



UNCONVENTIONAL WATER RESOURCES: WHO OWNS THE RAIN?

RENÉE MARTIN-NAGLE, JD, LL.M., PH.D.

A Ripple Effect

Content

- Impacts of climate change on water
- Types of unconventional water resources
- Principles of ownership
- Transboundary resource principles
- Rights in unconventional water resources
- Closing thoughts

- ❖ More powerful storms → More runoff → More pollution → Lower water quality
- ❖ More heat → More evaporation → Less precipitation → More frequent droughts → Less water quantity
- ❖ Higher populations → More water demand → Less available water → More reliance on unconventional water resources



Types of unconventional water resources

- ❖ Municipal wastewater
- ❖ Agricultural drainage
- ❖ Bulk water transfers
- ❖ Deep onshore-offshore groundwater
- ❖ Desalination
- ❖ Ballast water
- ❖ Icebergs
- ❖ Fog
- ❖ Rain



❖ Sovereign rights

Land surface, subsoil, coasts & continental shelves

❖ Global commons

Air & high seas

❖ Benefits of sovereignty

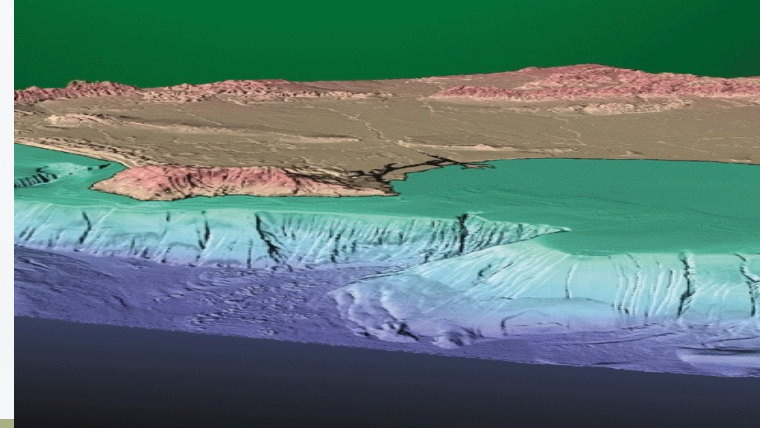
Exclusive rights to natural resources within borders

❖ Transboundary resource principles

Good neighborliness (upstream)

No significant harm (downstream)

Environmental protection (Precautionary Principle)



Rights in unconventional water resources

Sovereign Rights

Municipal wastewater

Agricultural drainage water

Bulk water transfers

Deep onshore/offshore groundwater

Desalination

Ballast water

Commons

Icebergs (hybrid)

Fog

Rain



A Proposed Regime:

Fog and rainwater harvesting

Water touches the ground → sovereign rights

Cloud seeding

Strong transboundary possibilities

Apply transboundary principles

Good neighborliness (upstream)

No significant harm (downstream)

Environmental Protection/Precautionary Principle



Unconventional water resources will be increasingly attractive

Utilization will depend on proximity & cost

Traditional sovereign principles will apply

Governance gap remains for atmospheric water

Thank you

