



Raising Awareness on Climate Change: The Impact on Rivers

Exploring the effects of climate change on river ecosystems and the importance of public awareness.

Ewa Leś

Eutrophication Area Leader at CCB,
River University Founder

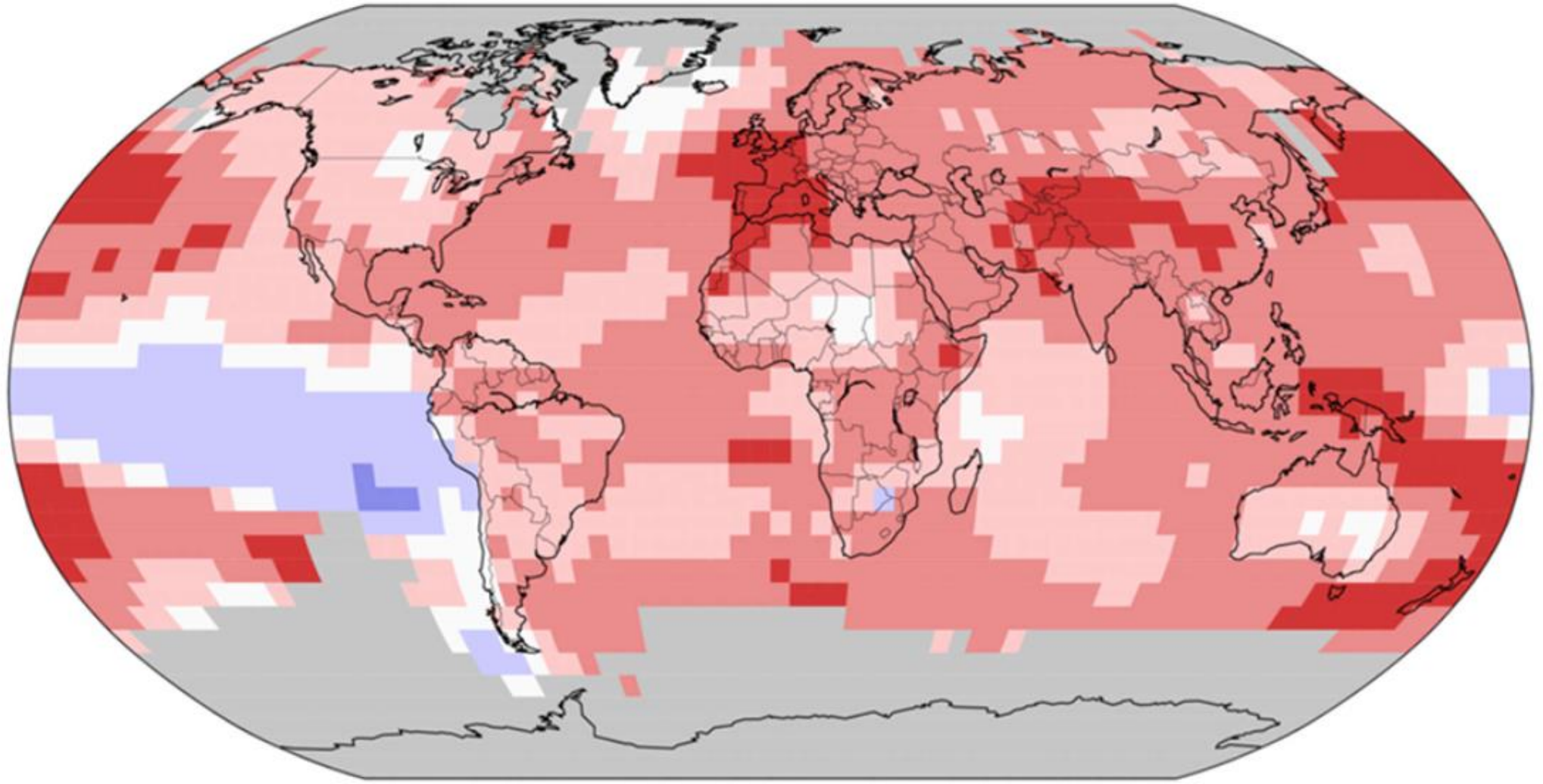


Climate Change: A Global Challenge

Land & Ocean Temperature Percentiles Jan–Dec 2022


NOAA's National Centers for Environmental Information

Data Source: NOAA GlobalTemp v5.0.0–20230108

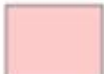



Record


Much


Cooler than


Near


Warmer than

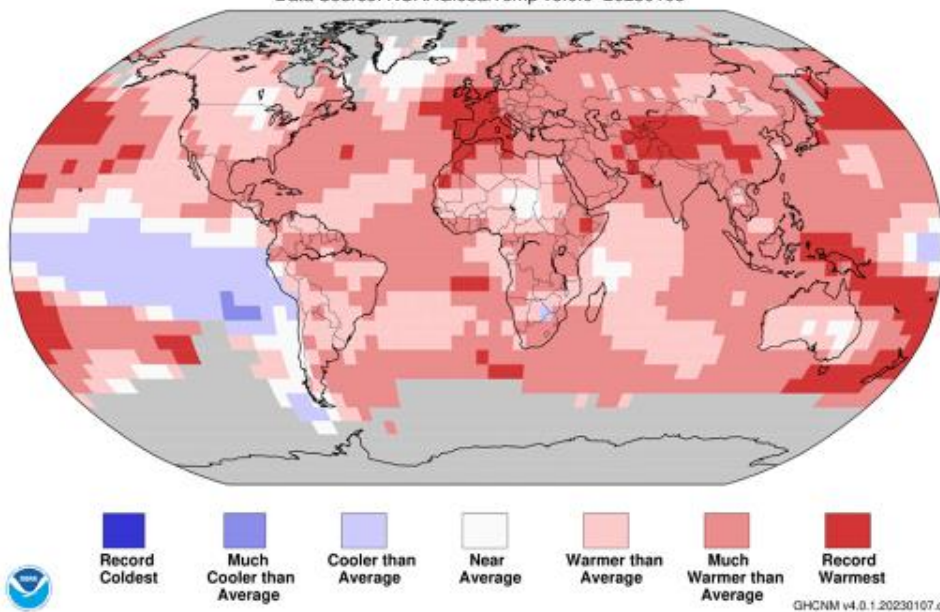

Much


Record

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Climate change significantly impacts our environment, altering weather patterns, raising sea levels, and threatening ecosystems worldwide.

