

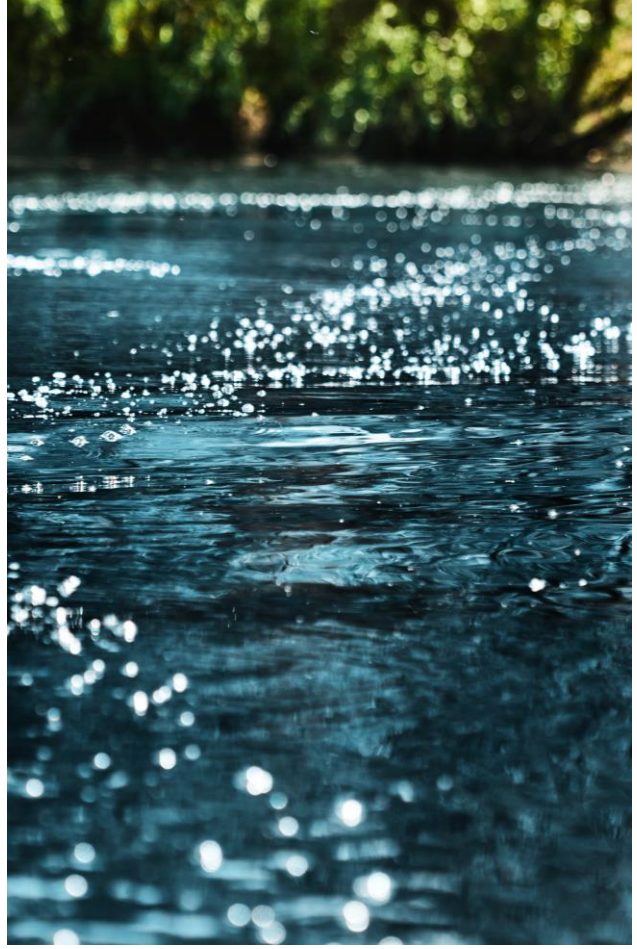
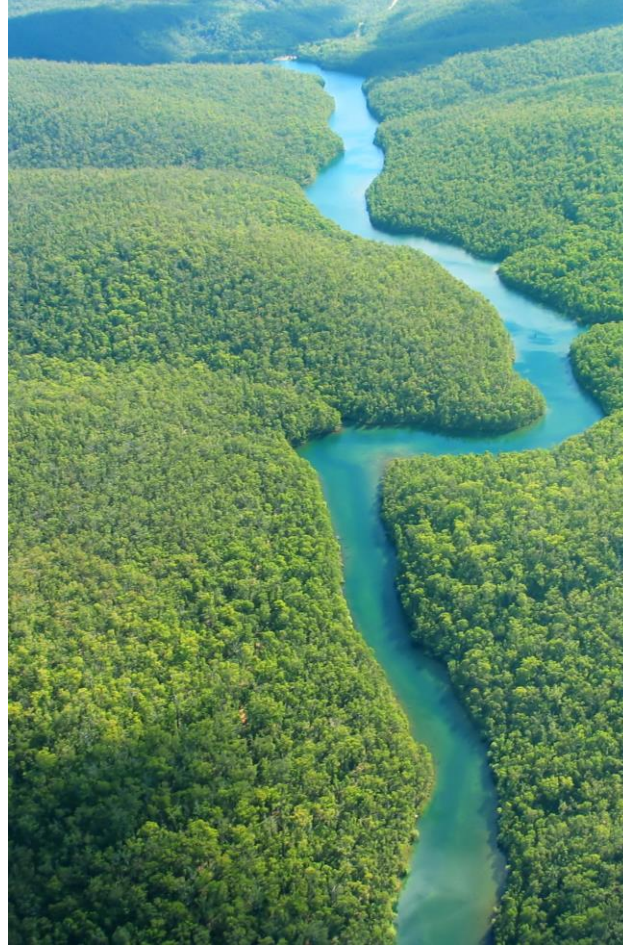

WHAT´S UP WITH WATER:

