



# MANZI'S NEWS



A Newsletter for Manzi's Water Wise Club Members

August 2015

## CLIMATE AROUND THE WORLD

Hi Friends,

I am very excited to talk to you again ! I hope you are all looking forward to this month's newsletter. Today it is very cold from where I am sitting writing this newsletter. I have warm clothes on, drinking a warm cup of tea and I have been keeping warm by staying inside the house. Go outside and see what the weather is like? How is it ? Is it sunny, windy, cold, rainy or cloudy? If it is cold it might get warmer later on in the day or even colder!

Have you ever thought what is the difference between weather and climate? In this newsletter I will talk about climate and weather; the difference between the two; and how they affect different places!

Weather is the state of the atmosphere at any time and it depends on the behaviour of the atmosphere over a short period of time! This includes temperature, precipitation (such as rain), air pressure and cloud cover. Daily changes in the weather are due to winds and storms. This affects our planning. If you want to have an outdoor event (sports or fundraising) you need to know what the weather will be like on the day. Will it be rainy, hot, windy, etc. This will also help you decide on the kind of clothes that you will need to wear and the place that you will need for your event!

Climate on the other hand describes the long-term pattern of weather in a particular area. Climate is the average weather in a place over many years. While the weather can change in just a few hours, the climate takes hundreds, thousands, even millions of years to change.



## WEATHER & CLIMATE ACTIVITY

To show that you understand the difference between weather and climate please do the activity below. In order for you to get your answers correct you will need to unscramble the words on the right.

1. Weather changes over a \_\_\_\_\_ period of time. 1. rosth
2. \_\_\_\_\_ is a long pattern of weather in a particular area. 2. lcmitae
3. Daily changes in weather are due to storms and \_\_\_\_\_. 3. iwdns
4. Climate is the average \_\_\_\_\_ of a place over many years. 4. earwthe
5. Weather is the state of the \_\_\_\_\_. 5. tmapreheso

## WEATHER CHART ACTIVITY

Everyday we watch weather predictions on TV which helps us decide what to wear. Make your own weather chart using the symbols below and paste them according to the weather in your area. You can look for more symbols on the internet or in books in order to complete your chart.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

			
Lightning	Raining	Cloudy	Sunny

# THINGS THAT CAUSE THE CLIMATE OF AN AREA

## 1. Distance from the Equator

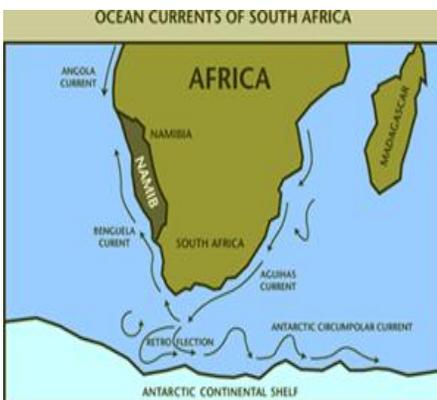
The distance from the Equator affects the climate of a place. At the poles, energy from the sun reaches the Earth's surface at lower angles and passes through a thicker layer of atmosphere than at the Equator. This means the climate is cooler further from the Equator. The poles also experience a big difference between the length of days in summer and winter. In summer there is a period when the sun does not set at the poles. As a result the poles also experience a time of total darkness during winter. The length of a day varies little at the Equator.



Source: <http://astronomy.swin.edu.au>

## 2. Ocean Currents

Ocean currents (movement of seawater) can increase or drop temperatures. The Mozambique/Agulhas Current, on the east coast, is mostly warm. The warm Agulhas Current creates a much gentler environment. Because it is warm, the ocean releases more moisture into the air causing more precipitation and creating a much greener landscape on land. On the other hand the Benguela Current is cooled by coastal upwelling along the west coast of South Africa and Namibia. Ocean currents help to distribute heat around the Earth and circulate large amounts of warm and cold water.



Source: <http://www.pbs.org/edens>

## 3. El Niño and La Niña

Both El Niño and La Niña form a natural cycle called the ENSO cycle (El Niño-Southern Oscillation cycle). During this cycle there are abnormally warm or abnormally cool temperatures experienced in the eastern tropical Pacific oceans. During the El Niño period the ocean surface of the eastern tropical Pacific Ocean becomes very warm. This affects atmospheric flow, and as a result it affects rainfall and temperature in specific areas around the world. During La Niña the opposite happens as it is the cold phase of the cycle. We get El Niño and La Niña in episodes of 3-5 years. El Niño happens more often and each phase will last for a period of 9 months. Take a look at the map on the next page.

Did you know that El Niño means a "little boy" and La Niña means a "little girl" in Spanish?

#### 4. Direction of Prevailing Winds

Prevailing winds are winds that blow mostly from a single direction over a particular point on the Earth's surface. Winds that blow from the sea bring rain to the coast and dry weather to inland areas.

#### 5. The Shape of the Land ('relief')

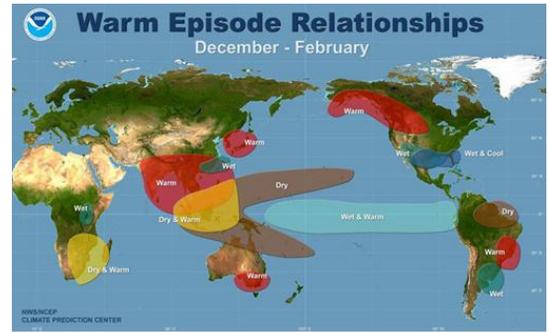
The differences in the height of the land determines climate. As air is forced to rise over a piece of land (e.g. a mountain) the temperature decreases and condensation increases. As it condensates water droplets get bigger and heavier and are forced to fall. Once the air mass goes over the mountain the temperature and evaporation increases but condensation decreases, resulting in a stop in precipitation. Mountains receive more rainfall than low lying areas because air is forced over the higher ground as it cools, causing moist air to condense and fall as rainfall.