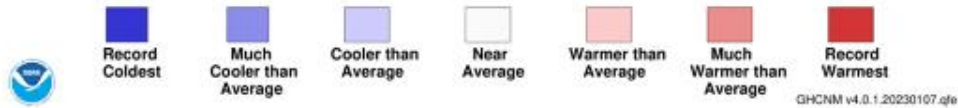
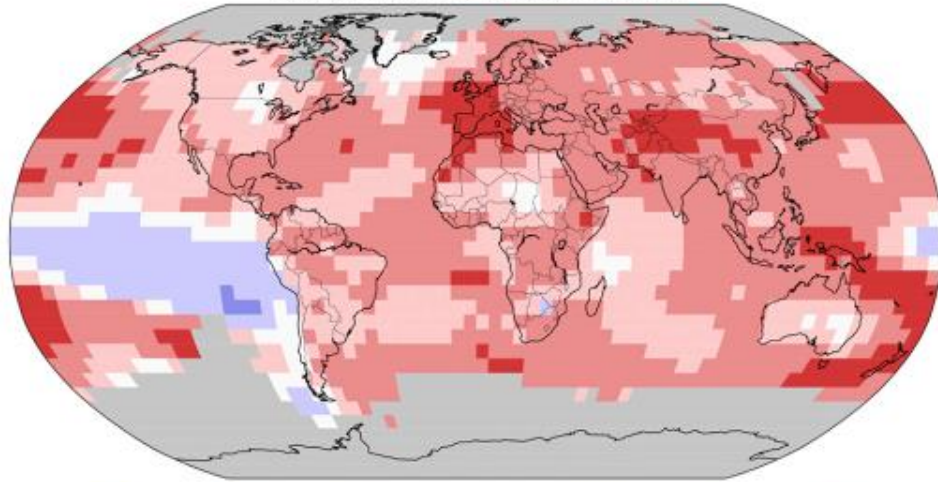
Recognizing these effects is crucial for developing effective strategies to combat its repercussions and promote sustainable practices.



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Essential Freshwater Supply

Rivers supply fresh water, which is essential for human consumption, **agriculture**, and industrial processes. Their availability directly impacts food security and economic development.



Biodiversity Hotspots

Rivers are home to diverse ecosystems, providing habitats for various species including fish, birds, and plants. This biodiversity is crucial for maintaining ecological balance and supporting life.



Landscape Shaping Forces

Rivers shape our landscapes through erosion and sediment deposition. Their natural flow patterns contribute to the formation of valleys, deltas, and floodplains, which are essential for ecological and human activities.



The Vital Role of Rivers



Prezi



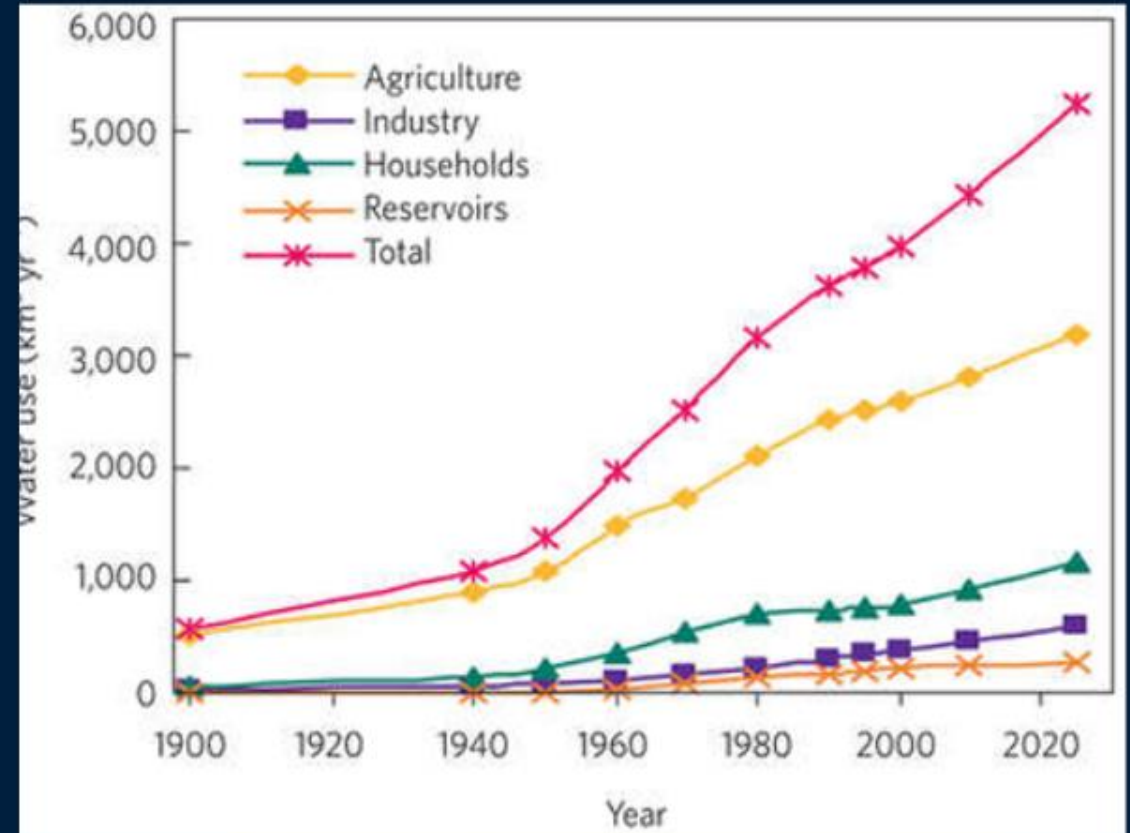
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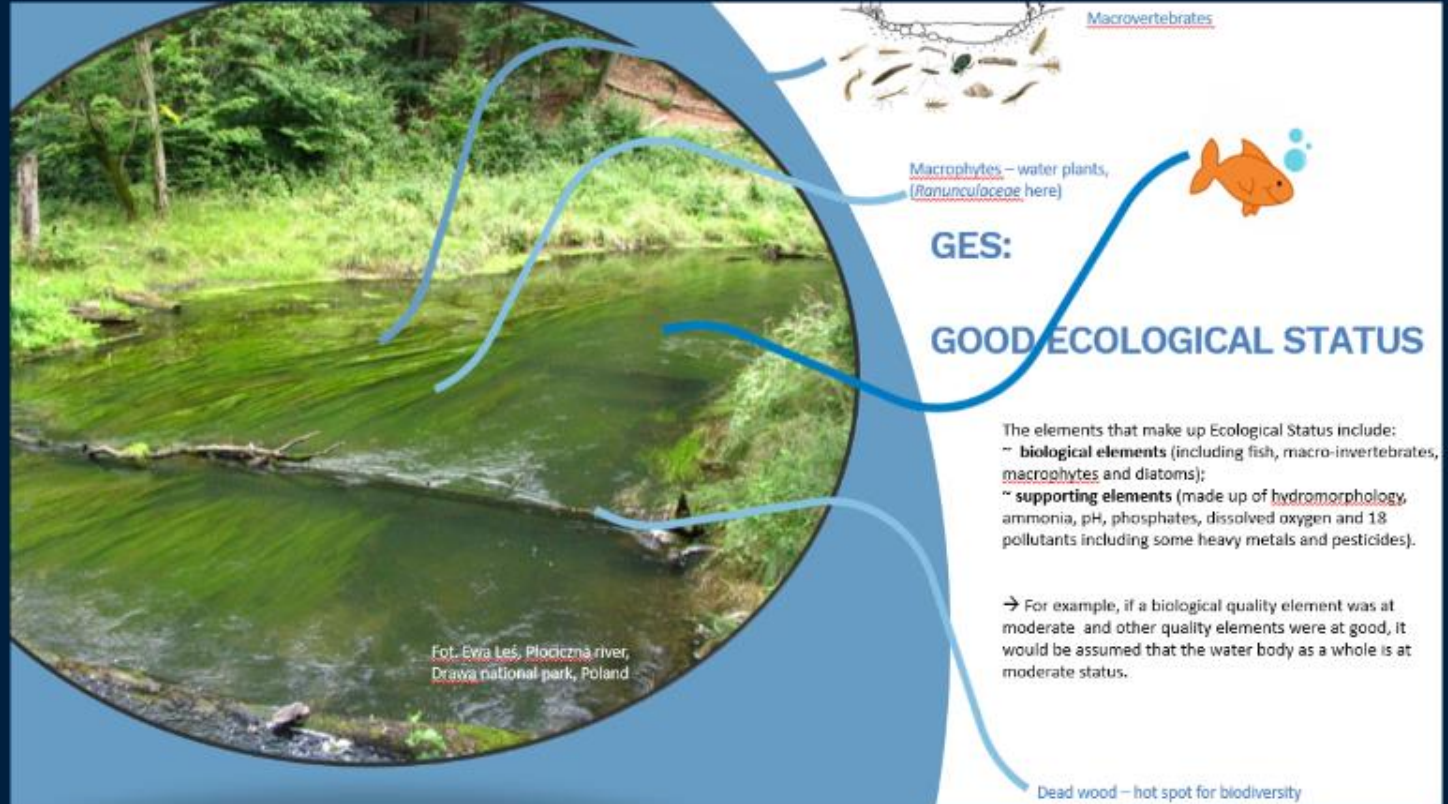
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Fot. Ewa Grochowska, Kłodzko Valley, Poland



