Climate Change II: Water

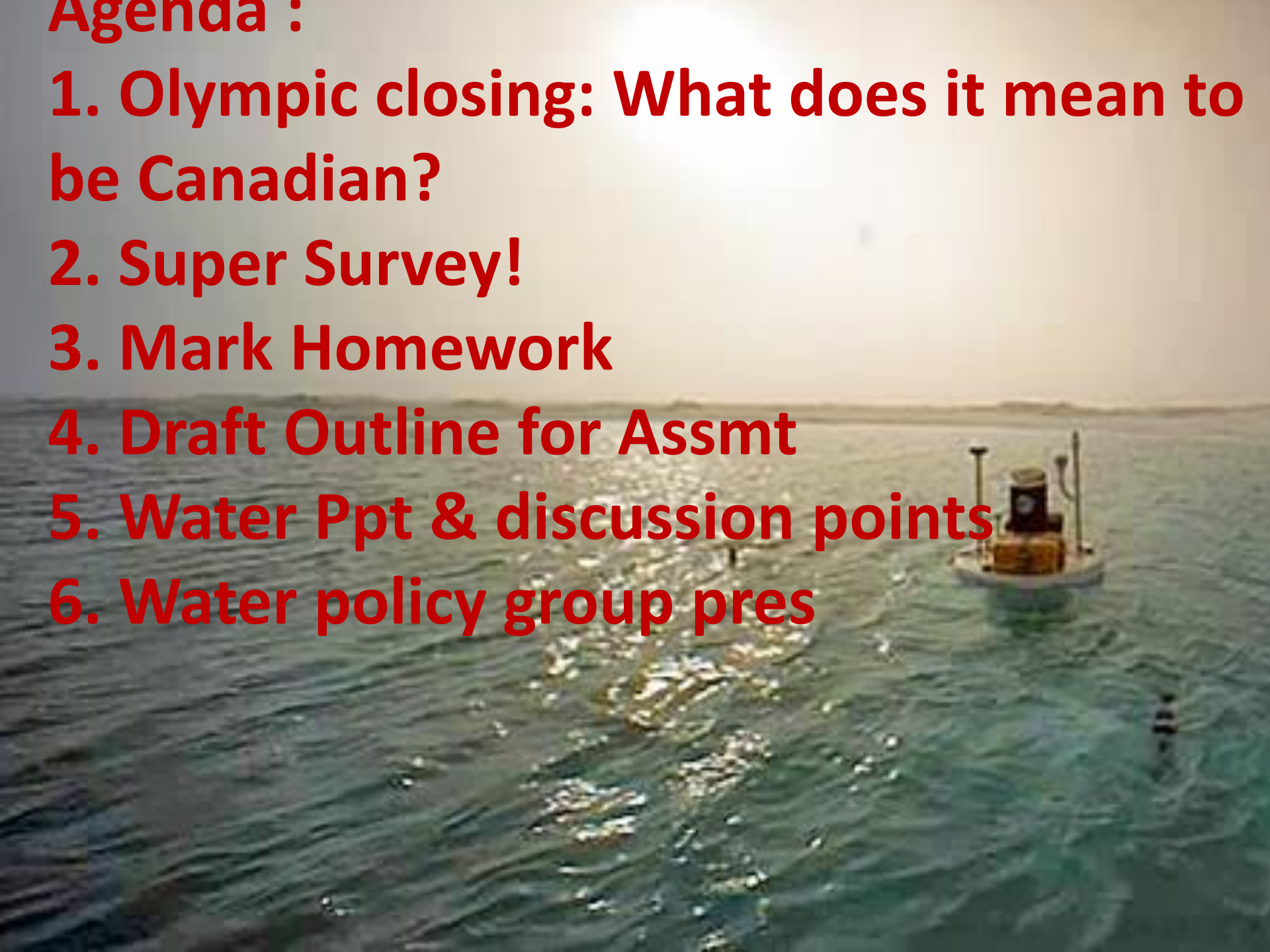
Tues: Library

Tues: Consumerism / marks

Wed: Pinebeetles & Pipelines

Thurs: Essay due / MCQ / Conciousness

Fri: Government



Agenda :

1. Olympic closing: What does it mean to be Canadian?
2. Super Survey!
3. Mark Homework
4. Draft Outline for Assmt
5. Water Ppt & discussion points
6. Water policy group pres

Block C – ACADEMIC VOCABULARY

used in MDG written work

- Torture - *Ermi*
- Incentive - *Igor*
- Embellish – *Garett*
- Intriguing – *Madi*
- Purchasing – *Lauren*
- Procedures – *Patrick*
- Peaceful – *Hanlin*
- Crude – *Trista*
- Survive – *Judy*
- Trafficking - *Iris*
- Scarcity – *Alex*
- Representative – *Ryan*
- Refreshment – *Jordan*
- Effective - *Lin*

Nice work folks ☺

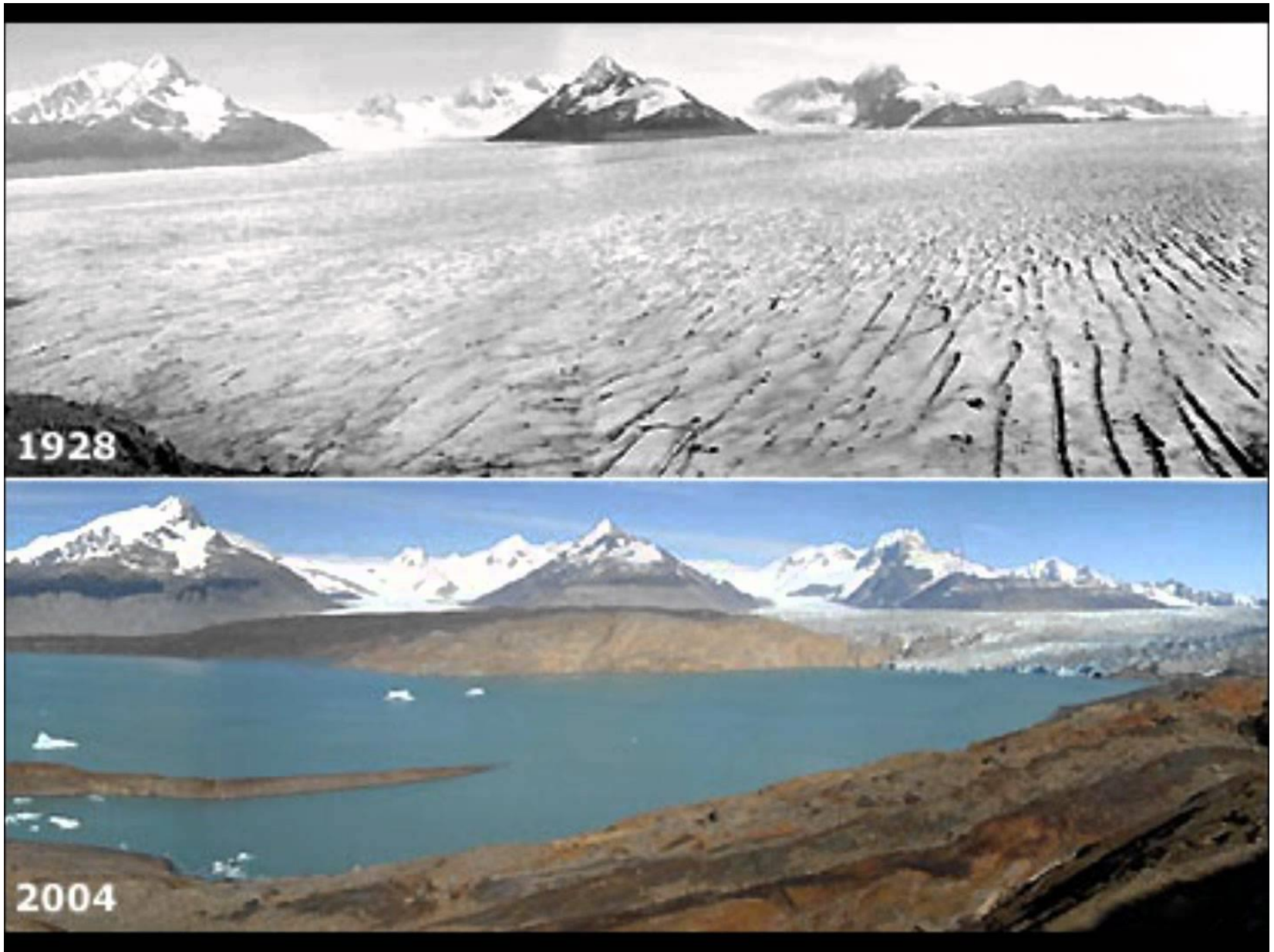
Why did we cover so much?

