

# Early weather Warning Weather system

Suriname

# History

- Meteorological observations in Suriname started in the 19<sup>th</sup> century
- The first regular weather forecast service started after 1950 (for aviation)
- After 1963 the number of rainfall stations expanded to about 200
- During the period 1982 -1986 most of the stations in the interior were closed.

# Overview

- Suriname has more than 90% jungle.
- 90% of the population lives in the low flat coastal area
- In the interior only few settlements exist (about 10,000 people)
- Until recently the weather of Suriname was equivalent to the weather of the capital Paramaribo
- This vision changed in 2005

# The coastal area

- Because of the low lying coast and the pressure on natural resources with time this area become more vulnerable.
- We thought, that was the only reason for the regular floodings of the urban areas in the coastal zone.
- For every flood period the government was blamed: They did not maintain the infra structure.

# New visions

- The traditional approach of weather/climate in Suriname was a strict seasonal weather system: two rain seasons, two dry season every year. You could count on them.
- With the 1982/83 El nino this vision changed.
- The first attempts were made to describe the weather from other viewpoints
- We found out, that our weather was not so regular as we believed. There was a with el nino/SO

# The road to EWS

- In the years there after we observed, that there was much more weather than we knew before.
- This was because the density of the population grew.
- Floods became a more frequent phenomena
- More often high windspeeds damaged houses
- We now even observe tornados
- In 1996 the need for the seup of an early warning system developed

# Rapid development of EWS

- The first attempt started in 2005
- The idea was not completed yet, when we experienced the floodings of the interior in may 2005
- The water level was more than 6 mtere highe than normal. Precipitation figures of 400-500mm in three days were measured
- The establishment of the NCCR was a fact

# NCCR

- The NCCR has an all purpose goal.
- Weather related disasters are one part of it.
- AT this time The Metservice has a more deliverer status for the NCCR.
- We present meteorological data, information and forecasts, but we do not issue warnings
- We are not part of the National platform. (The platform is not official yet)



# Meteorological Products

- Daily data from about 60 stations are organized by catchment areas
- Three day cumulative rainfall is computed and distributed
- Daily graphs with actual and statistical cumulative rainfall figures are also being produced
- Rainfall probabilities for up to five days are extracted from the brazilian model (MBAR)

# Other products

- Since the beginning of this year we have a few water level meters in two upstream rivers with settlements and water supply swamp for the paddy fields.
- Data is remote monitored via GPRS and warnings are being issued
- This pilot project functioned well and will be expanded in the near future.

# Problems

- Bottle neck is the feedback to the people.
- Not all villages can be reached by GSM, For these settlements the only way of communication is SSB radio. These radios are being switched off during the night due to lack of energy. The service providers are working on this issue.

# EWWS - Plans

- A project has been written to start a pilot project Early Weather Warning System for Paramaribo, the Capital.
- A number of 15 AWS's with ground humidity, water level sensor will monitor the flood prone areas.
- A central computer system will collect data at regular intervals via gprs. The system will increase remote data collection when necessary. Various levels for warnings will be incorporated

# EWWS

- The project will later be expanded to other urban areas
- Main goal of the system will be to predict the possibilities for eventual floods, It will not predict flood
- We hope to have this project started within the next 8 months. Project will be financed by our own budget.
- There are also plans to revive the 1975 EEC weather radar. We must seek support for this.