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De watervoetafdruk van de mensheid: *De grens bereikt?*

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VMR Webinar
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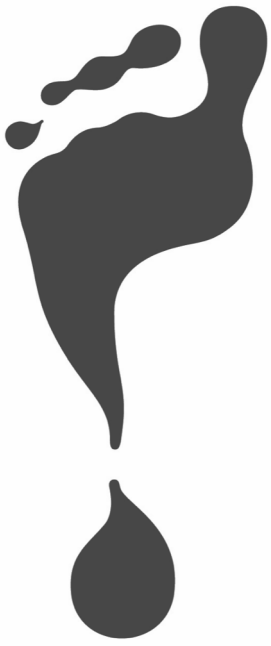

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QUIZ

De watervoetafdruk van de mensheid heeft de grens bereikt

A Ja, al lang
B Waarschijnlijk wel
C Nee, we hebben nog gebruiksruimte
D Nee, want water raakt nooit op (hydrologische cyclus)

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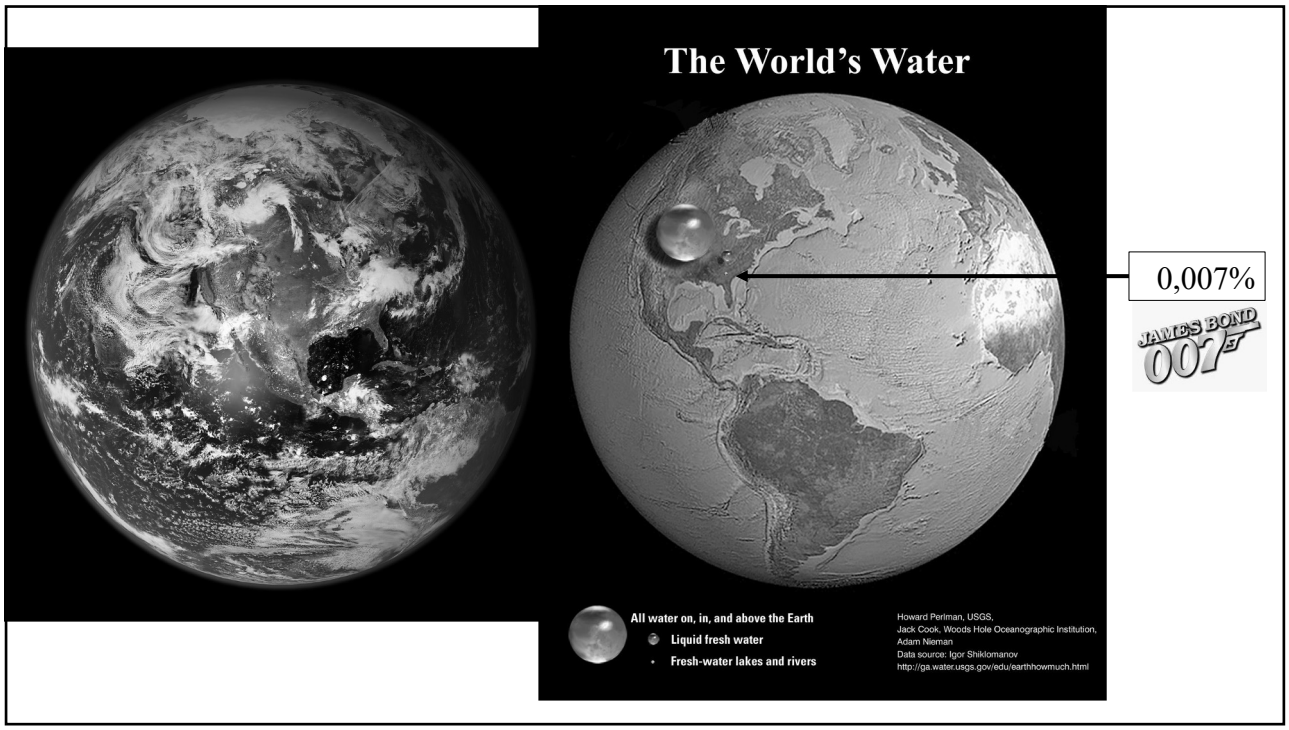

