

# Risk management

## I. The Risks in Reunion Island

*In this part we are going to see the different risks in Reunion Island:*

### \*The cyclonic risk

Cyclonic threat from December till April in Reunion.

All the sectors of the island may be affected by the most active part of a tropical cyclone  
Action taken: meteorological supervision, taken into account by the risk in the rules of construction and in the town and country planning, the crisis management and cyclonic alarm system and of strong winds.



### \*The volcanic risk

The eruptive activity of the hook of the furnace is one of more regular of the world on average an eruption every 9 months.

Action taken: prevention, protection, forecast, crisis management.



### \*The flood risk

The episodes of heavy rain can take a scale completely exceptional in the meeting  
Type of floods: direct, indirect pluvial overflow, stagnation of waters etc.  
Action taken :comprendre the risk, to reduce vulnerability, prevention, protection.



### \*The risk of ground movement

Manifested through falling rock, block, landslides in cliffs and ramparts  
Action taken: monitoring, taking into account risks in spatial planning



### \* The risk of forest fires

Strong winds, high temperature inversions, dryness of vegetation and high fire sensitivity  
Action taken: prevention, forecasting and monitoring



### \* The risk of swell and tide

Cyclonic swell more often affects the north and east coasts of the island and southern swell the south and west coasts.



## II. Risk prevention

Prevention consists in implementing actions to avoid a natural risk or to limit the consequences. It consists of 6 stages.

### 1. The knowledge of the phenomenon

For several years, tools, data processing or establishments like Météo-France have been collected information on potential risks. This knowledge is realized thanks to databases (seismicity), maps of the zones of floods, making it possible to identify the stakes and the possible damages caused by the identified phenomenon.

## 2. Surveillance

The purpose of surveillance is to anticipate the phenomena and to be able to alert the population in time thanks to a demographic alert system. This system comprises broadcasting means adapted to each phenomenon (pre-recording of telephone messages, radio link). However, some risks, like fast river floods or some landslides, are more difficult to predict. So it's hard to alert people.

## 3. Risk reduction

The aim is to reduce the risk of floods, mudslides, etc., or the vulnerability of the property (constructions, communication networks, electricity). For these, one can take into account the climatic and geological phenomena for the design of these adapted constructions. People can also reduce risk by reducing the vulnerability of their property.

### *III. The cyclonic risk in Reunion Island*

Cyclones are atmospheric disturbances, associated with a zone of low pressures. They are formed in the tropics. They are characterized by intense rains and very strong winds.

A cyclone is characterized by:

In the center, the eye, with a diameter of less than 50 km. Inside this one, the conditions are relatively calm: weak wind, clear sky. The pressure is very low.

Around the eye, the wall of the eye: huge cloud mass, 20 to 50 km wide. The violence of the weather conditions is maximum (strong winds, heavy rains, ...);

On the periphery, a dense cloud mass generating heavy rain, with an average diameter of 500 km, organized in spiral bands that converge towards the center.

Conditions essential for the development of a cyclone:

- temperature of the ocean greater than 26 ° C in the first sixty meters;
- a cyclone always rises above the tropical ocean from a cloud cluster;
- high humidity;

The destructive nature of cyclonic phenomena is due:

- to the winds (more than 300 km / h) the wind, when it reaches very high values, transforms into real missiles the sometimes very heavy objects that it is then able to carry;
- floods, landslides and mudslides;

## The cyclonic risk in Reunion

The cyclone threat in Reunion extends from December to April, with a maximum of risk between January and March.

Statistically, the eastern and north-eastern regions of Réunion are more exposed, but all areas of the island can be affected by the most active part of a tropical cyclone.

Moreover, tropical storms can also cause significant damage when they pass near the island, due to the abundant rains they can generate.