



International Actuarial Association  
Association Actuarielle Internationale



# Sink or Swim: An Actuary's Primer to Water Risks

An overview of the first paper of the IAA  
Water Risk Task Force

Andries Schutte FIA FASSA CERA  
Hayley Clarke FASSA FFA CERA  
Emily Forsyth-Davies FIA  
Sara Goldberg FSA MAAA



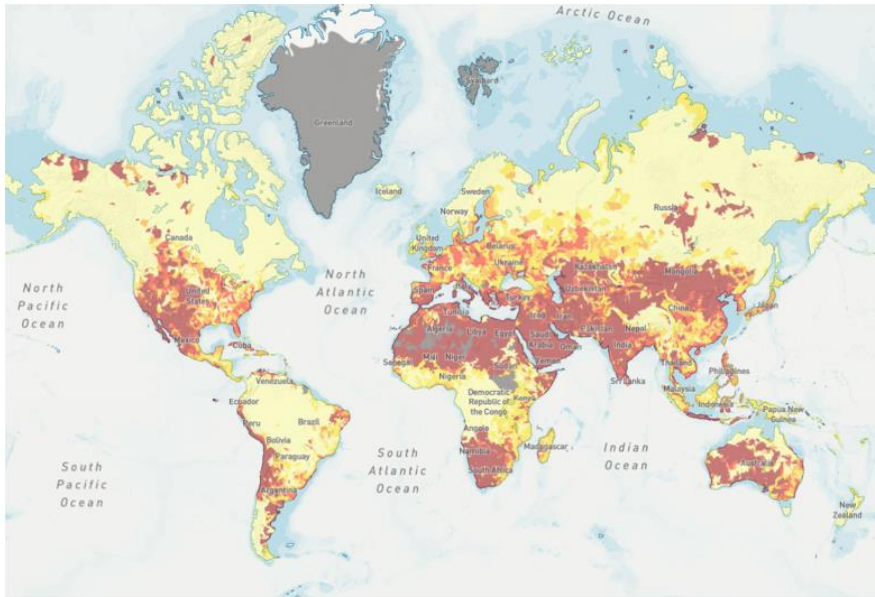
# Water in statistics

- Only about **3%** of the global water supply is freshwater.
- Approximately **30%** of this freshwater comes from groundwater sources, such as aquifers.
- Around **30%** of the largest aquifers are currently experiencing depletion – **driven by irrigation.**
- **Desalination accounts for less than 3% of consumable fresh water and is notoriously environmentally unfriendly.**
- **Agriculture is the largest user of freshwater globally, accounting for roughly 70% of freshwater withdrawals.**
  - In developing countries this is **90%** with industry being only **3%** compared to **39%** in developed countries.
- **70% of diseases globally are water borne.**
- Water demand is expected to grow by **50%** by 2050!



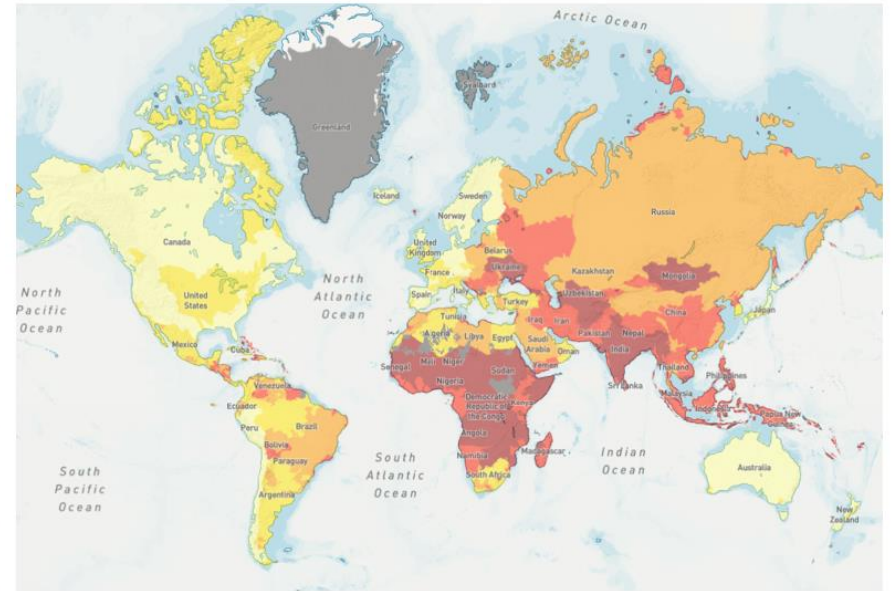
# Understanding Water Risks

## The Geography of Water Risks



■ No data

### Sufficiency



■ No data

### Quality

Source: WRI Aqueduct, [www.aqueduct.wri.org](http://www.aqueduct.wri.org)

