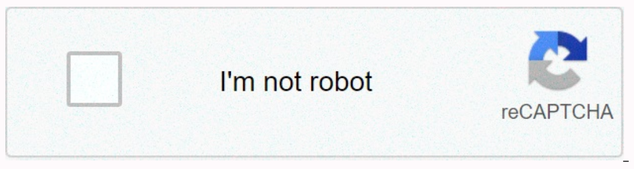

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Weather and climate worksheet answers

The weather is local and short-term. If it's snowing in the city where you're staying next Tuesday, that's the weather. The climate is long-term and not related to a small location. The climate of an area is the average weather conditions in an area for a long time. If the part of the world you live in has cold winters with a lot of snow, that would be part of the climate for the area you live in. The winters there have been cold and snowy for as long as the weather has been recorded, so we generally know what to expect. It is important to understand that when we talk about climate in the long run, we really mean the long term. Even a few hundred years is quite short-term when it comes to climate. In fact, climate change sometimes takes tens of thousands of years. This means that if you happen to have a winter that is not as cold as usual, with not much snow - or even two or three such winters in a row - this is not a change in climate. This is simply an anomaly - an event that does not fall within the usual statistical range, but does not represent any permanent, long-term change. It is also important to understand that even small changes in the climate can have significant effects. When scientists talk about the Ice Age, you probably envision the world frozen, covered in snow and suffering from cold temperatures. In fact, during the last ice age (ice seasons are repeated approximately every 50,000 to 100,000 years), the average earth temperature was only 5 degrees Celsius cooler than modern temperature averages [Source: NASA]. Global warming is a significant increase in the Earth's climate temperature in a relatively short period of time as a result of human activities. Specifically, an increase of 1 or more degrees Celsius over a period of one hundred to two hundred years could be considered global warming. Over the course of a century, an increase of even 0.4 degrees Celsius would be significant. The Intergovernmental Panel on Climate Change (IPCC), a group of more than 2,500 scientists from countries around the world, met in Paris in February 2007 to compare and promote climate research. Scientists found that the Earth warmed 0.6 degrees Celsius between 1901 and 2000. When the time frame was advanced by five years, from 1906 to 2006, scientists found that the temperature increase was 0.74 degrees Celsius. Other observations from the IPCC include: Of the last 12 years, 11 have been ranked among the warmest years since 1850.The warming trend of the last 50 years is almost double that 100 years, which means that the rate of warming is increasing. The ocean temperature has risen to at least 3,000 meters (over 9,800 feet); the ocean absorbs more than 80 percent of all the heat added to the climate system. Glaciers and snow cover have decreased in areas in both the Northern and Southern Hemispheres, which has contributed to an increase in of the sea. Average Arctic temperatures have risen by almost twice the global average rate over the past 100 years (the IPCC also noted that Arctic temperatures are very variable from decade to decade). The area covered by frozen soil in the Arctic has declined by about 7 percent since 1900, with seasonal declines of up to 15 percent. Rainfall has increased in the eastern regions of the Americas, northern Europe and parts of Asia. other regions, such as the Mediterranean and South Africa, have experienced drying trends. The westerly winds are getting stronger. Droughts are more intense, have lasted longer and have covered larger areas than in the past. There have been significant changes in extreme temperatures -- hot days and heat waves have become more frequent, while cold days and nights have become less common. While scientists have not noticed an increase in the number of tropical storms, they have observed an increase in the intensity of such storms in the Atlantic associated with rising ocean surface temperatures. The climate in Belize is subtropical-balmy and comfortable. The temperature in all areas of Belize usually hovers around 80°F all year round. The average annual humidity is about 80%. Average annual rainfall in most parts of Belize is about 50 inches, but the Cayo District receives significantly less-than 15 inches per year. As in any country, the weather depends on your area, but generally, Belize enjoys a warm, tropical climate. The coastline feels cooler due to the sea breeze, while some areas inland also cool off from rising elevation. The only notable seasons are linked to predictable changes in rainfall: the rainy season also known as the green season, and the dry season. Belizean Dry season: December to May BelizeAn Rainy season: June to November Ireland has a temperate ocean climate. While wet and rainy, the weather is mild without extreme temperatures. Temperatures in all regions of Ireland usually range between 45°F and 70°F throughout the year. Rain is a daily occurrence in Ireland, although some areas get more than others (the west coast sometimes gets over four times more precipitation than the east). In many parts of the country annual rainfall reaches or exceeds 100 inches per year. Ireland's Sunny Southeast region (Carlow, Waterford, Kilkenny and Wexford counties) enjoys less rainfall and more hours of sunshine