



XXXV
FORUM EKONOMICZNE
8-10 września 2026, Karpacz



BETWEEN TWO PRESSURES

Climate Risk and People Flows in Tourist Cities

9 September 2026
18.25-19.25





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Damiano De Marchi, Venice Sustainability Foundation (VSF)

Anna Pilarczyk, Ogrodzieniec City Council

Rafał Zwolak, Miasta Zamość

Monika Besenyei, Climate Policy Institute Mathias Corvinus Collegium

Alessandro Moricca, Consap





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Damiano De Marchi

Venice Sustainability Foundation (VSF)



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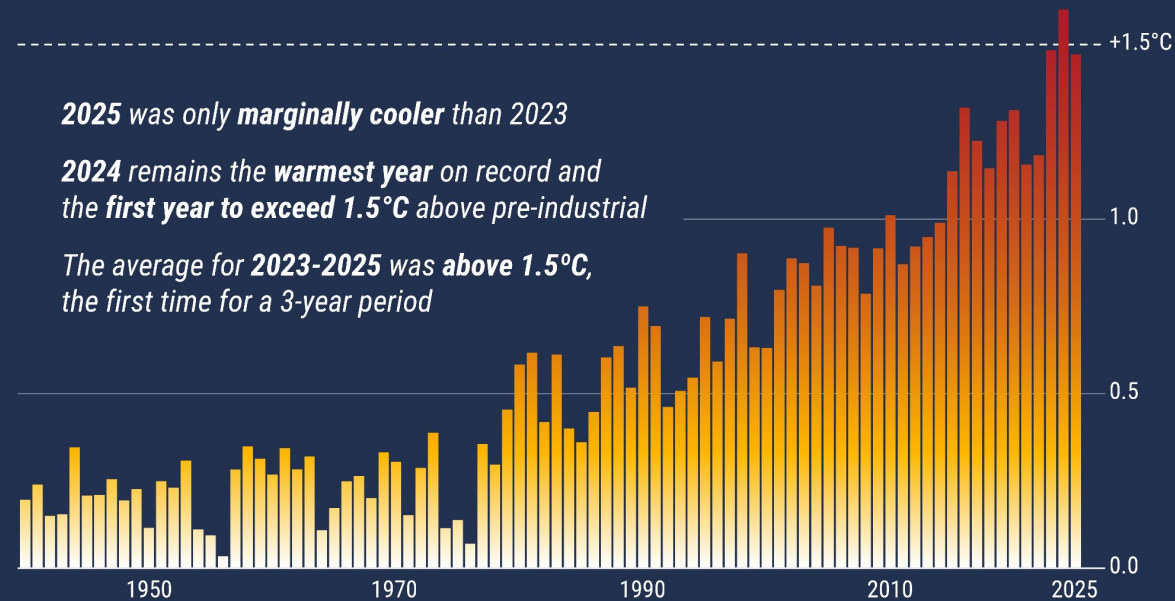
2025 was the third-warmest year on record

Global annual surface air temperature increase above pre-industrial level since 1940

2025 was only *marginally cooler* than 2023

2024 remains the **warmest year** on record and the **first year to exceed 1.5°C** above pre-industrial

The average for 2023-2025 was **above 1.5°C**, the first time for a 3-year period



Data: ERA5 • Reference period: pre-industrial (1850–1900) • Credit: C3S/ECMWF



PROGRAMME OF
THE EUROPEAN UNION



IMPLEMENTED BY



International tourism receipts and tourism revenues (USD bill)



Source: UN Tourism

(Data as of May 2026)



