

THE WEATHER ON PEMBA

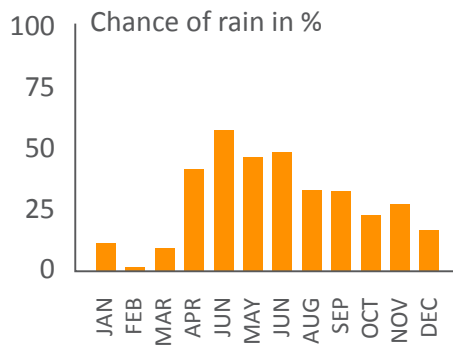
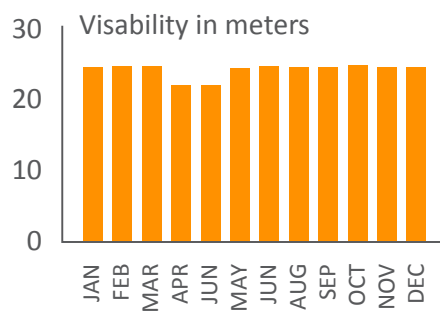
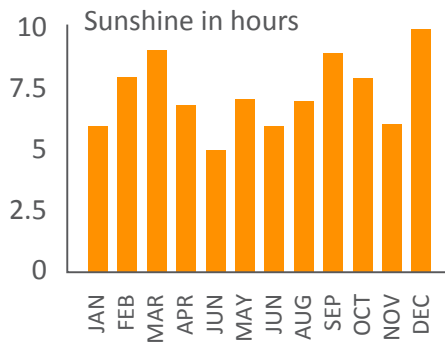
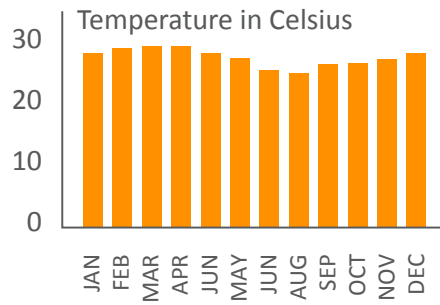
30 YEARS COLLECTED DATA OF SUN HOURS, WINDS & PRECIPITATION

Kwanini
THE MANTA RESORT
PEMBA ISLAND



Weather seasons

The coast of Tanzania experiences a classic tropical weather pattern, characterised throughout the year by high temperatures, with rainfall year round, but with two large seasonal peaks driven by changes in the equatorial winds caused by the rotation of the earth with respect to the sun.



JULY TO OCTOBER

In common with most of Tanzania, this is the period when the weather is most reliably at its best. On Pemba this means very hot and humid, but with reasonably low levels of rain and high average sunshine hours. Winds should be from the southeast and relatively mild.

NOVEMBER

Usually early November the winds switch to come from the northeast and can be strong, bringing relatively high precipitation. It can feel particularly hot and humid at this time. But events are relatively unpredictable year on year, so one can get lucky. Lodges facing north and east will most likely face into the wind, which means that their view of the ocean may be choppy and grey rather than the azure blue calm of other seasons.

DECEMBER TO MARCH

During this period the winds should continue to come from the northeast. Rainfall should drop slightly from any November peak and temperatures should ease a little. There will still be rain around from time to time and hazy cloud at times, but overall this is considered to be a pretty good time to be on this coast.

APRIL TO MAY

Suddenly, usually in early April, the winds swing violently to the south and southeast. This change brings with it a dramatic increase in rainfall. Rainy days go off the chart. But temperatures remain high and in between the rain it can often be very pleasant and sunny.

JUNE

Although the rains should have largely died down by June, the month is notorious for its winds, which continue to blow from the southeast. In truth the winds are no heavier than in the preceding months, it is just that there are more guests in the lodges to experience them. Lodges facing south are particularly exposed and should perhaps be avoided at this time.



A unique weather system

Pemba Island has a tropical monsoon climate with high precipitation figures all year round. Pemba Island has two rainy and two dry periods. The first rainy period is from March till May, the second one is from October till December. Temperatures are very pleasant all year round, about 30 degrees Celsius (86.0 degrees Fahrenheit).

