

# Mexican Experiences in Emergency Response for the Impact of Tropical Cyclones

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CENAPRED

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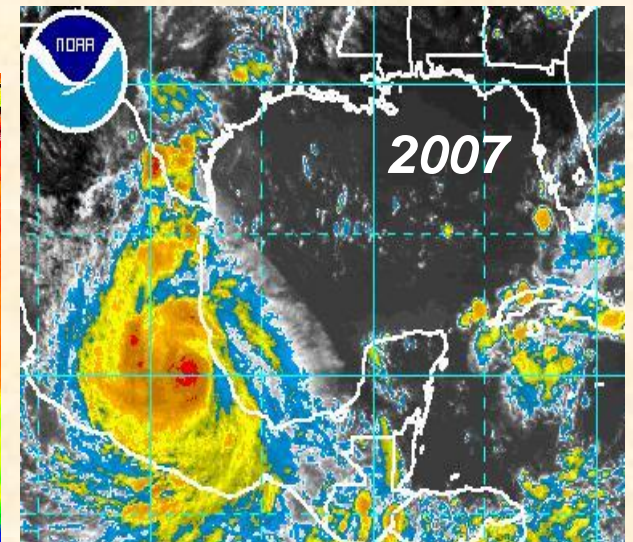
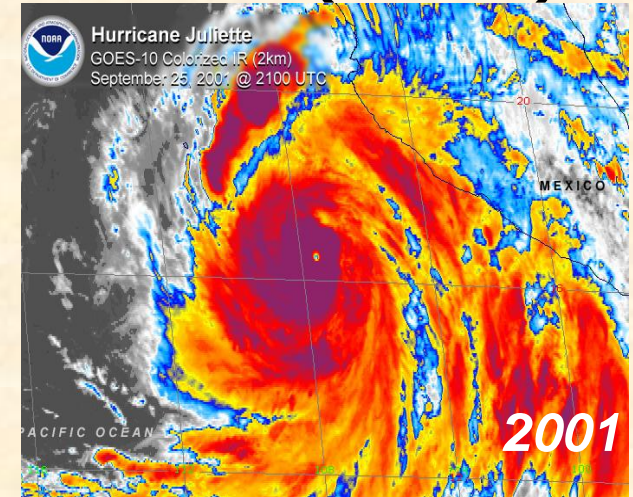
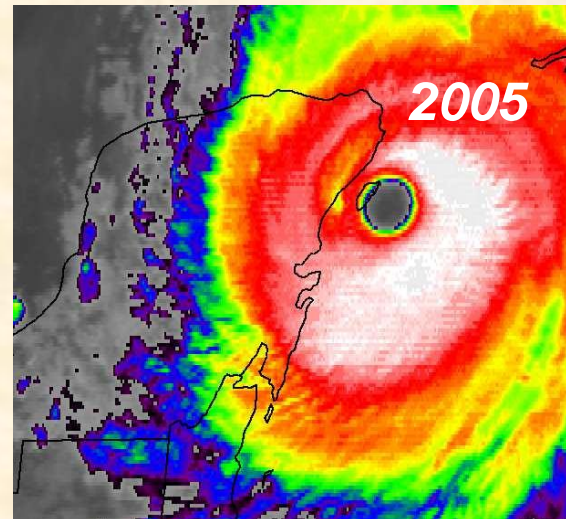
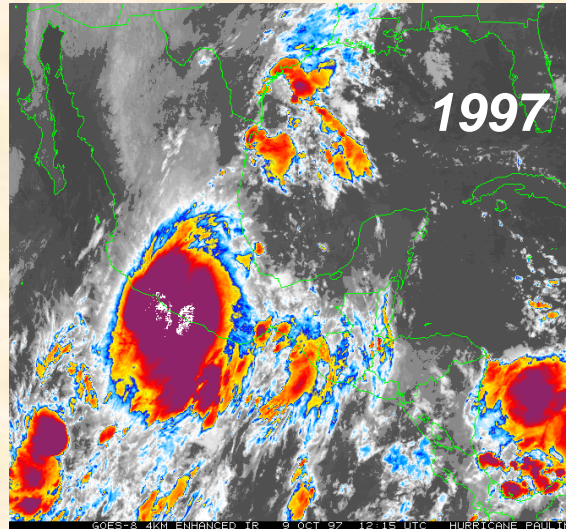