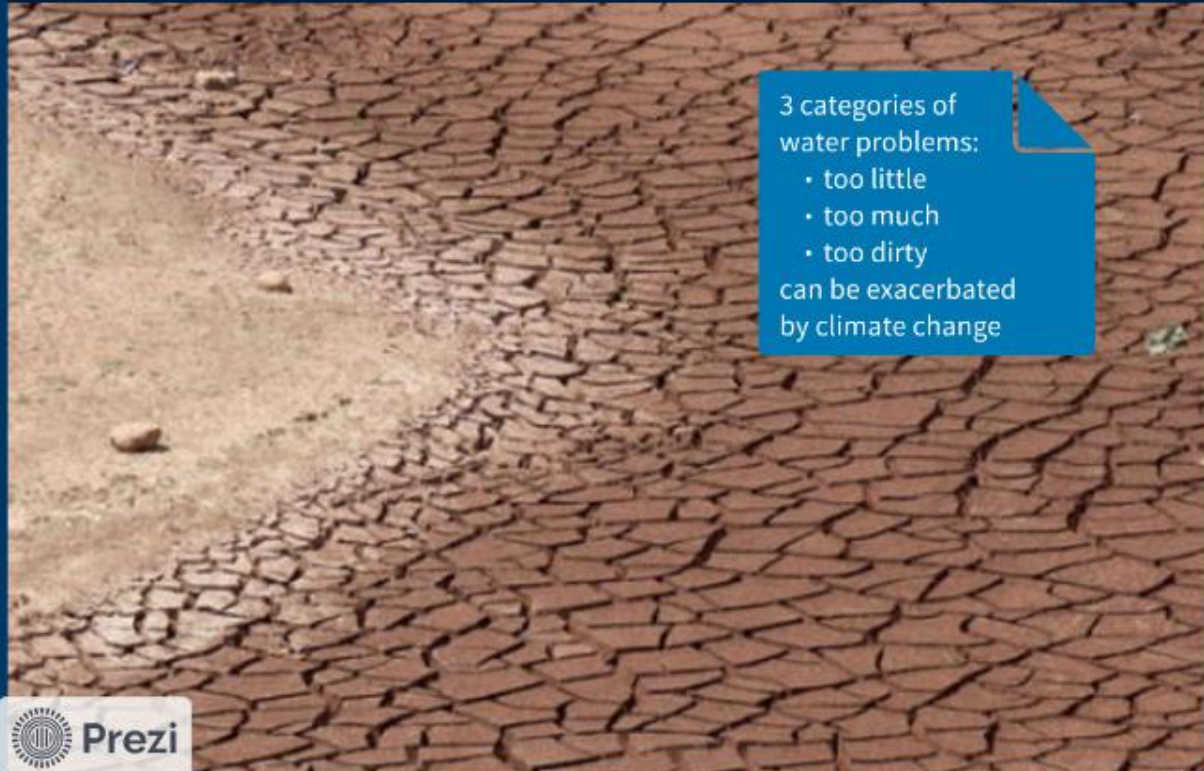
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Negative Impacts of Climate Change on Rivers

Climate change is causing significant alterations in precipitation patterns and rising temperatures. These changes can lead to extreme weather events such as droughts, which reduce water flow, and floods, which can overwhelm riverbanks and disrupt habitats. The resulting **instability in river systems** adversely affects aquatic organisms and disrupts the balance of surrounding ecosystems.



