

Global Change And River Ecosystems Implications For Structure Function And Ecosystem Services

[#global change](#) [#river ecosystems](#) [#ecosystem services](#) [#aquatic biodiversity](#) [#freshwater impact](#)

Explore the profound implications of global change on river ecosystems, examining how these environmental shifts impact their fundamental structure and function. This analysis extends to the crucial ecosystem services that freshwater environments provide, highlighting the cascading effects on aquatic biodiversity and human well-being.

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Global Change And River Ecosystems Implications For Structure Function And Ecosystem Services

The global movement to restore nature's biodiversity | Thomas Crowther - The global movement to restore nature's biodiversity | Thomas Crowther by TED 296,420 views 3 years ago 11 minutes, 37 seconds - Biodiversity is the key to life on Earth and reviving our damaged planet, says ecologist Thomas Crowther. Sharing the inside story ...

What are ecosystem services? - What are ecosystem services? by Eurac Research 121,934 views 5 years ago 2 minutes, 44 seconds - In this animation, researchers from Eurac Research and their partners explain what **ecosystem services**, are. Throughout the past ...

Ecosystems Episode 4: The River Ecosystem! (1/2) - Ecosystems Episode 4: The River Ecosystem! (1/2) by The Wild Report 56,153 views 3 years ago 5 minutes, 41 seconds - From our most ancient civilizations to the present day, **river ecosystems**, have been an important part of our survival as a species.

Introduction

Overview

tributaries

erosion

Watershed

Conclusion

Quantifying How Global Change Impacts Biodiversity and Ecosystem Services - Quantifying How Global Change Impacts Biodiversity and Ecosystem Services by The National Socio-Environmental Synthesis Center 810 views 3 years ago 50 minutes - Virtual seminar presented by Dr. Laura Dee, University of Colorado, Boulder. Abstract: Managing **ecosystems**, to provide ...

Global Change & River Ecosystems, with Prof. Steve Ormerod - Global Change & River Ecosystems, with Prof. Steve Ormerod by Freshwater Biological Association 241 views 3 years ago 1 hour -

Probably most people know Steve Ormerod from his work at Cardiff University, and from his links

with a range of NGOs, statutory ...

Global change and river ecosystems Steve Ormerod

Welsh Acid Waters Survey (GLM)

Large-scale, long-term trends in British river macroinvertebrates

“Quantifying how global change impacts biodiversity and ecosystem services” - “Quantifying how global change impacts biodiversity and ecosystem services” by UW SEFS 73 views 3 years ago 1 hour, 2 minutes - On Feb. 17, SEFS welcomed Laura Dee, Assistant Professor in the Department of Ecology and Evolutionary Biology at University ...

How can we maintain ecosystem services in the face of global change?

Challenge: Global change impacts to ecosystem services are not well understood

Growing knowledge about global change impacts to species & ecosystems

Q1: how well do changes in ecological communities map on to changes in benefits to people?

Q2: How can management best moderate impacts to ES?

Premise: climate change alters disturbance regimes

Anticipating disturbance impacts to ecosystems

Contribution: uncertain disturbance regimes

Math Framework: Linking disturbances to people

Consequences depend on differences in responses and effects of species & ecosystems

Application: severe windstorms in Minnesota forests

Application: traits mediate disturbance impacts

Application of approach: traits impact services too

Approach: link disturbance to services via traits

Application of approach: disturbance regimes

Quantify different outcomes for ecosystem services

Results: Anticipated service levels

Results 2: Value and volume/biomass diverge

Driven by difference in species' responses & effects

How well do measures community change predict service change?