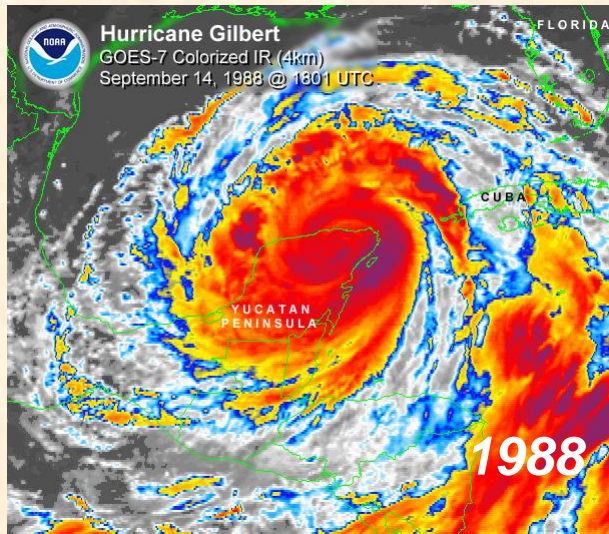
- ❖ Historical review. Some tropical cyclones that affected Mexico.
- ❖ The Mexican System for Civil Protection (SINAPROC).
- ❖ Origins of SIAT-CT (Tropical Cyclone Early Warning System, 2000).
- ❖ The automatic generation of warning maps.
- ❖ Experiences in Mexico about the attention of the impact of tropical cyclones (Emily, Wilma and Dean).
- ❖ Conclusion.