3 categories of water problems:
• too little
• too much
• too dirty
can be exacerbated by climate change

Benefits of Healthy River Ecosystems

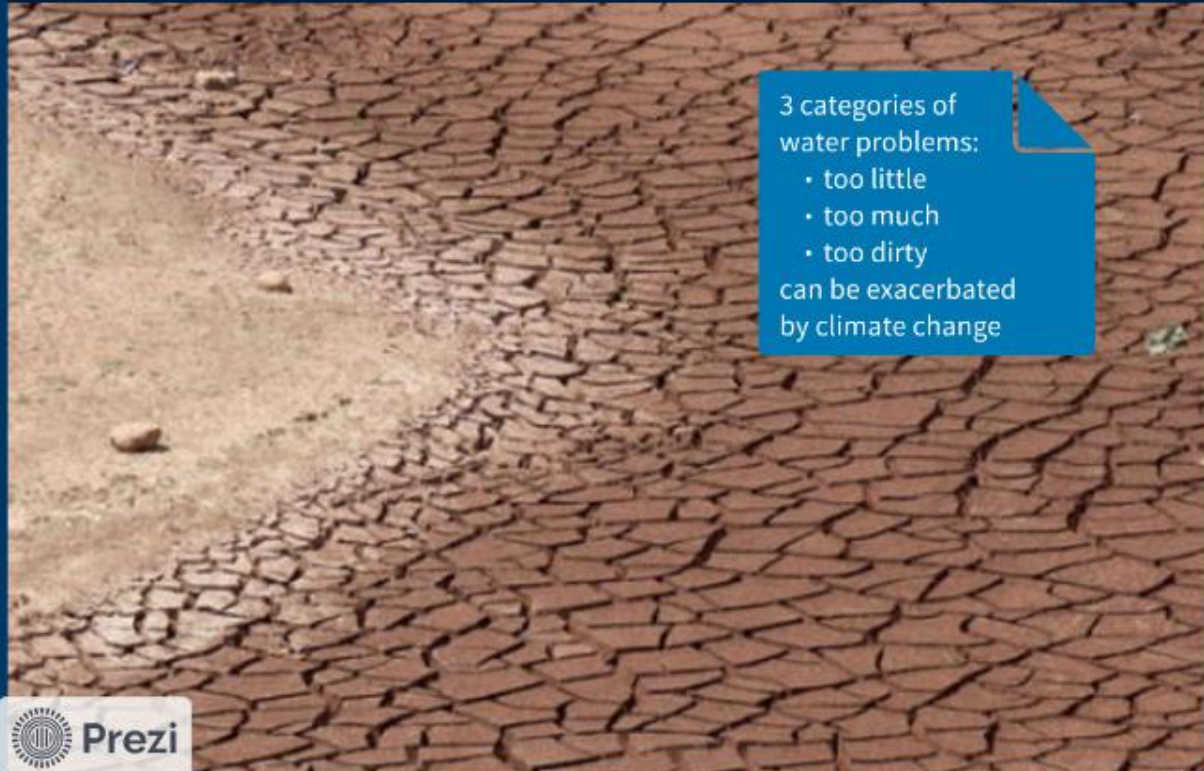
On the other hand, healthy river ecosystems contribute to **climate resilience**. Healthy rivers regulate water temperatures, improve water quality (self purification), and support biodiversity, which can buffer some adverse effects of climate change. Maintaining robust natural river systems enhances their ability to withstand environmental changes and supports overall ecosystem health.



fot. Marcin Karetta, Ruda river, Poland

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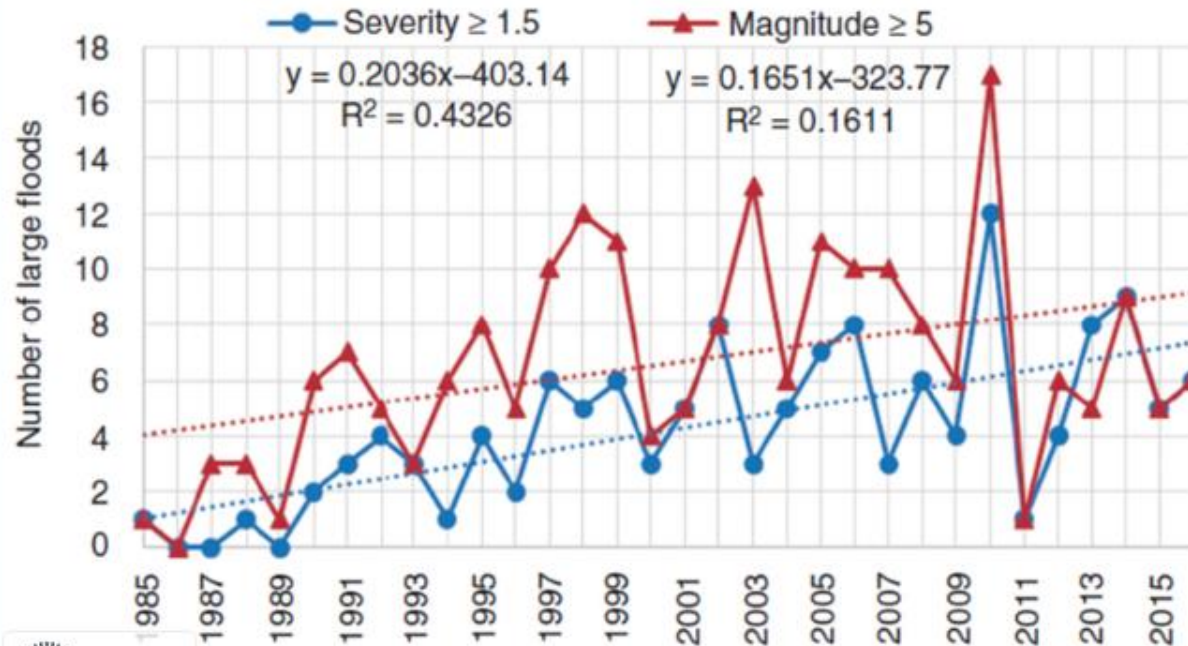
Needed: reduction of maintenance activities on rivers!

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phot. Marcin Karetta, Ruda river, Poland

The Role of Rivers in Climate Regulation

Understanding how rivers influence climate and the consequences of their degradation is essential for climate action.

Present



Water ecosystems act as significant carbon sinks, absorbing carbon dioxide from the atmosphere, playing a critical role in mitigating climate change.

