

BOOK OF ABSTRACTS

This Book of Abstracts provides a comprehensive overview of the session content and is structured into three main sections:

- I. **Session Description** – an introduction to each session, including its objectives and expected outputs
- II. **Session Program** – a detailed schedule for each session, including speakers and timing
- III. **List of Abstracts** – a complete compilation of all accepted abstracts

I. SESSION DESCRIPTION

ID: T8a

Cultural Ecosystem Services of Riverscapes

Hosts:

	Name	Organisation	E-mail
Host (s):	Nora Mehnen	Hochschule Geisenheim University, Germany	nora.mehnen@hs-gm.de
Co-host(s):	Marianne Darbi	Hochschule Geisenheim University, Germany	Marianne.Darbi@hs-gm.de
	Martina van Lierop	Hochschule Geisenheim University, Germany	Martina.vanLierop@hs-gm.de

Abstract:

Riverscapes and landscapes more broadly offer diverse ecosystem services. However, cultural ecosystem services (CES) often are overlooked or only chosen aspects such as recreational or tourism services are considered. This session invites presentations on CES of riverscapes and landscapes, especially in an urban environment and ideally with an applied focus: case studies going from conceptualization to implementation are particularly welcome. The session is related to the Erasmus+ project "PlaCES". Thus, we aim to explore and discuss methods, tools and approaches used in the context of CES from different geographic backgrounds and disciplines. As PlaCES aims for implementing CES of riverscapes in higher education, we welcome especially ideas and experiences how to communicate and teach CES.

Goals and objectives of the session:

The goal of this session is to provide a place to present and discuss current approaches and methods to evaluate cultural ecosystem services of riverscapes and landscapes.

Planned output / Deliverables:

Open for discussion

Session format:

The proposed session should be 90 to 120 minutes.

Related to ESP Working Group:

[TWG 8 - Cultural services & Values](#)

II. SESSION PROGRAM

Room: A2

Date of session: Friday 22, May 2026

Time of session: 14:00 – 15:30

Timetable speakers

Each presenter has 8 minutes to present with a short plenary discussion afterwards.

Time	First name	Surname	Organization	Title of presentation
14:00-14:03	Marianne	Darbi	Hochschule Geisenheim University	Welcome
14:05-14:13	Jan	Danek	CzechGlobe - Global Change Research Institute of the Czech Academy of Sciences	The role of factors influencing cultural ecosystem services in riverscapes
14:15-14:23	Mónica	Pinto	CITAB, Inov4Agro, University of Trás-os-Montes and Alto Douro, Portugal	When the rocks and the river tell stories to assess Cultural Ecosystem Services in the Côa Valley
14:25-14:33	Partha Pratim	Saikia	Indian Institute of Technology Kharagpur	Effect of Bridge Connection on Cultural Ecosystem Services of a River Island: A Case of Majuli Island
14:35-14:43	Idea	Nurani	Université Paris 1 Panthéon-Sorbonne	Collaborative Cultural Ecosystem Services for River Management: Lessons from Community-Based Tourism at Merapi Volcano, Indonesia
14:45-14:53	Christoph	Woiwode	Leibniz Institute of Ecological Urban and Regional Development	Reimagining Riverine Heritage: Quest for a Renewed Partnership with the Tamiraparani River in South India
14:55-15:03	Carolina	Pozzi	Roma Tre University - Department of Architecture	Integrating Cultural Ecosystem Services into Spatial Planning Teaching: Insights from the PlaCES Project
15:05-15:12	Nora	Mehnen	Hochschule Geisenheim University	Down by the river – cultural ecosystem services of urban riverscapes. Examples from fieldwork of students
15:15- 15:30	Martina	van Lierop	Hochschule Geisenheim University	Joint discussion and wrap up

III. LIST OF ABSTRACTS

The first author is the presenting author unless indicated otherwise

1. The role of factors influencing cultural ecosystem services in riverscapes

First author: Jan Daněk

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Although cultural significance of riverscapes can seem as widely acknowledged, their non-material benefits are rarely brought to the decision-making table with economic and ecological considerations. We employ a framework utilizing ecosystem services and nature's contributions to people to evaluate stakeholders' preferences for cultural ecosystem services (CES) in riverscapes and to explore CES interactions with changes in landscape. Our study includes five riverscapes in the Czech Republic representing five different landscape types (agricultural, forestry, agroforestry, pond, and urban). Our mixed-methods research combined stakeholder analysis, focus groups and questionnaire surveys to assess (1) perceived importance of CES and (2) how CES are affected by perceived changes in the river landscape.