Ecosystems are complex & inter-connected

Threats to ecosystems are hard to anticipate & manage

A focus on species directly involved in services

Linking ecology to ecosystem services using networks

Large consequences of species losses for food web persistence, not for services

Large consequences of species losses for ecosystem service, not for food web persistence

Large consequences of species losses for both

Adding ecosystem services as nodes in the network

Calculate robustness for food web vs. services

Calculate robustness for food web vs. ecosystem services

Food web vs ES robustness to 12 species loss scenarios

Results: Food web & ES robustness highly related

Next steps: Test predictions with experiments

Ongoing: Integrating social with ecological networks

Part I: Take Aways

Managing widespread species invasions

Managing widespread zebra mussel invasions

Impacts on ecosystem services and native ecosystems

How to best manage this invasion with limited resources?

How to best contain this invasion with limited resources?

Approach combining networks and decision science

Assess performance for different levels of information

Result 1: Metrics perform close to optimum

Result 2: Metrics perform well under limited information

Part II: Conclusions

The promise: Scaling up problems to larger systems

What Are Ecosystem Services? - What Are Ecosystem Services? by The Roving Naturalist 7,832 views 2 years ago 5 minutes, 58 seconds - What are **ecosystem services**, and why do they matter? Sheryl walks you through the four main groups of **ecosystem services**, with ...

Our Strange Plan to Fully Rewild This River - Our Strange Plan to Fully Rewild This River by Mossy Earth 2,379,448 views 11 months ago 10 minutes, 18 seconds - We've got a really exciting opportunity

to begin reviving this **river**,. On Glassie Farm, part of the Northwoods Rewilding Network, we ...

Intro

The Problem

Our Plan

Our Work so far

The Future

Restoring Aquatic Ecosystems - Restoring Aquatic Ecosystems by Nature Change 29,875 views 1 year ago 26 minutes - Six years ago, the Grand Traverse Band of Ottawa and Chippewa Indians formed Michigan's first indigenous-led, multi-agency ...

We're chainsawing healthy trees into rivers - here's why - We're chainsawing healthy trees into rivers - here's why by Mossy Earth 197,341 views 8 days ago 10 minutes, 44 seconds - Join us as we delve into the fascinating **world**, of **river**, restoration, where we explore the essential role of wood in **rivers**, and ...

Intro

Recap

What we are doing

Why add wood to the River

Mossy Earth membership

Tree felling time

Floating cities as an innovative response to climate change | DW Documentary - Floating cities as an innovative response to climate change | DW Documentary by DW Documentary 1,037,957 views 9 months ago 28 minutes - Sea levels are rising due to **climate change**,. Many coastal cities are at growing risk of flooding. Architects are trying to react to this ...

8 Sustainability ideas that will change the world | FT Rethink - 8 Sustainability ideas that will change the world | FT Rethink by Financial Times 168,278 views 1 year ago 5 minutes, 3 seconds - Diving into some of the most innovative ideas across retail, city planning, policy, technology and construction. Ideas that will truly ...

FRESHWATER ECOSYSTEM | Biology Animation - FRESHWATER ECOSYSTEM | Biology Animation by EarthPen 42,756 views 3 years ago 6 minutes, 40 seconds - For today's topic, we are going to talk about the "Freshwater **Ecosystem**",. Fishing. Who doesn't like fishing? the peaceful ...

Intro

Rivers

Lake Zones

Fun Fact

Learners

Outro

One Earth - Environmental Short Film - One Earth - Environmental Short Film by Romain Pennes 1,986,758 views 3 years ago 4 minutes, 27 seconds - One Earth is an **environmental**, short film I created and edited to help raise awareness about our impact on our environment.

Introduction

One Earth Short Film

End Credits

What is Climate Change? Explore the Causes of Climate Change - What is Climate Change? Explore the Causes of Climate Change by ClickView 453,178 views 2 years ago 6 minutes, 4 seconds - This video defines **climate change**, and explains the greenhouse **effect**, and the role of greenhouse gases in our atmosphere.

Intro

Climate Change

Solutions to Climate Change

Human impacts on ecosystems | Interactions in ecosystems | High school biology | Khan Academy - Human impacts on ecosystems | Interactions in ecosystems | High school biology | Khan Academy by Khan Academy 84,189 views 3 years ago 5 minutes, 36 seconds - Anthropogenic **changes**, (induced by human activity) in the environment—including habitat destruction, pollution, introduction of ...