Future (2030)

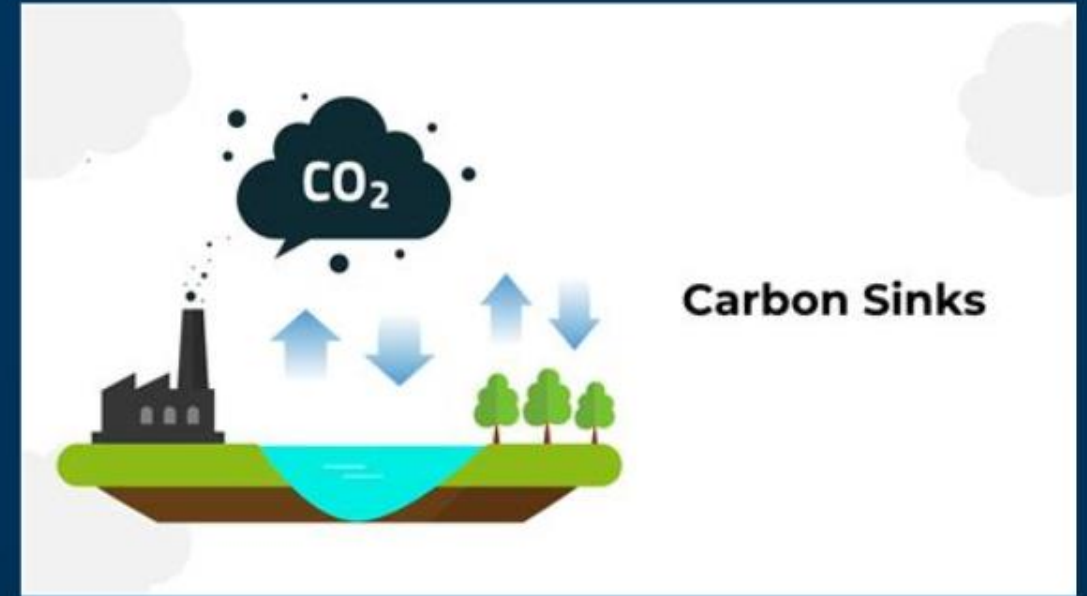


Increased awareness and conservation efforts can lead to healthier river systems that effectively regulate climate and support biodiversity.

Future (2050)

Continued degradation of rivers and wetlands without intervention could result in significant greenhouse gas emissions, worsening climate change effects as well as impacting our lives directly (e.g. floods, droughts)

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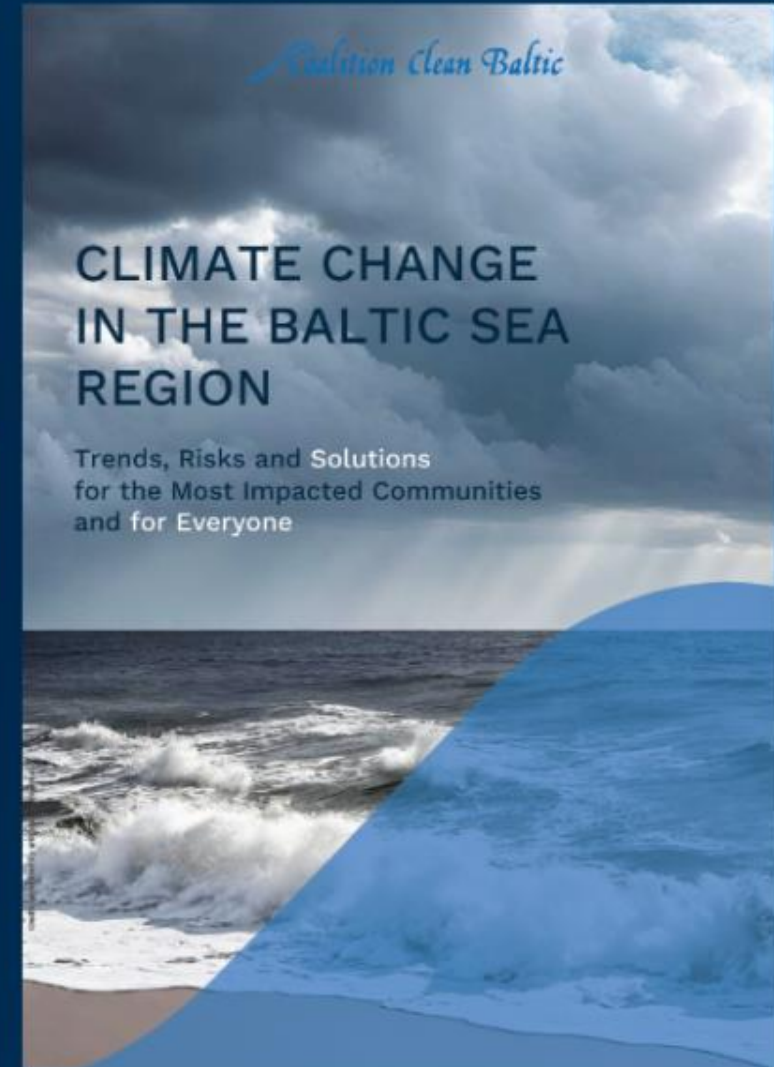
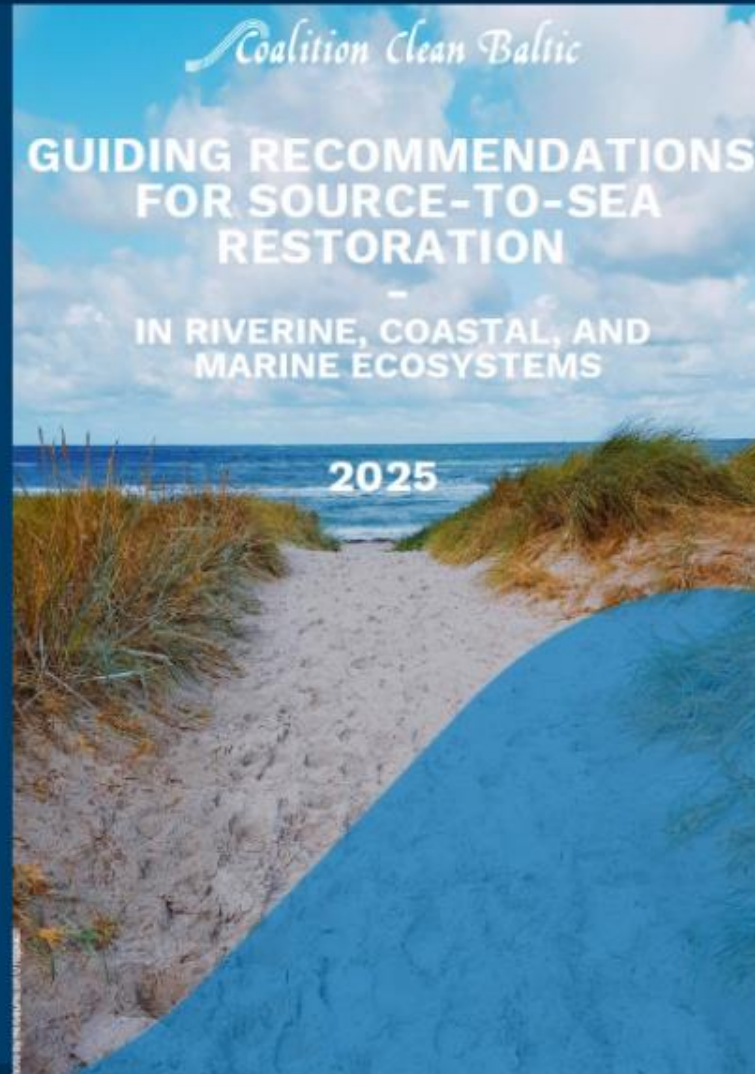
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The Importance of Raising Awareness