# HISTORICAL REVIEW

- ✓ Mexico is surrounded by the Pacific and Atlantic Oceans, where the average number of tropical cyclones is above 25 per season.
- ✓ The NE Pacific Ocean has the highest cyclogenesis average per unit area on the world.
- ✓ The Caribbean has had the most intense hurricanes of the Atlantic.
- ✓ Almost every year there are some types of damages to life and property in Mexico caused by tropical cyclones (both along the coast and inland).



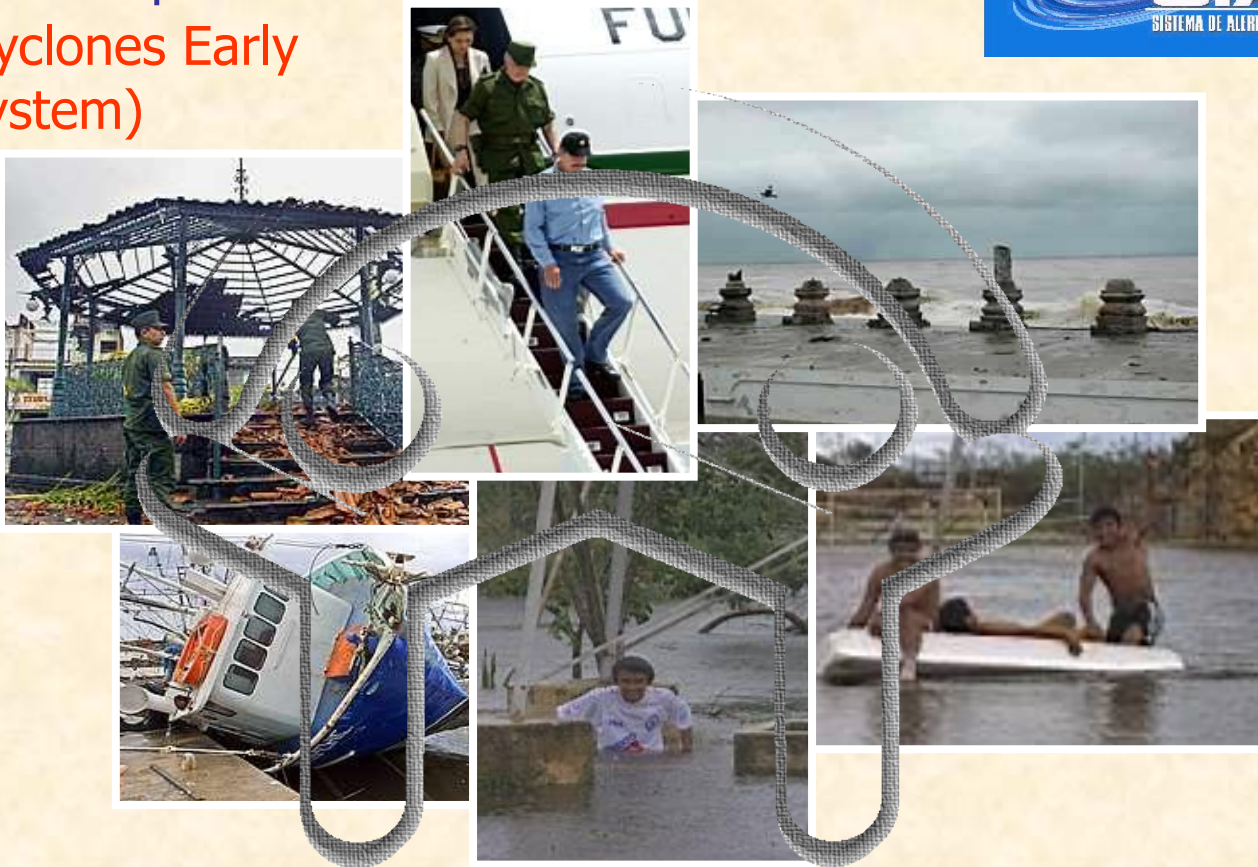
# HISTORICAL REVIEW (Cont.)





# The Mexican System for Civil Protection

**S**Istema de **A**lerta **T**emprana  
para **C**iclones **T**ropicales  
(Tropical Cyclones Early  
Warning System)



**SINAPROC**

# SIAT-CT: A tropical cyclone early warning system for Mexico



In Mexico, SIAT-CT is the system of SINAPROC for response and emergency administration in case of tropical cyclone threatening.

# The revision of SIAT-CT in 2003:

Every color corresponds to a (long) series of actions to be taken by the Mexican Civil Protection System (SINAPROC).

Warning colors, for blue to orange all are preventive measures.

**ALERTA AZUL**  
**PELIGRO MÍNIMO**

**ALERTA VERDE**  
**PELIGRO BAJO**

**ALERTA AMARILLA**  
**PELIGRO MODERADO**

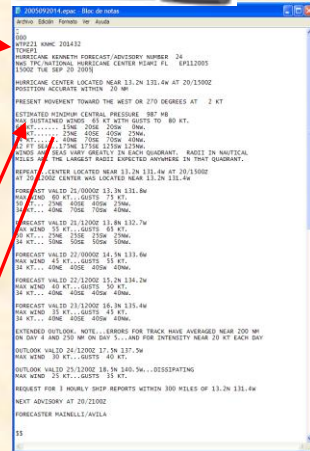
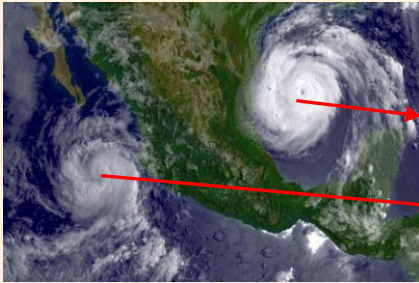
**ALERTA ANARANJADA**  
**PELIGRO ALTO**

