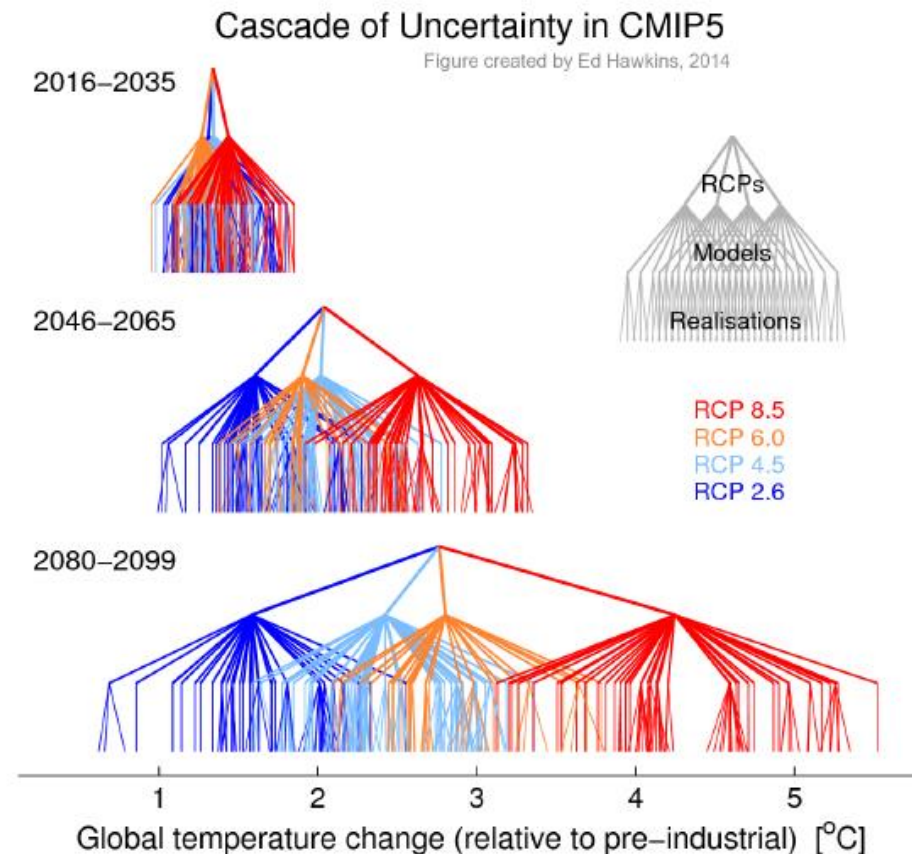


Develop a long term strategy on shortage of groundwater

- Still much uncertainty

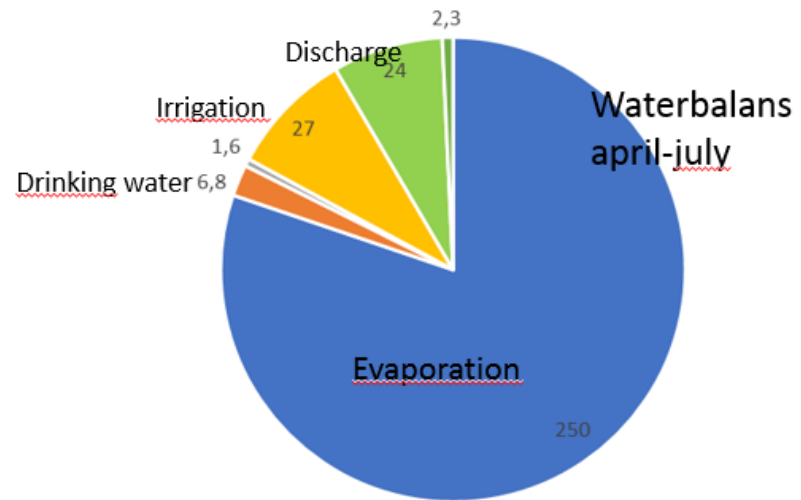
“Scenarios should not be confused with forecast, scenario’s are plausible storylines”

