

Belém, Pará, Brazil

Summary

Climate change is expected to exacerbate temperatures, precipitation, and fire patterns in Belém, Pará, Brazil, this year's host of COP30.

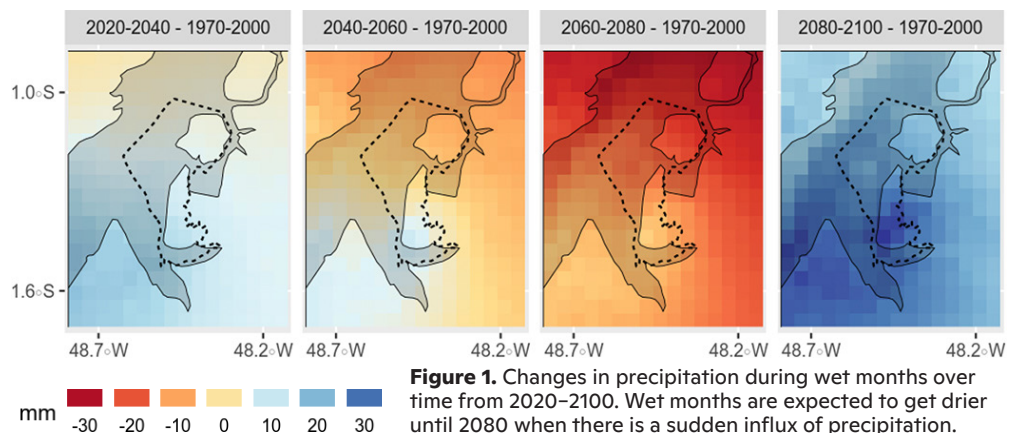
- A study by Woodwell Climate found that the difference between the annual maximum and minimum temperatures is expected to increase, signifying that warm months will get warmer and cold months will get colder.
- The study found that dry months are expected to get drier. Wet months are predicted to get drier as well, until about 2060-2080, at which point researchers expect a sudden influx of precipitation.
- The study predicts an exponential increase in the frequency of days where wet bulb temperature—the “feels like” temperature, based on humidity—is at least 28°C (82.4°F). The number of days exceeding this limit is expected to increase from an average of 10 to an average of 50 by 2050. This rise in hot and humid weather can be dangerous as it may lead to an increase in heat stress.
- Belém's fire season is expected to lengthen over time, exposing residents to increased periods of poor air quality.

These climate impacts pose several threats, including to public health, agricultural production, and infrastructure. We predict that flooding and extreme heat will be potentially devastating to cities such as Belém, requiring adaptation efforts as well as action to reduce greenhouse gas emissions to slow climate change.

Relevance to COP30

- One of the Brazilian Presidency's goals for COP30, outlined on the Action Agenda (objective 12), is to build urban resilience through development, and the Presidency has identified cities as one of the thematic focus areas for November 10-11. As climate changes continue to impact Belém's temperature, precipitation, and fire patterns, this conversation becomes increasingly important, and COP30 should be a space to exchange scalable solutions for urban climate impacts.
- In the COP30 Action Agenda (objective 16), the Presidency emphasizes the importance of building resilient health systems, and has announced health as a key thematic focus for November 12-13. With climate change causing fires and high temperatures, which increase risks of respiratory illness and heat-related illness, resilient health systems will be essential, in particular in urban areas.

Select Results



FACT SHEET AUTHOR | Ava Natalino
REPORT AUTHORS | Woodwell
Climate Research Center
- Risk Program

READ THE FULL REPORT





Woodwell Climate Research Center

Woodwell Climate conducts science for solutions at the nexus of climate, people and nature. We partner with leaders and communities for just, meaningful impact to address the climate crisis. Our scientists helped to launch the United Nations Framework Convention on Climate Change in 1992, and in 2007, Woodwell Climate scientists shared the Nobel Prize awarded to the Intergovernmental Panel on Climate Change. For 40 years, Woodwell Climate has combined hands-on experience and policy impact to identify and support societal-scale solutions that can be put into immediate action. This includes working with municipalities on the frontlines of the climate crisis.

For more information about this analysis, or Woodwell Climate's other climate risk assessments, please contact us at: policy@woodwellclimate.org

149 Woods Hole Road
Falmouth, MA 02540 USA
woodwellclimate.org

2020-2050 - 1971-2000

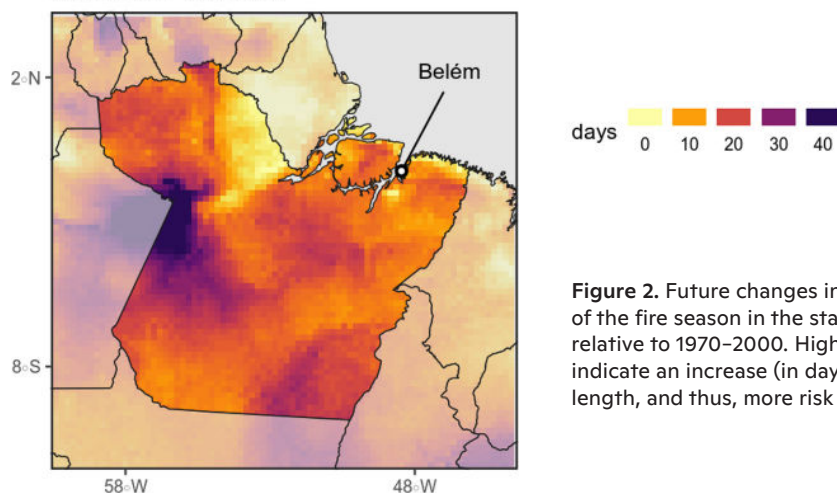


Figure 2. Future changes in the length of the fire season in the state of Pará relative to 1970-2000. Higher values indicate an increase (in days) of such length, and thus, more risk of wildfires.

Woodwell's Climate Risk Assessments

The way that Earth's natural systems respond to a rapidly warming climate will impact our quality of life for generations to come. Communities to countries worldwide must be armed with the most up-to-date science so that planning, zoning, and adaptation decisions can be made in the near term to protect against future climate-driven risks. Understanding the scale and nature of climate risks can also be an important motivator of mitigation action.

Combining technical expertise with local knowledge creates the most complete climate risk profile—one that is intentionally created to actually be used by local decision makers. Woodwell has already cultivated municipal partnerships with cities and towns throughout the world that have long-term sustainability goals, providing them with the science they need to make climate-smart decisions.



Communities for which Woodwell Climate has completed or is preparing municipal risk assessments.

**We have expertise
studying a wide range
of climate hazards**

Drought	Flooding	Water Scarcity	Sea Level Rise
Heat Stress	Hurricanes	Agriculture Yield	Permafrost Loss
Wildfires	Storm Surge	Precipitation	