

## FORM 3 GEOGRAPHY NOTE 3

### TEMPERATURE

**Temperature** is the amount of heat energy that is in the air around us.

(Ko e fua mafana)

- The main source of this heat is the sun.  
( Ko e mafana e 'ea 'oku 'i mamani 'oku ha'u mei he la'aa)
- Temperature is *measured* using a **thermometer**.

(Ko e fua mafana 'oku fua 'aki ia 'a e me'afua koe thermometer)

- The *unit* used in temperature is **Degree Celsius** (°C) or **Fahrenheit** (°F).  
( Ko e 'iuniti 'oku ngaue'aki 'i he fua mafana koe Degree Celcius pe Fahrenheit)
- There is another unit named Kelvin which is the base unit but we will use degree Celsius which is common.  
( 'Oku 'i ai e iuniti fakava'e he fua mafana koe Kelvin ka te tau ngaue'aki pe 'a e Degree Celcius 'oku tau angai fanogo ki ai)
- The temperature of any place in the world depends on its **latitude**.  
(Ko e fua mafana 'o ha fa'ahinga feitu'u pe 'i mamani 'oku makatu'unga ia 'i he laine latitude)
- ***Remember the 3 climatic zones in your previous note (Note 2) – Tropical, Temperate and Polar. They are in different latitude lines.***

( *Manatu'i e nouti 2 fekau'aki mo e ngaahi sone 'e 3 'i mamani, 'oku nau tu'u 'i he ngaahi laine latitude kehekehe pe*)

### CLIMATIC ZONE TEMPERATURE

#### TROPICAL ZONE

- The tropics are warm all year, averaging 25 to 28 degrees Celsius (77 to 82 degrees Fahrenheit).
- This is because the tropics get more exposure to the sun.
- Because of all that sun, the tropics don't experience the kind of seasons the rest of the Earth does.

## TEMPERATE ZONE

- Average yearly temperatures in these regions are not extreme, not burning hot nor freezing cold.
- Temperate means moderate.
- Unlike in the tropics, temperatures can change greatly here, between summer and winter.
- The average monthly temperatures are above 10°C in their warmest months and above -3°C in their colder months.

## POLAR ZONE

- Yearly it is very cold and dry.
- This coldness is due to no direct sunlight. The sunlight is so below the horizon that for months it has no sunlight making mostly everyday dark and cold.

Time of year	Average (mean) temperature	
	North Pole	South Pole
Summer	32° F (0° C)	-18° F (-28.2° C)
Winter	-40° F (-40° C)	-76° F (-60° C)

**ACTIVITY 1:** Use the notes on temperature to answer the following questions. (*Ngaue'aki ho nouti fekau'aki mo e fua mafana ke tali 'aki e ngaahi fehu'i*)

1. In your own words define the word temperature.  
(*'I ha'o fakalea pe 'o'ou fakamata'i mai e fo'i lea ko e fua mafana*)
2. Name the instrument used to measure temperature.  
(*Fakahingoa mai 'a e me'a fua 'oku fua 'aki e fua mafana*)
3. Name the unit used in temperature.  
(*Fakahingoa mai e 'iuniti 'o e fua mafana*)
4. For each zone describe its temperature the whole year round. Use the points provided to form a description on each zone temperature.  
(*Ki he ngaahi sone 'e 3, fakamatala'i mai e natula 'enau fua mafana. Ngaue'aki e ngaahi poini 'oku ha atu he sone 'e 3 ke fa'u 'aki ha'o fakamatala ki he anga e fua mafana he sone takitaha*)

## AIR PRESSURE

**Air pressure** is the weight of the air in the atmosphere above us.

(Ko e air pressure koe fua ia e mamafa 'o e 'ea)

- Air pressure is *measured* using a *special instrument* called a **barometer**.  
(Ko e me'angaue 'oku ngaue'aki ke fua'aki e mamafa e 'ea koe barometer)
- The *unit* used in air pressure is **millibars**.  
(Ko e 'iuniti 'oku ngaue'aki 'i he fua mamafa e 'ea ko e millibars)

### **High pressure**

- High pressure happens when cold air pushes down, usually bringing fine weather.
- High pressure systems are associated with clear, cool weather.
- Around high-pressure systems, winds flow anti cyclonically— that is, *clockwise* in the *northern hemisphere*, *counterclockwise* in the *southern hemisphere*.

### **Low pressure**

- Low pressure happens when warm air rises up to make clouds and rain.
- Heavy rains and storms occur here a lot.
- It also has cyclonic properties.
- In the *northern hemisphere*, winds move *counterclockwise*, and in the *southern hemisphere* they move *clockwise*.