#### 6. Human Impact

All 5 things mentioned above are all natural factors that determine the climate of a place. The impact of humans is another factor, even though not natural, but has a big effect on the change in climate. Human activities started long time ago to affect the climate negatively! Fossil fuels like coal, oil and most of the energy that we use to run cars and electricity for our homes are generating greenhouse gases in the atmosphere. Removal of trees is also contributing as trees absorb a lot of carbon dioxide that is in the atmosphere. The more carbon dioxide in the atmosphere the higher the temperature on Earth. This can make life unbearable, not only for humans but also for animals and plants.



We can do simple things to reduce our impact on the environment by reducing our use of electricity both at home and at school (switching off lights when not in a room); encouraging our parents to use energy saving light bulbs; riding a bicycle or walk to school (no fuel is used); and also learn to sort and recycle waste. There are a lot more actions that you can take in order to look after the planet!

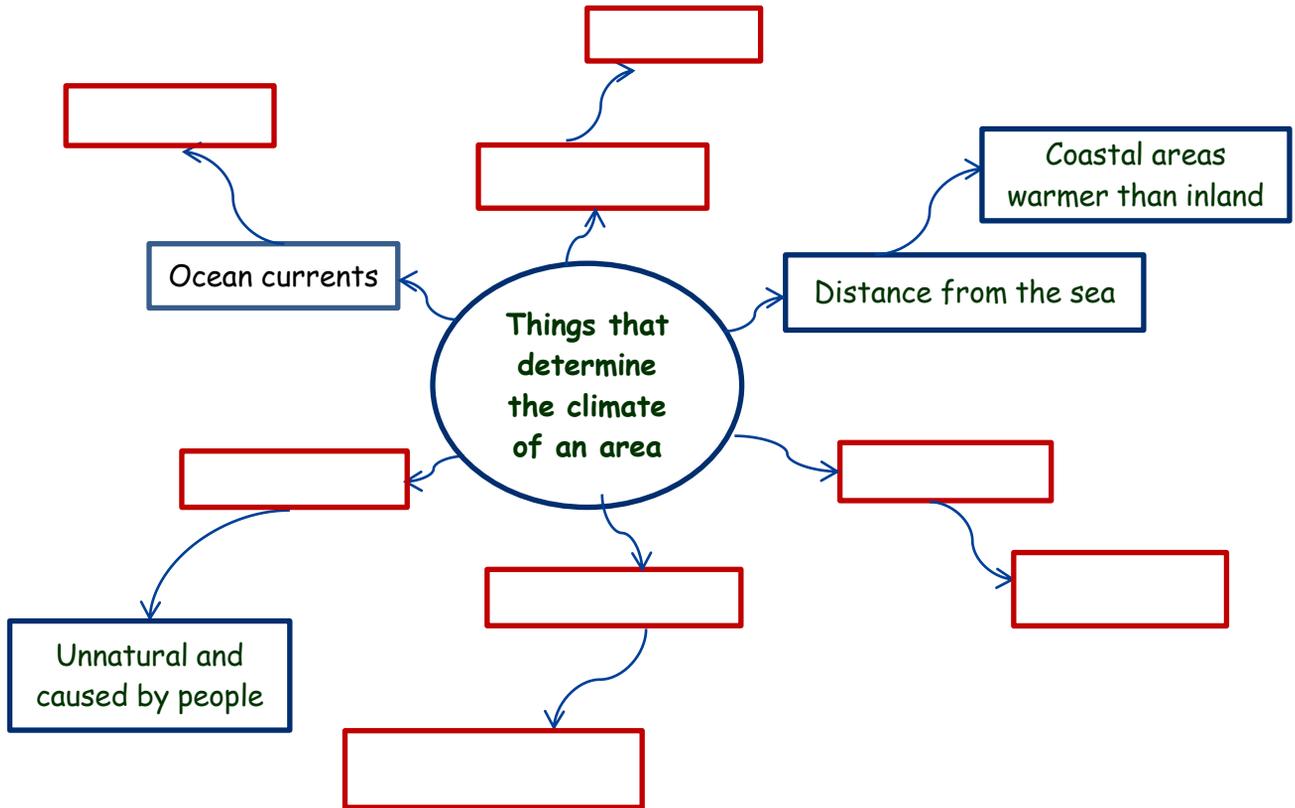


Source:  
<http://www2.ucar.edu>

Source:  
<http://samountainpasses.co.za>

## MIND MAP ACTIVITY

Now that you have learnt so much about the things that cause the climate of different areas, test yourself by completing the mind map below. The red boxes need to be filled in with the things that cause climate. Mind maps are very helpful when you are studying or even making notes and recapping on what you have studied. You can even make this mind map bigger by getting more information about the topic.



I hope you have learnt a lot about climate and weather from this newsletter. I also hope that you have tried out all the activities in the newsletter!

Till next time!

Always remember to be Water Wise!

Love  
Manzi

