BLINK SOLAR

Eastern European High Temperature Solar System

Overview

Why does Europe heat so fast?

Europe continues to heat more rapidly than the global average, with temperatures during the past five years averaging around 2.4°C above pre-industrial levels. Ocean temperatures mirrored the extremes on land, influenced in part by the lingering effects of El Niño, which peaked in late 2023.

What was the climate like in Eastern Europe in summer 2024?

ERA5-Land SM anomalies reveal that Eastern Europe entered summer 2024 with a record-breaking soil-moisture deficit, especially over Romania and Ukraine (Fig. S2e). SM values during summer 2024 were below −1.5 σ relative to the 1981–2010 climatology (Fig. S2f). Fig. 1: State of the climate in summer 2024.

How hot is Europe now?

When averaged over five years, temperatures in Europe are now at least 2.4°C above pre-industrial time. It’s also clear that the Arctic is one of the fastest growing regions on Earth – for instance Svalbard (specifically on Spitsbergen island) in Norway has reached a record high temperature of more than 2.5°C above average.

What is the longest heatwave in Europe?

Southeastern Europe experienced its longest heatwave on record in July 2024, lasting 13 consecutive days and affecting 55% of the region. There were record-breaking numbers of days with at least ‘strong heat stress’ (66) and tropical nights (23) in southeastern Europe during summer.

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Eastern Europe sees solar gains as Western regions ...

The primary driver was a dominant high-pressure system that established itself over Eastern Europe and Scandinavia, limiting cloud cover and promoting stable, sunny ...

High-Temperature Solar Power Systems

In contrast to the low-temperature solar devices, high-temperature solar systems achieve temperatures beyond 250 °C and can go up to 3000 °C or more by using ...

Breaking records under clear skies: the impact of sunshine

The Z500 spatial structure linked with the 2024 extreme temperatures indicates that the high-pressure system over the eastern part of Europe (letter "H" in Fig. 3b) leads to ...

(PDF) Examining the Eastern European extreme summer ...

Examining the Eastern European extreme summer temperatures of 2023 from a long-term perspective: the role of natural variability vs. anthropogenic factors

2024: The year with too much summer in the eastern part of Europe

The first HW event was mainly focused on the southeastern part of Europe (Figure 1b), where the maximum daily temperature anomalies, especially over Greece, Bulgaria, the ...

Europe's hottest year signals deepening climate crisis

The report also highlights the sharp contrasts in weather impacts across Europe in 2024. Eastern regions experienced prolonged heat and drought, while many parts of Central ...

Characteristics and potential drivers of extreme high-temperature ...

This study investigates decadal variations in the frequency and intensity of extreme high temperature events (EHEs) during the summer months of July a...

European State of the Climate: Striking east-west contrast ...

This east-west contrast was apparent in many climate variables, such as temperature, precipitation, soil moisture, clouds, sunshine duration, solar radiation and ...

A climatology of weather-driven anomalies in European

Weather-driven shortfalls in wind and photovoltaic power production in Europe depend on the installation and event duration, suggest numerical simulations of power ...

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