**ALERTA ROJA**  
**PELIGRO MÁXIMO**



# Automatic generation of warning maps: Flux diagram

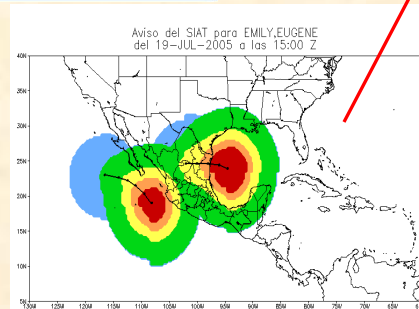
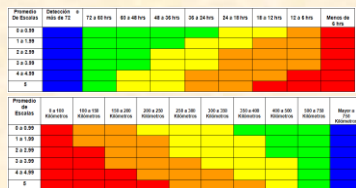
FTP servidor at the National  
Hurricane Center



Server at the  
SINAPROC



Web page



Warning maps

Sistema Nacional de Protección Civil  
Coordinación General de Protección Civil  
Dirección General de Protección Civil  
Centro Nacional de Prevención de Desastres

"PREVENIR RECOMPENSA"

**SISTEMA DE ALERTA TEMPRANA**  
BOLETÍN DE ALERTAMIENTO POR CICLÓN TROPICAL

MEXICO, D. F. A 19 DE JULIO DE 2005 HORA: 23:00 H BOLETÍN No: 35

**HURACAN "EMILY" DEL GOLFO DE MÉXICO**

ALERTA	FASE DE ACERCAMIENTO	FASE DE ALEJAMIENTO
ROJA	TAMAUPLAS.	—
NARANJA	NUEVO LEÓN Y VERACRUZ.	—
AMARILLA	SAN LUIS POTOSÍ, COAHUILA Y ZACATECAS.	—
VERDE	DURANGO.	—
AZUL	AGUASCALIENTES	PLATAFORMAS PETROLERAS.

