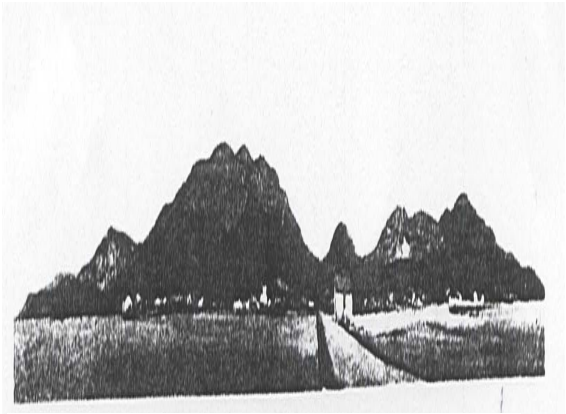
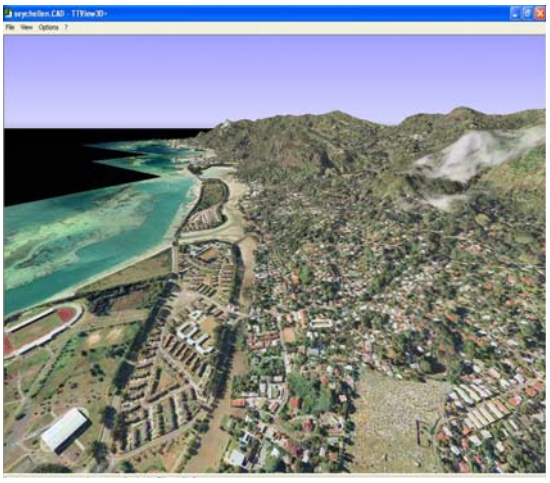
CINDY2011/DYNAMO – Small Report

Meteorology is a science which has developed over the years and became very popular in Seychelles, particularly among the school children. In the past, very few understand this word 'meteorology', and when asked for its definition you often get different answers, and at times some very funny ones. But today the population at large is aware that meteorology is about the study of the atmosphere, in other words, it's about clouds, rains, temperatures, winds, cyclones and so on. It is therefore very important to note that the National Meteorological Services, in spite of its limited resources, has evolved over time and is now a well respectful institution in the country.

However, it has come a long way. Weather observation in Seychelles started way back in 1880 and at that time only a few weather parameters, mainly rainfall and temperatures were being recorded by a few foreigners who were working in the country. The station was located in Victoria the capital of Seychelles. But later with the opening of the Seychelles International Airport in 1971 the small station was moved to the airport in that same year to provide weather aviation service as per requirement for any international airport. Since then this small station, which was later named the National Meteorological Services, has developed and today apart the service offer to the aviation industry the office has expanded to provide services in upper air observation, ozone monitoring, marine meteorology, climate studies and the public weather services which also include the TV weather presentation



Old picture of Victoria and where the small met station was located



New Victoria and airport

by our own staff.

NMS is also the national tsunami warning center and after the December 2004 tsunami event received training from various international institutions to better equipped in tsunami detection, propagation and inundation alone the coastal line.

Apart tsunami the SNMS also has its early warning system for cyclones, heavy rains and strong winds. Even if Seychelles lies outside the cyclone belt, sometimes depending on the trajectory of the cyclone the country may come under the influence of the feeder cloud of the cyclone and experiences bad weather.

Climate of Seychelles

The climate of Seychelles is of tropical type with strong influence of the ocean. Because of the maritime exposure the climate is warm, uniformly humid and with an average annual rainfall of 2,500 mm. There is no mark variation in the temperature throughout the year. Average temperature of the coolest month, July, is 27°C and average temperature of the warmest month, April, 28°C.

The topography of the Seychelles strongly influences the spatial distribution of the rainfall patterns. The rainfall varies according to the height above mean sea level and tends to concentrate more around high lands towards the north and the west facing slopes of the country, since most rainfall occurs during the Northwest monsoon.

The climate of Seychelles is divided into two main seasons, the Southeast monsoon or the Dry season and the Northwest monsoon also known as the Rainy season.