a year. Inland areas, midland of the country generally get the most extreme temperatures. Athlone, for example, is more likely to snow in winter and tends to be a few degrees higher than average in summer. Before you commit to retiring to Auld Sod, live in winter. Or consider spending only part of the year in the country. Ireland is a place that makes sense as part-time Shelter. You could retire to Ireland every summer, then spend your winters somewhere bright and sunny. As in any country, the weather depends on your region, but in general Ireland enjoys a temperate but humid climate, without significant variation in temperature from season to season. But it can be unpredictable. Above all, you have to expect the unexpected. Seasons in Ireland Irish Winter: November to February Irish Spring: February to May Irish Summer: May to August Irish Autumn: August to October Good weather can be the difference between a fantastic holiday and one that is memorable for all the wrong reasons. Now, however, there are several online resources that can take the guesswork out of what the weather will be like on your trip. Weather.com has a travel planning tool, including climate comparison data, updated forecasts for hundreds of destinations and weather maps. If you're undecided about where to go, check out the top 10 lists or seasonal site recommendations. Weather Underground's travel planner focuses on historical data, taking into account recent years. Enter your destination and the dates you plan to visit and you will be taken to a page showing the temperature, cloud cover, wind, humidity and daily observations of recent years. You'll also see predictions of whether it will rain, snow, or be unseasonably warm. Weatherbase also focuses on historical data, with more than 16,000 cities represented. While this area is not as comprehensive as the weather underground, it still provides averages so you will get a sense of what to expect. Intellicast provides current weather data for the entire world-literally. Look for current and extensive forecasts, get previous observations and seasonal trends, and check out active storm tracks. Do you have a great travel tip you'd like to share? Send your insider travel strategies to editor@smartertravel.com. We manually select everything we recommend and select objects through tests and reviews. Some products are sent to us free of charge without incentive to offer a favorable review. We offer our impartial views and do not accept compensation for product review. All items are in inventory and the prices are accurate at the time of publication. If you buy something through our links, we may win a commission. ThoughtCo uses cookies to provide you with an excellent user experience. By using ThoughtCo, you accept our use of cookies. The of the planet often seems distant and abstract, especially things like the shrinking of sea ice. But a turbulent climate also poses many relatable risks to human health, from allergies and asthma to algebra blooms and animal diseases. And according to George Luber, head of climate research at the U.S. Centers for Disease Control and Prevention, these are the risks that need the public's attention - even if it means less publicity for polar bears. We need to restructure the climate issue Luber told an audience in Atlanta last week. It's not just about polar bears, penguins and plants. It's about people. Almost every angle of climate change ultimately affects human health, even distant ice loss. But some changes have a more direct impact on humans, from heatstroke to less immediate scourges such as malnutrition or malaria. Publicizing these public health risks can not only transfer the urgency of climate change to a wider range of people, luber says, but can promote more targeted, local plans to adapt to a warmer world. As the CDC's deputy director for climate change, Luber is responsible for a monumental project: preparing 314 million Americans for the health effects of climate change. There is a fairly significant range of implications to say the least, but the public health consequences have been largely unresolved, he said July 12 at a roundtable hosted by Southface, an Atlanta-based sustainability organization. My small team at the CDC represents the only federal program on the public health effects of climate change. While global warming is a planetary problem, Luber stresses the importance of avoiding boilerplate adaptation strategies. Climate change is not happening equally around the world. Every adaptation plan has to be as local as possible, he says. This means different approaches based not only on latitude and elevation, but also on population density. Cities and the climate are working in ways that put more populations at risk, he adds. There are multiple stressors: People switch from a rural to an urban species, the global average age increases, and we live in increasingly urban environments with constructed structures leading to the urban heat island. Europe's heat wave in 2003 was one of the first major wake-up calls on climate change and public health, Says Luber, with the death toll somewhere between 30,000 and 70,000 people. But heat is only one part of the problem for big cities; rising temperatures can worsen already dismal air quality, for example by increasing the number of high ozone days. Climate change doesn't act in limbo, Luber