The Manta Resort is located very close to the equator resulting in a very stable temperature and climate. The western Indian Ocean is dominated by two prevailing monsoon wind cycles and we are fortunate for our position out of reach of cyclones. The Kaskazi (Swahili for northern wind) winds blow southwards from December till April. Then the Kusi (Swahili for southern wind) arrives in April and blows back north till October.

We experience two mini seasons between the prevailing monsoons when the wind blows very gently as the seasons shift and might bring about new rains during the transition. We receive light rains around October/ November, characterised by brief showers in between long stretches of sunshine. The heavy rains fall between late April and early June.

The warmest temperatures are reached between January and March but there is usually a refreshing sea breeze. Daytime temperatures usually vary between 26 and 32 degrees centigrade.

	Chance of (very) hot weather	Chance of (very) cool weather	Chance of long-term precipitation	Chance of hurricanes (cyclones)	Chance of sunny days	UV-index
Jan	●●●●●●	○	●●	○	●●●●●●	UV 10+
Feb	●●●●●●	○	●●	○	●●●●●●	UV 10+
Mar	●●●●●●	○	●●●●	○	●●●●●●	UV 10+
Apr	●●●●●●	○	●●●●	○	●●●●	UV 10+
Maj	●●●●●	○	●●●●	○	●●●●	UV 10+
Jun	●●●●●	○	●●	○	●●●●●●	UV 8-10
Jul	●●●●●	○	●●	○	●●●●●●	UV 8-10
Aug	●●●●●	○	●●	○	●●●●●●	UV 10+
Sep	●●●●●	○	●●	○	●●●●●●	UV 10+
Okt	●●●●●●	○	●●	○	●●●●●●	UV 10+
Nov	●●●●●●	○	●●●●	○	●●●●●●	UV 10+
Dec	●●●●●●	○	●●●●	○	●●●●●●	UV 10+