Between Two Pressures – Climate Risk and People Flows in Tourist Cities

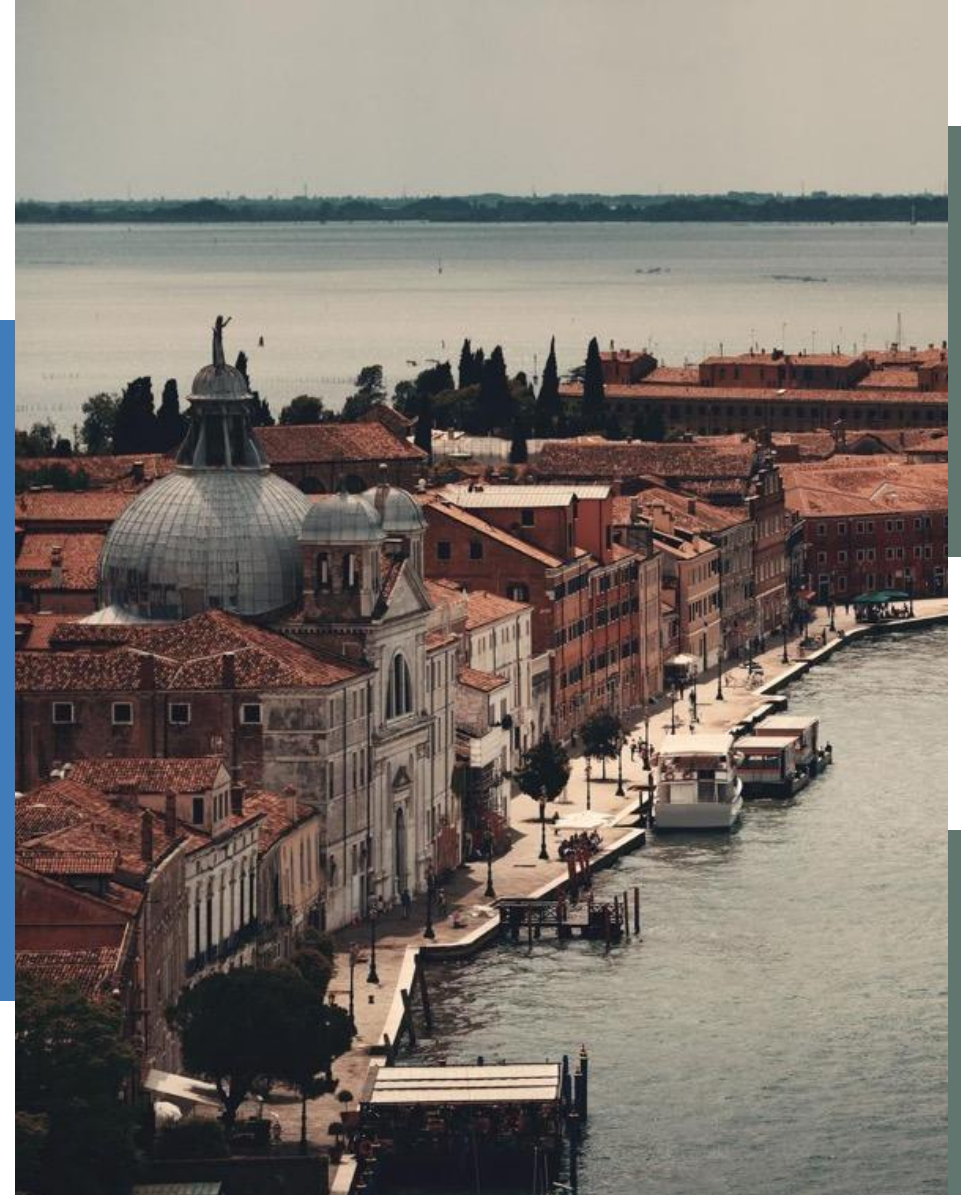
9th September 2026

Karpacz, Poland

The Venice case: The double flood of sea and tourism: data, tools and solutions for urban resilience

Damiano De Marchi, VSF

Project Manager for Sustainable Tourism
Venice Sustainability Foundation (VSF)



The city of Venice



Venice, with its duality of city of water and city of land, is dealing with **multifaceted challenges** encompassing environmental, social-economic, and cultural dimensions. The issues of each dimension are often **interconnected**, with the degradation of one aspect often exacerbating the vulnerabilities in another.