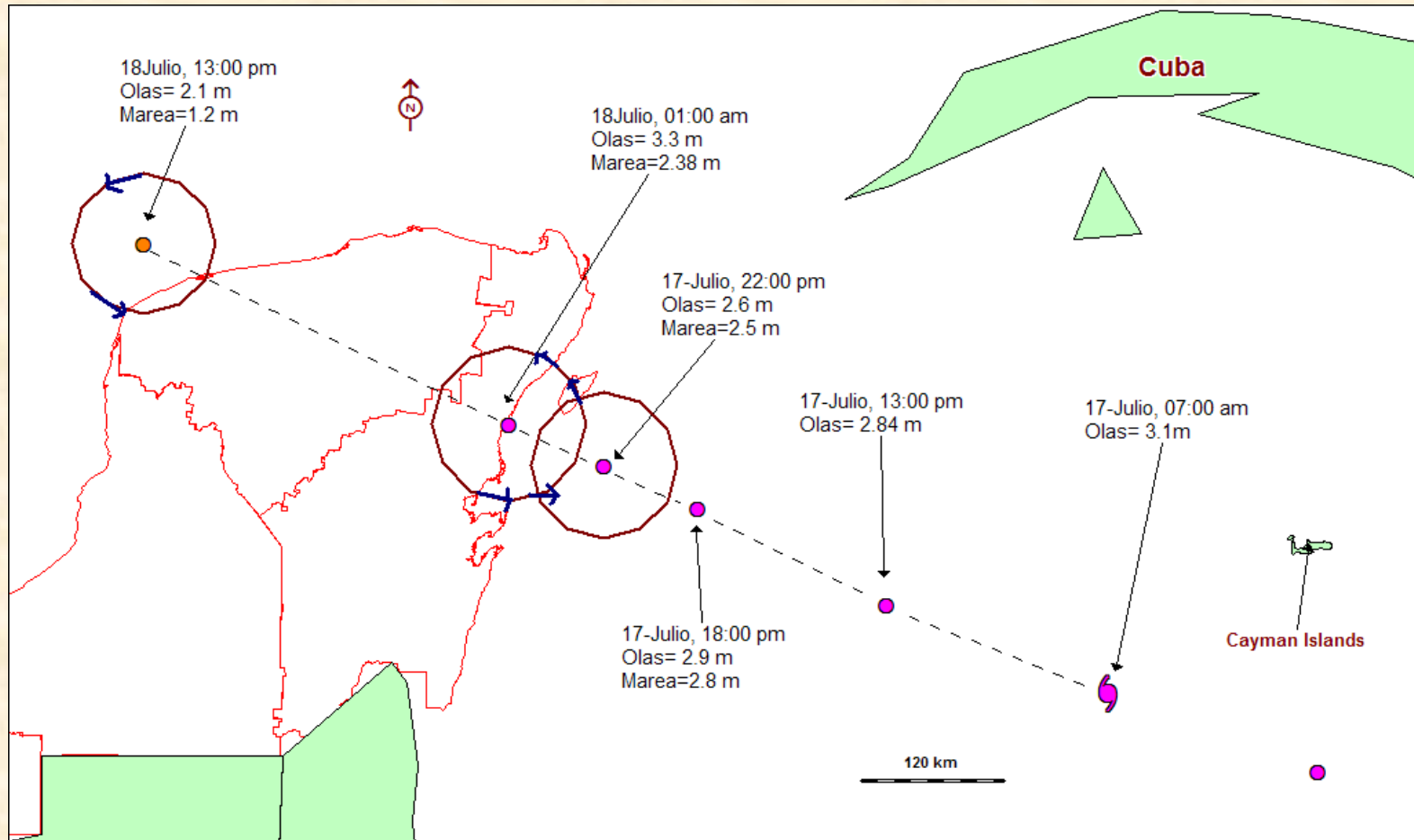
DE MÁXIMA ATENCIÓN POR EFECTOS DE TORMENTA TROPICAL: CABO ROJO, VER, A MATAMOROS.  
MOVIMIENTO LENTAMENTE Y PODRÍA INTENSIFICARSE A CATEGORÍA 4 ANTES DE QUE SU CENTRO LLEGUE A TOCAR EN TA  
PIDE PERMANECER A RESGUARDO Y NO CIRCULAR EN CARRETERAS COSTERAS DE TAMAUPLAS.