says. Here are some examples of the different ways climate change threatens public health: Wild weather The most obvious effect of global warming is warmth, which can cause health problems from mild heat rash to deadly heat stroke. It can also be chronic diseases such as cardiovascular or respiratory diseases; ground-level ozone, for example, causes direct lung injury, while increasing the severity of long-term diseases such as asthma and COPD. According to the United Nations Intergovernmental Panel on Climate Change - for which Luber is lead author - there is a 90 percent chance that the burnings will be even more intense and frequent over the next century. Cities are likely to bear the brunt of this heat, boosting electricity demand they are still widely produced from fossil fuels, thus further fuelling climate change and producing more airborne particles that worsen the airways. The IPCC says that climate change is causing unprecedented extreme weather events, and recent events such as Superstorm Sandy and historic fires have given way to this warning. Because heat drives evaporation, the sky becomes more saturated overall, leading to stronger storms in some places and longer, drier droughts in others. While the former leads to flooding and wind damage, the latter spurs more fires in adnity climates such as the U.S. West, where the fire season has increased 78 days more since 1970. Luber says the IPCC's next report will confirm that climate change favors severe hurricanes, which, combined with sea level rise, is terrible news for U.S. coastal cities. It's even worse in many developing countries, he adds, since large, dense slums tend to occupy flood-affected areas that they avoid from richer developments. Droughts and fires are also deadly far beyond the front lines, he adds, thanks to mobile threats such as dust and smoke. During the 2009 Australian brushfires, for example, total human mortality increased 5 per cent. Allergies and diseases In addition to chemicals and particles, climate change can also plague our airways by increasing the number of pollen. Excessive carbon dioxide boosts plant growth, and the number of CO2 sources in cities — i.e. cars, trucks and buses — means that urban allergens are particularly worrying. Hardy pollen-producing plants like ragweed are expected to fluoride in warmer cities, and researchers predict that pollen counts will double within 30 years. Other nuisance plants are also ready to thrive - poison ivy, for one, enjoys more CO2 stimulation than most other woody species. This means faster growth and more skin-irritating urushiol, Luber says. So we have super poisonous ivy to look forward to, too. This pales in comparison to some other diseases that are regulated with heating capability, however, including many transmitted by blood-sucking insects. Rising temperatures are helping mosquitoes expand their ranges to higher latitudes and altitudes, says Luber, increasing the risk that mosquito-borne diseases such as dengue fever, West Nile virus or chikungunya will also invade areas that are not infected But while mosquitoes get all the attention, he says, they are far from the only disease carrying interloper that stands to benefit from global warming. Ticks are already spreading Lyme disease deeper in the U.S. Northeast and Midwest, according to CDC data, thanks to a mix of rising heat, abundant deer and abundant people. The tropical fungus Cryptococcus gattii has also begun infecting people in temperate places like British Columbia and the northwest of the US, prompting the CDC to study the role of climate change. Other emerging disease threats include algae that cause red tide and ciguaterra fish poisoning, Luber says, of which extend north from the tropics. Food security Droughts and floods have already wreaked havoc with U.S. agriculture in recent years, but Luber warns the problem is even worse in developing countries, where fast-growing populations often rely on rainwater for irrigation. And while higher CO2 levels boost plant growth, this is not the silver lining climate change may seem to be. In addition to promoting heat, storms and droughts that can decimate entire crops, elevated CO2 levels reduce the concentration of food crop proteins, making them less nutritous. According to an analysis published in 2008, wheat and rice lose about 10 percent of their protein concentration under increased CO2, while potatoes and barley can lose up to 15 percent. Another study on several cereal seeds found a 10 percent drop in protein. So in a world of 7 billion people, we will have 10 percent less nutritious food, says Luber. We can adapt from the weather, from sea level rise, but can we adapt from CO2? As head of the CDC's climate change program, Luber got to offer input on President Obama's recently unveiled climate plan. Beyond the big focus points of reducing carbon emissions and boosting clean energy, he says he's relieved Obama also focused on local adaptation plans. CO2 has remained in the sky for centuries, and although U.S. emissions have declined lately, it is still rising in many developing countries. Therefore, climate change will remain for generations to come, and will manifest itself differently everywhere. We need to understand local vulnerabilities, Says Luber. I don't think there's a region in this country, or the world, that isn't affected by climate change.