Raising awareness about climate change, particularly its effects on rivers, is vital for community mobilization and policy advocacy. Enhanced awareness fosters public engagement, encourages support for conservation initiatives, and strengthens the collective effort to safeguard river ecosystems.

click!

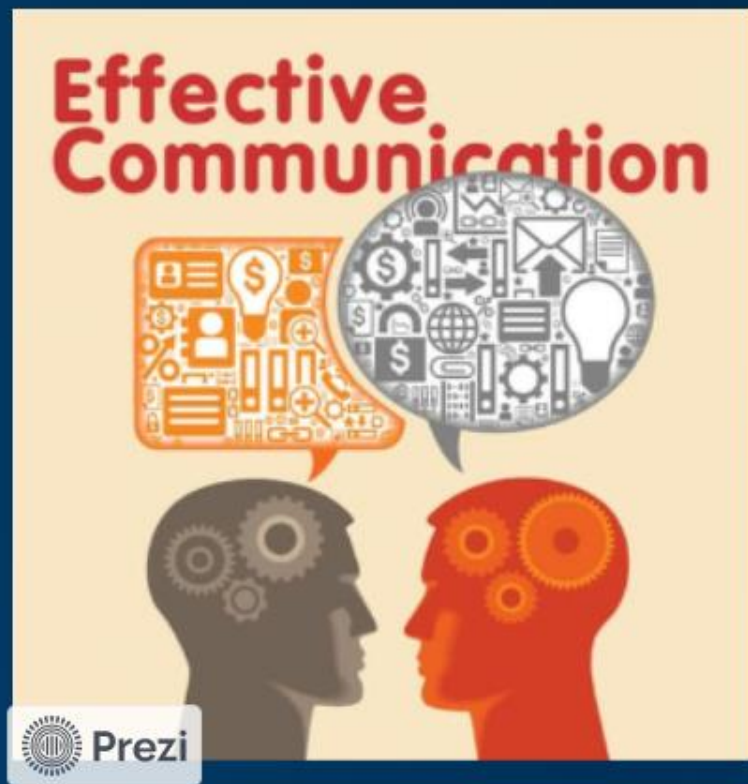


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Clear Language

Using clear and concise language makes it easier for people to understand the message and act on it. This is especially important when communicating about climate change, as the science can be complex and the stakes are high.

Visual Aids

Visual aids such as infographics, charts, and videos can help to make complex information easier to understand. They can also be used to highlight key points and make the message more memorable.

Personal Stories

Sharing personal stories can help to make the message more relatable and engaging. It can also help to build trust and credibility, as people are more likely to listen to someone they know and trust.

Interactive Discussions

Interactive discussions can help to engage people and encourage them to think critically about the issues. They can also be used to build a sense of community and shared purpose around the message.

Local Examples

Highlighting local examples of successful communication efforts can help to inspire people and show them that it is possible to make a difference. It can also help to build a sense of ownership and pride in the community.

Strategies for Effective Communication on Climate Change

Clear Language

Utilizing clear and relatable language ensures that complex climate concepts are accessible to a broader audience, making the message more impactful.

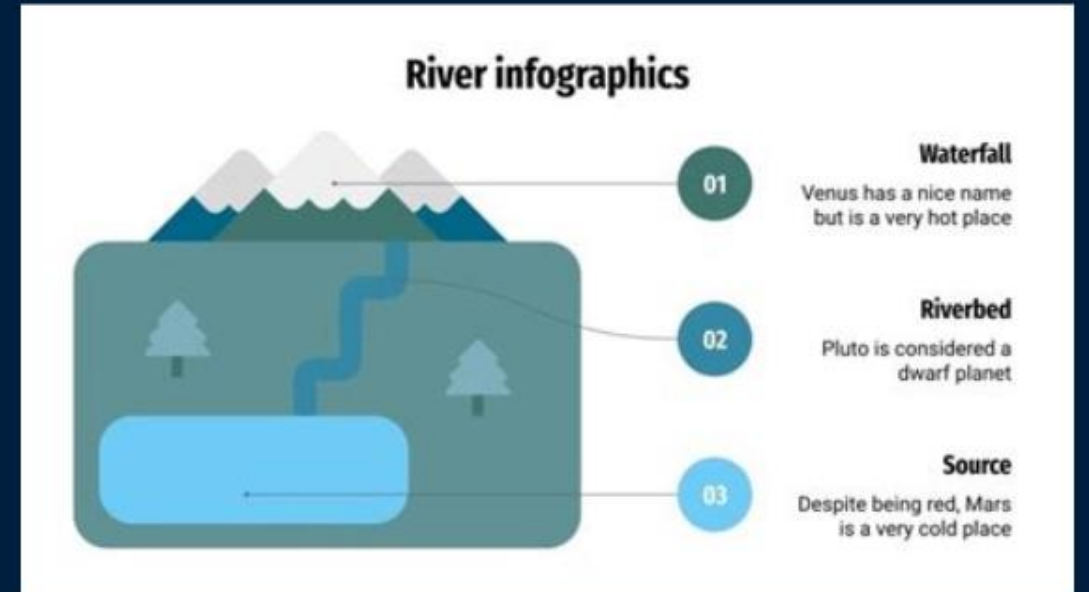
Clear Writing for Europe



Visual Aids

Visual aids such as infographics, charts, and videos can help simplify information and illustrate key points about climate change and its impact on rivers, enhancing retention.