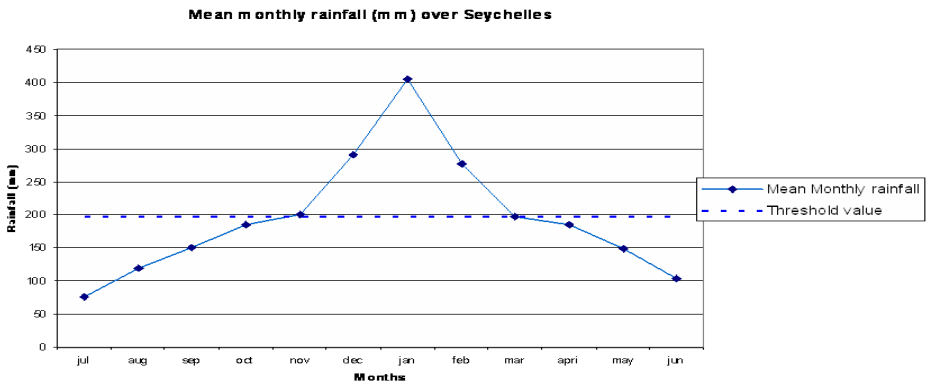


Fig 1: The two main seasons, the dry season from May-Sept and the rainy season from Nov-Mar.

Southeast Monsoon:

The southeast monsoon normally starts in May and ends in September. The climate is dominated by steady but windy south-east trade winds which reach its peak in July and August. The season is relatively cooler and drier with occasional short live light passing showers, and July, again, is the lowest rainfall month with an average of 70 mm. The sea is normally moderate to rough.

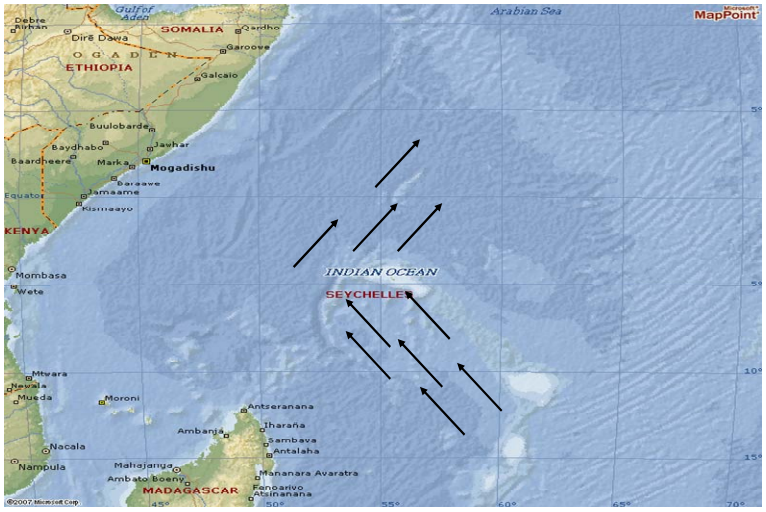


Fig 2: Arrows depicting Seychelles under the influence of southeast trade winds during May-Sept. The winds then curve southwest after crossing the equator.

Northwest Monsoon:

The northwest monsoon or rainy season is from November to March. During this period the winds are lighter and are from the northwest, converge with winds blowing from the south of Seychelles to develop convective system known as the 'Rain Belt' or the Inter-Tropical Convergence Zone. The 'Rain Belt' is associated with convective cloud activities and is synoptically the main system to give Seychelles most of its rainfall with peak in January (Fig 1). The northwest monsoon also coincides with the tropical cyclone season, and although the main islands lie to the north of the Western Indian Ocean cyclone belt, they can occasionally suffer from heavy downpour and storm surges from cyclonic activity to the south, depending on the track of the cyclone. The sea is generally calm during the northwest monsoon.