(Arne Spekat from the Institute for Climate Impact Research)



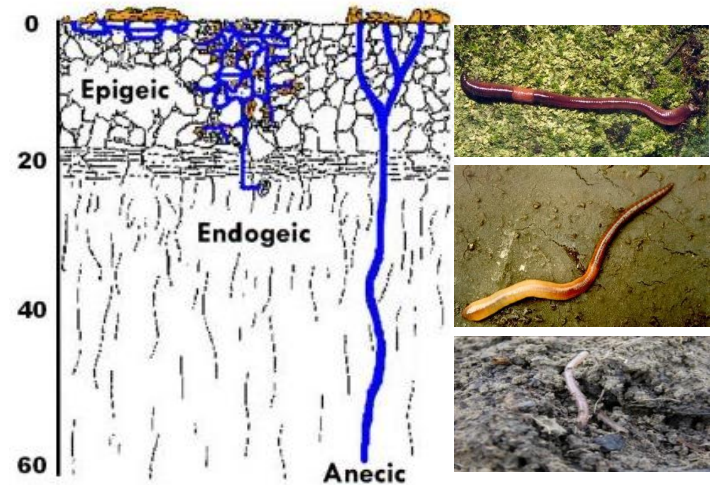
Develop a long term strategy on shortage of groundwater

- There are no simple solutions to increase the amount of groundwater



Examples

- Good soil practice
- Encourage farmers to infiltrate more water more often
- Be alert with licensing for extracting groundwater in vulnerable areas



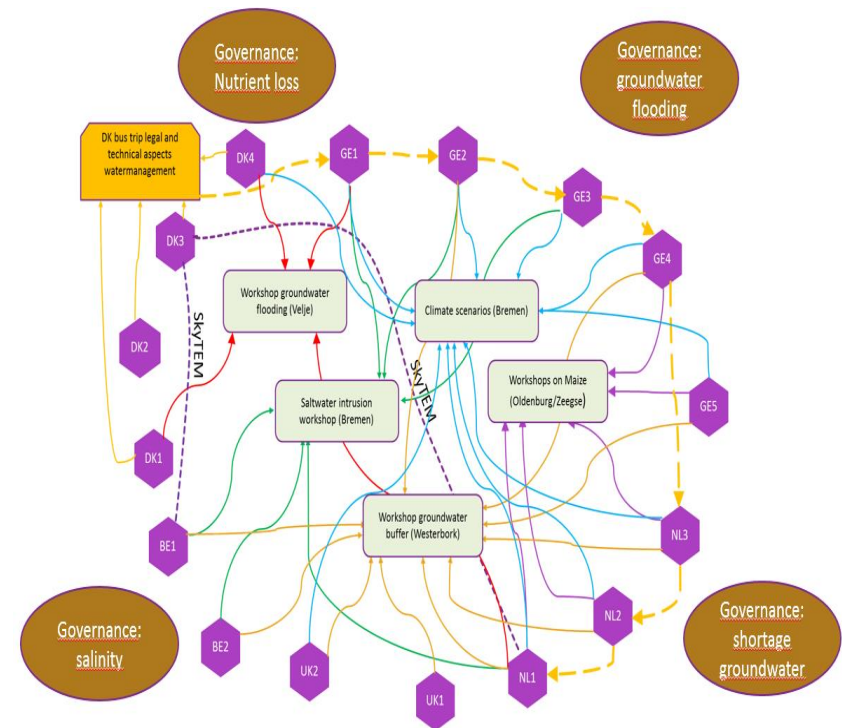
Steps for a successful climate change adaptation on drought

- We need to buffer groundwater for use in summer
- Integral approach is necessary
- Develop a long-term strategy on shortage of groundwater



How can cooperation between regions as in the NSR programme support addressing the drought challenge?

- Different background
- Exchange knowledge
- Making it a European problem
- Incorporate in EU laws (Nature2000, WFD)



Thanks for your attention!