Such a complex pattern of difficulties can be successfully tackled through an integrated approach that keeps together the **physical safeguard** of the territory from sea level rise, while revitalizing its socio-economy and ensuring the **protection and preservation** of environmental, historical and cultural heritage as well as strengthening the cohesion of the local community.

These efforts align with the broader goal of addressing important challenges such as over-tourism, loss of population, and environmental fragility that put a strain on life in Venice.



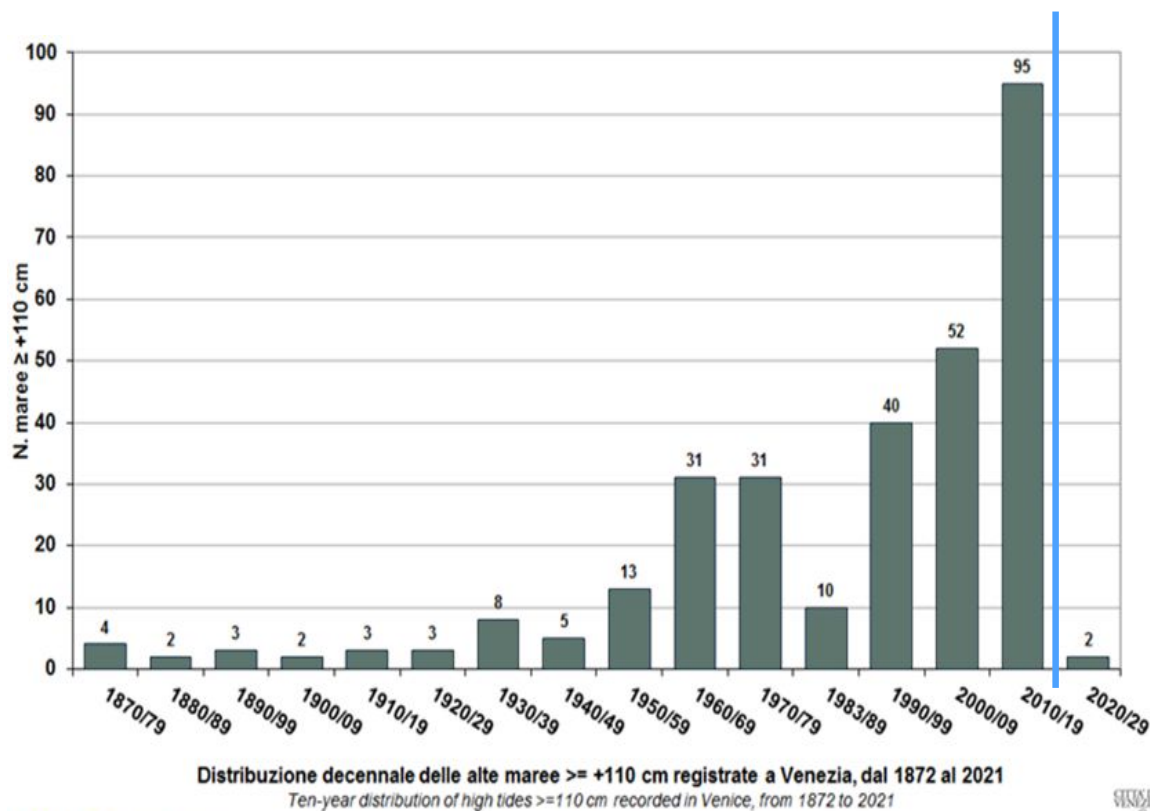
The Foundation

Venice Sustainability Foundation (VSF) is an articulated **partnership** of organizations, academic and cultural institutions, public and private enterprises interested in the sustainable future of Venice and its metropolitan area.

Its mission is to **create an integrated model of sustainable development (encompassing environmental, economic, social, and cultural dimensions) for Venice and its metropolitan area**, with implications for the entire Veneto region. At the same time, it seeks to ensure the protection and the conservation of the environmental, historical, and cultural heritage, as well as to strengthen the cohesion of the local community.