**ACTIVITY 1:** Use the notes on air pressure to answer the questions that follow. (*Ngaue'aki ho nouti 'i he fua mamafa e 'ea ke tali 'aki e ngaahi fehu'i*)

1. In your own words define the word air pressure.  
(‘I ha’o fakalea pe ‘o’ou fakamata’i mai e fo’i lea ko e fua mamafa e ‘ea)
2. Name the instrument used to measure air pressure.  
(Fakahingoa mai e me’a ngaue ‘oku ngaue’aki ke fua ‘aki e mamafa e ‘ea)
3. Name the unit for air pressure.  
(Ko e ha ‘a e ‘iuniti ki he fua mamafa ‘e ‘ea?)
4. Describe a high pressure area. Use the points provided in your notes to form a description.  
(Fakamatala’i mai ‘a e fua mamafa mau’olunga e ‘ea ‘o ha feitu’u. Ngaue’aki e ngaahi poini ho nouti ke fa’u ‘aki ho fakamatala)

5. Describe a low pressure area. Use the points provided in your notes to form a description.

*(Fakamatala'i mai 'a e fua mamafa mau'lalo e 'ea 'o ha feitu'u. Ngaue'aki e ngaahi poini ho nouti ke fa'u 'aki ho fakamatala)*

## **TROPICAL CYCLONE/ TROPICAL STORM**

A **tropical cyclone** is a circular storm that forms over warm oceans.

(Ko e saikolone koe havili 'oku vilo 'o ne fakatupunga e 'alotamaki lahi. 'Oku fa'u ia 'i he ngaahi potu tahi mafana)

### **Factors needed for a cyclone formation**

- Low pressure area
- Warm tropical ocean (within 20° North and South of the Equator (0°))
- Coriolis force
- Warm moist air

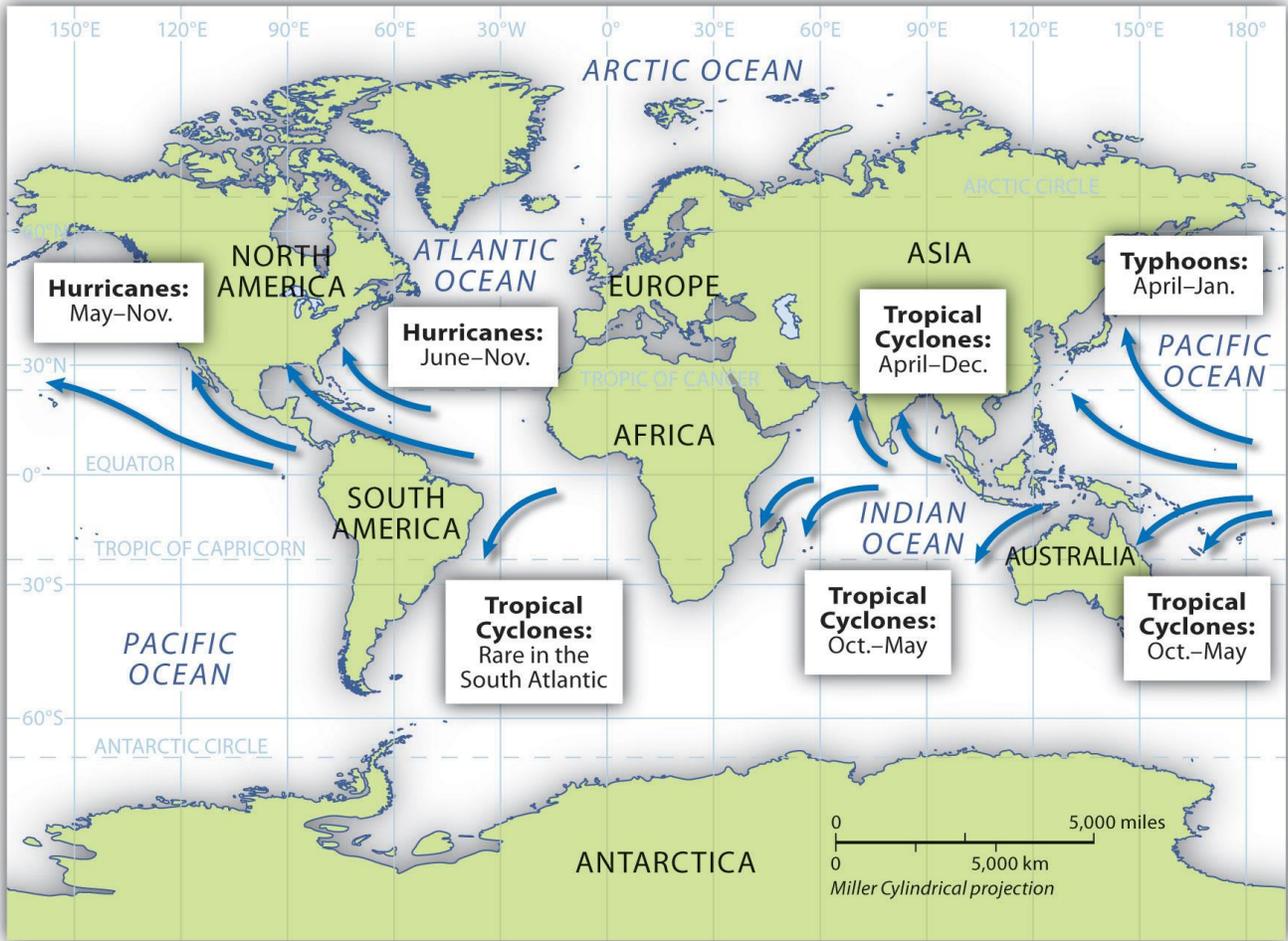
### **Months for cyclones in Northern hemisphere**