Pouring Water into Corporate Strategy

Episode 9: Water on earth Part B

03-Jun-22

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

OUTLINE

1. Introduction
2. Rationale, Philosophy and Objectives
3. What´s up with water I: Contexts
4. What´s up with water II: The essence
5. Water as an earth component
6. The cycle of water production explained
7. Water in the oceans
8. Water on earth
9. Water beyond your skin
10. Water for human consumption
11. Water and cities
12. Why is water so crucial for all?
13. When water kills
14. Climate Change and water
15. Loving water is caring for us
16. Look around: Everything is water
17. The concept of agility in corporate strategy
18. Strategic Agility has been misunderstood
19. Strategic agility is beyond the supply chain management
20. Strategic agility is not only NAIQIs
21. Agility has insane drawbacks
22. Understanding and applying strategic agility correctly and well
23. How to foster strategic agility at the corporate level?
24. Is strategic agility the right way to fix our environment
25. Pouring strategic agility to water into our corporate strategy
26. Research Agenda about water in our corporate strategy for the next 15 years
27. Summary and conclusions

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

In our last episode we have discover that wáter is interrelated with everything we do. Water is not separated from our inland actions.

We will explore in detail today

- **Water in the oceans**
  - Oceans pump water through evaporation to the clouds, which then is poured through rain into the planet
- **Water in our lands**
  - Surface Water and wetlands: lakes, rivers, freshwater marsh, rivers, reservoirs, estuarine ecosystems, etc.
  - Ground water: our aquifers.
  - Surface water and ground water are interconnected
- **Water in our built-up businesses and homes in urban or rural setups**
  - Tap water
  - Water collected from ground water reservoirs
  - Rainwater collection in tanks and reservoirs
- **Contaminated Discharges**
  - To oceans
  - To rivers and lakes
  - To wetlands
  - Contaminated air from industrial plants
  - Usage of petroleum (cars, planes, energy production)
  - Pollution from our commercial, residential and industrial waste
  - Waste collection mismanagement
- **Alteration of the land surface with infrastructure projects**
  - Any infrastructure project alters the topography and natural conditions of rain drainage to the water ecosystems
  - Levees, artificial river reservoirs or dams
- **Removal of Natural Vegetation**
  - Making land available involves cutting forests and removing ancient vegetation
  - Deforestation, storm runoff, soil erosion, mudslides.
- **Modification of the atmosphere**
  - Atmospheric deposition of chemicals
  - Acidic precipitation on aquatic ecosystems
  - Global warming

Everything we do affect the water-cycle and the oceans

03-Jun-22

Diagram prepared with content from the book: Tester, Drake, Driscoll, Golay and Peters "Sustainable Energy-Choosing among options". Chapter 7: Energy, wáter and Land use. The MIT Press (2012)

WHAT´S UP WITH WATER:
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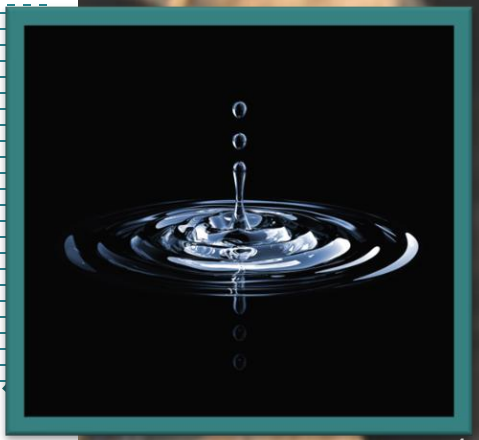
What is the meaning of water on earth or inland water?

Experts have defined water on earth or inland water as the following 4 sections:

Inland Water System Habitats	Coastal Marine Wetlands	Glaciers	Ground water
Lakes	Estuaries	Continental: Antarctic and Greenland	Perched Aquifers (unsaturated zone)
Rivers	Mangroves	Alpine Glaciers	Unconfined aquifers (saturated zone)
Marshes & Swamps	Mudflats		Confined Aquifers (saturated zone)
Floodplains	Reefs		Deep bedrock groundwater
Small Streams	Deltas		*Ice-rich* Permafrost
Ponds	Saline Crystalline Lagoons		
Cave Waters			
Reservoirs			
Plantation reservoirs			
Artificial reservoirs			
Saline inland wetlands			
Intermittent wetlands			

Inland water systems can´t be explained alone. The water cycle unifies inland water with coastal wetlands, glaciers and ground water.