- The more the information is repeated or used, the more likely it is to eventually end up in long-term memory, or to be "retained."
- (That's why studying helps people to perform better on tests.)


That day when the
North Pole became a lake...
North Pole - July 22, 2013
CLIMATE CHANGED.


Where is this?

Consequences: Ice Caps



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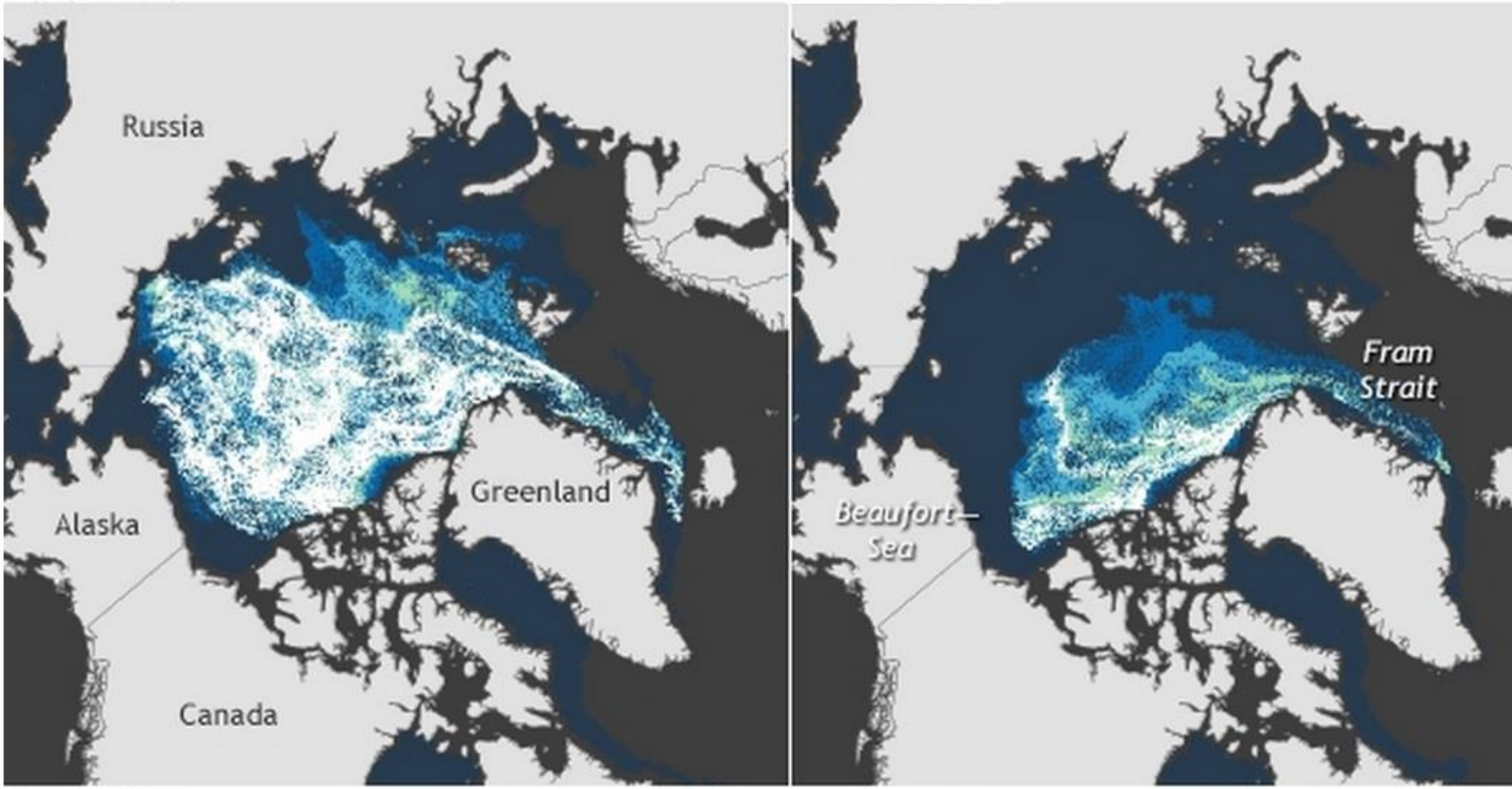

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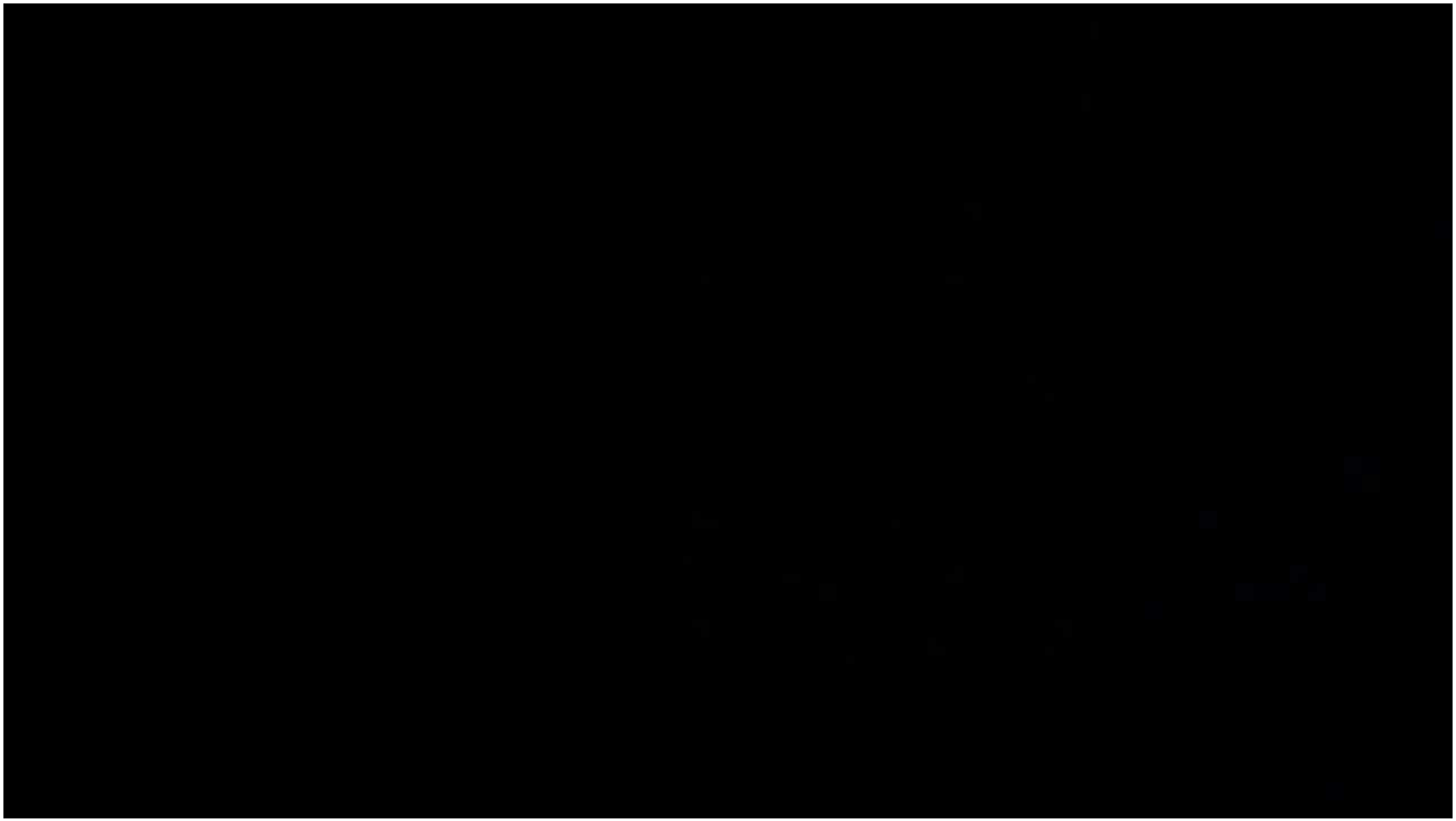