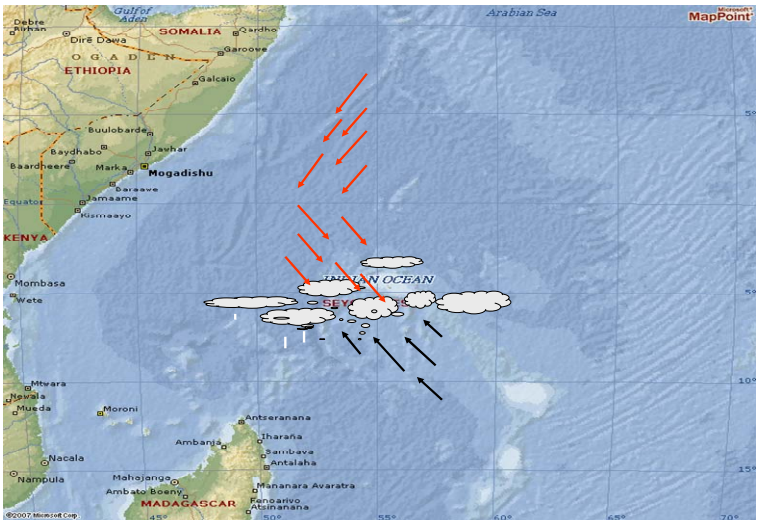


Fig 3: Arrows depicting winds from northwest converging with winds from the south to develop convective cloud activities associated with the 'Rain Belt'

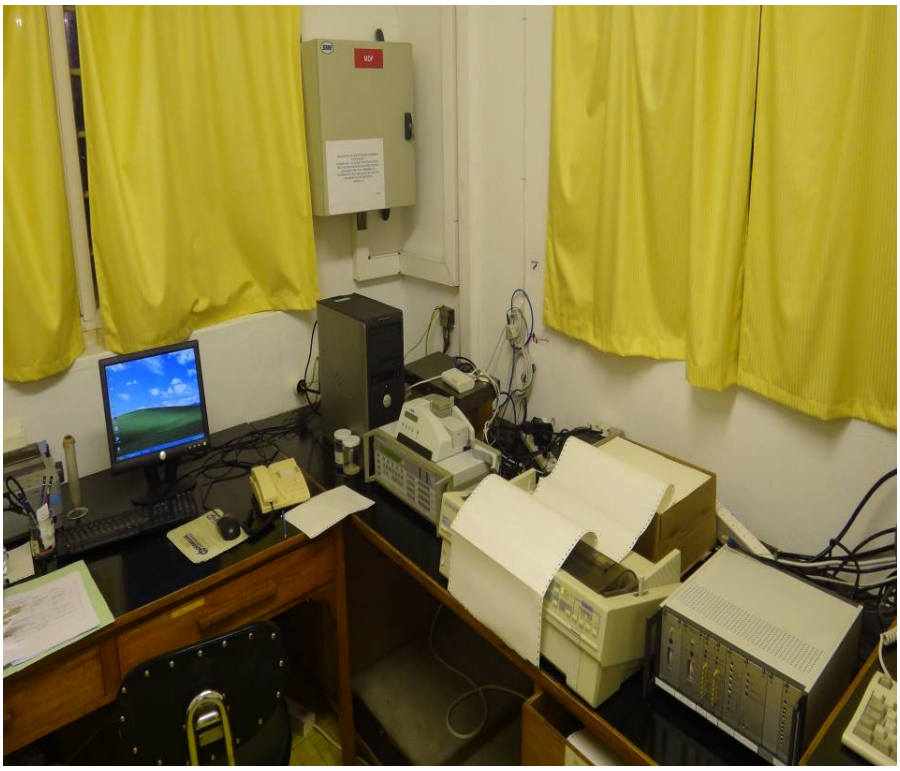
Transition periods:
April and October are considered two transition periods before the onset of the main seasons.

During the month of April the wind regime change from northwest to southeast and in the process the winds become generally calm. April is also the warmest month.

During the month of October the winds shift from southeast to northwest. The winds are light and variable and also relatively warm.

CINDY2011DYNAMO

The Seychelles National Meteorological Services is proud to be a partner of the CINDY2011/DYNAMO campaign, which is an international field program taking place in the central equatorial Indian Ocean to collect in situ observations to better understanding the MJO and also its relationship with the weather patterns which ultimately will help to improve the prediction.



Inside the radiosonde station where all the operation duties (processing, monitoring the ascent, achieving…etc) take place.

Seychelles contribution is mainly in the radio-sounding. From our radiosonde station we are performing a number of upper air ascents on a daily basis and disseminate in real time to CINDY via GTS. All data is also being achieved on an external drive (USB) to be sent to JAMSTEC at the end of the campaign sometimes in February next year 2012.

Balloon shed where the balloon is filled with hydrogen.

Night time ascent

Balloon taken outside and ready to be released

Clear sky and balloon can be seen flying high