WHAT´S UP WITH WATER:
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Chapter 20

Inland Water System Habitats

- Lakes 
- Rivers 
- Marshes & Swamps 
- Floodplains 
- Small Streams 
- Ponds 
- Cave Waters 
- Reservoirs 
- Plantation reservoirs 
- Artificial reservoirs Dams 
- Saline inland wetlands 
- Intermittent wetlands 

Chapter 19

Coastal Marine Wetlands

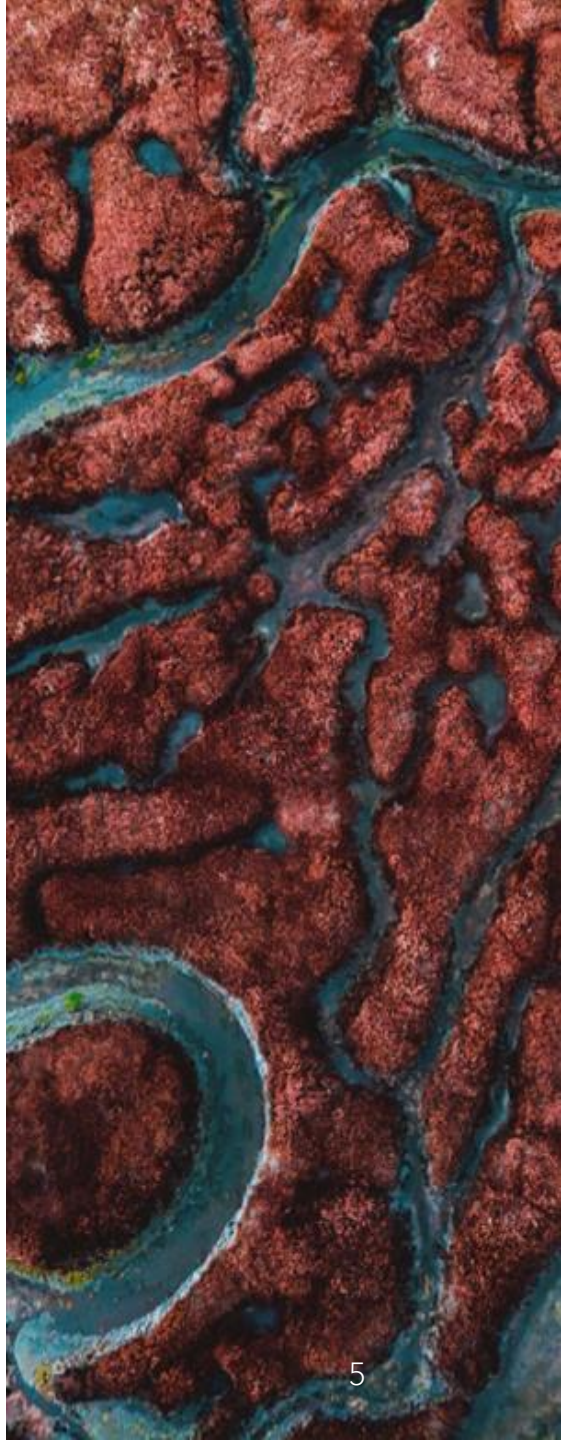
- Estuaries 
- Mangroves 
- Mudflats 
- Reefs 
- Deltas 
- Saline Crystalline Lagoons 

Type in Goggle:

https://www.millenniumassessment.org/en/Condition.html

We have an assignment for you: *please read the whole chapters 19 and 20 of the Millennium Ecosystems Assessment 2005 for understanding the portions of inland wetlands and coastal marine. We will explore the glaciers and groundwater later.*

We are doing a reflection analysis of these 2 chapters today, so we need you to read them so you can understand our inferences .



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Pouring Water Into Corporate Strategy.

The importance of understanding surface-water and groundwater as a complex union, and not separately from each other…