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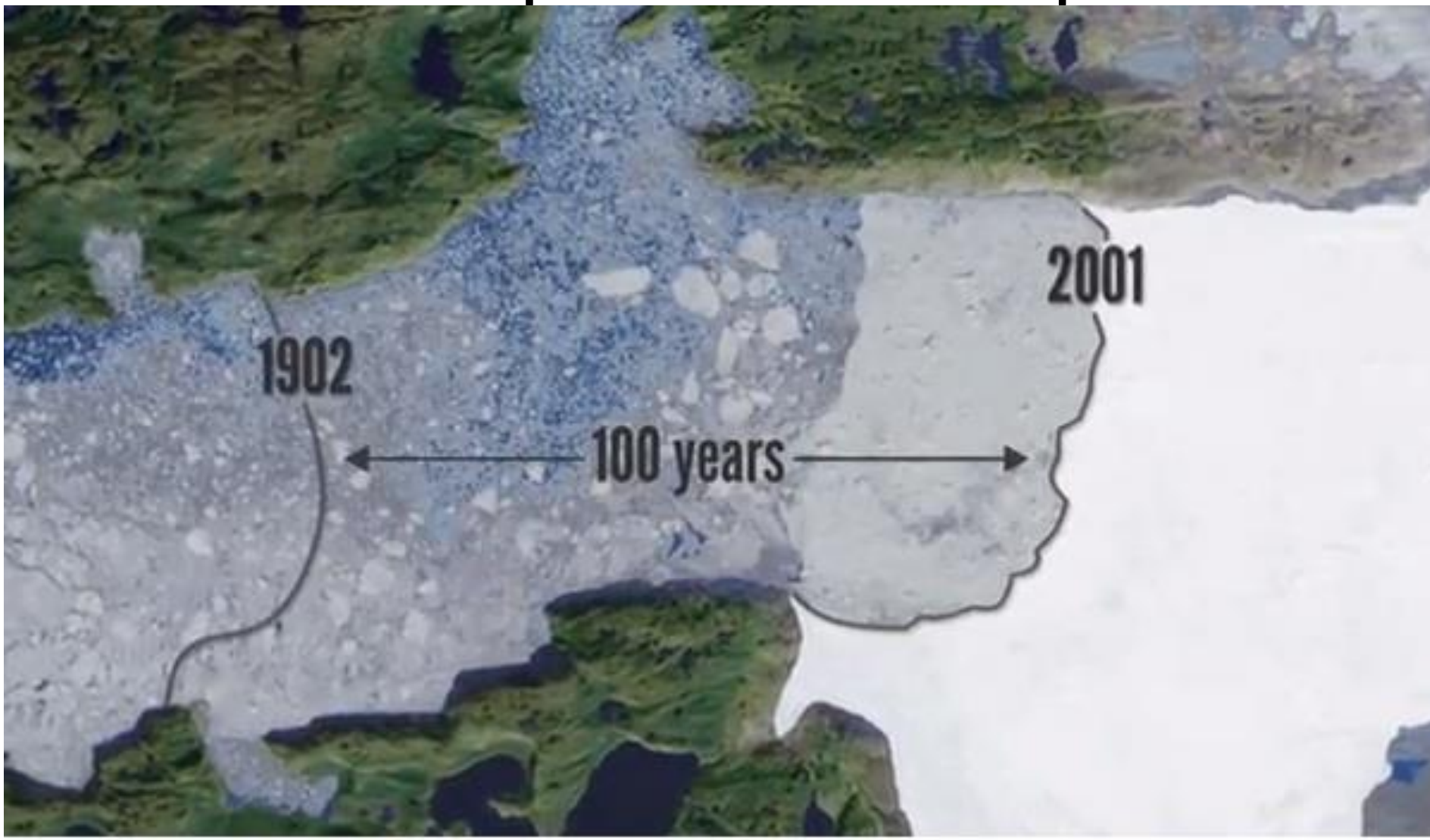
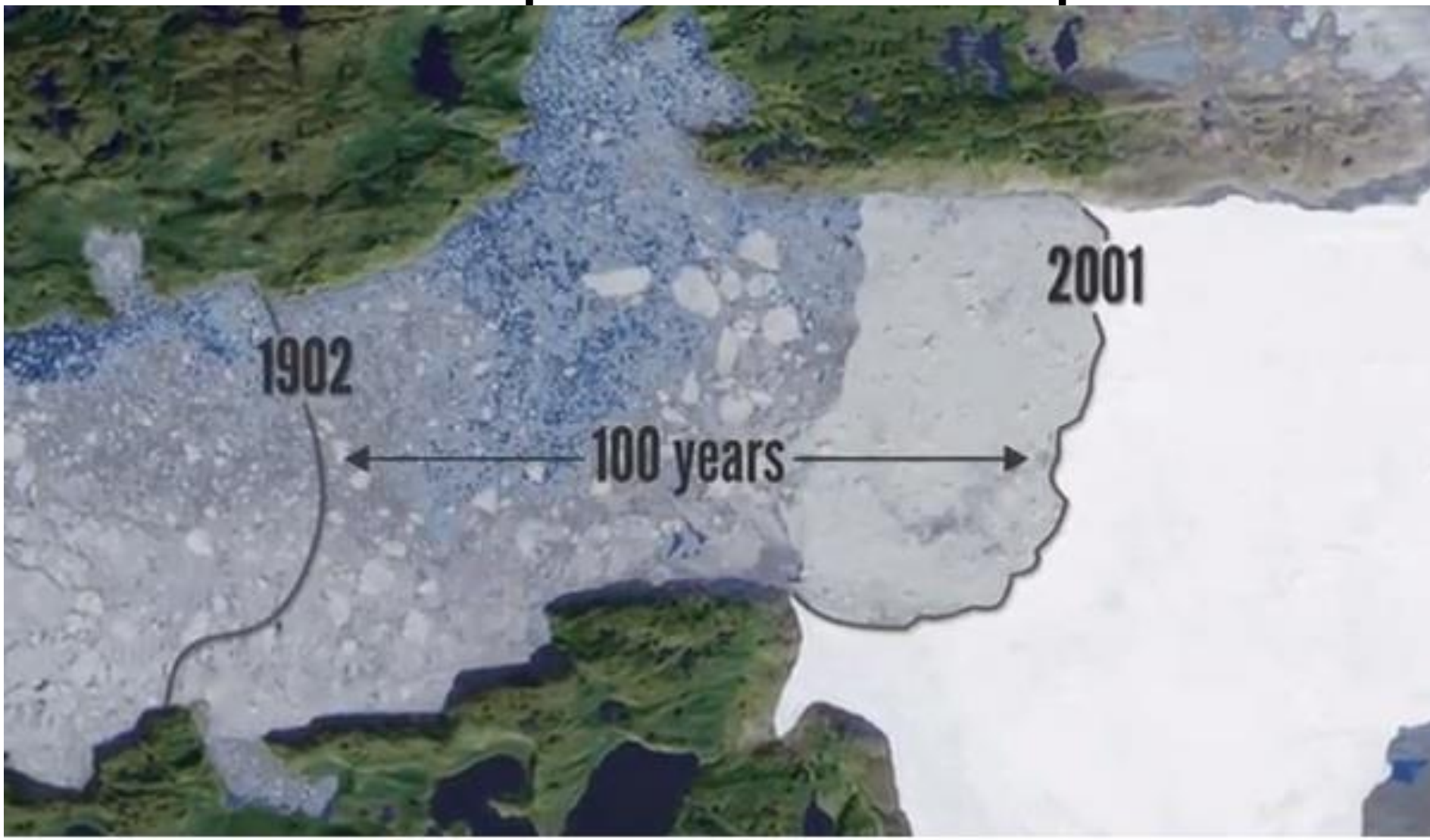