Overall, results highlight the importance of protecting nature in the river landscape and preserving it for future generations, which is reflected in two highly rated CES Bequest and Existence. Other highly important CES include Ecophilia, Aesthetics and Mental and physical health. The results show that perceived negative effects of changes in the landscape on CES outweigh the positive effects. The most negative factors include waste pollution, increase in recreational activities and building development in floodplains. The most positive factors include management and care of areas, development of tourist infrastructure and river revitalization.

Place-based information on CES use shows that people appreciate a wide range of benefits beyond recreation. The most important CES in river floodplains underscore the importance of nature conservation and can serve, for example, as supporting arguments for the protection of floodplains as important landscape features. Factors influencing CES (a positive or negative impact) can serve as input for planning and decision-making in various processes of local governments or nature conservation authorities. Finally, these results have an educational value, as they help raise awareness of the intangible benefits of river floodplains from the perspective of how people use these benefits.

Keywords: river floodplains, participatory assessment, cultural ecosystem services, non-material nature's contributions to people, riverscape

2. Integrating Cultural Ecosystem Services into Spatial Planning Teaching: Insights from the PlaCES Project

First author: Mónica Pinto

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Riverscapes play a crucial role in delivering ecosystem services, yet cultural ecosystem services (CES) remain among the least systematically integrated into spatial planning, particularly in urban contexts. This paper focuses on the Spatial Planning module of the Erasmus+ project PlaCES, which aims to strengthen the recognition, implementation, and teaching of CES related to riverscapes in higher education. Building on the evolution from ecological networks to green infrastructure (GI) in European planning practice, the paper frames CES as an essential bridge between environmental performance, spatial quality, and cultural identity.

The module adopts a multi-scalar and applied perspective, linking European policy frameworks – such as the Water Framework Directive, the European Landscape Convention, and the EU Green Infrastructure Strategy – with concrete planning instruments at regional and municipal levels. Through selected case studies from France, Germany, and Italy, the paper illustrates how spatial planning tools can operationalize ecosystem services and explicitly address cultural dimensions such as recreation, accessibility, landscape identity, sense of place, and community well-being along river corridors.

Particular attention is given to urban riverscapes as multifunctional infrastructures where ecological connectivity, climate adaptation, and cultural values intersect. The paper highlights methods used within the PlaCES module – qualitative ecosystem service assessment, spatial mapping of green-blue networks, and policy analysis – to translate CES concepts into planning regulations, strategies, and design actions. Governance and participation mechanisms, including River Contracts and community engagement processes, are discussed as key enablers for embedding CES into implementation and long-term management.

From a pedagogical perspective, the module demonstrates how spatial planning education can move beyond purely technical approaches by integrating CES as a core learning outcome. By combining policy timelines, applied case studies, and participatory tools, the PlaCES Spatial Planning module provides



students with transferable knowledge and skills to design riverscapes that simultaneously support ecological resilience, cultural values, and inclusive urban development.

Keywords: green infrastructure, collaborative governance, higher education, urban rivers

3. Down by the river – cultural ecosystem services of urban riverscapes. Examples from fieldwork of students in Wiesbaden (Germany)

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Urban riverscapes offer multiple ecosystem services (ES) – provisioning, regulating, supporting and cultural ES, they provide living space for aquatic and non-aquatic flora and fauna, surface water for drinking, flood protection and recreational places only to name a few. In this paper/presentation we focus on cultural ecosystem services (CES) from an open space design perspective and show insights/results from fieldwork in Germany of students from Hochschule Geisenheim University.

Assessing, measuring and evaluating cultural ecosystem services is not an easy task. Often research is purely focussing on recreational indicators or benefits, but how to measure spiritual and religious value or education or stewardship? And how to include CES in open space design is even more complicated. The students tested methods and tools in concrete riverscapes in Germany, for example in the Wellritzal, a newly restored, redesigned and reused river in the city of Wiesbaden offering diverse ES and CES. Developing a straightforward approach or method toolbox for riverscapes in higher education is one of the aims of the ERASMUS+ project PlaCES, which will end in 2027. We look forward to show first results and to discuss them with an interested audience.

Keywords: Cultural Ecosystem Services, CES, Germany, Riverscapes, Students

4. When the rocks and the river tell stories to assess Cultural Ecosystem Services in the Côa Valley

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Riverscapes are complex socio-ecological systems where cultural ecosystem services (CES) play a fundamental role in shaping identities, values, and human–nature relationships. Despite their importance, CES remain underrepresented in riverscape planning and management, often overshadowed by biophysical or tourism-oriented considerations, particularly in rural and low-density regions. This contribution presents the Côa Valley (northeastern Portugal) as a case study to explore how cultural ecosystem services of a riverscape can be systematically identified, assessed, and communicated in an applied context.

