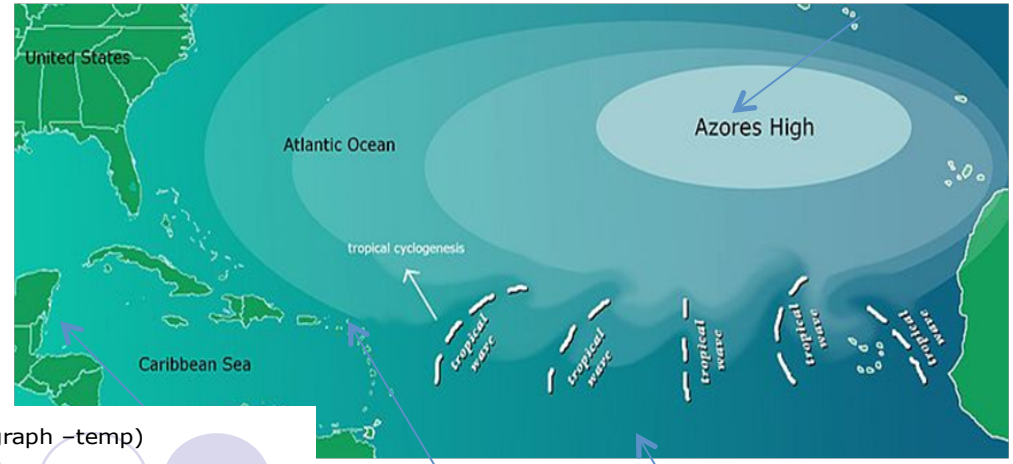
Research Priorities in the Caribbean

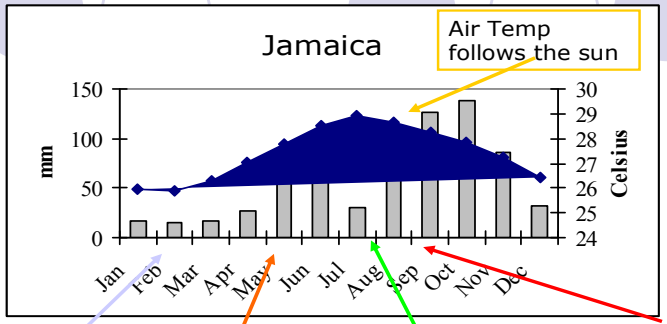
Caribbean Climatology

- Influence of SST (gradients between equatorial and Pacific Tropical Atlantic), Wind Direction/Shear, and CLLJ
- Oscillations : ENSO, NAO, MJO, AO/NAM, PNA, QBO

High Pressure



Climatology (Bar graph – precip, line graph –temp)



NAH moves closer to equator
Stronger trades
Low SST
Mid-lat fronts

NAH starts Northward migration
Weaker trades
SST begins to increase

NAH temporarily retreats Southward
'Mid-Summer Drought'

NAH return Northward
High SST
Easterly waves
ITCZ North

Source: CSGM, UWI, Jamaica

Easterly Waves

SSTs

Trade Wind Strength + vertical shear

Ashby et al. (2004)

Research Priorities
Physical Science - Rainfall

- With respect to drought, more (i) seasonal, (ii) shorter term dry spells more frequently from 1-3 months, occasionally as in 2009-10 up to 7-8 months
- Onset of rainy season (a climate or a weather problem?)- Extended long range forecast? And therefore shorter lead times (from weeks to months)
- Cessation of rainy season
- Onset of Midsummer drought (more relevant in the W. Caribbean), timing particularly important to farmers
- How can we optimise the use of MME? How well do models (MME and individual models) predict the drivers of rainfall?

Research Priorities Affecting a Service - Agriculture

- Establish decision calendars (e.g. crop, water calendars that would assist in determine appropriate lead times)
- Clear understanding of the relationships between phenology and climate of cultivars grown in the region; pests/pathogen-weather-hosts phenological information; heat stress thresholds for animals/livestock;