Consequences: Ice Caps

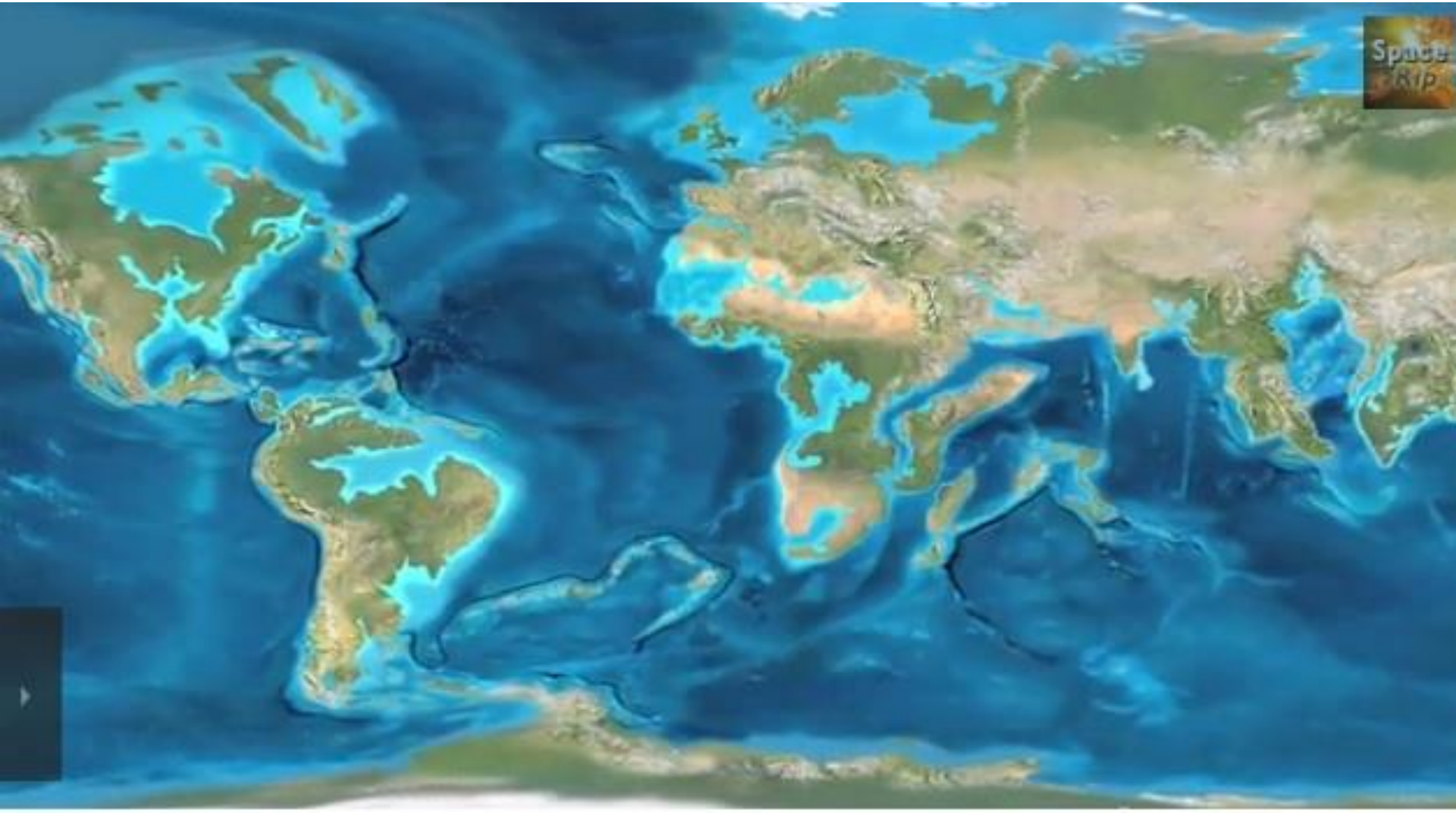



Kodak

Consequences: Raising Water

Consequences: Raising Water

Consequences: Raising Water



Fresh Water

- Important facts:

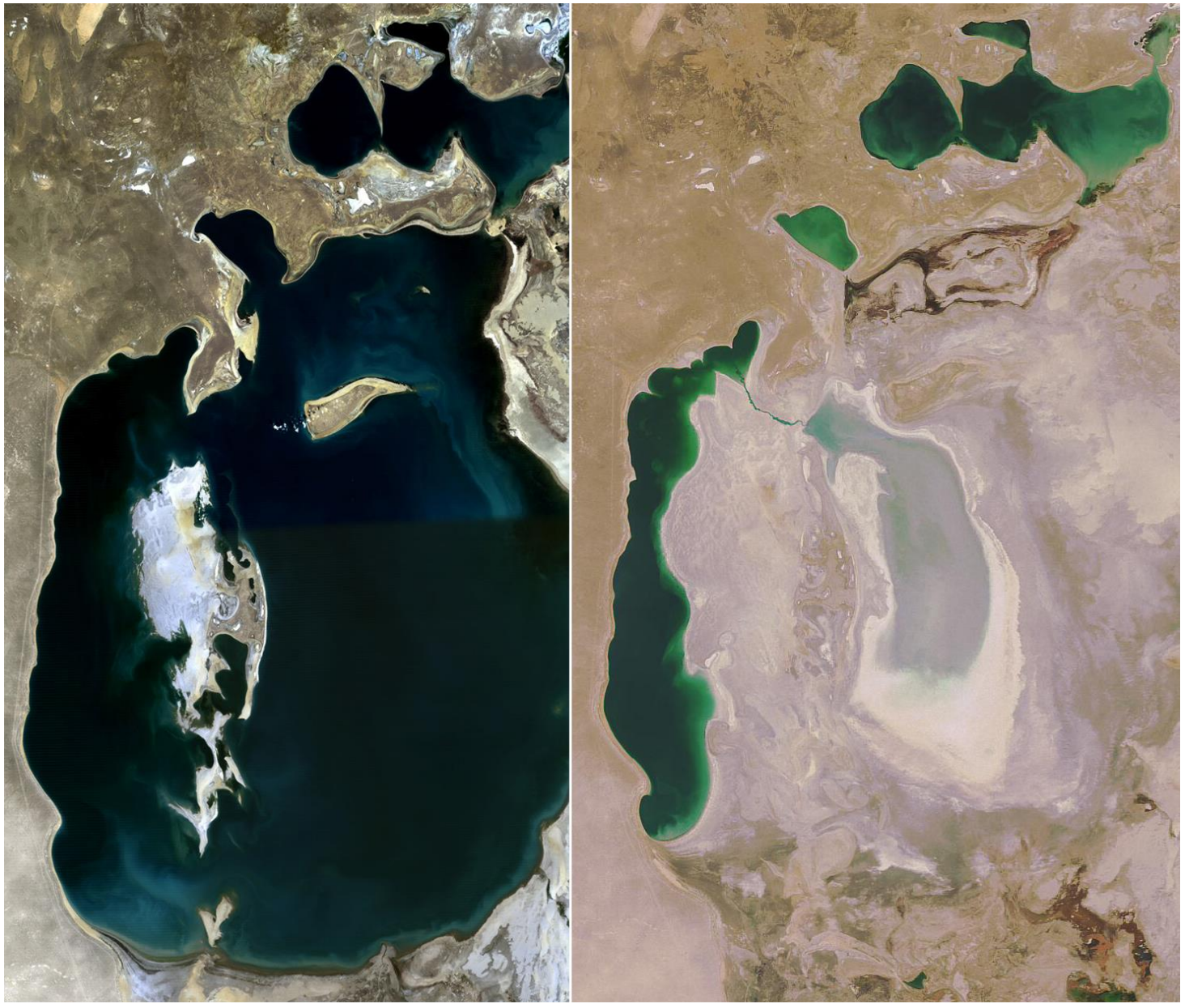
- Only 3% of the world's water is fresh water.
- 18% of the world's surface fresh water is in the Great Lakes.
- Most fresh water is either frozen or underground.