Thanks to its characteristics, Venice is an **ideal laboratory** for developing and testing new solutions for urban sustainability. Venice is also a city of highest national and international **visibility**, with great potential resonance for any activity implemented in its territory.

Making Venice Resilient



Integrated solutions for a complex system

Environmental
protection

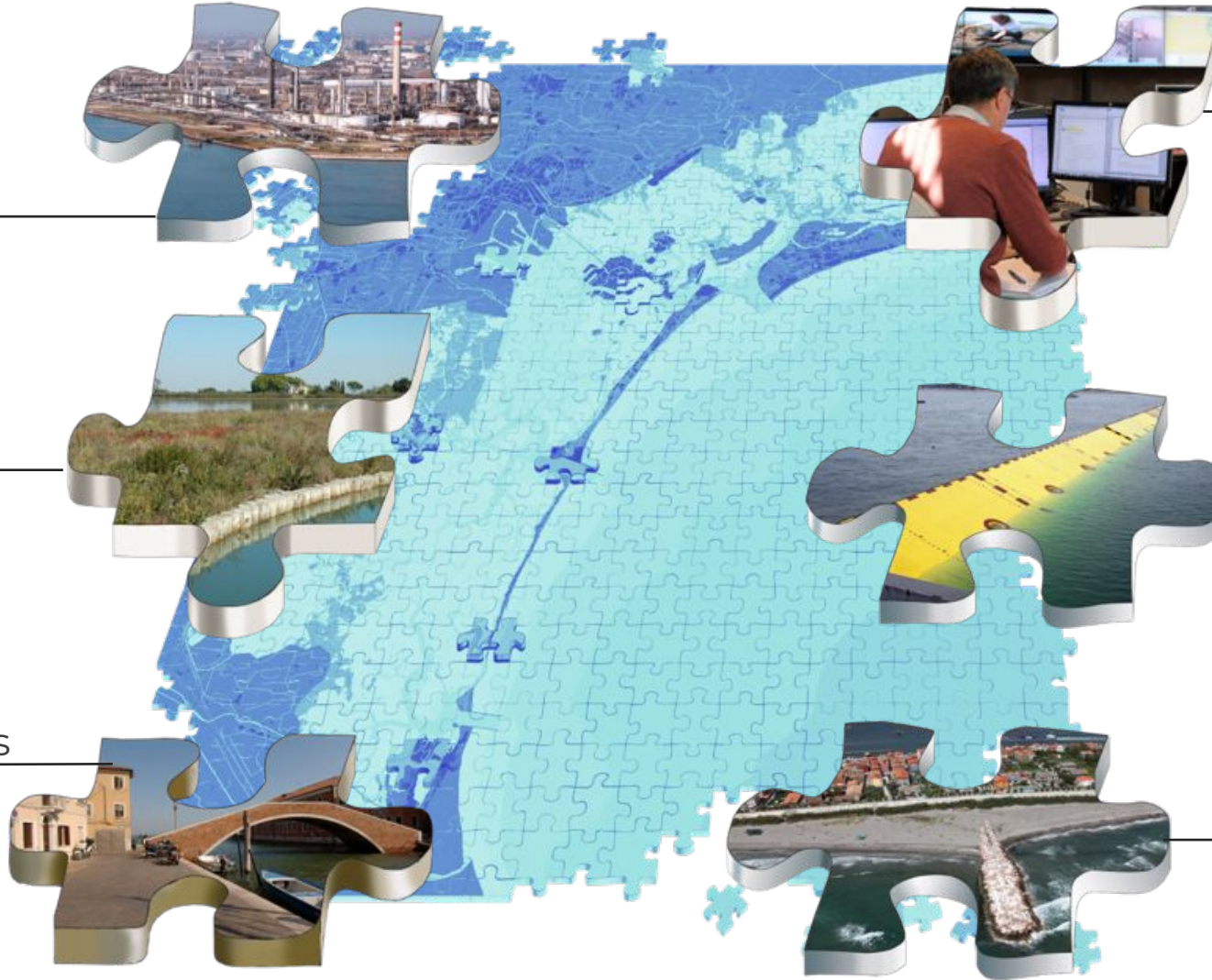
Increase of the
ecosystem
resilience

Locals defences

Maintenance and
management

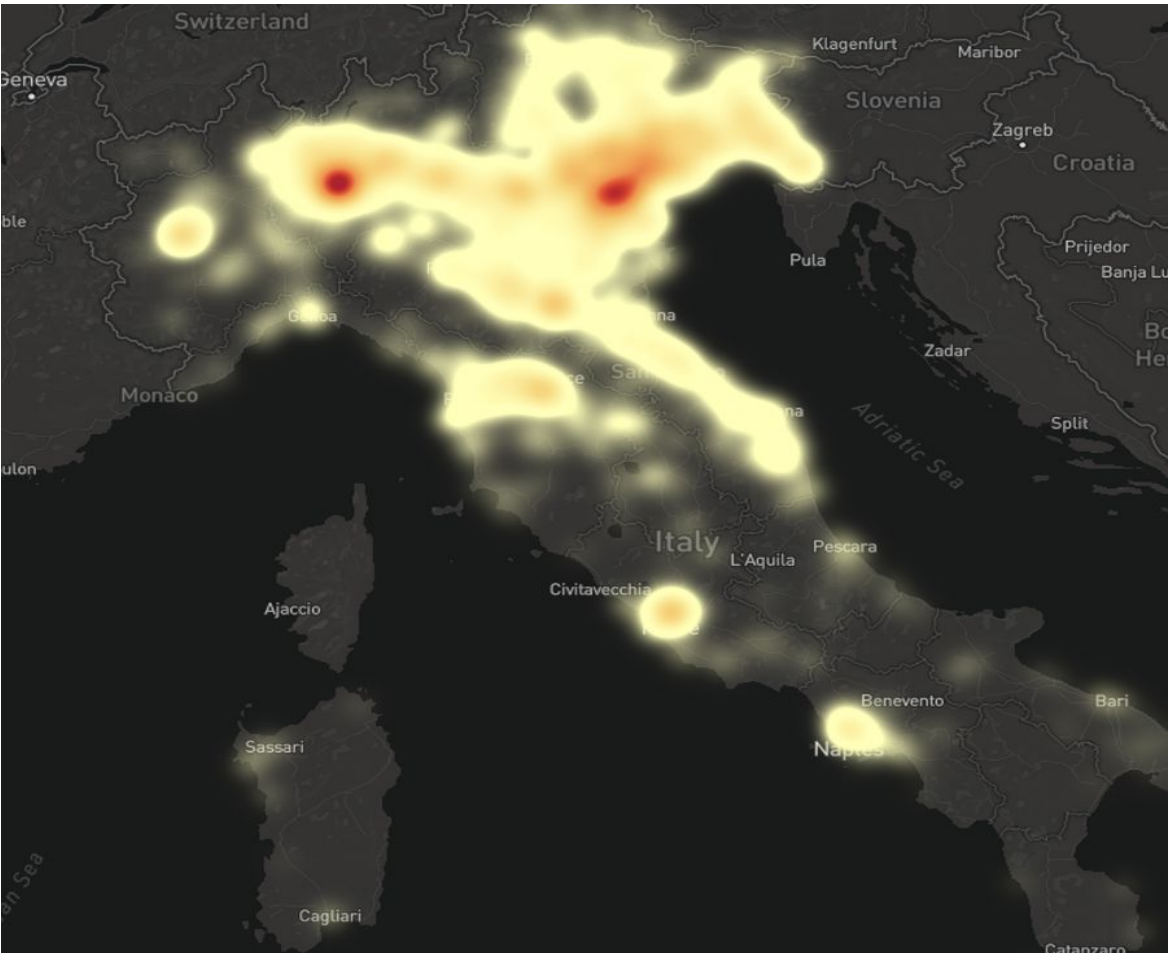
Mobile barriers

Storm defences



Data-informed approach

34,5 mls visitors per year



City users	Average daily presence	%
Residents	48 K	22%
Visitors	94 K	42%
Commuters	19 K	9%
Transits	27 K	12%
Other citizens	35 K	16%
Total	223 K	100%

