Weather Patterns in the Tropics and Central Europe

Name: Date:

Weather in the tropics

Carlos @CarlosCoolKid

It's 90°F today with 80% humidity. My hair is a frizz ball! 😂 No way I'm going outside until the sun sets. #PanamaProblems #HumidityStruggles

Carlos @CarlosCoolKid

The wind speed is 15 mph today! Perfect for flying kites at the beach. 🪁 Gonna grab my friends and head out now. #WindyDays #PanamaBeachFun

Carlos @CarlosCoolKid

It's rainy season and the atmospheric pressure is so low I feel like I'm in a fog. 🌧️ Can't even see the end of my street! Netflix marathon it is. #RainySeason #PanamaWeather

Carlos @CarlosCoolKid

It's 85°F but the humidity is only 60%. Finally, a day where I can actually breathe! Gonna play some soccer with the crew. ⚽ #PanamaSun #LessSweat

Carlos @CarlosCoolKid

Winter in Panama and it's still 77°F! 😂 I love this country. Time for some outdoor BBQ with the fam. 🍗 #PanamaWinter #NeverGetsCold

What do you learn from the tweets about weather in the tropics?

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Meteorological factors

Take a closer look at an aspect that plays an important role in the climate of a region, then answer the related questions.

Humidity

Source: Daniel FR at de.wikipedia.org, Public domain

What is Humidity?

Humidity is the concentration of water vapor present in the air. Water vapor, the gaseous state of water, is generally invisible to the human eye. Humidity indicates the likelihood for precipitation, dew, or fog to be present.

How is Humidity Created?

Humidity depends on temperature and pressure. Warm air can hold more moisture than cool air. When the air cools, its capacity to hold moisture decreases, which can lead to condensation and the formation of dew or fog.

Regional Differences

Humidity varies around the world. Coastal and equatorial regions, like Singapore and Miami, often have high humidity due to their proximity to large water bodies and warm temperatures. In contrast, desert areas, like the Sahara, have low humidity because of the dry air and high temperatures.

How is Humidity Measured?

Humidity is measured using devices called hygrometers or psychrometers. These instruments can measure the moisture content in the air. There are different types of hygrometers, including hair tension hygrometers and sling psychrometers. Satellites also measure humidity on a global scale by detecting water vapor in the atmosphere.

Understanding humidity is vital for weather forecasting, climate studies, and ensuring comfort in daily life.

Humidity	The concentration of water vapor present in the air
Water vapor	Coastal and equatorial areas like Singapore and Miami
High humidity regions	An application where understanding humidity is vital
Low humidity regions	Occurs when air cools and its capacity to hold moisture decreases
Hygrometers	Can hold more moisture than cool air
Warm air	Devices that measure the moisture content in the air
Condensation	The gaseous state of water
Weather forecasting	Desert areas like the Sahara

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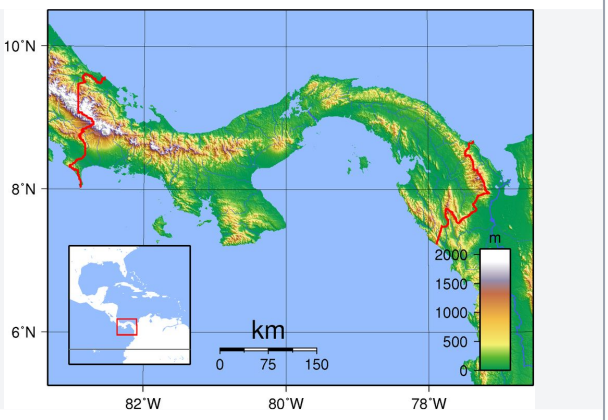
Comparing weather patterns

On the following pages, weather patterns in a tropical country (Panama) are compared with those in a Central European country (France).

Panama



Panama is characterized by a tropical climate with uniformly high temperatures and high relative humidity. Typical temperatures in Panama City range from a morning minimum of 24°C (75.2°F) to an afternoon maximum of 29°C (84.2°F). The temperature seldom exceeds 32°C (89.6°F). The Pacific side tends to be cooler than the Caribbean side, with breezes rising after dusk. Rainfall varies significantly across regions, with annual values ranging from 1,300 mm to over 3,000 mm, concentrated in the rainy season from May to November. Humidity is a constant feature, contributing to a hot and sticky atmosphere, particularly during the rainy season when it peaks.

Panama's tropical climate features high temperatures and even higher humidity levels, especially during the rainy season.

France

France experiences a temperate climate with significant regional variations. Metropolitan France sees warm summers and moderately cold winters. The highest recorded temperature is 46.0°C and the lowest is -36.7°C. Humidity levels are generally moderate but can vary significantly. Coastal regions experience higher humidity due to maritime influences, while inland and mountainous regions can have lower humidity levels. France's diverse climates range from oceanic in the west, Mediterranean in the southeast, to continental in the northeast. Humidity tends to be higher in coastal and Mediterranean regions, contributing to the overall comfort and climate experience.

France's climate is temperate with regional variations. Humidity is moderate but higher in coastal and Mediterranean regions.

Name the season during which Panama experiences the highest rainfall.

Describe the temperature variations in Panama City throughout the day.

Explain how regional variations affect the climate and humidity levels in France.

Weather data in comparison

Now look at current weather data for Panama and France on these two websites:
https://www.timeanddate.com/weather/panama/panama
https://www.timeanddate.com/weather/france/paris

Do the current weather data match the information from the country profiles? Where are there discrepancies?