How do we know that?
Is this sentence,
description proven?
**Data source! Date of
article!**



Personal Stories

Sharing personal stories or testimonials makes the issue more relatable and emotional, encouraging individuals to connect with the topic and feel motivated to act.



The first citizen climate lawsuits against the State Treasury in Poland,
Fot. Grzegorz Welnicki / RATS Agency



Interactive Discussions

Interactive discussions allow for two-way communication, enabling audience engagement and fostering a sense of community around **shared** concerns about climate change and river conservation.



Local Examples

Incorporating local examples makes the conversation relevant and relatable, helping audiences to see the immediate effects of climate change on their own environment and the rivers they care about.



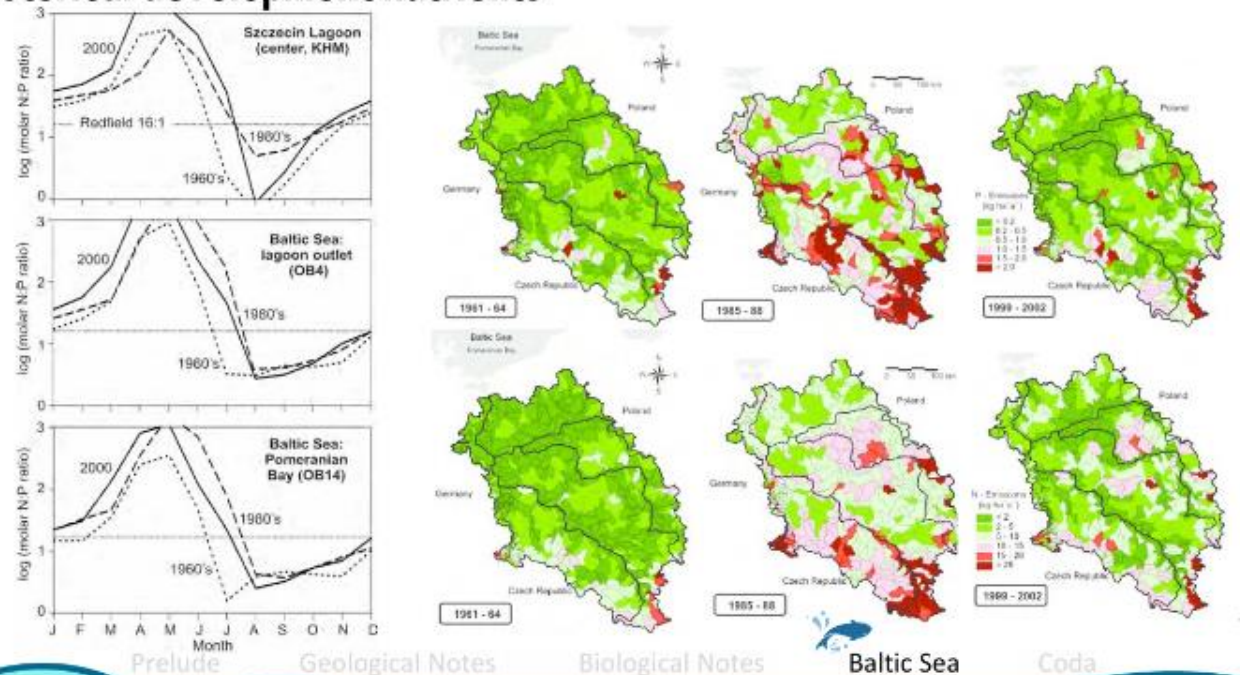
Highlight Scientific Data

Presenting scientific data provides a factual basis for understanding the **changes occurring in river ecosystems due to climate change**, such as alterations in water flow, temperature increases, and habitat loss. This data is crucial for informing audiences about the urgency of the issue and the need for action.

Climate crisis

- Seasonal runoff will change & affect sediment and nutrient loads and thus eutrophication of the Baltic Sea
- Extremes: Floods are projected to decrease in the North, due to repeated melting and thinner snowpack, but increase south of 60°N due to higher precipitation. Large spring floods will decrease by up to 20%.

Historical development nutrients



Source: Finn Viehberg, Greifswald University; River University 2023





Case Studies of Successful Awareness Campaigns

Highlighting effective initiatives that connect climate change awareness to river health.

2018

The 'Save Our Rivers' campaign utilized social media to raise awareness about the impact of pollution on local rivers, leading to community clean-up events.

2020

The 'Rivers of Change' initiative organized educational workshops focused on river ecosystems and their role in climate regulation, attracting schools and local organizations.

2022

The 'Voices for Rivers' project featured personal stories from community members affected by climate change, shared through podcasts and social media, increasing public engagement.

2025

'Rivers in fever' campaign - The impact of outdated power plants and outdated technologies such as open cooling systems on rivers. The campaign highlights the urgent need for energy transformation.

Collective Action is Essential for River Conservation

Addressing climate change's effects on rivers is imperative for environmental sustainability.

By raising awareness, we can mobilize communities, promote policy changes, and foster sustainable practices that protect these vital ecosystems.

Collective efforts are essential for ensuring the health of our rivers and, consequently, our neighbourhood we live in.