Tropical monsoon climate

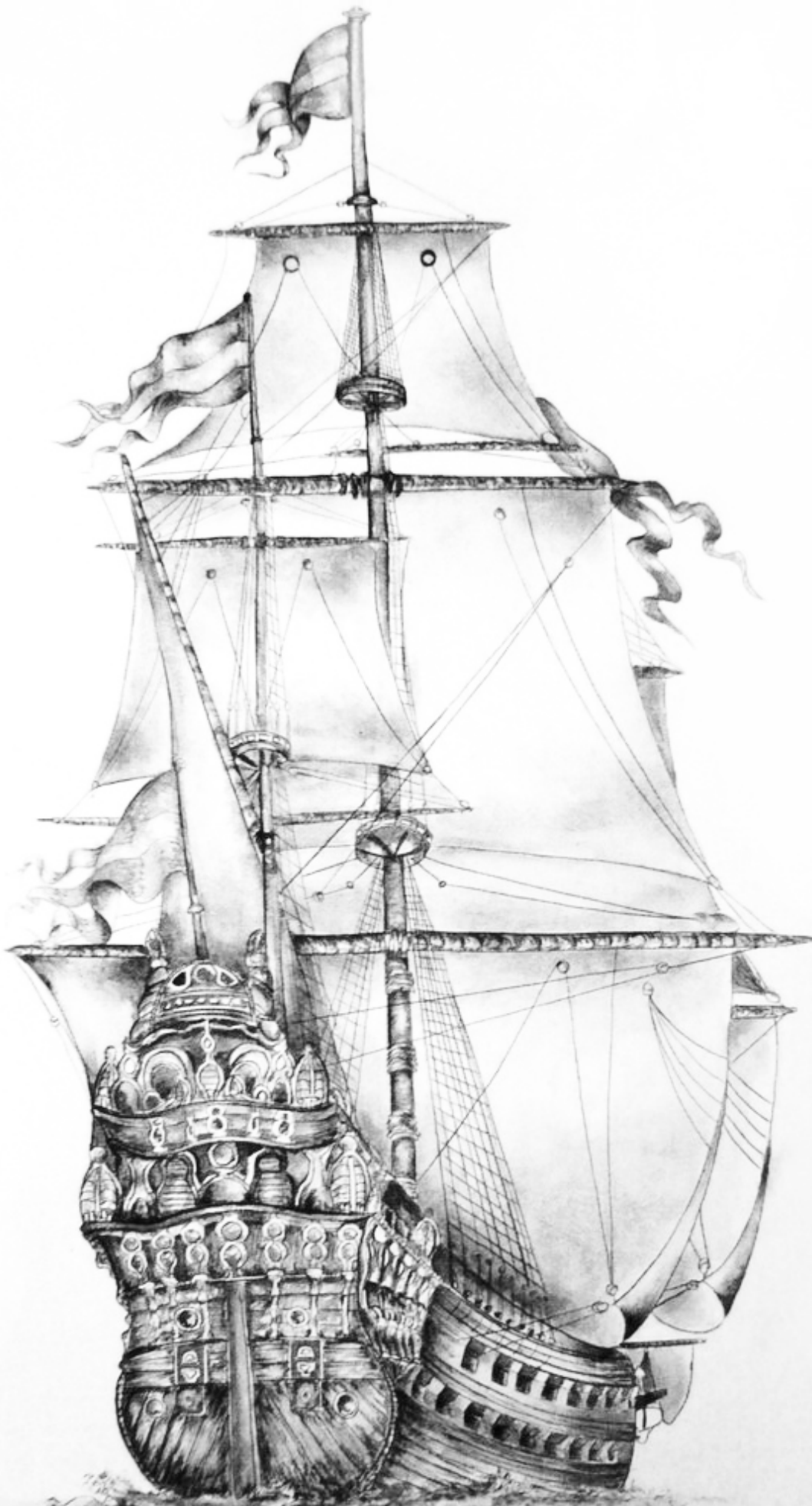
Tropical monsoon climate, occasionally also known as a tropical wet climate or tropical monsoon and trade-wind littoral climate in climate classification, is a relatively rare type of climate that corresponds to the Köppen climate classification category “Am.”

Tropical monsoon climates have monthly mean temperatures above 18° C in every month of the year and feature wet and dry seasons. A tropical monsoon climate’s driest month sees less than 60 mm of precipitation but more than $(100 - [\text{total annual precipitation \{mm\}/25})$. Also a tropical monsoon climate tends to see less variance in temperatures during the course of the year. This climate has a driest month which nearly always occurs at or soon after the “winter” solstice for that side of the equator.

FACTORS

The major controlling factor over a tropical monsoon climate is its relationship to the monsoon circulation. The monsoon is a seasonal change in wind direction. In Asia, during the summer (or high-sun season) there is an onshore flow of air (air moving from ocean towards land). In the “winter” (or low-sun season) an offshore air flow (air moving from land toward water) is prevalent. The change in direction is due to the difference in the way water and land heat.

Changing pressure patterns that affect the seasonality of precipitation also occur in Africa though it generally differs from the way it operates in Asia. During the high-sun season, the Intertropical convergence zone (ITCZ) induces rain. During the low-sun season, the subtropical high creates dry conditions.[2] The monsoon climates of Africa, and the Americas for that matter, are typically located along tradewind coasts.



The use of monsoon wind in the Indian Ocean for maritime trade has played a very important historical part for Pemba Island.

Monsoon - The tradewinds

The equatorial east coast of Africa has a rich and ancient history, thanks in no small part to the magnificent Indian Ocean, with its consistent and relatively predictable monsoon 'tradewinds' that have been an integral part of coastal life for the peoples of this region for many centuries. The pattern of these winds has been understood and harnessed by mariners, traders and explorers from as far off as Arabia, India and China. The word monsoon is said to originate from the Arabic name for these winds - 'muusum'.

The regular pattern of the monsoon winds in the Indian Ocean allowed for traders to plan their trade routes south and north along the East African coast:

Kaskazi (north-easterly) December to mid-March. This wind took traders south along the coast, blowing from the northeast to the southwest for approximately 4 months.