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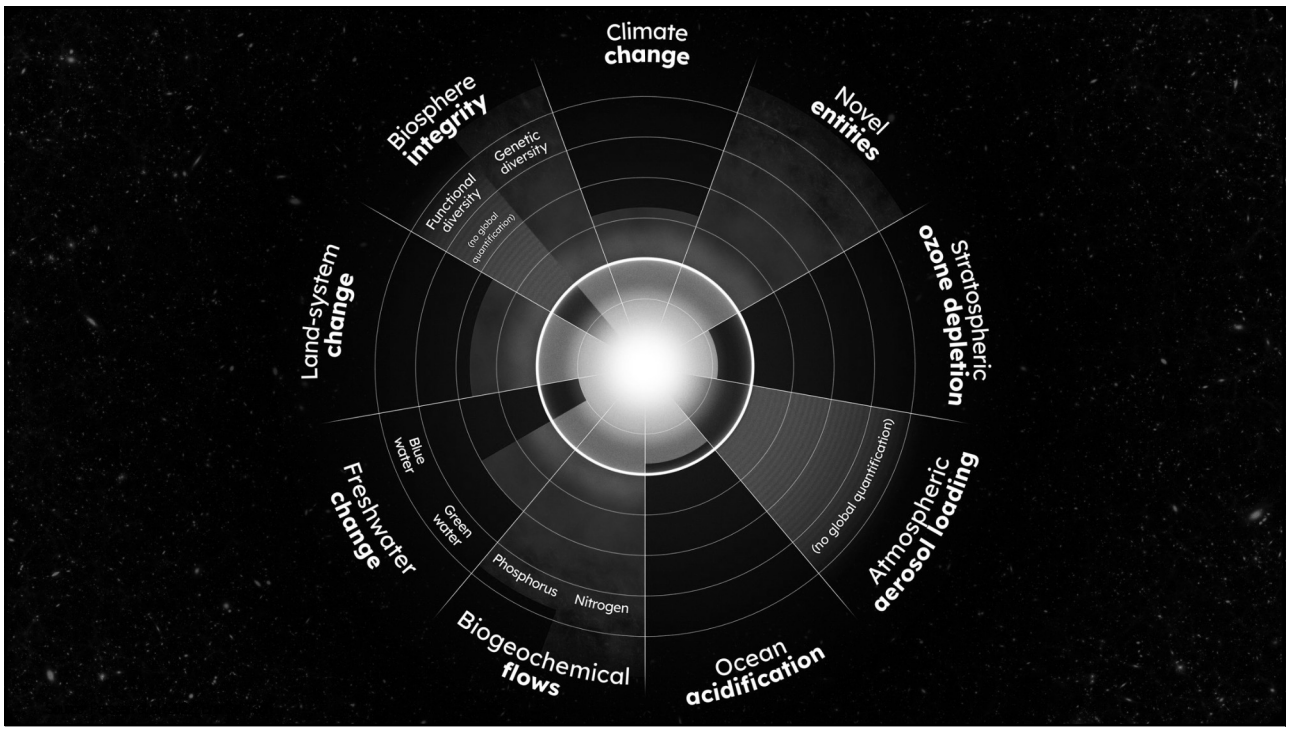

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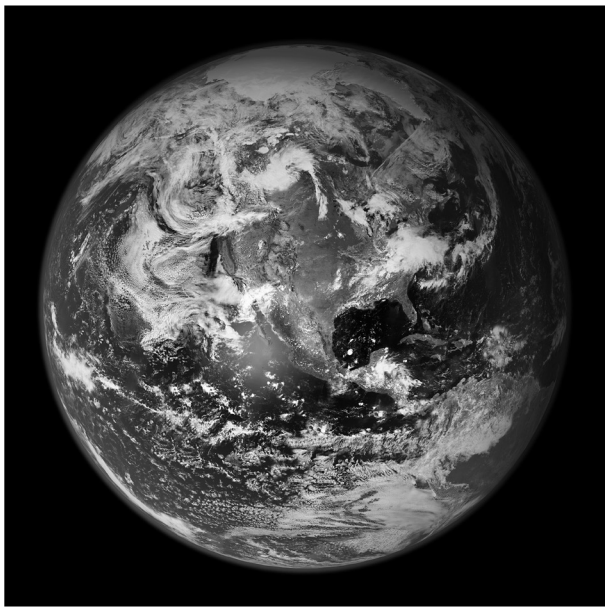

Het watervoetafdruk concept

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The water footprint concept

- Indicator van (netto) watergebruik
- Drie kleuren (bron)…

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De kleuren van water

Source: Hoekstra et al. (2011) *The Water Footprint Assessment Manual*, Earthscan, London, UK

Green water footprint

volume of rainwater evaporated or incorporated into a product

Blue water footprint

volume of surface or groundwater evaporated or incorporated into a product

Grey water footprint

volume of polluted water

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The water footprint concept

- Indicator van (netto) watergebruik
- Drie kleuren
- Tijd en plaats
- Direct en indirect
- De watervoetafdruk van een
  - Product
  - Regio
  - Consument (=wij)