Why are we worried about water supply?

Water Supply

- The world's population is constantly growing.
- Each person needs at least 5 liters of water per day.
- In developed countries, most people use over 200 liters per day!
- Result: Groundwater and surface water resources are dwindling.

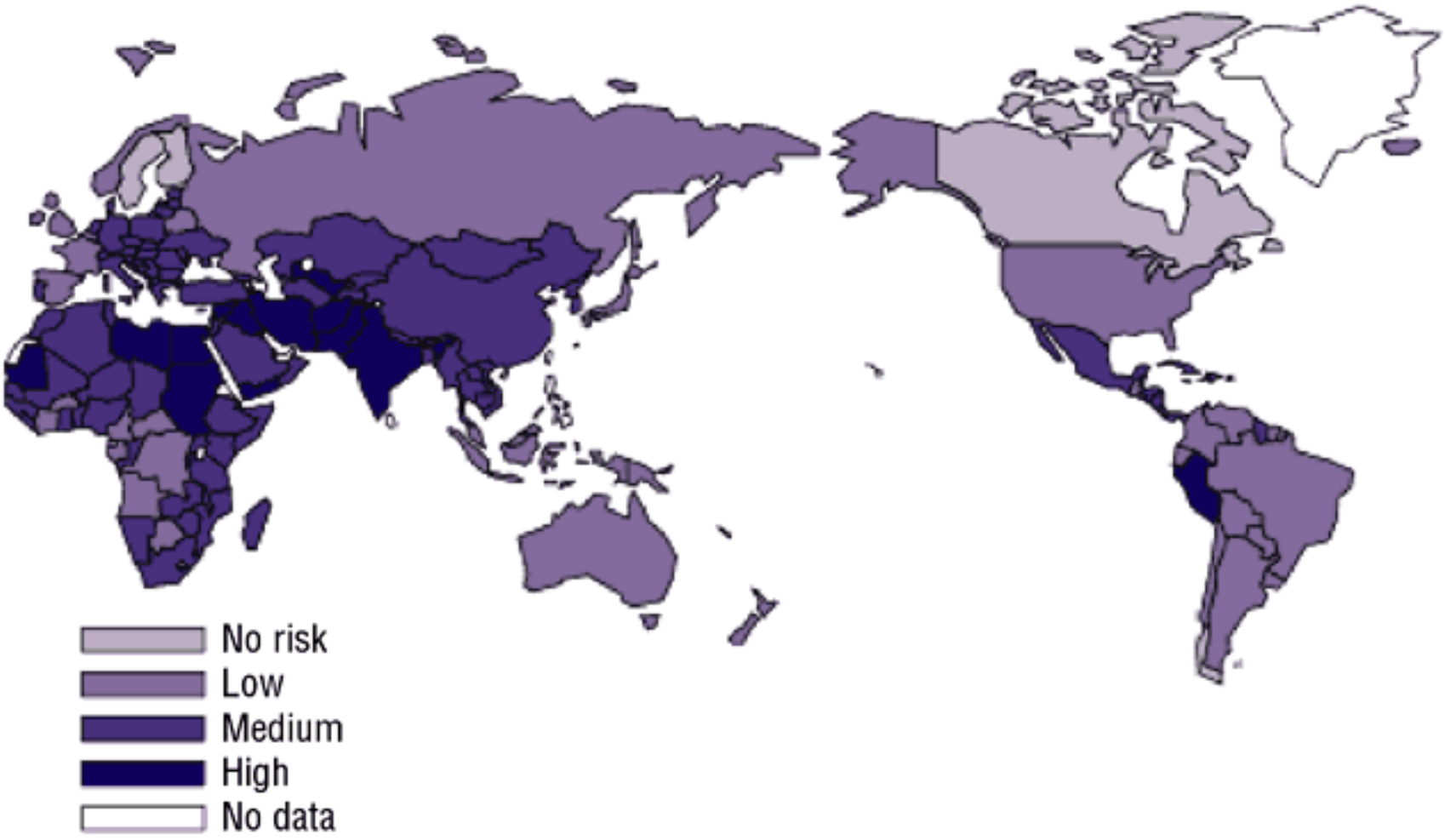
Aral Sea

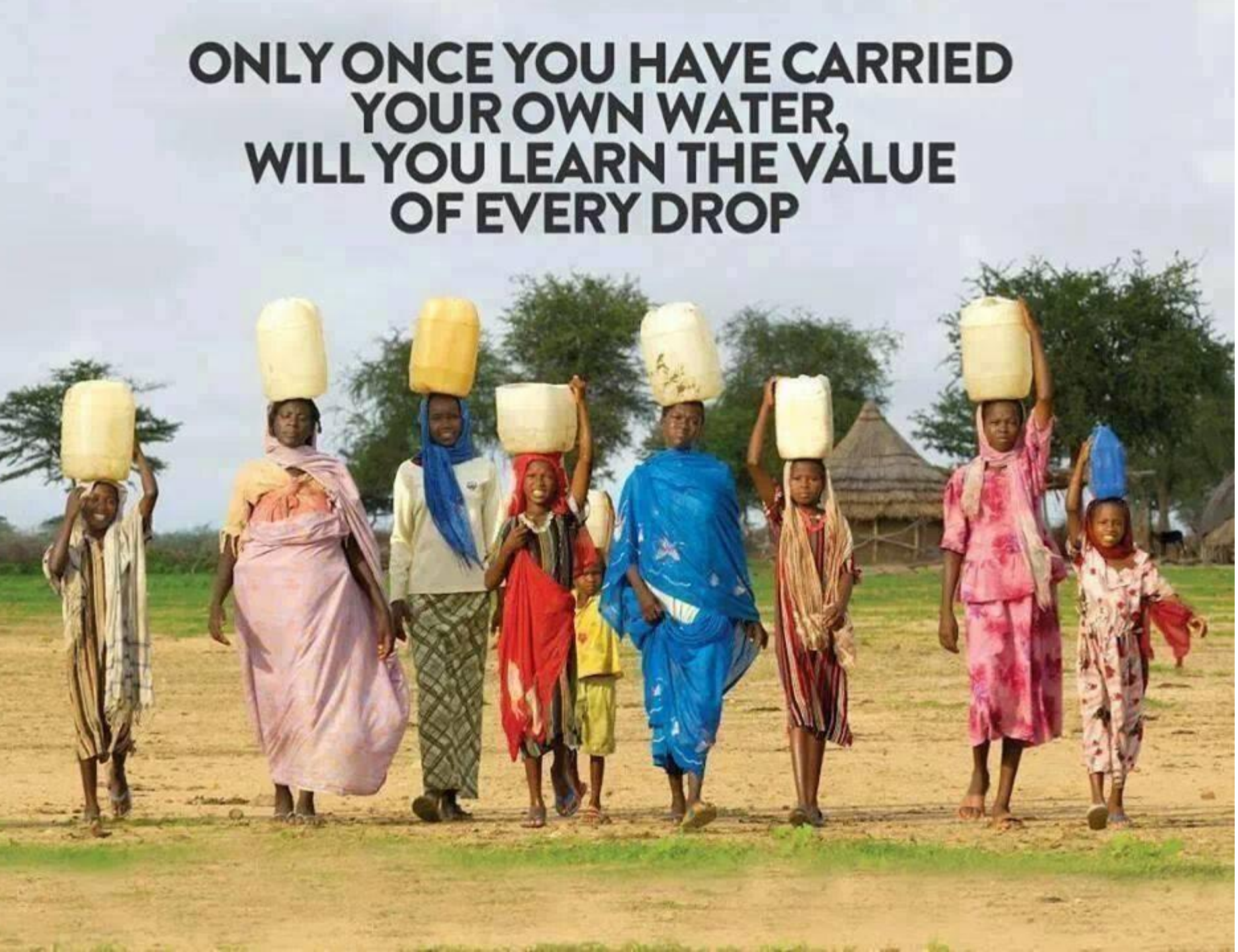


The problem of population growth

- The more people our planet has, the more food we need to grow.
- Result: More water is used to irrigate land for farming.
- Result: Water tables are falling all over the world.

Water shortages around the world:

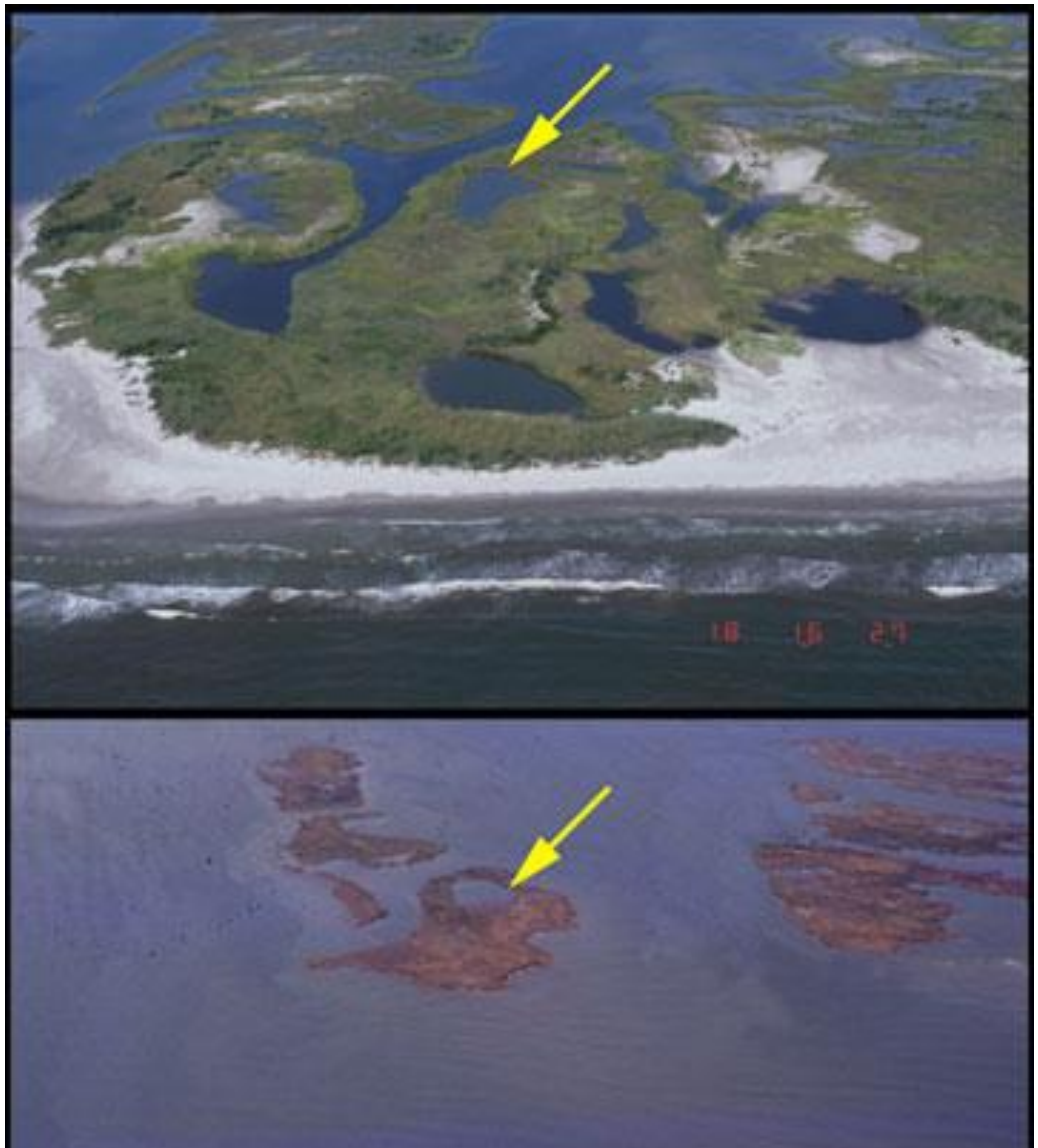



ONLY ONCE YOU HAVE CARRIED
YOUR OWN WATER,
WILL YOU LEARN THE VALUE
OF EVERY DROP

