CLIMATE CENTRAL

Lost Winter in Spain

Analysis: Climate change adding more winter days above freezing — affecting snowfall, winter sports, ecosystems, and more

December 2024

KEY FACTS

- **Across Spain, climate change — due primarily to burning oil, coal, and methane gas — is causing a significant increase in winter days above freezing, otherwise called lost winter days.**
- **Analysis of daily minimum temperatures during winter (December, January, February) shows that Spain experienced more than one additional week's worth of days above freezing annually during the past decade (2014-2023) due to human-caused warming.**
- **Around 62% of provinces in Spain (32 of 52) saw at least one additional week's worth of winter days above freezing each year, compared to a world without climate change.**
- **Losing winter's chill affects snowfall, winter sports, water supplies, spring allergies, crops, and more.**

➤ **Download data**

This national summary is part of a broader analysis, in which Climate Central assessed how warming temperatures, attributed to climate change, affected the number of days above freezing (0°C) during winter (December, January, February) in 123 countries across the Northern Hemisphere over this past decade (2014-2023). For locations across the globe, findings show how many lost winter days — days between December-February where minimum temperatures exceeded 0°C — are occurring annually due to climate change. For detailed methodology and summary of findings for 123 countries and 901 cities, see the full report.

RESULTS

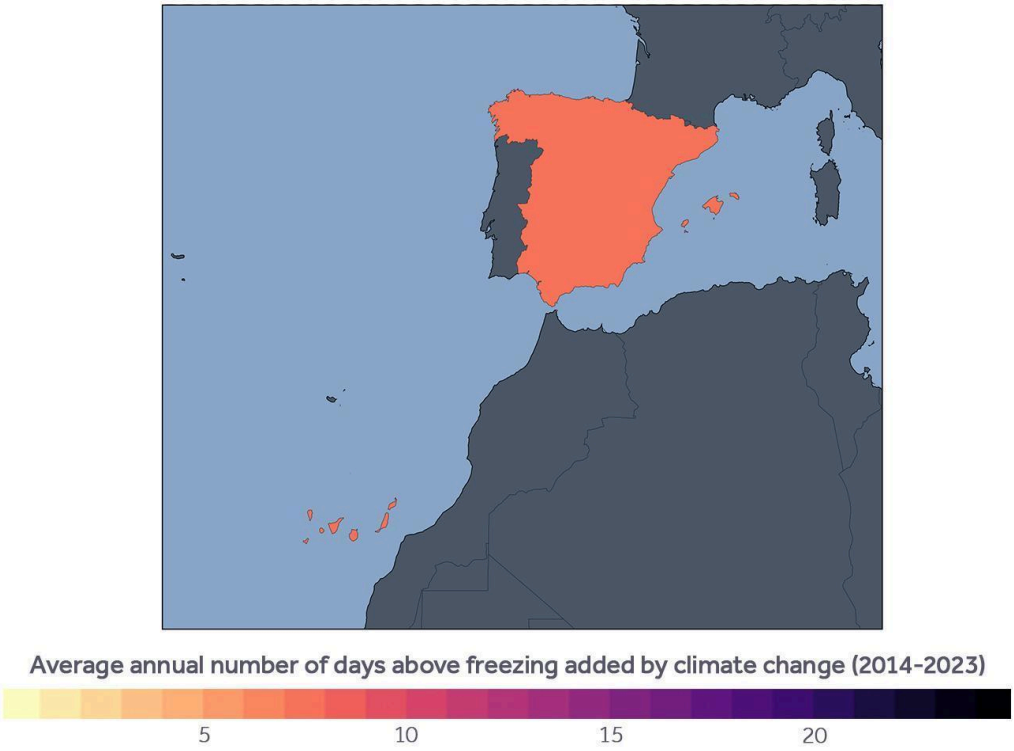

Figure 1. Annual winter days with minimum temperatures above 0°C added by climate change, averaged across the country over a ten-year period (2014-2023) in Spain. Spain experienced eight additional days above freezing annually during the past decade due to human-caused warming.

City	Winter days above 0°C annually	Winter days above 0°C added by climate change annually
Granada	66	14
Pamplona	71	13
Madrid	69	9
Zaragoza	80	7
Bilbao	90	3

Table 1. Spanish **cities** with the most winter days with minimum temperatures above 0°C added due to climate change annually. Results represent averages over the past decade (2014-2023). Based on 12 select cities included in this analysis.

Provinces	Winter days above 0°C annually	Winter days above 0°C added by climate change annually
León	60	17
Palencia	61	14
Soria	56	14
La Rioja	65	14

Table 2. Spanish **provinces** with the most winter days with minimum temperatures above 0°C added due to climate change annually. Results represent averages over the past decade (2014-2023). Based on all the Spanish provinces (52) included in this analysis.

Climate Central is an independent group of scientists and communicators who research and report the facts about our changing climate and how it affects people's lives. Climate Central is a policy-neutral 501(c)(3) nonprofit.

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