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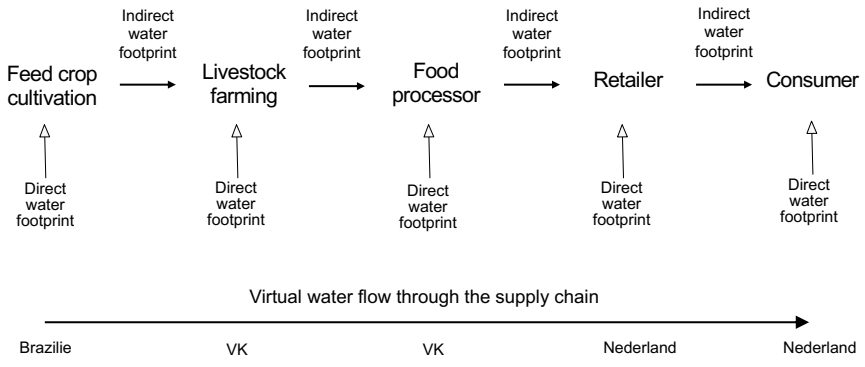
Watervoetafdrukken langs de waardeketen
Een voorbeeld van vlees



Source: Hoekstra et al. (2011) *The Water Footprint Assessment Manual*, Earthscan, London, UK

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Wat is de watervoetafdruk van de gemiddelde Nederlandse consument?

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Hoeveel daarvan komt uit het buitenland?

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132 litre per cup of 125 ml

96% green, 1% blue, 3% grey

18

17196 litre/kg

98% green, 1% blue, 1% grey

19

15415 litre/kg

94% green, 4% blue, 3% grey

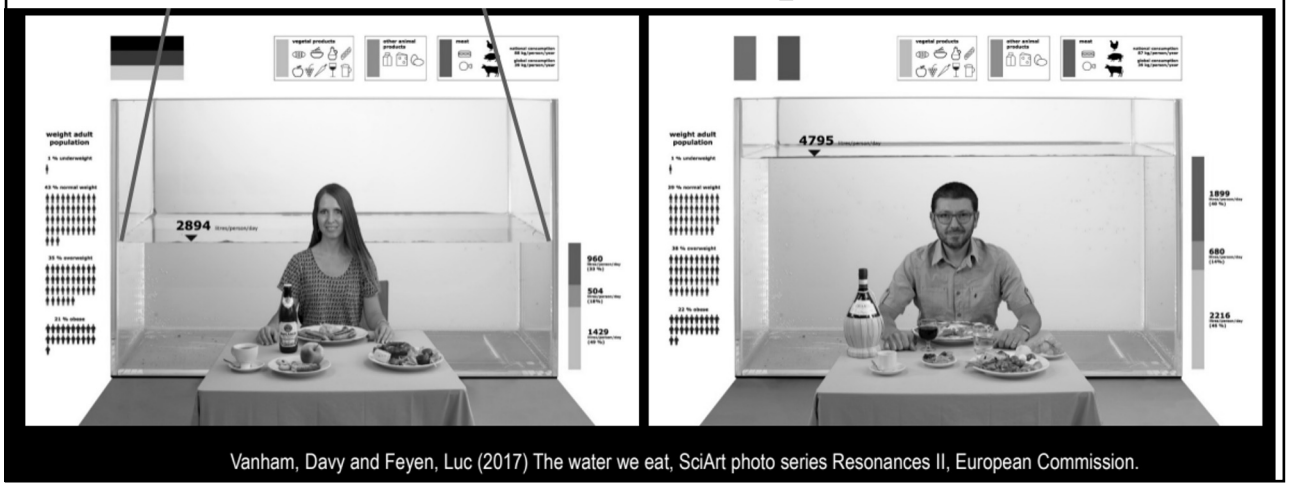
20

15415 litre/kg

94% green, 4% blue, 3% grey

21

NL: 4,000 L/cap/d
EU: 5,000 L/cap/d
WORLD: 4,000 L/cap/d



Vanham, Davy and Feyen, Luc (2017) The water we eat, SciArt photo series Resonances II, European Commission.