Why is depleting groundwater resources dangerous?

- Farmers will have to rely in seasonal rains - farms will yield fewer crops.
- Poor countries with growing populations will depend on imports of food for survival.
- The land above the water table may subside as the water table falls. This is the reason why New Orleans was completely flooded for weeks after it was hit by Hurricane Katrina.

Consequences: 2005



Drought Threatens to Cripple California Agriculture Industry

BY MIGUEL ALMAGUER AND DANIEL ARKIN

Can the depletion of ground water lead to a world wide famine?

Surface Water Supply

Threats to surface water

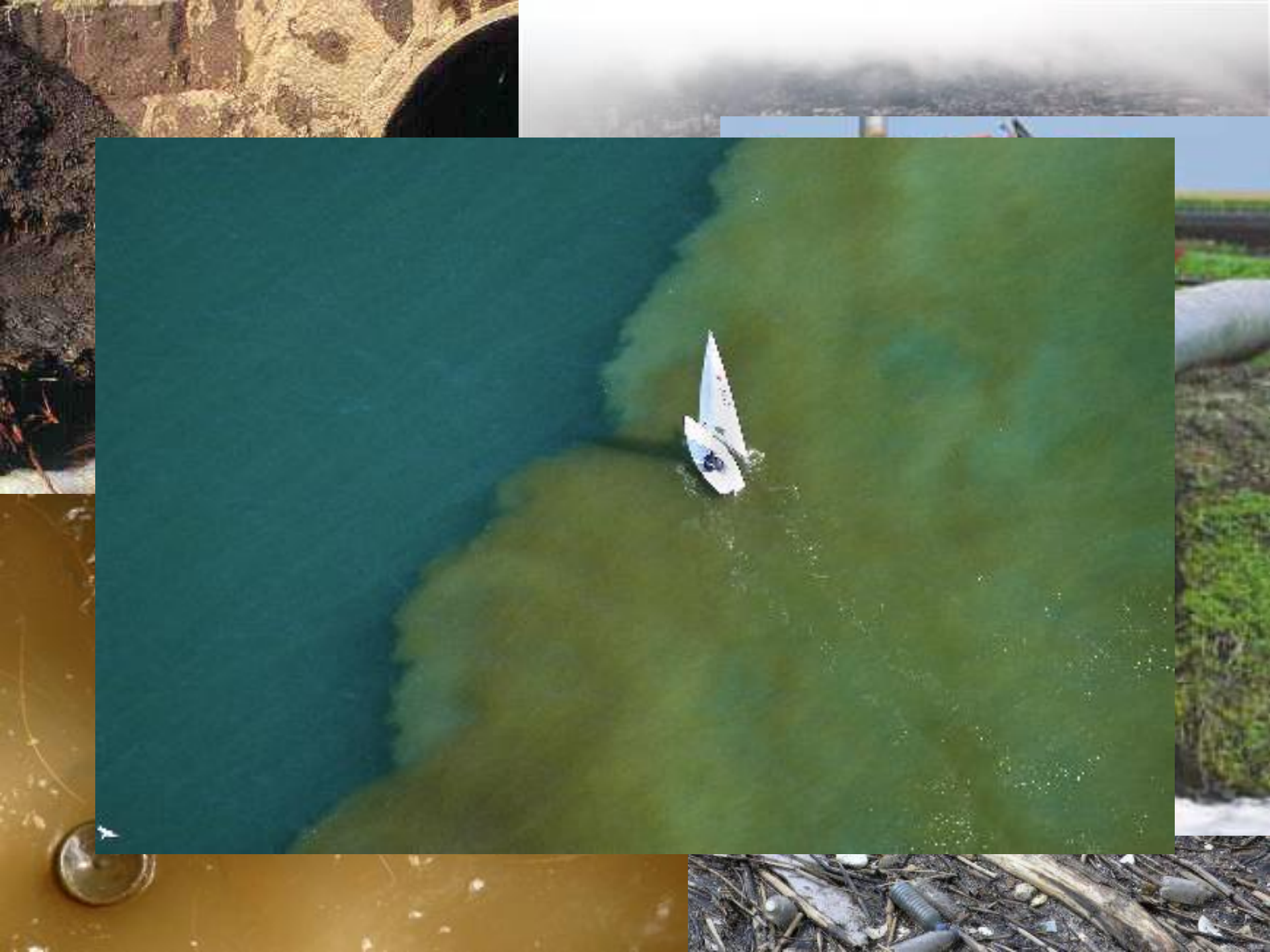
- Surface water will always be present as it is renewed all the time by the water cycle.