Introduction

Habitat destruction

Pollution

Invasive Species

Overexploitation

Climate change

Climate Change and Global Warming: Explained in Simple Words for Beginners - Climate Change and Global Warming: Explained in Simple Words for Beginners by Science ABC 196,420 views 1 year ago 5 minutes, 56 seconds - The term **climate change**, is used to denote the long-term changes in the weather patterns in a given region. Another term often ...

Introduction

Causes of Climate Change

Impact of Carbon Dioxide

Impact on Earth's Ice and Water

Impact on Sea Level and Coastal Areas

Impact on Weather and Climate

How to Avoid Climate Change

The impact of global change on ecosystem services in the Mediterranean - The impact of global change on ecosystem services in the Mediterranean by Soil and Water Conservation Research Group 255 views 3 years ago 2 minutes, 20 seconds - This is the video abstract of a study on the impact of historical **climate change**, land use change and reservoir construction on ...

Why is biodiversity important - with Sir David Attenborough | The Royal Society - Why is biodiversity important - with Sir David Attenborough | The Royal Society by The Royal Society 356,483 views 2 years ago 5 minutes, 40 seconds - Biodiversity is under intense pressure from human activity **worldwide**,. David Attenborough explains why biodiversity is so ...

How Climate Change Affects the Ecosystem - How Climate Change Affects the Ecosystem by simpleshow foundation 21,255 views 6 years ago 2 minutes, 30 seconds - How does **climate change**, affect the **ecosystem**,? This video was created by one of our volunteer authors to support the campaign ...

Oceans and Rivers - Biodiversity and Ecosystems | Environment 101 | CSEN - Oceans and Rivers - Biodiversity and Ecosystems | Environment 101 | CSEN by Civil Service Climate + Environment Network 232 views 1 year ago 2 minutes, 5 seconds - Why are oceans and **rivers**, important? How are they being threatened by humans? What can be done to protect them and reverse ...

Introduction

Threats

Pollution

Overfishing

The restoration of ecosystem functions, interaction with society – T. Hein – I.S.Rivers - The restoration of ecosystem functions, interaction with society – T. Hein – I.S.Rivers by Graie 68 views 2 years ago 21 minutes - As many large **rivers**, in the **world**,, the Danube **River**, is a highly complex socio-**ecological**, system and a hotspot of biodiversity and ...

Introduction

Status of European waters

Effects of side-arm reconnections – Upper Danube Case Study

Key Messages

Analysing the socio-ecological system

Ecosystem services and Biodiversity - Science for Environment Policy - Ecosystem services and Biodiversity - Science for Environment Policy by EU Environment 131,772 views 7 years ago 5 minutes, 37 seconds - To keep Europe's **ecosystems**, healthy, we need to protect #biodiversity. How can the **ecosystem service**, approach help? And how ...

Regulating Services

Supporting Services

Cultural Services

Revealed Preference

Biodiversity, Ecosystems, & Ecosystem Services: TEEB@YALE - Biodiversity, Ecosystems, & Ecosystem Services: TEEB@YALE by Yale University 19,278 views 12 years ago 1 hour, 5 minutes - Linking Biodiversity, Ecosystem **Functions**,, **Ecosystem Services**,; Trade-offs among services ; Ecosystem Resilience & Thresholds ...

1. Biodiversity & ecosystems

The basis of an ecosystem

Ecosystem service provision depends on

Linked ES-trade-offs

Arctic ice-projections

Trade off-agriculture and RES

Trade-offs - loss of RES

2. Functions and functional groups

Growth in global GDP

Climate change, the ocean and ecosystem services - Climate change, the ocean and ecosystem services by UVED 63 views 7 years ago 7 minutes, 9 seconds - Laurent Bopp highlights the double trend of ocean **warming**, and acidification since a little bit more than one century. He shows the ...