Bulletin

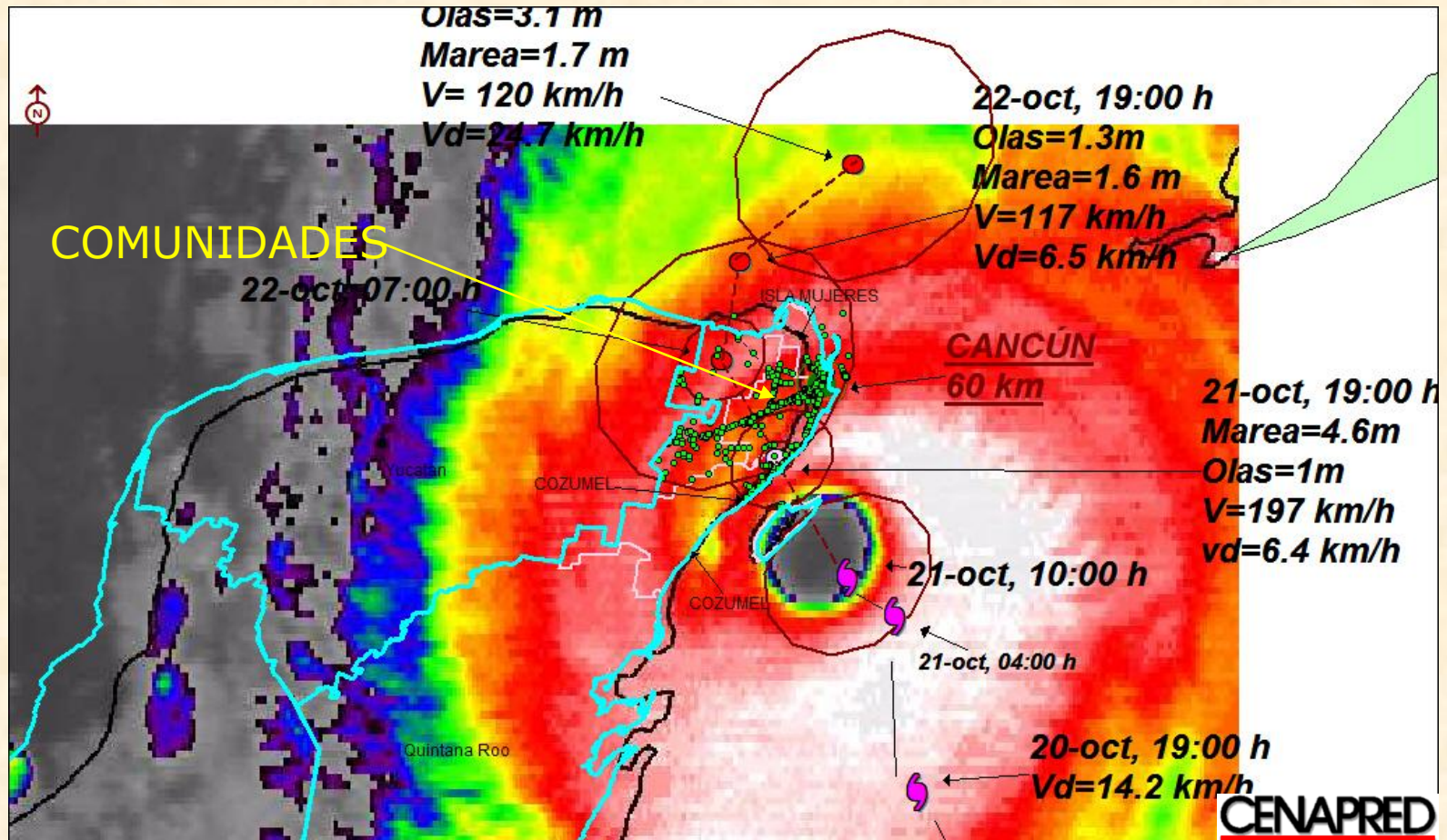
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## Areas most likely to damage generated by Hurricane Emily (2005)