- However, the amount of surface water we can safely use is decreasing as a result of:

- **Pollution**

How is surface water polluted?

- Municipal waste (sewage, detergents, solvents, garbage)
- Agricultural waste (herbicides, pesticides, fertilizers)
- Industrial waste (chemicals, oil, waste)



We may start seeing more of these…

Ocean Pollution : the North West Gyre

HOW LONG UNTIL IT'S GONE?

Estimated decomposition rates of common marine debris items

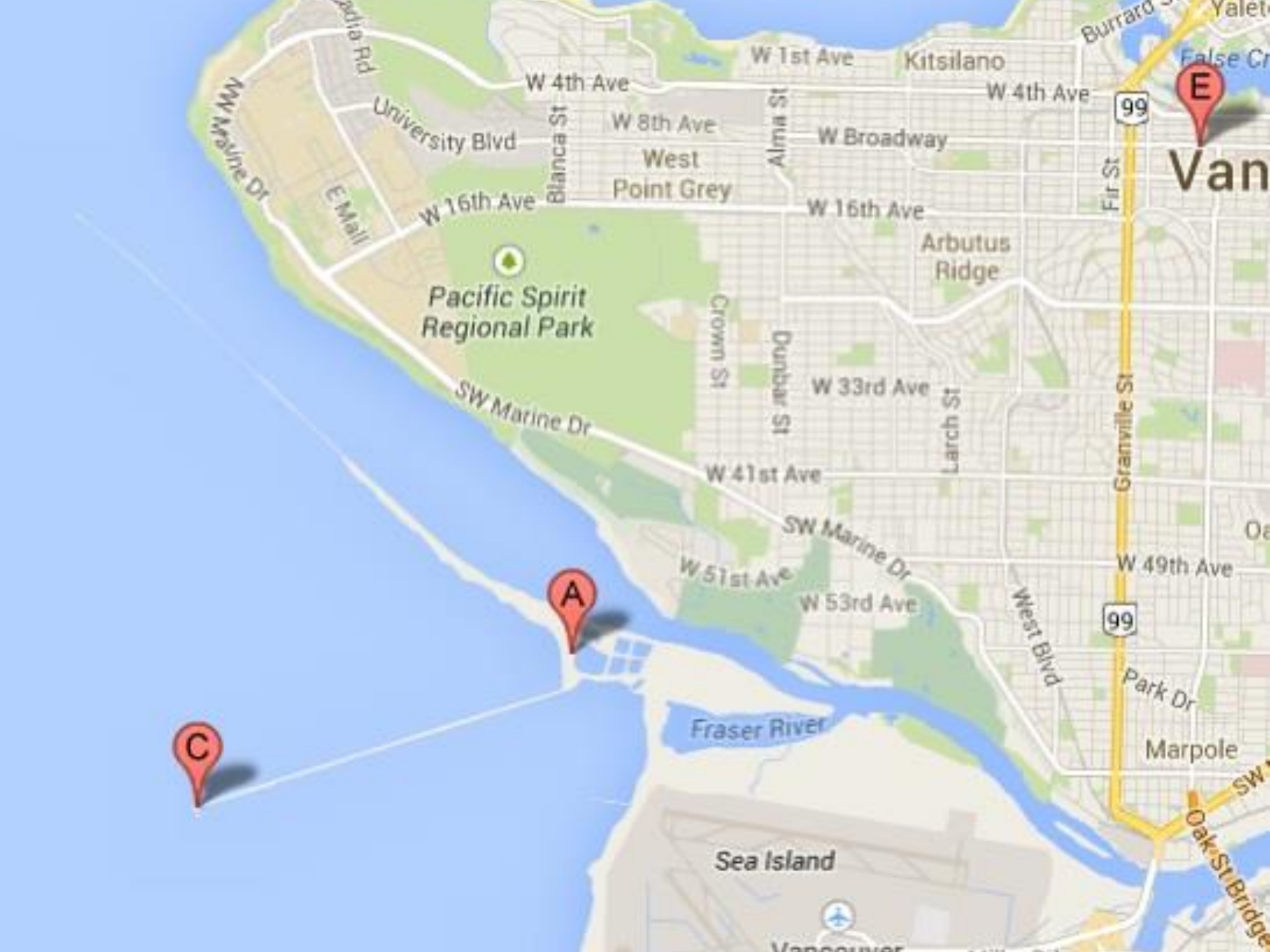
Estimated individual item timelines depend on product composition and evironmental conditions.

Source: NOAA (National Oceanic and Atmospheric Administration), US / Woods Hole Sea Grant, US
Graphics: Oliver Lüde / Museum für Gestaltung Zürich, ZHdK

Canada's Role

- Victoria and Halifax dump untreated sewage into the oceans.
- Pulp mills provide 50% of industrial waste in the Fraser River.
- The Fraser Valley and Vancouver dump 90% of the municipal waste found in the river.


(Canada)
Queen Charlotte Strait
Vancouver Island
Strait of Georgia
USA
Canada
U.S.
Border
Vancouver
N
70 mi
70 km
Victoria
Puget
Sound
STRAIT OF
JUAN DE FUCA
Seattle
Olympia
Pacific Ocean
Washington


W 1st Ave
Kitsilano
W 4th Ave
W 4th Ave
University Blvd
Blanca St
W 8th Ave
West
Point Grey
Alma St
W Broadway
Fir St
99
E
Van
W 16th Ave
W 16th Ave
E Mall
Arbutus
Ridge
Pacific Spirit
Regional Park
Crown St
Dunbar St
W 33rd Ave
Larch St
Granville St
SW Marine Dr
W 41st Ave
SW Marine Dr
W 51st Ave
W 53rd Ave
W 49th Ave
West Blvd
99
A
Park Dr
Fraser River
Marpole
C
Sea Island