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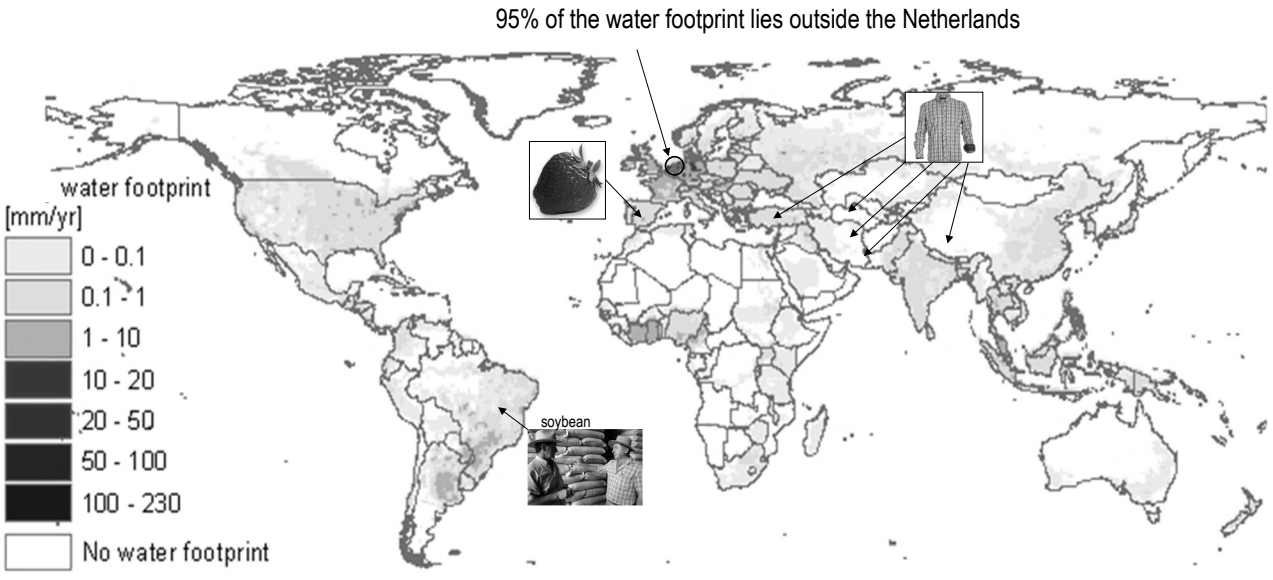
Where is the WF of Dutch consumption located?



Source: Mekonnen & Hoekstra (2011) *National Water Footprint Accounts*

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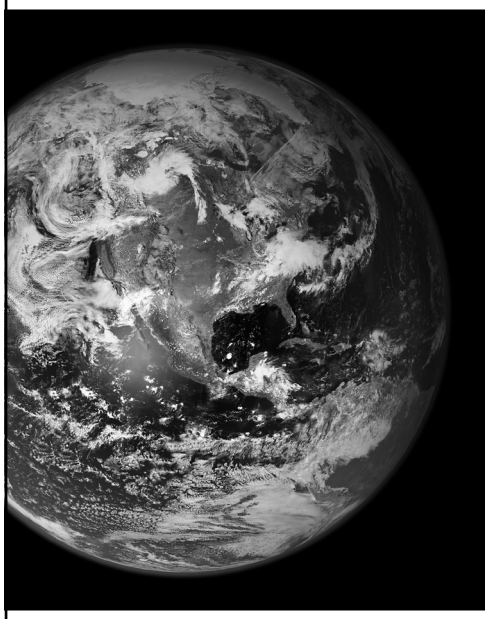

De grens bereikt?!

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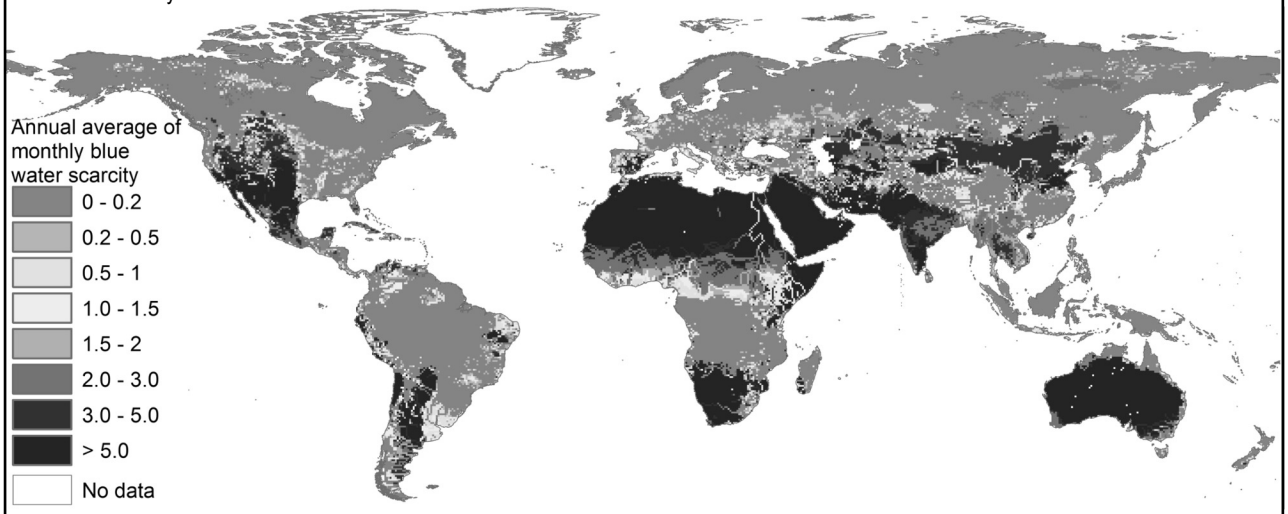
Our blue water footprint is **environmentally unsustainable**