The Côa Valley is internationally recognized for its Upper Paleolithic rock-art and cultural landscape shaped by millennia of human–river interaction. Beyond its heritage value, the valley provides a wide range of CES, including sense of place, cultural identity, spiritual and symbolic meanings, aesthetic appreciation, traditional ecological knowledge, educational value, and opportunities for artistic inspiration and nature-based learning. These services are deeply embedded in local practices, narratives, and landscape features, yet they are rarely systematically assessed or integrated into decision-making processes.

This case study proposes a mixed-methods assessment framework combining qualitative and quantitative approaches, such as mapping and cultural indicators to capture both tangible and intangible CES. The approach emphasizes stakeholder engagement, particularly local communities, educators, and heritage managers, to reflect plural values and lived experiences associated with the riverscape. Special attention is given to the challenges of translating intangible cultural values into operational knowledge that can inform river management, landscape planning, and educational curricula.

By illustrating the full assessment cycle from conceptualization to practical application, the Côa Valley case contributes to broader discussions on CES evaluation in riverscapes and can offer transferable insights for teaching and communicating CES in education and professional practice. The study aligns

with the current efforts to move beyond tourism-centric perspectives and to recognize CES as central components of sustainable riverscape governance.

Keywords: Riverscapes, Cultural Ecosystem services, sense of place, assessment, cultural heritage

5. Effect of Bridge Connection on Cultural Ecosystem Services of a River Island: A Case of Majuli Island

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Cultural Ecosystem Services (CES) represent one of the four categories of Ecosystem Services (ES) as identified by the Millennium Ecosystem Assessment (2005), which are intangible and non-material benefits that individuals derive from ecosystems. Price serves as a reference signal for policymakers in decision-making processes, while ES that lack a market framework are not only inefficiently configured but also foster unsustainable attitudes and behaviours among the public towards ecosystems. Also, ES and their advantages are not allocated equally, equitably, or justly. Despite efforts to make ES frameworks more inclusive of a broader range of contexts and worldviews, the majority of studies on how people perceive the importance of CES relative to other services have concentrated on contexts where people depend directly, if at all, on natural resources for livelihoods and ways of life.

A bridge has the amazing ability to permanently eliminate the ambivalence that forms the core of island identity. Some of the most vocal opponents of constructing bridges or other permanent connections that would permanently link them to the mainland are islanders. This study aims to analyse the impact of a bridge connection on the CES of Majuli, the largest inhabited river island in the world. The study further links CES with the 17 Sustainable Development Goals, showing how each CES is related to specific SDGs. The study relies on a structured questionnaire interview of 330 respondents. Being an island, Majuli is prone to heavy flooding from the river Brahmaputra every year, and in the last century, erosion has reduced the island's size to one-fourth of its original size. The dynamic relationship between human habitation and the natural environment complicates the preservation, protection, and restoration of ES, and thus, studying these relations is important. The study is an effort in that regard.

The study finds that the bridge connection has increased economic activity, enhanced tourism, improved connectivity, and, most importantly, continuous access to medical facilities and emergency services. However, there is an adverse impact on the island's fragile environment. Furthermore, people are aware of environmental pressure and pollution; however, there is a lack of awareness about CES in general. The more tangible ES linked to human well-being have been duly acknowledged in policymaking, but CES, being intangible and non-monetary, haven't been discussed much in policymaking regarding the island. Within the CES, 'Recreation and tourism,' 'Aesthetic variety,' and 'Spiritual and religious values' receive greater attention, which resonates with earlier studies related to CES. Meanwhile, 'Traditional and formal knowledge systems,' 'Educational values,' 'Sense of place,' and 'Inspiration' are overlooked.

