Effects of Climate Change on the Oceans and the Baltic Sea

Introduction

Oceans globally

Oceans absorb heat and CO_2 from atmosphere, which is good for the atmosphere but

- ➔ Oceans become warmer and more acidic
- ➔ Threat to marine life and biodiversity (coral reefs for example)
- ➔ Ice melting

Sea level is rising

- ➔ Coastal infrastructures in danger
- ➔ Salinisation of aquifers

The Baltic Sea

Warmer climate with more rain

- ➔ more fresh water
- ➔ marine species in trouble (bladderwrack)
- ➔ Northern species in trouble
- ➔ no ice or snow, more runoff
    - more eutrophication
    - salmon and whitefish in trouble

Problems on the next page:

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Fish and chips

“A local Swedish fisherman Anders has heard that fishing cyprinid fish (for example bream) is a great way to reduce nutrients from the Baltic Sea and starts to fish them. He has doubts though of getting customers to buy and eat these fish. Help Anders to make an advertisement poster for his fish shop. Be sure to include the benefits both to the sea and to the customers themselves and why it is climate friendly.”

Links:
https://johnnurmisensaatio.fi/en/projects/baltic-fish/

From reedbed to bedding material

“Alisa inherited a coastal site from Southern Finland. Problem is that the shore is covered by overgrown reed. She wants to mow the reedbed but lacks the funds to do it. Make a presentation poster for Alisa to show to the city council to convince them to fund mowing the reeds.”

Links:
https://johnnurmisensaatio.fi/en/projects/coastal-reed-project/

Levelling up

“You have a Norwegian friend Lars from Oslo. When you tell him that you learned today that sea level is rising, he doesn’t believe you. He says that his father and his father before him have measured the sea level for hundred years and it is actually going down. So, you must have been lied to… Make an educational poster about the causes of sea level rise to Lars. Also include in the poster why the sea doesn’t appear to be rising at Oslo.”

Links:
https://sealevel.nasa.gov/
https://www.eea.europa.eu/ims/global-and-european-sea-level-rise

Water mayhem in Maryland

“You have been selected as a head engineer in a small town in Maryland, US. There is a problem in your town with constant flooding due to the sea level rising. You have to make an announcement poster to citizens on how you are going to tackle the problem. Look at ‘SPECIFIC ADAPTATION STRATEGIES FOR SEA LEVEL RISE’ (link provided below) and choose the best strategy in your opinion and make the poster about it including the benefits and possible drawbacks of the selected strategy.”

Links:
https://www.nrdc.org/experts/rob-moore/ipcc-sea-level-rise-adaptation-essential-not-optional

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