Blue water scarcity = blue WF / maximum sustainable blue WF



Source: Mekonnen & Hoekstra (2016)

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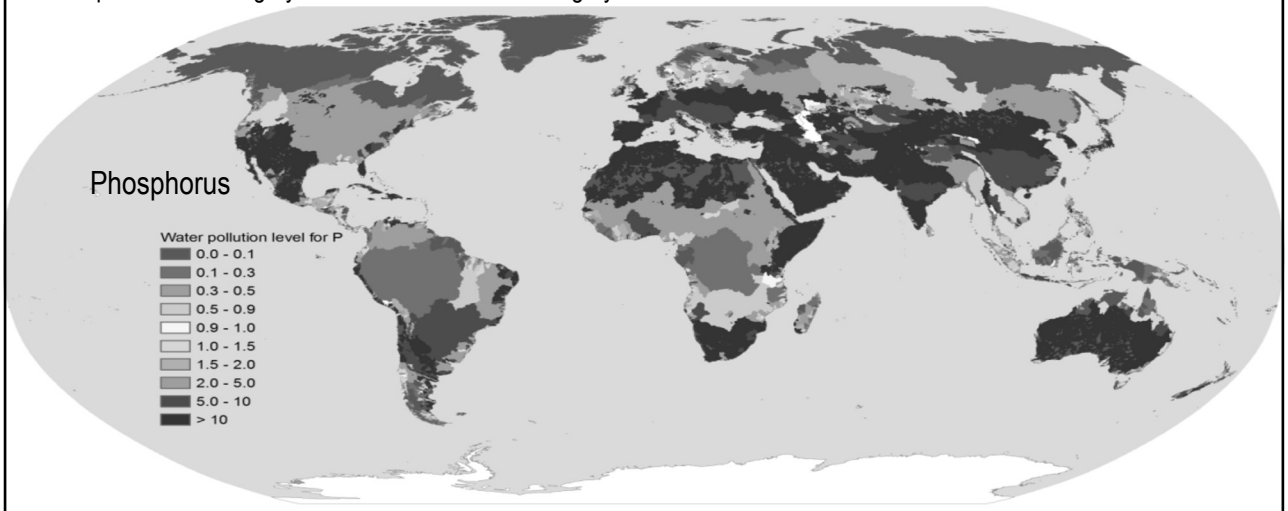
Our grey water footprint is **environmentally unsustainable**

Water pollution level = grey WF / maximum sustainable grey WF



Source: Liu et al (2012)

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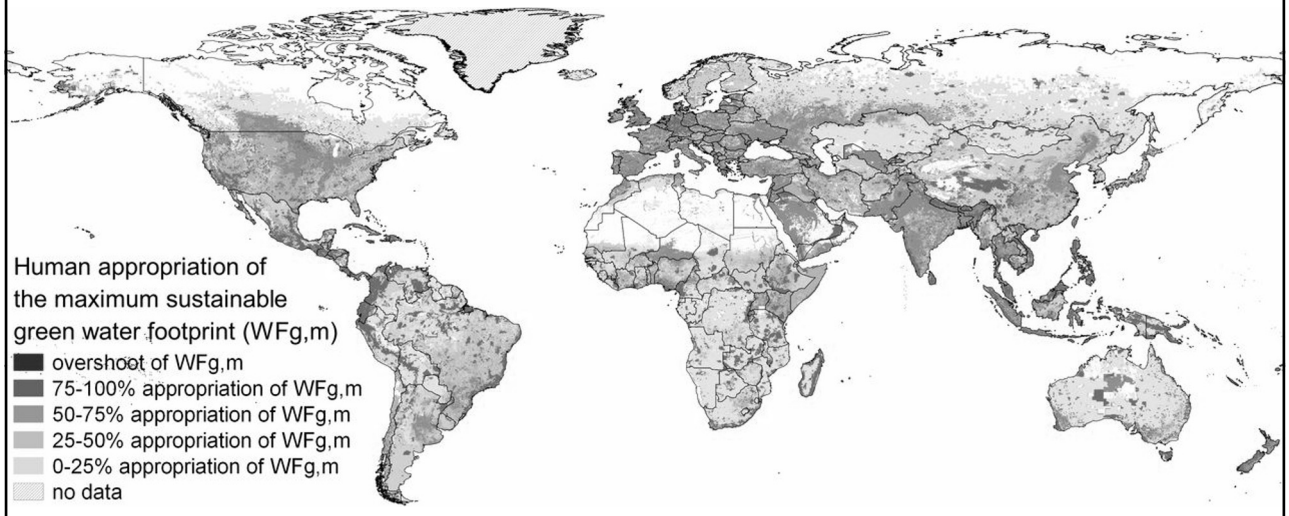
Our green water footprint is **environmentally unsustainable**