Smart and Sustainable Governance

Steering committee



REGIONE DEL VENETO

Priorities:

Mitigation: monitoring, analysis and regulation of presence flows

Entry fee: impact of the application of the entry fee for day visitors (2024-26)

Short-term rentals: quantitative and qualitative study



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Anna Pilarczyk

Ogrodzieniec City Council





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Rafał Zwolak

Miasta Zamość





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Mónika Besenyei

Climate Policy Institute





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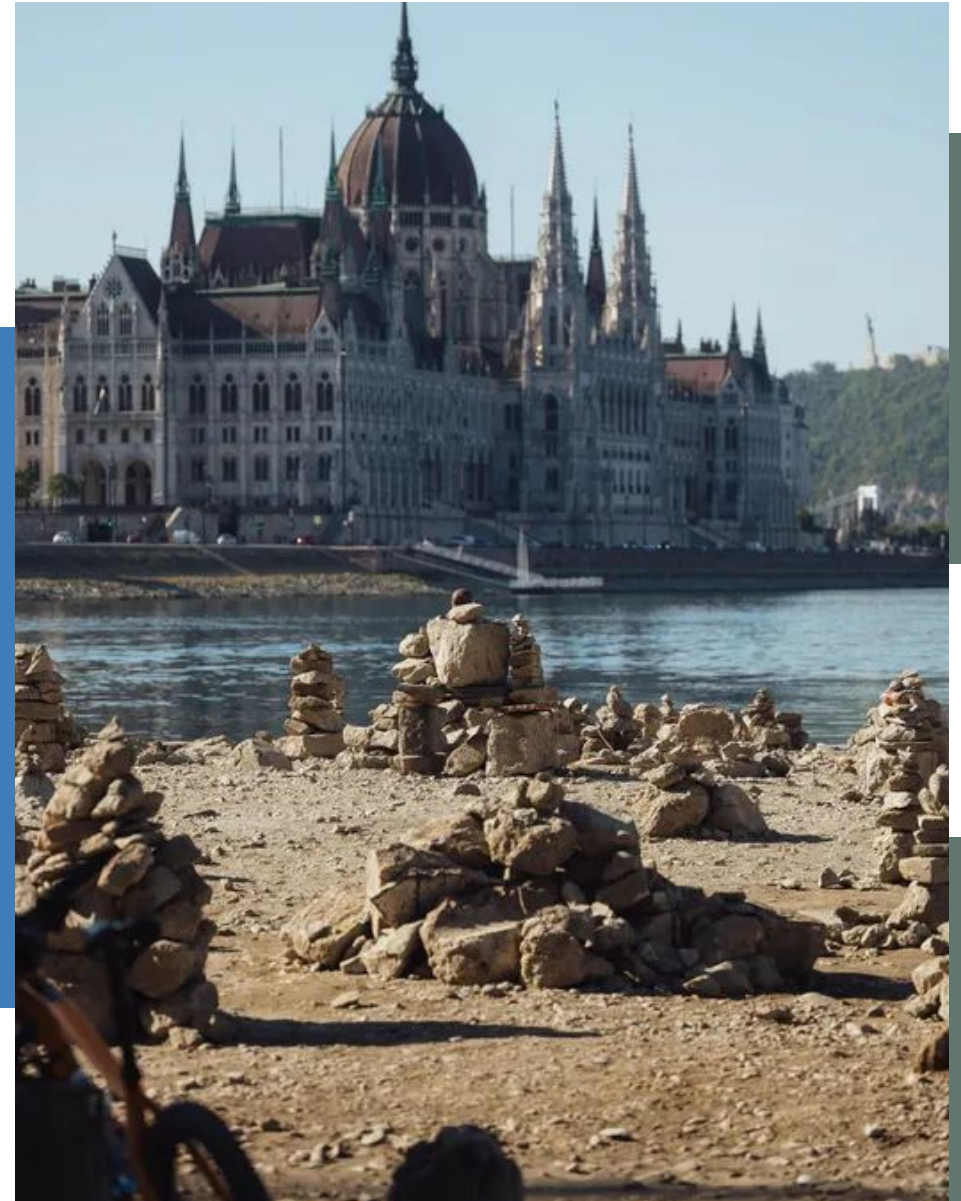
9th September 2026