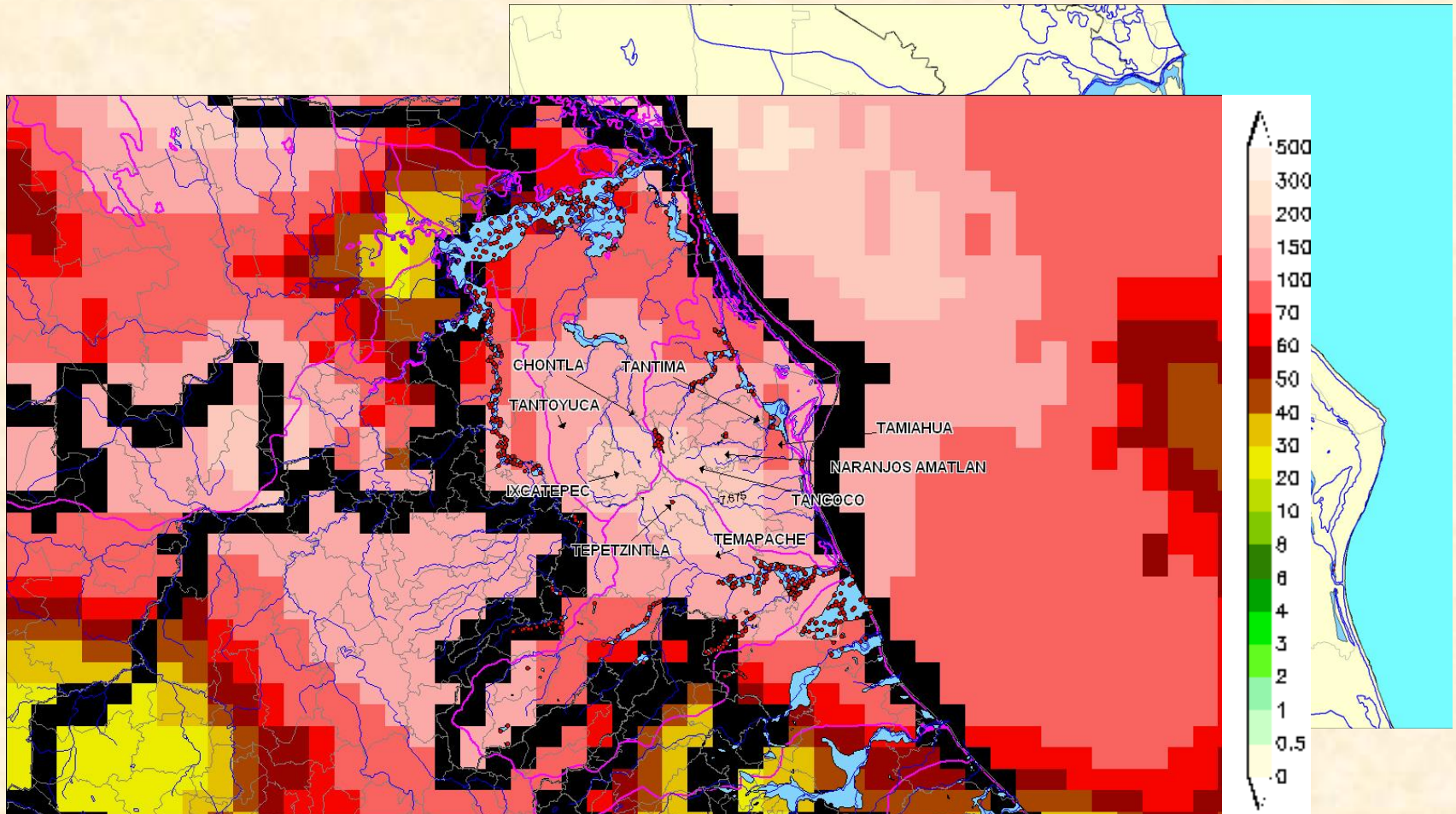


# Identification of communities within the areas of highest risk by Hurricane Wilma (2005)





# Identification of locations susceptible to flooding by Hurricane Dean (2007)





# Information Meeting of the Local Committee of Hurricanes



## Conclusions

- An important factor in reducing human and material losses is the knowledge that population have of their vulnerability for these phenomena.
- SIAT-CT has been used in Mexico since 2000.
- The automatic generation of maps is used since 2005, which helped to cope with the busiest Atlantic hurricane season on record.
- Work is currently under way on automatic warning maps for cyclonic rain, they will be tested in the 2008 season.

## Conclusions (Cont.)



International Strategy for Disaster Reduction -  
Stratégie internationale pour la prévention des catastrophes

### PRESS RELEASE

UN/ISDR 2005/19  
Tuesday 19 July 2005

#### Hurricane season

#### **“Preparation is key” says Salvano Briceño from ISDR**

As hurricane Emily left Cancun and the Yucatan peninsula, Mexican authorities are now evacuating residents from areas close to the Tamaulipas state near the Texas Border where Emily is expected to hit later today.

“Mexico is a good example of hurricane preparedness. Mexican authorities immediately identified populations at risk and reacted accordingly. They are able to organise large-scale evacuation. They relocated tourists and local inhabitants, evacuated workers from the offshore oil platforms and closed the airports very quickly,” says Salvano Briceño, director of the Secretariat for ISDR.