Green water scarcity = green WF / maximum sustainable blue WF



Source: Schyns et al (2019) PNAS

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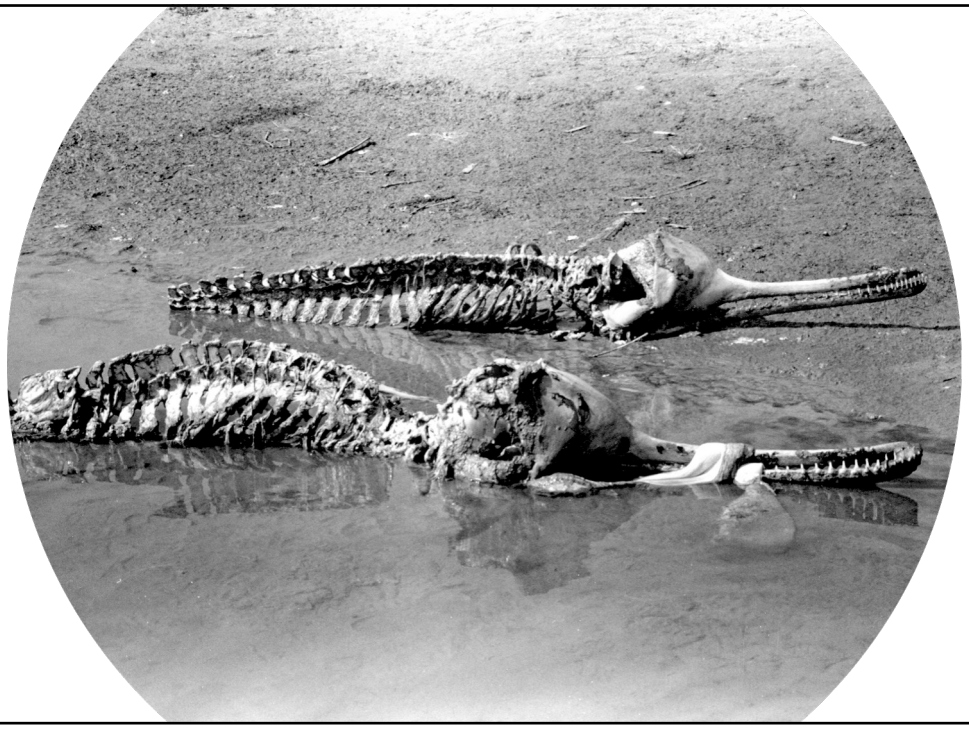

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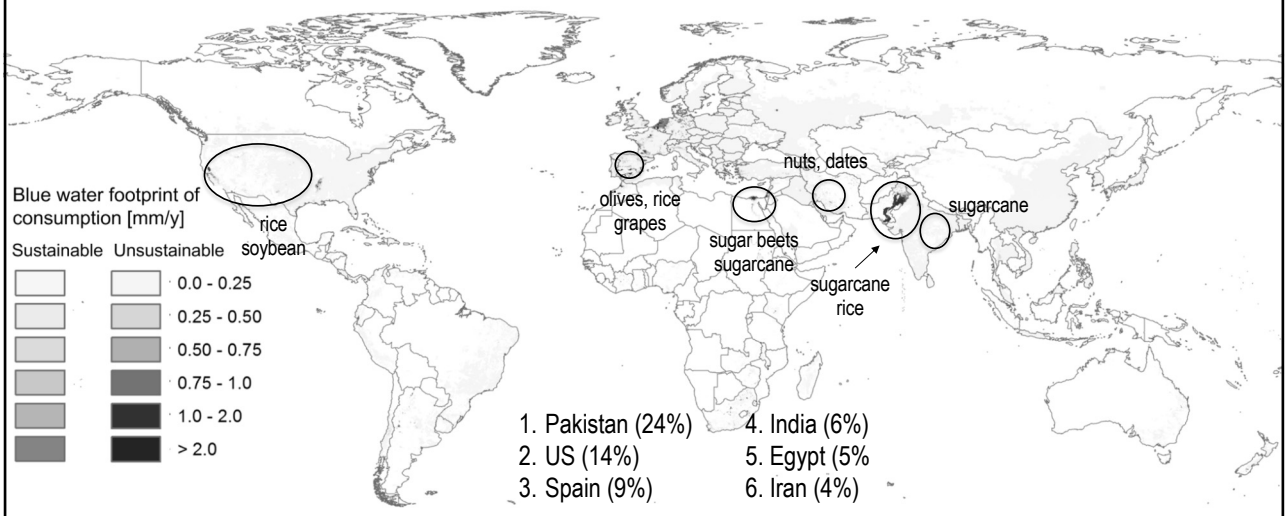
The Dutch water footprint is environmentally unsustainable



Source: Mekonnen & Hoekstra (2020)