Karpacz, Poland

Climate Mitigation (adaptation) Policies: The Role of Institutions and Education

Dr. Mónika Besenyei

ESG & Sustainability Expert, Director
Climate Policy Institute



Rising Heat Stress in Budapest

Number of heat days ($T_{\max} \geq 30\text{ }^{\circ}\text{C}$) – clear long-term increase

67

Heat days in 2024
(record year)

54

Heat days in 2025

+19

Days increase
since 1901

- Since 2005 every year has recorded more than 20 heat days in Budapest.
- Hottest years cluster in the last 15 years (2018, 2012, 2024, 2019, 2003).
- Projections: under high-emission scenarios heat days could reach 24–50 per year by 2100.
- Heatwaves drive excess mortality and strain urban infrastructure and tourism services.

Climate Pressures on Key Tourist Destinations

Lake Balaton

- Water temperature +1.7 °C since 2000; warming rate accelerated 3× in last 30 years.
- 2026 summer: average water level dropped to ~40–52 cm (regulatory target 120 cm).
- Cumulative precipitation deficit since 2021 ~500 mm in the catchment.
- More frequent lake heatwaves; risk of oxygen depletion and algal blooms.
- Tourism remains resilient so far, but prolonged low water and extreme heat affect visitor comfort and seasonality.

Lake Velence & Other Sites

- Velencei-tó: water warms faster than air (+4.1 °C summer average since 1971).
- Among the fastest-warming shallow lakes in the region (~0.7 °C/decade).
- Low water levels recurrent; ecosystem stress and tourism attractiveness at risk.
- Urban tourism (Budapest) faces worsening summer comfort indices under all scenarios.
- Shoulder seasons (spring/autumn) become relatively more favourable – opportunity for diversification.

Public Attitudes: Climate, Tourism & Responsibility



High importance

86% of respondents consider climate change important (31% “very”, 56% “rather important”). Extreme heat and drought rank among top concerns.

Support for stricter measures

Nearly 90% support stricter climate measures in Hungary: 37% even with high personal cost or inconvenience; 53% if the sacrifice remains small.

Attention gap

68% believe the Hungarian public does not devote enough attention to climate change. Awareness is high, yet information flow remains insufficient.

Institutions, Education & Open Data and Policy Directions

01

Open data & digital tools

Expand public platforms for real-time tourism flows, heat-stress indices and water-level monitoring to enable anticipation and targeted mitigation.

02

Multi-level governance

Align national, regional and local institutions; involve businesses and communities in co-designing adaptation measures for tourist cities and lake regions.

03

Regulatory incentives

Simplify permitting for green infrastructure and nature-based solutions; create targeted incentives for climate-resilient tourism investments.

04

Education & capacity building

Integrate climate literacy into tourism and local-government training; support skills for adaptation planning and impact measurement.



Sustainability-themed week for secondary and primary school students

Z MSc Program Integrated science and environmental studies teacher training programme



Sustainability as a subject in the upper secondary school leaving examination + Green Earth textbook package and methodology



I look forward to receiving your questions and comments



Dr. Mónika Besenyei

ESG & Sustainability Expert, Director
Climate Policy Institute





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In your view, what is the priority action for strengthening the capacity to anticipate the impacts of the two pressures on tourist cities and their hosting communities?





Which tools, in your view, can facilitate stronger public-private collaboration in managing tourism and climate phenomena?





Thank you!



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