

G 4.2 WEATHER



G 4.2.5 - Research some of the effects of extreme weather on the environment and on human beings. (original version in Maltese by Etienne Vella)

What is Extreme Weather?

Extreme Weather means the kind of weather at its worst, the kind of weather that normally causes damages. 'Extreme' means exaggerated.

Examples of extreme weather are:

- ❖ whirlwinds
- ❖ hurricane, typhoon and cyclone
- ❖ floods
- ❖ drought



1. Whirlwind (tornado/twister) - a kind of strong wind blowing on itself in a circular manner. This can occur during a storm. A whirlwind is normally less harmful than a hurricane but it can cause a lot of damage just the same.



2. Cyclone, typhoon, hurricane - extremely heavy storms with heavy rainfall and strong winds. In the vicinity of open seas, these winds can cause dangerous gigantic waves. The three words mean practically the same thing. The difference is only in the name; so, in the Atlantic Ocean we have hurricanes, in the Pacific we have typhoons and in the Indian Ocean we have cyclones.

3. Whirlwinds, cyclones, typhoons and hurricanes can cause a lot of damages.

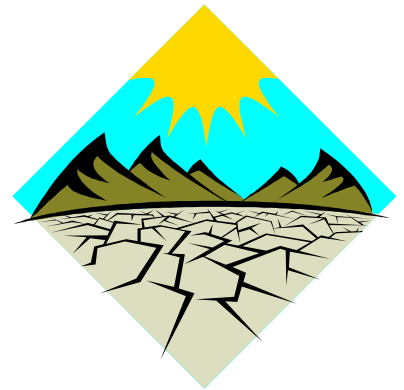
To mention just a few:

- ❖ damage to buildings
- ❖ uprooted trees
- ❖ boats and ships are sunk even in harbours
- ❖ they damage roads and so people in distress would not be saved in time
- ❖ people are injured and sometimes there is even loss of life
- ❖ electricity and telephone poles are uprooted and so lines are disrupted
- ❖ drinking water becomes scarce and epidemics break out

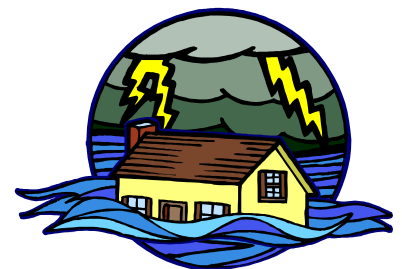


4. Drought - In very hot countries, severe lack of rain can cause droughts. We can mention places in and around the Sahara Desert in Africa. Problems caused by droughts:

- ❖ valleys dry up
- ❖ trees and plants die
- ❖ fields become infertile (fruit and crops won't grow in them any longer)
- ❖ animals die
- ❖ people become malnourished and sometimes die of famines
- ❖ drinking water shortages



5. Floods - these happen when heavy rains fall for very long periods of time. The soil will not be able to absorb the rain water. The large amount of rainfall would be



simply too much for the valleys, the rivers and drainage systems. Water can flood fields and so crops are destroyed. Some problems caused by floods:

- ❖ valleys and rivers overflow
- ❖ people and animals drown
- ❖ fields are flooded
- ❖ buildings are damaged
- ❖ roads are damaged and so help would not be easily sent to victims
- ❖ people are injured and sometimes killed by accidents
- ❖ electricity and telephone lines are interrupted
- ❖ drinking water becomes contaminated by sewage



Maltese farmers and rainwater

Like many other farmers, Maltese farmers work hard to grow crops and so produce food.



Besides hard work, the farmer needs other elements so that crops and fruit grow.

He needs fertile soil, soil that is suitable for his crops. He needs the warmth of the sun's rays and also a lot of rainwater.

Climates can cause many problems for farmers.

The Mediterranean climate is:

- ❖ not extremely cold in winter; a lot of rain falls in winter
- ❖ dry and hot in summer.

In summer we usually go for two or three months without any rain at all, so everything dries up.



In September and October we often have storms and heavy rains so that we lose a lot of soil which is carried through valleys into the sea. We often have strong gusts of wind.

To protect soil from being washed away into the sea, Maltese farmers build rubble walls around their fields. We must protect rubble walls.



Soil becomes a bigger problem when fields are found up on some hill.

When fields are on plain ground, farmers use the "contour ploughing" system. **Farmers plough in a circular manner**, and so, each contour made by the farmer's plough prevents the soil from being carried away.

What happens if farmers do not manage to protect the soil?

- ❖ **Soil is carried away into valleys** and so it is lost forever.
- ❖ Soil, dust, dirt and all other sorts of material are carried by rainwater to low grounds. This forms what we call in Maltese "**ħamla**". Valleys can be blocked by this material and so more fields can be flooded.
- ❖ Soil and all other sorts of material carried by rainwater can get stuck in valleys and on valleys' sides. This blocks the easy flow of rainwater and so floods can easily occur.

Other elements that block water in valleys

All kinds of refuse like plastic containers, tins, and sometimes even fridges, often find themselves in our valleys due to irresponsible people. These all harm our natural environment.



We should never block the flow of rainwater, especially by building houses or other constructions. These may block rainwater so that fields are not drained in time; this will result in floods and damage to crops.

What are the dangers?

1. People can be stranded in flooded houses; this often results in loss of life.
2. Buildings are damaged.
3. Roads are flooded with water and cars are damaged.
4. Electricity and drinking water supplies are sometimes interrupted.
5. Telephone lines are also easily damaged.
6. Unpleasant incidents can occur.



We can avoid much of this danger. How?

1. **By building more rubble walls** so that we protect soil from being wasted into valleys.
2. **By keeping our valleys clean** - through educational programmes we encourage everyone to respect the countryside.
3. **By creating alternative system of drainage** so that rainwater is preserved without causing floods.
4. **Creating canals by the sides of roads** so that rainwater is channelled and collected for use by farmers and households.
5. Better drainage systems so that rainwater is never contaminated by sewage.
6. By building large reservoirs for rainwater.
7. Digging more wells inside houses so that more rainwater is stored instead of being wasted into the sea.
8. By building bridges instead of roads in valleys.

