

Subject: Environmental Science | Topic: Climate Change

The given figure represents trends in climate over the past few decades. It includes maps and graphs, showing the changes in cold nights, cold days, warm nights, and warm days. The question asks how the number of cold nights and cold days has changed over the previous few decades.

Solution:

1. Cold Nights and Cold Days Analysis:

Cold Nights:

Observing the map indicating "Cold nights," there is a clear trend towards a decrease. The accompanying bar graph shows a general negative trend over the years, highlighting a reduction in the number of cold nights globally.

Supporting Statement: The color gradient on the map indicates a decrease in cold nights over much of the globe, and the downward trend in the bar graph supports this conclusion.

Explanation: Cold nights are becoming less frequent as indicated by the negative changes on the bar graph and the blue regions on the map indicating reduction areas.

Cold Days:

Observing the map for "Cold days," there is a similar decrease observed as with cold nights. The corresponding bar graph also illustrates a general trend towards fewer cold days over the years.

Supporting Statement: The predominantly blue regions on the map and the downward sloping bar graph depict a decrease in the number of cold days.

Explanation: Cold days are also becoming less frequent as suggested by the negative values on the bar graph and the blue coloration on the map indicating regions experiencing a reduction.

2. Warm Nights and Warm Days Analysis:

Warm Nights:

Examining the "Warm nights" map, there is a trend towards an increase. The bar graph shows a general positive trend over the years, indicating more warm nights globally.

Supporting Statement: The map's color gradient showing increases in warm nights and the positive trend in the bar graph confirm this rise.

Explanation: Warm nights are becoming more common, supported by the positive slope in the bar graph and the red/orange regions on the map showing increases.

Warm Days:

For "Warm days," there is also an increase. The bar graph accompanying this category shows a clear positive trend, indicating an increase in warm days over the observed period.

Supporting Statement: The red/orange regions on the map and the upward trend in the bar graph illustrate an increase in warm days.

Explanation: Warm days are observed to be more frequent, as shown by the positive climbing values in the bar graph and the red/orange gradient on the global map.

Conclusion:

Given the visual data in figure 1.20:

Correct Answer: The number of cold days is decreasing while the number of cold nights is decreasing.

This conclusion is based on the observed trends in the maps and corresponding bar graphs, which clearly show a decline in the number of cold nights and cold days in recent decades.