- May to November
- April to January

### **Months for cyclones in the Southern hemisphere**

- October to May

<b>REGIONS</b>	<b>What they are called</b>
Indian Ocean	Cyclones
Atlantic	Hurricanes
Western Pacific and South China Sea	Typhoons
Western Australia	Willy-willies



**ACTIVITY 1:** Use your notes on tropical cyclones to answer the questions that follow. (*Nguae’aki ho nouti ‘i he saikolone ke tali ‘aki e ngaahi fehu’i*)

- List some factors that are needed to form a tropical storm or cyclone.  
(Lisi mai ha ngaahi me’a ‘oku fiema’u ke fa’u’aki ha saikolone)
- Name the months for cyclones in the Southern hemisphere.  
(Fakahingoa mai e ngaahi mahina ‘oku hoko ai e saikolone ‘i he Tokelau)
- Name the months for cyclones in the Northern hemisphere.  
(Fakahingoa mai e ngaahi mahina ‘oku hoko ai e saikolone ‘I he Tonga)
- Fill in this table with its correct storm name and area it occurs.

Name	Region
Willy-willies	
	Indian Ocean
	Western Pacific and South China Sea
Hurricanes	

. **ACTIVITY 2: EXPERIENCE THE MOMENT.** Think of a day that you were in a cyclone here in Tonga. Take yourself back to that day and every moment that you experienced. Remember the things that occurred that day. (Fakakaukau ki ha 'aho ne hoko ai ha saikolone 'i Tonga ni. Fakafoki ho manatu ki he 'aho koi a moe ngaahi momeniti nake 'i ai ai. Manatu'i e ngaahi me'a ne hoko he 'aho ko ia)

1. Write what happened on that day. (*Ko e ha e me'a na'e hoko?*)
  2. What did you and your family do to stay safe? (*Ko e h e ngaahi me'a nake fakahoko mo ho'o famili ke mou malu ai?*)
  3. What things did you do indoors during the cyclone? (*Ko e ha e ngaahi me'a nake fakahoko ho nofo 'i fale lolotonga e saikolone?*)
  4. What did you see after the cyclone? The destruction that occurred. (*Ko e ha e ngaahi me'a nake mamata ki ai he 'osi e saikolone? Ko e ha e ngaahi maumau?*)
  5. How did you feel during and after the cyclone? (*Ko e ha ho ongo 'i lolotonga e saikolone mo e 'osi e saikolone?*)
- Remember you must write this in a story form with different paragraphs explaining your experience. You can use the questions listed above to form 5 or more paragraphs.

(*Manatu'i ko ho fa'u talanoa kae ngaue'aki e palakalafi kehekehe 'i hono fakamatala'i e 'aho 'o e saikolone. 'E malava pe keke ngaue'aki e ngaahi fehu'i 'oku lisi atuu ke fa'u 'aki ha'o ngaahi palakalafi 'e 5 pe lahiange*)

- ✓ REMEMBER TO WRITE YOUR ANSWERS INTO YOUR GEOGRAPHY NOTEBOOK FOR EACH ACTIVITY ESPECIALLY THE QUESTIONS THAT HAVE NO SPACE PROVIDED.
- ✓ *MANATU'I KEKE FAKAHOKO HO NGAahi TALI KI HO PEPA SIOKALAFI KAE TAUTAUTEFITO KI HE NGAahi FEHU'I 'OKU 'IKAI HA KONGA 'ATAA KE 'AI AI HO TALI.*
- ✓ REMEMBER TO BRING YOUR ACTIVITIES FROM THE LAST 2 WEEKS TO BE CHECKED WHEN YOU COME PICK YOUR NOTES.
- ✓ *MANATU'I KE KE 'OMAI HO NGAahi NGAUE NA'E 'OATU HE UIKE 'E 2 KIMU'A KE FAKATONUTONU.*

FOR ANY QUESTIONS PLEASE CONTACT 8724286  
KI HA TOE FEHU'I FETU'UTAKI MAI KI HE 8724286