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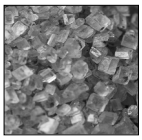
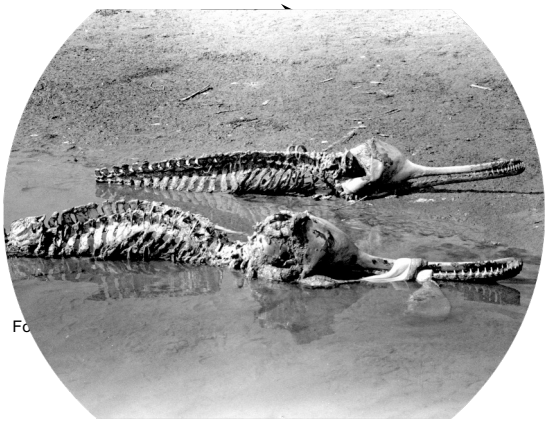
Indus basin, Pakistan





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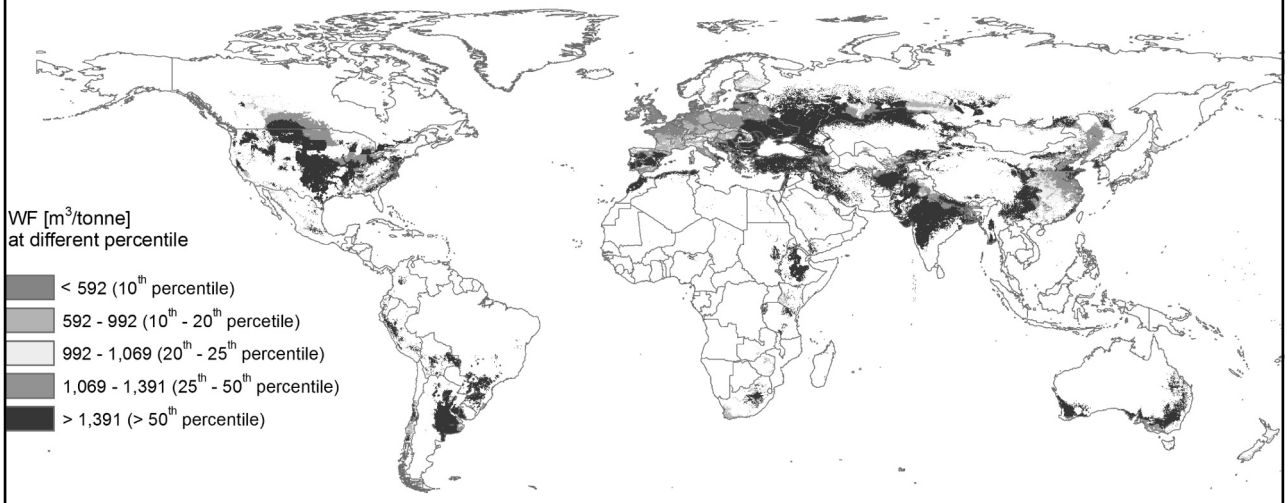
Our water footprint is **inefficient**

Spatial differences in the water footprint of wheat



Source: Mekonnen & Hoekstra (2014) / Hogeboom et al (2021)

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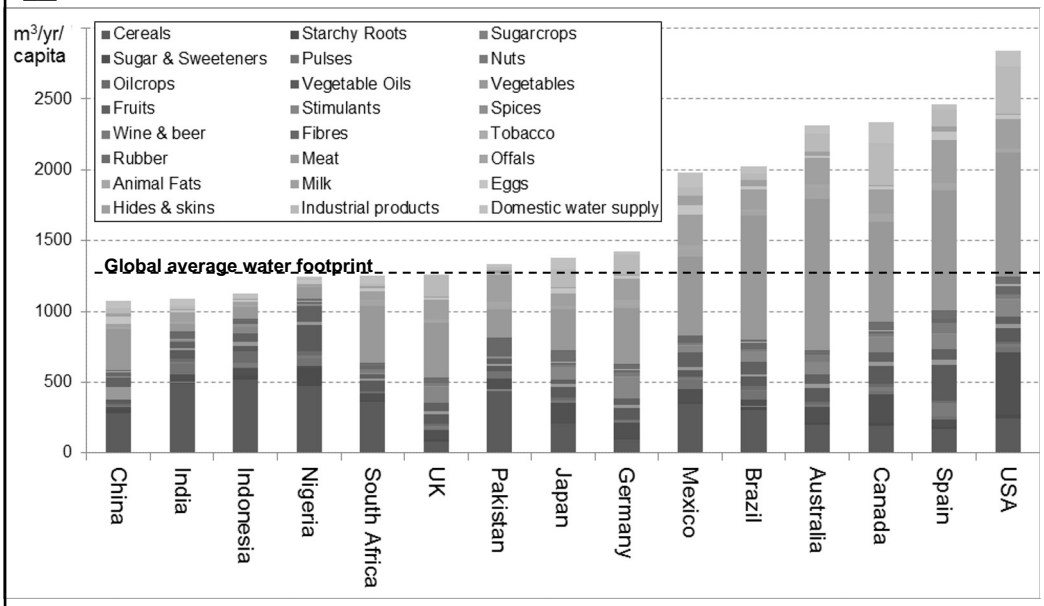
Our water footprint is **inequitably distributed**



