
Caribbean Institute for
CIMH
Meteorology and Hydrology
ACP S&T PROGRAMME
Enhancing Farming through Weather and Climate Information
CARIBBEAN AGRO-METEOROLOGICAL INITIATIVE
CARDI

Weather and Climate of Trinidad and Tobago

What is Weather and Climate and is there really a difference?

Weather and Climate

- Weather is the instantaneous state of the atmosphere at a place and time. It is described using meteorological parameters such as wind, pressure, rainfall, etc.
- Climate is an ensemble of all the states of the atmosphere experienced over a course of length of time(years).

Trinidad and Tobago Climate

Trinidad and Tobago experiences two (2) seasonal climatic types.

- Tropical maritime
  - Warm days, cool nights, convective rainfall
  - Dry season:January-May
- Modified moist equitorial
  - Low wind speeds, hot humid days and nights, increased stratified rainfall
  - Wet season:June-December

Agrometeorology

- Agrometeorology is also called agricultural meteorology

- It is the study of how weather and climate affect agriculture

Weather Systems

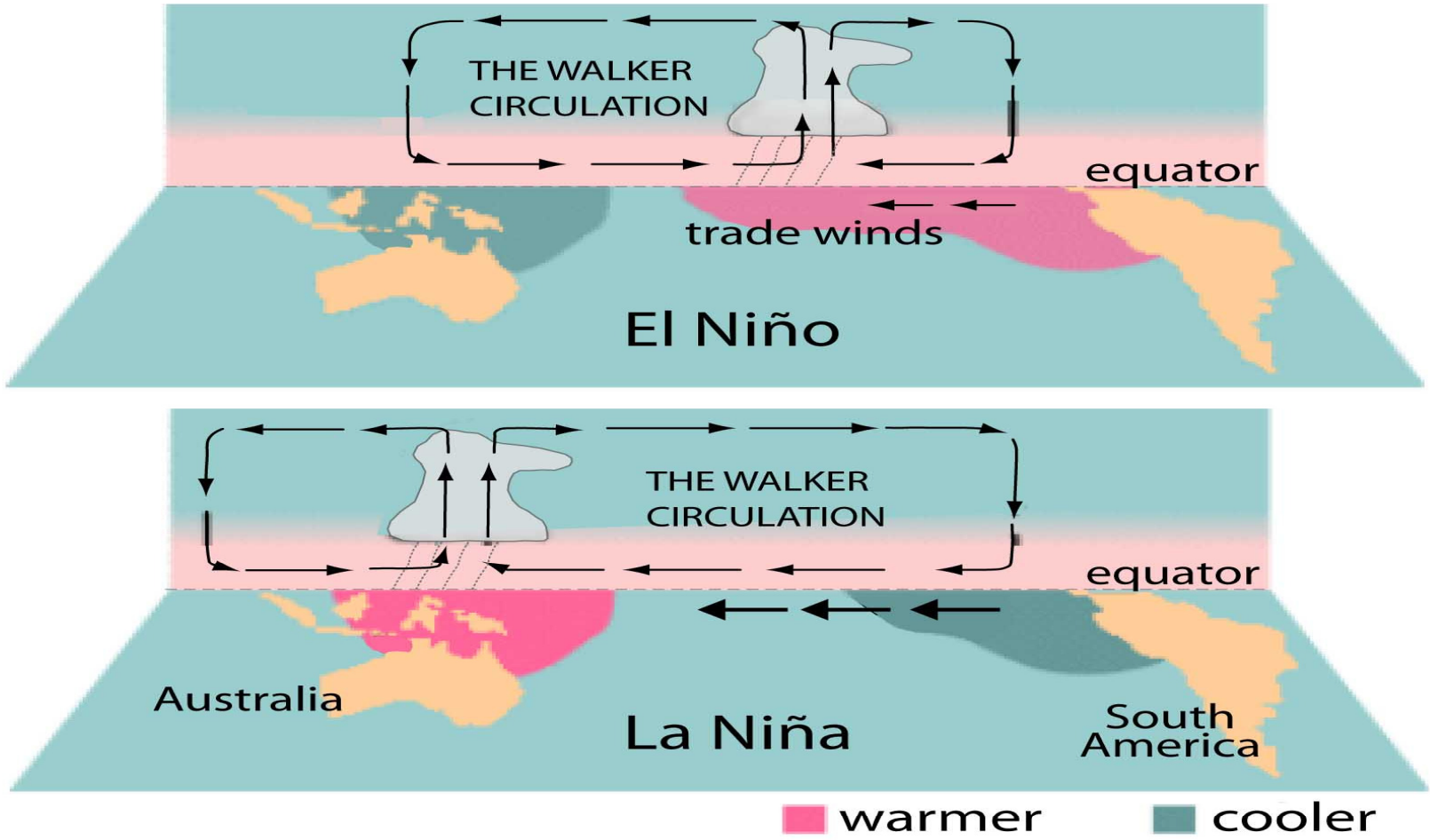
Weather Systems and Their Occurances

- ITCZ(InterTropical Convergence Zone)
- Tropical waves,4-5 days
- El Nino/La Nina,3-7 year cycle
- Sea Breezes
- Tropical Cyclones