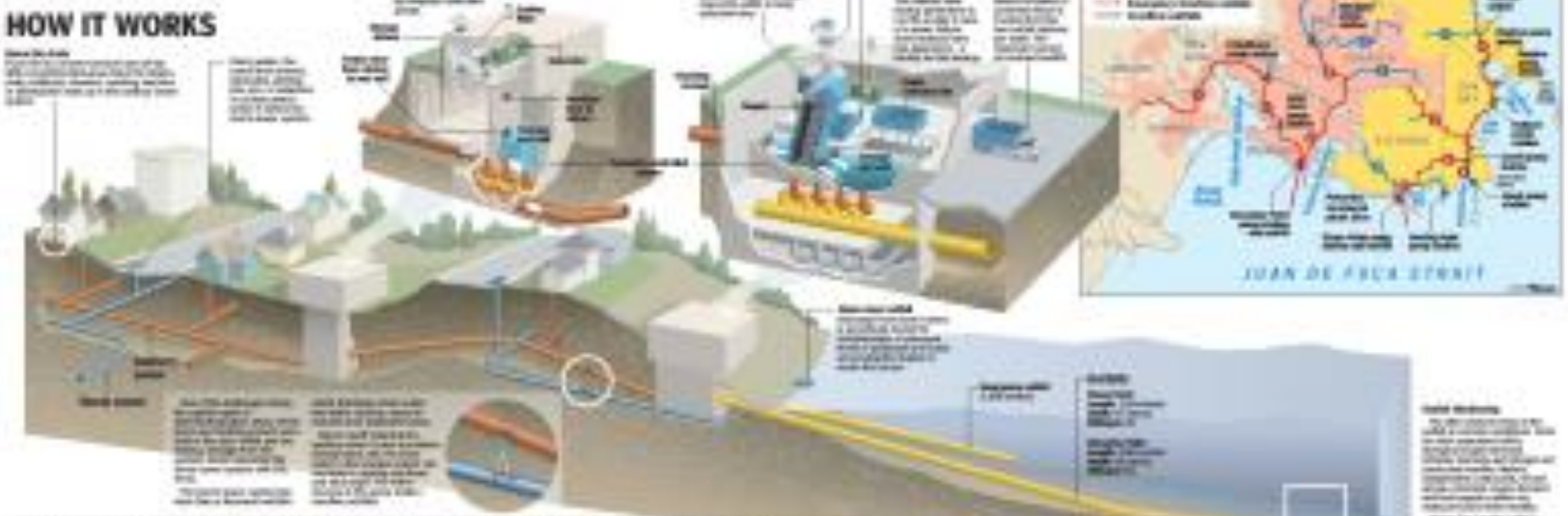
SEWAGE The journey from your home to the ocean

This diagram shows how Greater Victoria's current sewage system operates. It also shows, based on CRD staff interviews, the most likely form sewage treatment could take in the future.

PUMP/LIFT STATIONS

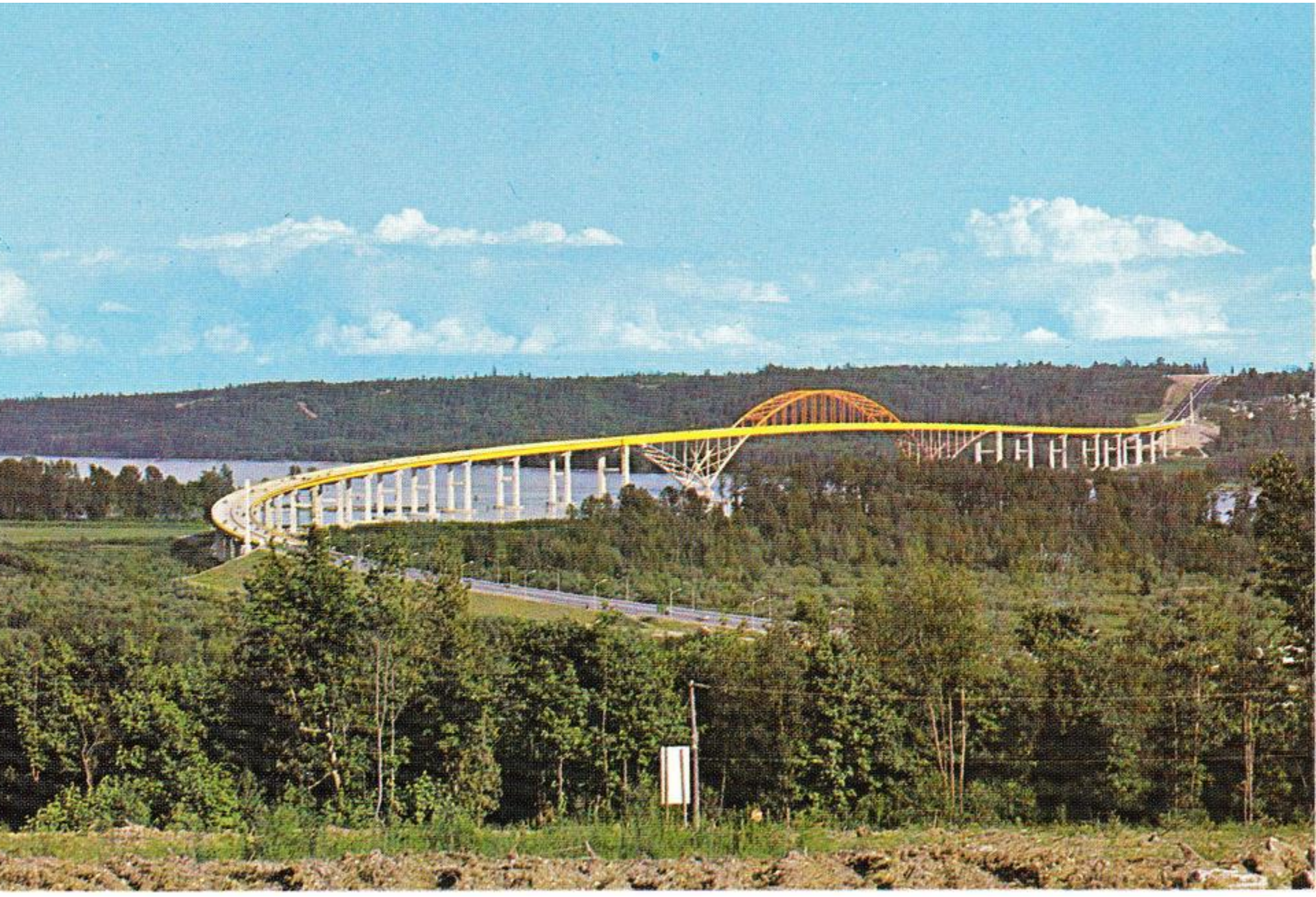
OUTFALL PUMP STATIONS

HOW IT WORKS



OUT OF HARM'S WAY

VISIONS OF IMPROVED TREATMENT



Consequences

- Fish, such as sturgeon, in the Fraser River are becoming endangered.
- In the St. Lawrence River, Beluga whales are declining in numbers.
- Algae and weeds are growing more often, depleting the water's oxygen and creating dead zones.
- In the Okanagan region, milfoil weed is threatening to destroy all other life present in lakes.

MAY 13

Right whales are the rarest of all large whales. They were named by whalers who thought that they were the "right" whale to hunt because they were slower than other species, floated after they were killed, and provided large quantities of food, oil and baleen. Despite being protected, the right whales are still the most endangered of all whales. There are only a few hundred of them left.

MAY 2013

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

It takes...

10 liters
of water to make
one sheet of **PAPER**

40 liters
of water to make
one slice of **BREAD**

70 liters
of water to make
one **APPLE**

80 liters
of water per dollar of
INDUSTRIAL PRODUCT

91 liters
of water to make
one pound of **PLASTIC**

120 liters
of water to make
one glass of **WINE**

140 liters
of water to make
one cup of **COFFEE**

1,300 liters
of water to make
one kilogram of **WHEAT**

4,800 liters
of water to make
one kilogram of **PORK**

10,855 liters
of water to make
one pair of **JEANS**

15,500 liters
of water to make
one kilogram of **BEEF**

16,600 liters
of water to make
one kilogram of **LEATHER**