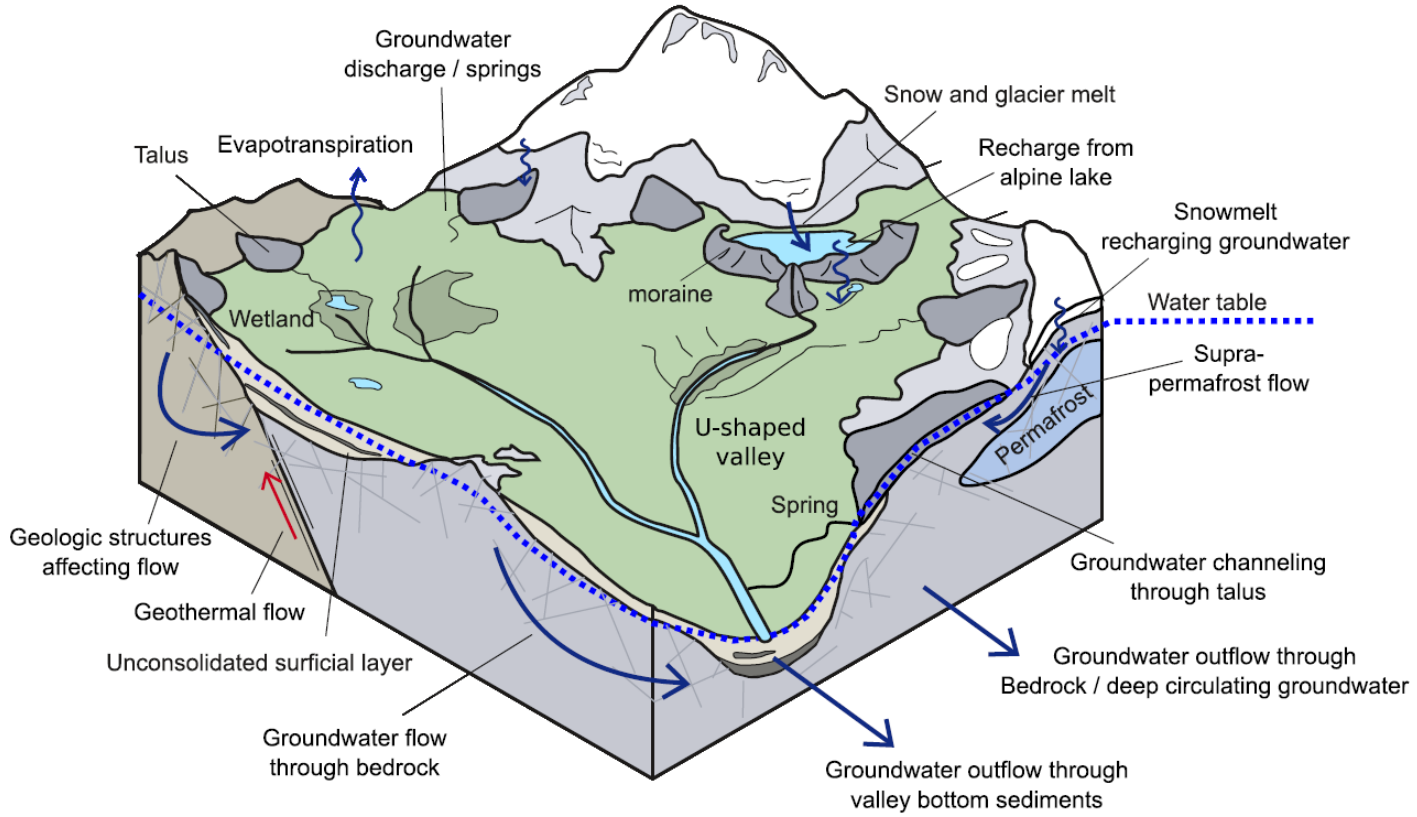

FIGURE 4 Conceptual model of high mountain hydrogeological processes including groundwater flow through subsurface features, such as talus slopes, moraines, valley bottom sediments, and bedrock, and the influence of permafrost and geological structures. Modified from Somers et al. (2019)

https://wires.onlinelibrary.wiley.com/doi/10.1002/wat2.1475

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

Once we understand that inland water and groundwater are a complex whole unit, naturally the problem of water starts to be exposed…

1. The quantity and the quality of our inland water systems is being disturbed by humans.
2. Climate change effects over water, air and land are amplified by human's direct destruction of the water-cycle.
3. Humans' irresponsibility to understand the consequences of our actions on the planet has triggered devastation of the natural inland water habitats.

What do humans perform that destroy inland wáter systems ?

- ***Pulling out key supply resources***: food, freshwater, fiber, fuel, extraction of minerals, biochemicals, biodiversity and genetic materials
- ***Modifying the landscapes*** for urban cities and infrastructure projects
- ***Changing*** the natural course of inland water systems
- More detailed information on next slide

How do humans devastate the inland wáter systems ?

- ***Altering the land use*** due to vegetation clearance, drainage and infilling
- ***Building infrastructure*** without considering the hydrological consequences for urban, tourism and recreation,
- ***Modification of water regimes:*** Diverting water for aquaculture, agricultural, industrial or military purposes.
- ***Overharvesting***
- ***Pollution*** of the inland water systems and air, *Eutrophication, Salinization, pathogens, suspended solids, acidification*
- ***Triggering global climate change***

Why do humans damage the inland water systems ?