El Nino/La Nina

- The arrival of either systems changes rainfall patterns, wind and pressure regimes that could persist for several reasons

- El Nino is characterized by unusually warm temperatures and La Nina by unusually cool temperatures in the equitorial Pacific



The oscillation between El Niño & La Niña conditions in the equatorial eastern Pacific Ocean is called ENSO (El Niño Southern Oscillation).
after: www.bom.gov.au

ITCZ and Tropical Waves

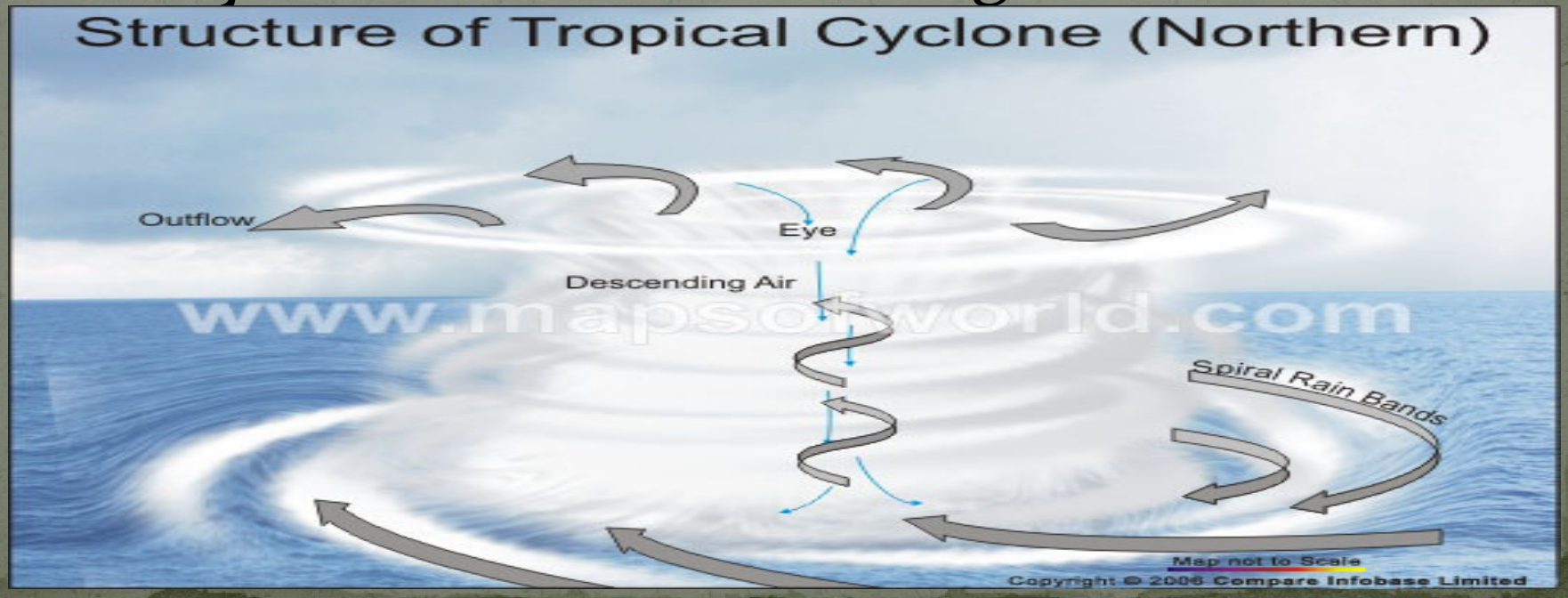
- Both systems are associated with trade wind variations

- ITCZ describes an area where the Northern and Southern Hemispheric trade winds converge
- This occurs somewhere between ±10 degrees
- It causes increased thunderstorm convection.

- Tropical waves are troughs or cyclonic curvatures of the trade wind easterlies.

Tropical Cyclone

- Storm system characterized by a large low pressure centre and numerous thunderstorms that produce strong winds, heavy rainfall and storm surges



Drought

Drought

- Meteorological Drought is a protracted period of deficient precipitation resulting in extensive damage to crops, resulting in loss of yield
- The threshold identified as the beginning of a drought is usually established somewhat arbitrarily, rather than on the basis of its precise relationship to specific impacts

Dried Fields

Bush Fires

Flooding

Flooding

- A flood is an overflow of large amounts of water over dry land.
- It can be sudden or seasonal.
- The cost associated with flooding is tremendous for all stake holders involved. As such we are here to forge a closer relation ship with agriculture and meteorology.

