

Global Salinization Challenges

Worldwide, salinity is increasing, affecting agriculture and food systems. The Global Campaign on Salinization aims to increase the awareness around this issue among policy makers, researchers and practitioners in the global water and food sectors. The infographic visualizes this information in one page, showing drivers and challenges of salinization around the world, the three main landscapes in which salinization features, and it summarizes essential facts and figures.

Facts and figures

Global annual costs (US\$ 27.3 billion)

€21.3 billion



The current global annual cost of salt-induced land degradation in irrigated areas is estimated to be EU € 21.3 billion (US\$ 27.3 billion) related to lost crop production.

Salt-affected topsoil (0-30 cm)

424 million ha

Salt-affected subsoil (30-100 cm)

838 million ha



With the current information from 118 countries covering 85% of global land area, it shows that more than 424 million hectares of topsoil and 833 million hectares of subsoil are salt-affected.

Moderate salinity

90% yield losses



Thirty crop species provide 90% of our food, most of which display severe yield losses under moderate salinity.

Salts per annum added in Europe

1 million x

Salts per annum added in USA

10 million MT



Europe adds 1 million metric tons of salts per year to the environment, while USA applies about 10 times more than this annually to paved surfaces, causing secondary salinization.

Due to salty water irrigation

17% yield decrease



Irrigating agriculture with saline water will decrease the yield with around 17.3% compared to freshwater irrigation.

Arable land impacted by salinity

50% by 2050



Estimates predict that 50% of all arable land will become impacted by salinity by 2050.

Drivers and challenges

Drivers (global importance)

- Sea level rise
- Temperature increase
- Natural soil salinization
- Population growth

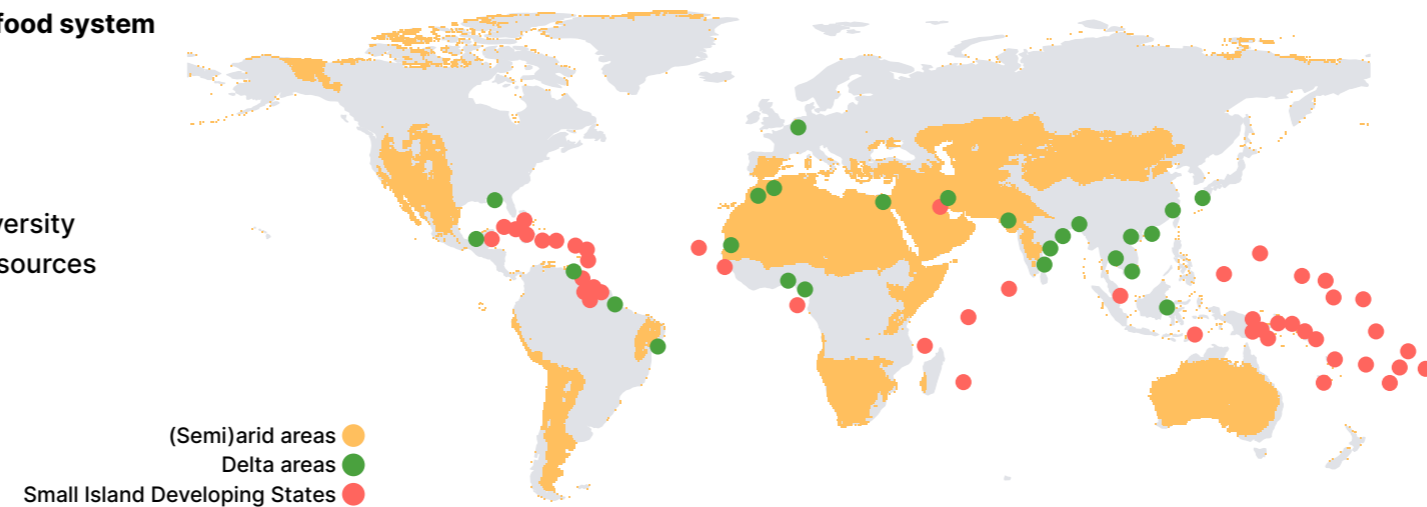
Drivers (regional importance)

- Irrigation systems
- Overextraction of groundwater
- Land use change
- Use of de-icers
- Inland water diversion
- Melting glaciers
- Limited freshwater resources

Challenges salinization on food system

- Soil degradation
- Desertification
- Inadequate water quality
- Migration
- Adverse impacts on biodiversity
- Pressure on freshwater resources

Salinity affected areas



Salinity impacts different landscapes



(Semi)arid areas

- Higher temperatures lead to more evaporation
- Irrigation systems lead to higher salinization
- Overextraction groundwater leads to salinization



Delta areas

- Land subsidence increases salt water intrusion
- Overextraction groundwater leads to salinization
- Sea level rise is pushing salt front land inwards
- Temperature increase leads to more evaporation



Small Island Developing States

- Land subsidence increases salt water intrusion
- Sea level rise increases salinity coastal aquifers
- Temperature increase leads to more evaporation