Keywords: Cultural Ecosystem Services; River Islands; Infrastructure Development; Bridges; Sustainable Development Goals

6. Collaborative Cultural Ecosystem Services for River Management: Lessons from Community-Based Tourism at Merapi Volcano, Indonesia


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Merapi is one of the world's most active volcanoes. Its surrounding areas remain densely populated due to the sustained provision of vital ecosystem services that support local livelihoods. Riverine cultural ecosystem services, including recreation and education, are increasingly shaping human-environment interactions in volcanic regions. This study examines how collaboration between tourism and education can support river conservation, with Krasak River on the southern slopes of Mount Merapi in Yogyakarta, Indonesia, as a case study. This research was conducted qualitatively using semi-structured interviews



with representatives from two local community groups responsible for managing river-based tourism activities in Merdikorejo Village, Sleman Regency. Thematic analysis was used to identify community motivations, program types, collaborative networks, and major obstacles. The findings suggest that economic drivers, along with increasing environmental awareness, motivate local communities to initiate and develop tourism activities. In particular, tourism operations have expanded beyond recreation to include educational components that engage inhabitants, students, researchers, government agencies, and private-sector participants. This integration of education and tourism enhances local stewardship by promoting environmental learning, awareness of volcanic river dynamics, and collective responsibility for conservation. However, the sustainability of these initiatives is compromised by political and governance challenges arising from unregulated sand mining within the river system, as well as by declining river water quality and quantity. Effective social media engagement and strong team management are key to fostering collaboration with broader stakeholders, thereby promoting the integration of cultural ecosystem services into sustainable river management in hazard-prone areas.

Keywords: Merapi, volcano, cultural services, community

7. Reimagining Riverine Heritage: Quest for a Renewed Partnership with the Tamiraparani River in South India

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Set along the banks of the Tamiraparani River in Tamil Nadu, mandapams are stone-pillared pavilions that form an understudied yet vital part of South India's heritage and cultural landscape. Historically, they anchored spaces of cultural expression, social interaction, ritual practice, and everyday engagement with the river, offering a unique lens to examine the interplay between heritage, ecology, and communities. Today, however, these structures face growing vulnerability due to rapid urbanisation, ecological degradation, institutional neglect, and a widening cultural disconnect from the river.

This study investigates how mandapams can be revived and reimagined as living heritage spaces that inform frameworks of sustainable urban development, ecological restoration, and community stewardship while sustaining cultural continuity in rapidly changing riverine landscapes. Using a qualitative and spatially grounded methodology including field-based ethnography, architectural studies, oral histories, focus group discussions, stakeholder engagements, and case analysis. The research documents the significance and present status of mandapams and explores their potential for revival as urban nodes. Central to this inquiry is the "mandapam ecosystem," a framework grounded in field observations that recognises mandapams not as isolated relics but as dynamic nodes embedded within interconnected socio-cultural and ecological systems.

Findings show that mandapams historically functioned as liminal spaces where relationships between people and the river were shaped by ritual practices and ecological rhythms. While many today suffer from neglect and encroachment, fieldwork highlights grassroots initiatives where communities are reclaiming and reanimating these spaces. These examples underscore the potential for adaptive reuse rooted in cultural memory, environmental sensitivity, and contemporary relevance. By framing mandapams as layered eco-cultural heritage, the study repositions them as active heritage agents integral to cultural resilience, ecological sensitivity, and community agency within an urbanizing landscape.

Keywords: Mandapams, Eco-cultural Landscapes, Local/Indigenous Knowledge, Community Stewardship, Heritage-sensitive Planning


8. Mapping Cultural Ecosystem Services through Community Perceptions in Coastal Landscapes of Bhitarkanika Wildlife Sanctuary, Odisha

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The dominant narrative in coastal and marine conservation has largely framed nature as a provider of ecosystem services to inform management practices. However, comparatively less attention has been given to the bidirectional relationships between coastal communities and ecosystems, particularly the non-material dimensions captured by Cultural Ecosystem Services (CES). These services reflect how people perceive, interact with, and sustain coastal and marine landscapes. This study examines the role of community perceptions in shaping CES in a protected coastal landscape of Bhitarkanika Wildlife Sanctuary, Odisha, India. Using a Public Participatory Geographic Information System (PPGIS) approach, local stakeholders were engaged to identify and assess non-material values associated with coastal and mangrove ecosystems. The survey captured socio-demographic characteristics, ecosystem services linked to different production landscapes, perceptions of landscape change, and valuations of CES, including cultural disservices. Participants mapped multiple locations representing diverse cultural values, enabling the spatial characterisation of CES through interpolation and hotspot analyses. The findings highlight the prominence of non-material benefits, with religious and aesthetic values emerging as particularly significant. Statistical analysis indicates that socio-demographic factors influence the appreciation and spatial distribution of CES. By integrating community-derived spatial knowledge with quantitative analysis, the study demonstrates how participatory CES assessments can support more inclusive and culturally informed approaches to coastal conservation and mangrove restoration. The proposed framework offers replication potential for aligning ecological objectives with community priorities in coastal governance contexts.

Keywords: Coastal communities, Participatory Survey, Protected area, Non-material values