Causes of Flooding

- Natural Causes
  - Excessive rainfall
  - Overflow of water courses
- Human Causes
  - Agricultural processes
  - Inadequate infrastructure
  - Deforestation
  - Urban increase

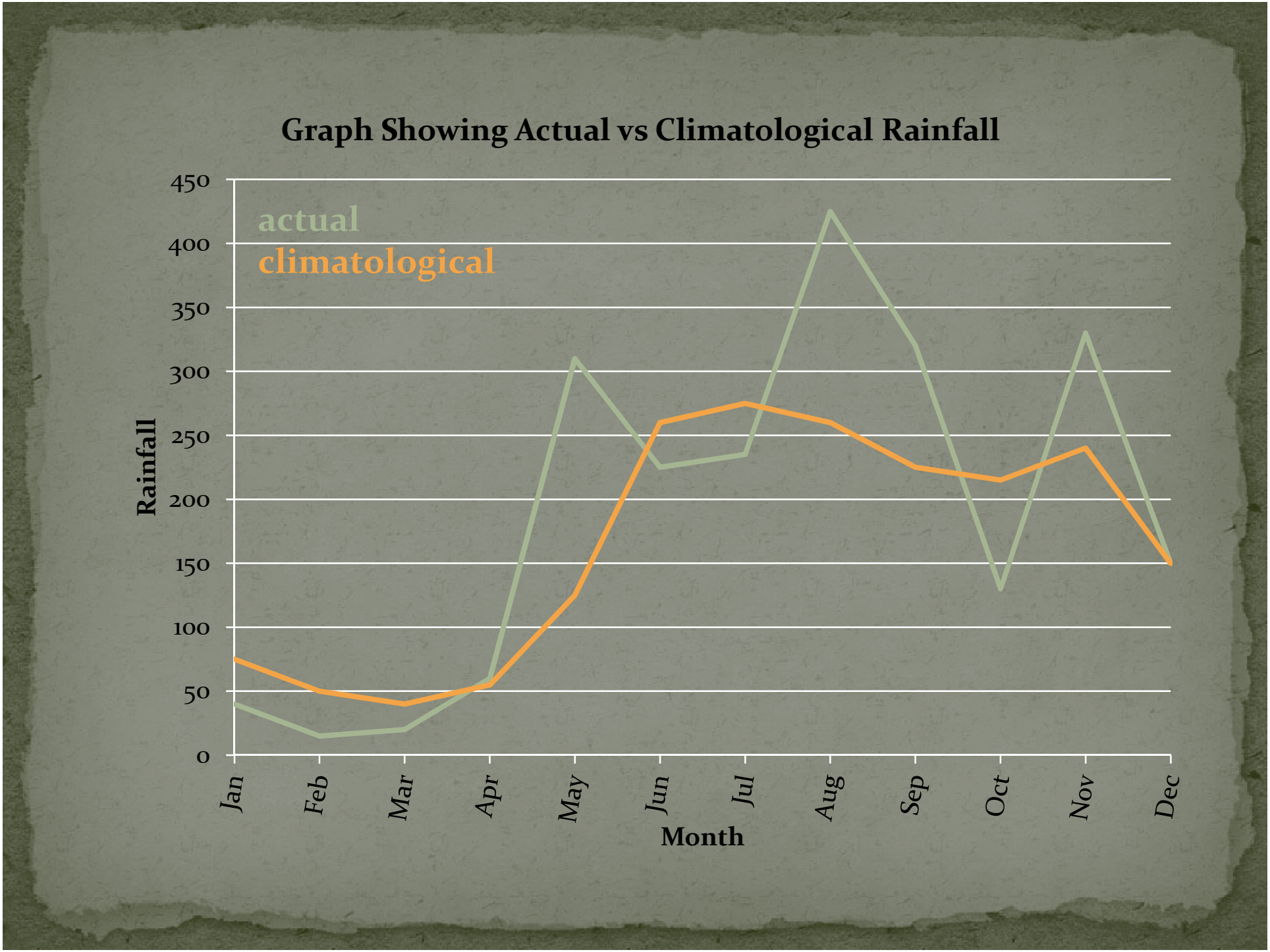
Types of Flooding

- Riverine Flooding
  - Runoff of rainfall exceeding from a water source that has reached and passed it capacity
- Estuarine Flooding
  - Combination of excessive rainfall and sea tidal surges
- Coastal Flooding
  - Flooding of coastal areas from water that is pushed ashore
- Street/Flash Flooding

2010

Rainfall

	Jan-May	June-Dec	Yearly
Actual	398.1	1753.9	2152
Climatological	316.1	1553.7	1870
Difference	82	200.2	282


Graph Showing Actual vs Climatological Rainfall
actual
climatological
Rainfall
450
400
350
300
250
200
150
100
50
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

Temperature

	Jan-May	June-Dec	Yearly
Actual	27.8	27.3	27.5
Climatological	25.8	26.1	26

2011

- Actual:124mm
  Climatological:116.5mm
- Rainy season started May 19th

	Named storms	Hurricane potential	Major hurricane potential
2011	12-18	6-10	3-6
Average	9-11	6	2

Thank You

We'll weather the weather
no matter the weather
whether we like it or not

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Ifill,CIMH