Source: Hoekstra & Mekonnen (2012) The Water Footprint of Humanity, *PNAS*

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We are **dependent** on one another

Many countries have externalized their water footprint to other countries

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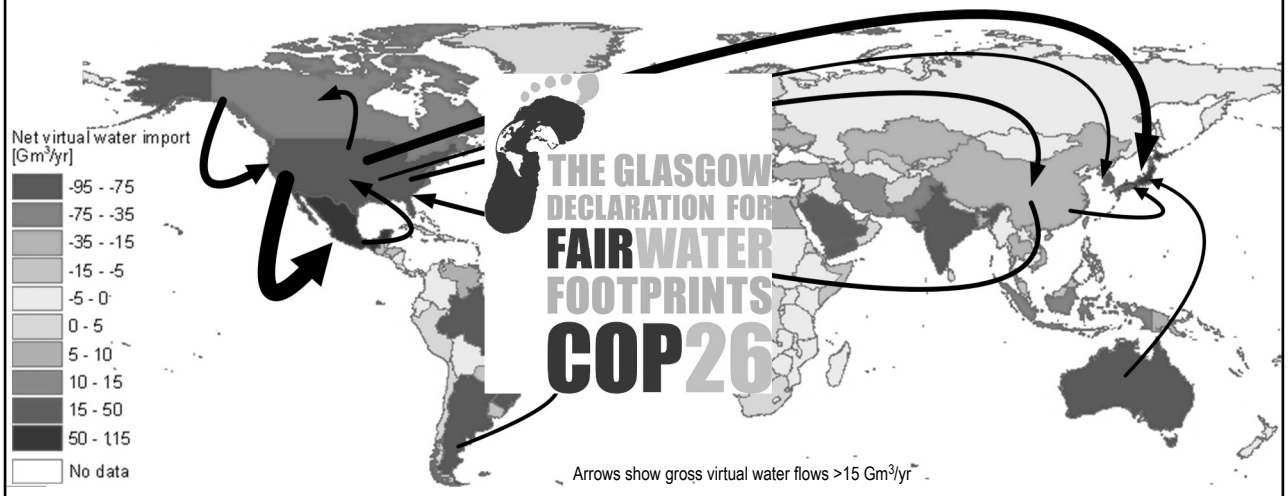
Virtual water balances per country



Source: Hoekstra & Mekonnen (2012) The Water Footprint of Humanity, *PNAS*

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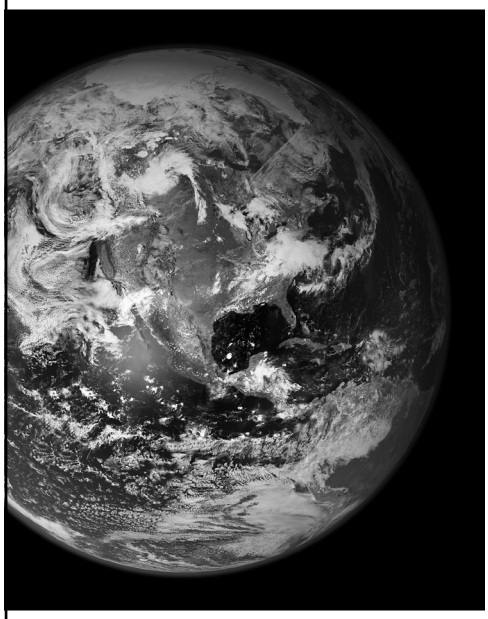

Samenvattend

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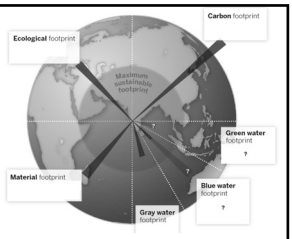
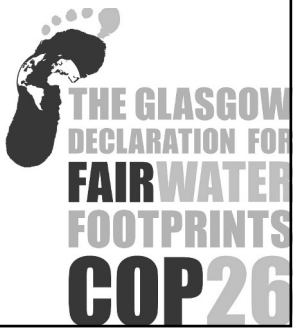
Reguleringsmogelijkheden VN

- Totaal gebruik > WF plafonds/grenzen
- Verspilling > Referentiewaarden (WF benchmarks) per product/gewas
- Verdeling > Fair WF shares? Handelsverdragen
- Transparantie
- Belasten
- Beprijzen





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