Transitional period mid to end March. A short period of change between Kaskazi and Kusi

Kusi (southerly) April to mid-September. This wind allowed traders to head up north along the coast. A mainly southerly wind blowing for approximately 6 months.

Matalai (transitional period) mid-September to mid-November. The change of wind from Kusi to Kaskazi - a period of rains and little wind.

HISTORICAL VALUE

The use of monsoon wind in the Indian Ocean for maritime trade was a boon to the sailing ships to reach overseas countries. It is believed that Hippalus discovered monsoon wind in AD 45-47. Before the discovery of monsoon wind the mariners of Orissa, India set their journey to Southeast Asian countries during the northeast monsoon (trade wind) and return during the Southwest monsoon. The flow of wind and current was favourable for setting sail for both onward and return journey. Similarly, during the historical period, the Arabs sailed in the Indian Ocean with the help of monsoon wind and the Europeans, particularly the Portuguese sailed their vessels in such a manner that they could reach the shores of India before the Southwest monsoon and return only after the beginning of Northeast monsoon.

TROPICAL MONSOON CLIMATE

The tropical monsoon climate experiences abundant rainfall like that of the tropical rain forest climate, but it is concentrated in the high-sun season. Being located near the equator, the tropical monsoon climate experiences warm temperatures throughout the year.

LOCATION

The monsoon climate beyond the equatorial region between 10° and 25° North and South of the equator. The countries are along the coastal regions of southwest India, Sri Lanka, Bangladesh, Myanmar, South western Africa, French Guinea, and northeast and southeastern Brazil.

CHARACTERISTICS

The major controlling factor over the monsoon climate is its relationship to the monsoon circulation. The Monsoon is a seasonal change in wind direction.

The “classic” monsoon circulation of Asia exhibits an onshore flow of air (air moving from ocean towards land) during the summer or high-sun season, and offshore air flow (air moving from land toward water) during the winter or low-sun season. The change in direction is due to the difference in the way water and land heat.

TEMPERATURE

The monsoon climate has a high mean annual temperature and a small annual temperature range like equatorial climate. In northern hemisphere, autumn and winter are experienced between October and February. Monsoon countries in the north experience lower temperature during these months. Between March and September, it is spring and summer in the northern hemisphere. Temperatures increase and monsoon countries experience warmer weather during this period. The diurnal temperature range varies with the wet and dry seasons. The Wet season, extensive cloud cover and most of incoming solar radiation during the day and traps the outgoing solar radiation during the night and traps the outgoing radiation at night. The diurnal temperature is small.

PRECIPITATION

Seasonality of its precipitation is the hallmark and most well-known characteristic of the monsoon climate. Many think that the term “monsoon” means wet weather, when in fact it describes an atmospheric circulation pattern.

Though the annual amount of precipitation is quite similar to that of the rain forest, monsoon precipitation is concentrated into the high-sun season.

Maritime equatorial and maritime tropical air masses travel from the ocean on to land during the summer, where they are uplifted by either convection or convergence of air to induce condensation.

Locally, Orographic (Relief) uplift is an important mechanism for promoting precipitation. As air travels into the Indian subcontinent, it is uplifted by the Himalayas, causing cloud development and precipitation.

The low-sun season is characterized by a short drought season when high pressure inhibits precipitation formation.

In the case of the Asian monsoon, the replacement of the thermal low with the subsidence of the Siberian High suppresses uplift. Air masses that dominate this period are dry given their continental origin or stability.

A distinct dry season from October to May, when the temperatures are lower, the interior of Asia is a region of high pressure. Wind blows over the land in a north east direction, carrying little or no moisture with them. These cool, dry North East Monsoon winds blow toward areas of low pressure and do not bring rain.

A wet season from June to September, when the wind changes in direction, the wind blows in the region of low pressure. Winds blow across the equator and blow over the oceans, they are warmer and carry a lot of moisture. They bring a lot of rain. Total rainfall can reach 600 mm.