**Changing UK Climate**

|  |  |  |
| --- | --- | --- |
|   | 1901-1930 temperature averages | 1981-2010 temperature averages |
| JAN | 4.2 | 4.4 |
| FEB | 4.2 | 4.4 |
| MAR | 5.5 | 6.6 |
| APR | 7.6 | 8.5 |
| MAY | 11.3 | 11.7 |
| JUN | 13.8 | 14.5 |
| JUL | 15.8 | 16.7 |
| AUG | 15.2 | 16.4 |
| SEP | 13.1 | 14.0 |
| OCT | 9.8 | 10.7 |
| NOV | 5.8 | 7.1 |
| DEC | 4.5 | 4.6 |
| Mean |   |   |
| Range  |   |   |

1. Calculate the Mean for both time periods­­­­­­­­­­­­­­
2. Calculate the Range for both time periods
3. What has happened to temperature over time?
4. Is this pattern the same for all months?
5. Overall what does this show us about the climate in the UK? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Describe the patterns on the graph above – what is happening to temperature over time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Changing rainfall in the UK**

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What does this graph show:

1. How does precipitation change from 1910 to 2018?
2. About how much the rainfall varies (changes) over the last 30 years?



1. What does this graph show about the change in extreme rainfall from 1960 to 2014? ­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How could this impact upon people?

Complete the summary table

|  |  |
| --- | --- |
|  | **What happens over time?** |
| Average temperatures |  |
| Annual rainfall |  |
| Number of extreme rainfall days |  |

**What impacts could a changing climate have on the UK in the FUTURE?**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. In cities heatwave temperatures will become a normal summer by 2040
 | 1. The ability of UK ports to cope with sea level rise is not known and they are under threat
 | 1. Coastal regions will experience more tidal flooding and coastal erosion
 | 1. UK sea waters will become warmer and this will affect fish stocks
 |
| 1. Hospitals, care homes ad schools are not being adapted for warmer weather
 | 1. Moving away from coal and oil to wind and solar energy also improves air quality.
 | 1. The area of urban greenspaces in the UK is no longer falling and could even increase
 | 1. There is evidence that plankton (the base of ocean food chains) is becoming less abundant in UK waters
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| 1. 11,000 home were protected against coastal erosion between 2010 and 2015
 | 1. Climate change will increase the frequency and intensity of floods, with 4 million homes in England already at risk
 | 1. Sewerage networks lack the capacity for heavier rainfall
 | 1. There could be a move to electric vehicles which will also reduce urban air pollution
 |
| 1. Long term declines in key wildlife species continue
 | 1. Storm Desmond in 2015 showed broadband and bridges infrastructure are vulnerable to flooding
 | 1. Farming efficiency has been increased so we have more food
 | 1. More extreme weather will disrupt infrastructure such as electricity and transport
 |
| 1. £15 million has been given for natural flood management projects
 | 1. There are opportunities to use more sustainable energy such as solar and wind. These could provide local energy rather than imports of fossil fuels.
 | 1. Habitats and natural flood protection will be lost to sea level rise
 | 1. Some coastal communities will be lost
 |
| 1. More coastal storms threaten coastal infrastructure such as power stations and ports
 | 1. There could be more water bourn pathogens, pests and diseases
 | 1. Coastal areas will see an increase in tourism and leisure visitors
 | 1. New species will colonise our seas and our land
 |
| 1. Some crops will see an increase in productivity
 | 1. Air quality could get worse
 | 1. There will be more heat related health impacts for people
 | 1. There will be more wildfire risks to farming and forestry
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| 1. Our peatlands will be under threat
 | 1. Extreme rainfall will bring more flooding to our rivers
 | 1. More variation in rainfall could lead to water shortages
 | 1. Fewer people will die from cold related deaths and fuel poverty
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Classify the slips in the table as either **OPPORTUNITIES** or **RISKS – use colours or the letters O and R**

Overall does it look as though the UK is ready for the risks and opportunities faced by climate change?