- ***Selfishness*** *in relation to other humans, species and the water cycle*
- ***Historical Ignorance****: people don´t know*
- ***Lack of caring for the future generations' survival***
- ***No government regulation and lack of penalties:*** *Inexistence of policies to regulate the enterprises who are damaging the water cycle with their projects*
- ***Irresponsibility for compliance***

WHAT´S UP WITH WATER: Pouring Water Into Corporate Strategy.

Direct drivers of change in Inland waters (including coastal wetlands and groundwater).

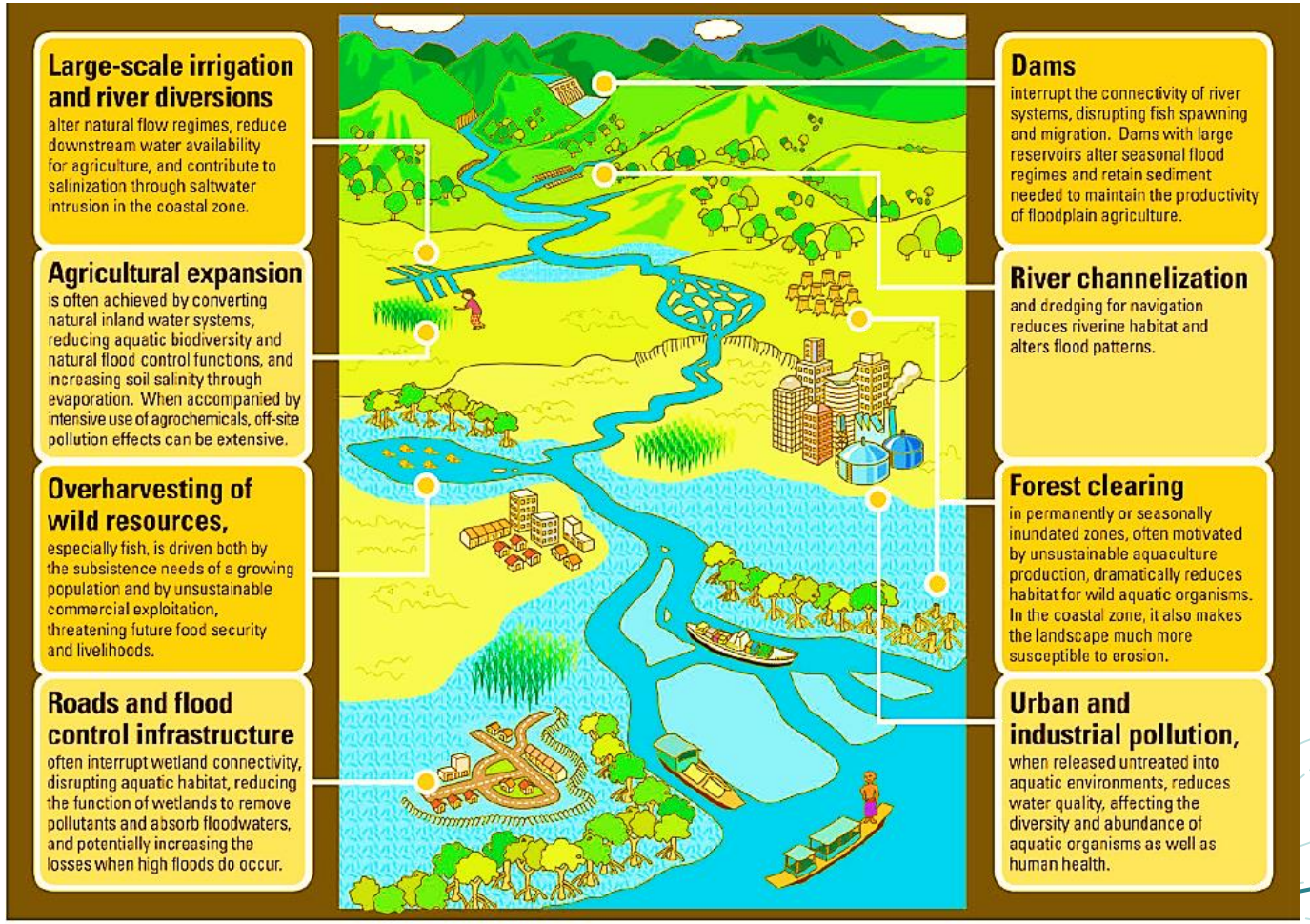

Figure 20.7 Pictorial Presentation of the Direct Drivers of Change in Inland Waters (Ratner et al. 2004)

https://www.millenniumassessment.org/en/Condition.html