The Climate Change on the Ocean

Acidification

Ocean Acidification

Eflows OLC Unit 5.1 - Ecosystem services - Eflows OLC Unit 5.1 - Ecosystem services by Eflows Net 37 views 3 years ago 24 minutes - This lecture is part of the Online **Environmental**, Flows course offered by IHE Delft <http://un-ihe.org>. You can register for the full ...

Ecosystem Functions and Services

Ecosystem Services and human wellbeing

Typology of ecosystem services

Millennium Ecosystem Assessment Framework (2003)

Pressures on aquatic ecosystems

eFlows and their services

Valuation of ES

Take home messages

Key References

A. Fischlin (Climate change and ecosystem services in a changing climate) - A. Fischlin (Climate change and ecosystem services in a changing climate) by PoliMi 573 views 8 years ago 32 minutes - Andreas Fischlin, ETH, Zurich (Switzerland) Workshop: Impacts of **Climate change**, on **Ecosystem Services**, June 23, 2015 The ...

Workshop Impacts of Climate Change on Ecosystem Services

Part 1 - Climate Change

Warming of climate system is unequivocal

The last 15 years (alleged "hiatus")

Globally averaged greenhouse gas concentrations

Human influence on the climate system is clear

What emissions do

Projected precipitation changes

Arctic September sea ice extent

Global ocean surface pH

Global mean sea level rise

Part 2 - Ecosystem services in a changing climate

Ecosystems Services

Risk Framework - IPCC AR5 WGII

Impacts and Adaptation

Risk for terrestrial and freshwater species impacted by the rate of warming

Near term vs. deferred mitigation

Adaptation is necessary: E.g. Ecosystem Based Adaptation EBA

W3 Seminar: Climate change impacts on ecosystem functions and services of seagrass meadows -

W3 Seminar: Climate change impacts on ecosystem functions and services of seagrass meadows by UF Howard T. Odum Center for Wetlands 229 views Streamed 3 years ago 53 minutes - October 14

"**Climate change**, impacts on **ecosystem functions**, and **services**, of seagrass meadows" Ashley Smyth, Assistant ...

Human impacts are on the rise

Those impacts affect

Denitrification: A Natural N Sink

Habitat restoration & ecosystem service

Denitrification in Coastal Habitats

Physical differences, chemical differences

Zostera loss: 29% since 1991

Species-specific N, Flux

Organic matter differences

Species-specific differences in N cycling

Nitrogen reduction & more seagrass

Seagrasses in the Gulf of Mexico

Blue Carbon
Sediment-water fluxes
Conclusions
Ecosystem Services and Climate Change - Ecosystem Services and Climate Change by Zentrum für
Entwicklungsforschung 337 views 6 years ago 1 hour, 32 minutes - It's getting hot in here: Biodiversity
and **Ecosystems**, in **Climate Change**., Daily (panel) discussion sessions as a Cooperation of ...
Welcome
Keynote Presentation
Presentation Structure
What is it
Functions
Work Program
Structure
Framework
Climate Community
S49 Global Change Ecology Ecosystem Processes and Function - S49 Global Change Ecology
Ecosystem Processes and Function by British Ecological Society 112 views 6 years ago 1 hour, 21
minutes - Session 49: **Global Change**, Ecology: **Ecosystem**, Processes and **Function**, Location:
Auditorium 1C Chair: Callum MacGregor ...
S49: Global Change Ecology
Warming experiment Dorset ponds
The aquatic carbon balance
Research goals
Ring of Fire fieldwork 2016
Diel oxygen curves
Benthic respiration vs. temperature
Methanogenesis
Methane oxidation
Denitrification
First thoughts
Background
Grasslands - Resurvey
Environmental changes in the UK 1973-2013
Analysis
Impact of increased minimum temperature
Summary
The uplands are changing...
Upland springs
Which species are changing most?
Results - change in drivers
How does vegetation change relate to drivers?
Species groups cover
Search filters
Keyboard shortcuts
Playback
General
Subtitles and closed captions
Spherical videos