

# OUR ENVIRONMENT OUR HERITAGE

## METEOROLOGY SAYS

### **What is a Meteorologist?**

A meteorologist is a person who forecasts the weather conditions.

People in this profession work at different levels. Some carry out the observations and note the different weather conditions of a place at a particular time. Some do the analysis of the observations and compare them with models (results of mathematics equations with and physical meaning of various meteorological fields). Some people in this profession also work in front of a camera as seen on Television at overseas country. The biggest employer of meteorologists is a government agency known as the National Weather Service. There are also lots of businesses that hire meteorologists to help them make decisions based on the weather. Those who do not forecast the weather would conduct research, study the atmosphere, climatic changes, or environmental problems.

### **Is there a difference between Weather and Climate?**

Yes. Weather and Climate are closely related but are not the same.

**Weather:** Describes the short-term condition, example one day to four days, of the atmosphere at a particular place and time, and is measured in terms of things such as wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation.

The Meteorologist tells you what you might expect in the next few hours, today, tomorrow and the following days in terms of sun, rain, and temperature etc - for weather forecast.

**Climate:** is the average pattern of weather conditions, usually taken over 30 years time period. Climatic elements include precipitation, temperature, humidity, wind velocity, and at cold countries for example New Zealand, Southern states of Australia and America, and it also includes fog, frost, hailstorms, and other measures of the weather.

### **What is Climate Change?**

It is a significant change from one climatic condition to another or a significant change from more than thirty years of average climate patterns.

### **WEATHER FORECASTING**

#### **Traditional Method of Forecasting:**

In the olden days, Samoans used their traditional knowledge to forecast the weather conditions. They have used the sudden changing behavior of animals within their environment, example some say when a school of cockroaches fly or crawl around the house in the evening, it means in a very short time, rain will fall and it will be sunny on the next day. Some old people say that once a top branch of a yam plant falls and points towards the soil, it means that strong winds will arrive within two

days. In some places, people use a big bird called Atafa in Samoan to forecast the weakening of strong winds. Some use the eyes of their pet cats to forecast low and high tides. When the eyes of a cat shape like a quarter of a moon, they say its low tide and when the eyes are round its high tide.

### **Traditional Names of Weather Terminology?**

Naming of certain weather conditions or patterns depend on the topography and location of a village or district. Some point to the ocean when asked where the southerly winds come from and some point towards the mountains.

In the old days, Samoans call the southerly winds "**Matagi Toga**" or winds from Tonga in reference to the location of Tonga island group, which is directly located to the south of Upolu and Savaii.

The southeasterly winds is named "**Tuaoloa**", which refers to trade winds and the sea travelers would put up the boat masks and rest from paddling.

The Northerly to northeast winds is called "**Savili mai Toelau**" or winds from Tokelau in reference to the direction where Tokelau Island is located. Do you know where Tokelau island group is located? It is at the north and northeast of Upolu and Savaii.

The Westerly wind is called the "**La'i**", which means bad weather, and "**La'ilua**" which means Gale winds from the west and northwest. Some of the villagers say that the westerly winds come from seas direction; some come from behind the mountains and some from their very next village.

The Easterly winds is called "**Mata Upolu**" this was originally used by the people of Savaii, since the winds comes from Upolu. After a consultation between the Meteorology Division and the Pulenuu council the name "**Mata Upolu**" is now officially use as Samoan terminology for easterly winds. The Upolu people in the olden days called the easterly winds "**Siu'amuli**" it refers to a point of a village of Tutuila island.

"**Matagi Fanua**" means winds from inland and usually very light.

### **Modern Way of Weather Forecasting**

Will you need your umbrella tomorrow? Accurate weather predictions are important for planning our day-to-day activities. Farmers need information to help them plan for the planting and harvesting of their crops. Airlines need to know about local weather conditions in order to schedule flights. Weather forecasting helps us to make more informed daily decisions, and may even help keep us out of danger.

There's more to forecasting than little tricks about looking at the clouds and feeling how the wind blows. Modern forecasting involves

technology, science and advanced math and physics to accurately predict the weather.

Modern weather forecasting involves a combination of computer models, observation, and knowledge of trends and patterns. Using these methods, reasonably accurate forecasts can be made up to about five days in advance. Beyond that, detailed forecasts are less useful, since atmospheric conditions such as temperature and wind direction are very complex.

Most of the computer models used for forecasting are run by National Weather Service, which creates forecast models based on complex formulas. These models are used by many different weather services in preparing daily forecasts. Local weather observers, balloons, satellites, and weather stations also help provide data for forecasts.

The first step in weather forecasting is to get information about the weather, or weather data. Data is collected from the atmosphere from launching balloons twice a day all around the world. Weather balloons record data such as temperature, pressure, humidity, and wind speed at different heights in the atmosphere.

Another useful tool for forecasters is satellite technology. Satellites allow meteorologists to see what the earth and clouds look like from space. This way, forecasters can see how the atmosphere is behaving.

The great thing is that if all of this information fails, a meteorologist or skilled forecaster can just go outside and observe the weather and how it's behaving. Sometimes, that's enough to make an accurate forecast.

### **Your National Forecasting Office**

The Ministry of Natural Resources Environment has been officially endorsed by the World Meteorological Organization in Geneva as Samoa's National Forecasting office. The Meteorology Division, which was formerly known as the Apia Observatory, has the responsibility of issuing your daily weather bulletin and Tropical Cyclone Warning.

### **Is Traditional Knowledge Useful?**

**Yes. By documenting all this traditional knowledge will greatly improve our scientific understanding of weather and climate, particularly at the local level.**

**For more details and information contact our division - ph# 20855 / 20856 fax# 23141.**

**Produced by the Ministry of Natural Resources and Environment**