

Satellite imagery: visible by day, infra-red (heat) by night

- shows position
- shows track day by day
- shows size and development
- size of eye indicates intensity and relates to Saffir-Simpson scale, smaller eye = more intense

Computer models : to predict development, course and probable landfall

- based on mathematical models, weather patterns and tracks of previous cyclones
- predicts landfall
- likely levels of storm surges
- rainfall intensities and totals

Warnings : hurricane watch hurricane warning by NHC to inform residents and businesses on the coast at likely landfall locations

- information by TV, radio, cellphones
- coordination by environment agencies, emergency services at state and local level and governors and local officials
- evacuation orders, safe establishments, preparation of homes

Aircraft flights : by NHC (National Hurricane Centre and NOAA (National Oceanographic and Atmospheric Administration

- plots exact location of the eye
- infers surface pressure from a given height
- takes weather readings eg wind speed
- drops sondes to get vertical weather data
- assesses changes and development with regard to Saffir-simpson

TROPICAL CYCLONE MONITORING PREPARATION MITIGATION

Radar : to plot rainfall patterns and predict rainfall totals and floods and river flood levels

Marked differences exist in the ability to monitor, prepare for and mitigate against cyclone between HIC'S and LIC'S

- LIC'S have fewer flights through cyclones but probably have the same access as HIC'S to satellites

Saffir-Simpson scale to assess the intensity of tropical storms, scale = 1-5

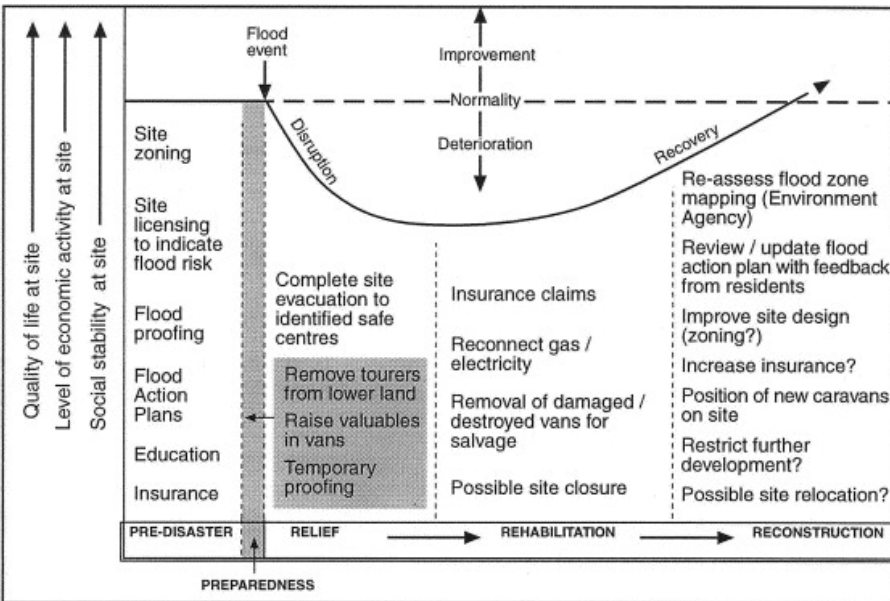
- 3 and above are cyclones/hurricanes/typhoons
- category 3 = wind speeds >111mph, impact devastating
- category 4/5 wind speeds over 130 mph, impact catastrophic

Hurricane / cyclone season :

- sea surface temperatures used to predict formation, intensity and speed of development
- plotting formation and tracks of possible origin storms / easterly waves in Atlantic

Improved coastal defences : to manage the storm surge :

- insurance against loss
- strict building regulations / codes
- no-build zones in areas likely to be worst affected (most low lying)
- cyclone resistant building, buildings built with steel and concrete, building on stilts above probable storm surge levels



- LIC warnings and informing of residents is less effective
 - evacuation procedures less efficient
 - building codes less strict
 - coastal and river defences poorer
 - impact likely greater
- use Katrina and either Nargis or Haiyan as case studies to back up

Use the PARK disaster response model and the Disaster risk management cycle which can both be used for any disaster type, cyclone, earthquake, volcanic eruption, flood and your case studies to locate and exemplify the general points made above about monitoring, preparation and mitigation of tropical cyclones

The Disaster Risk Management Cycle