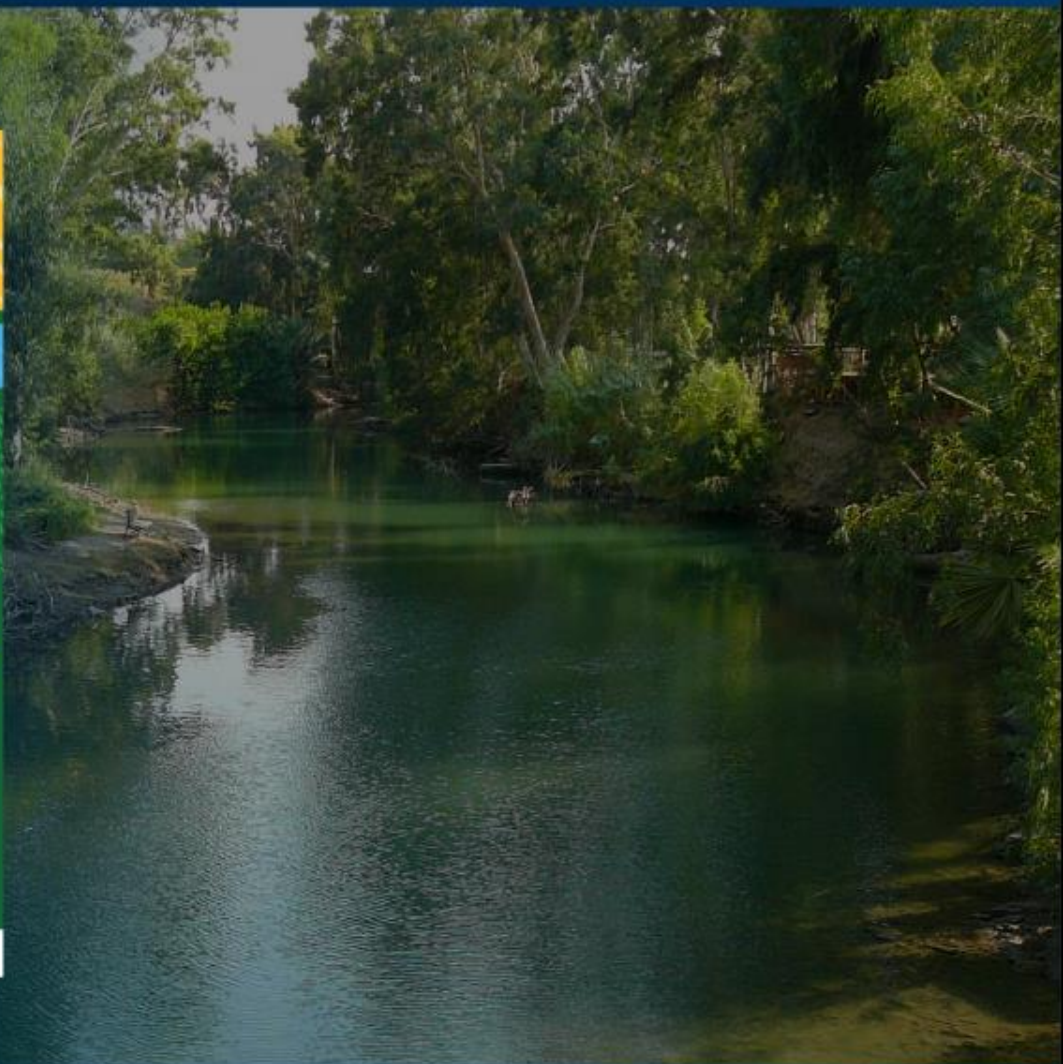
Prezi

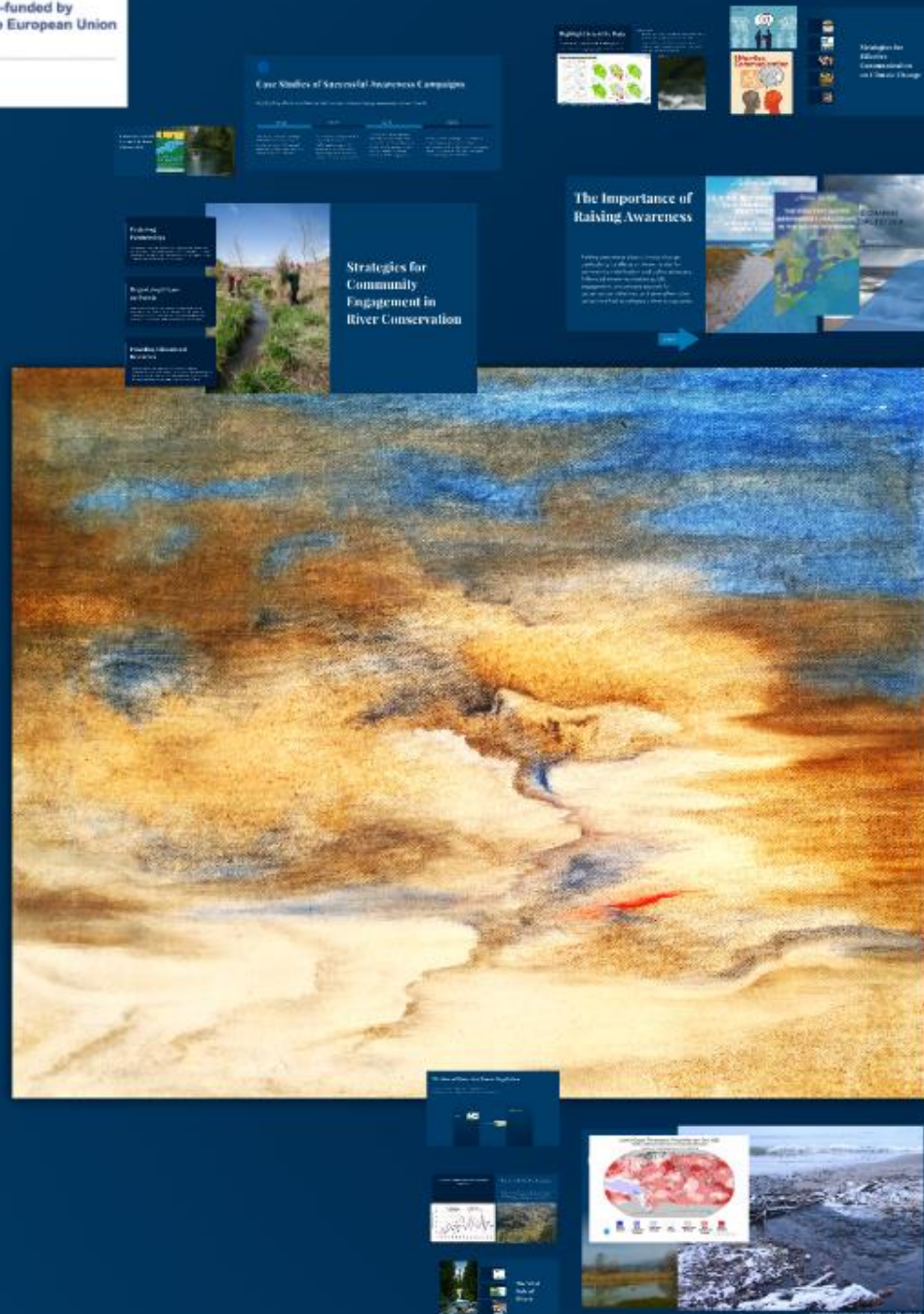
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