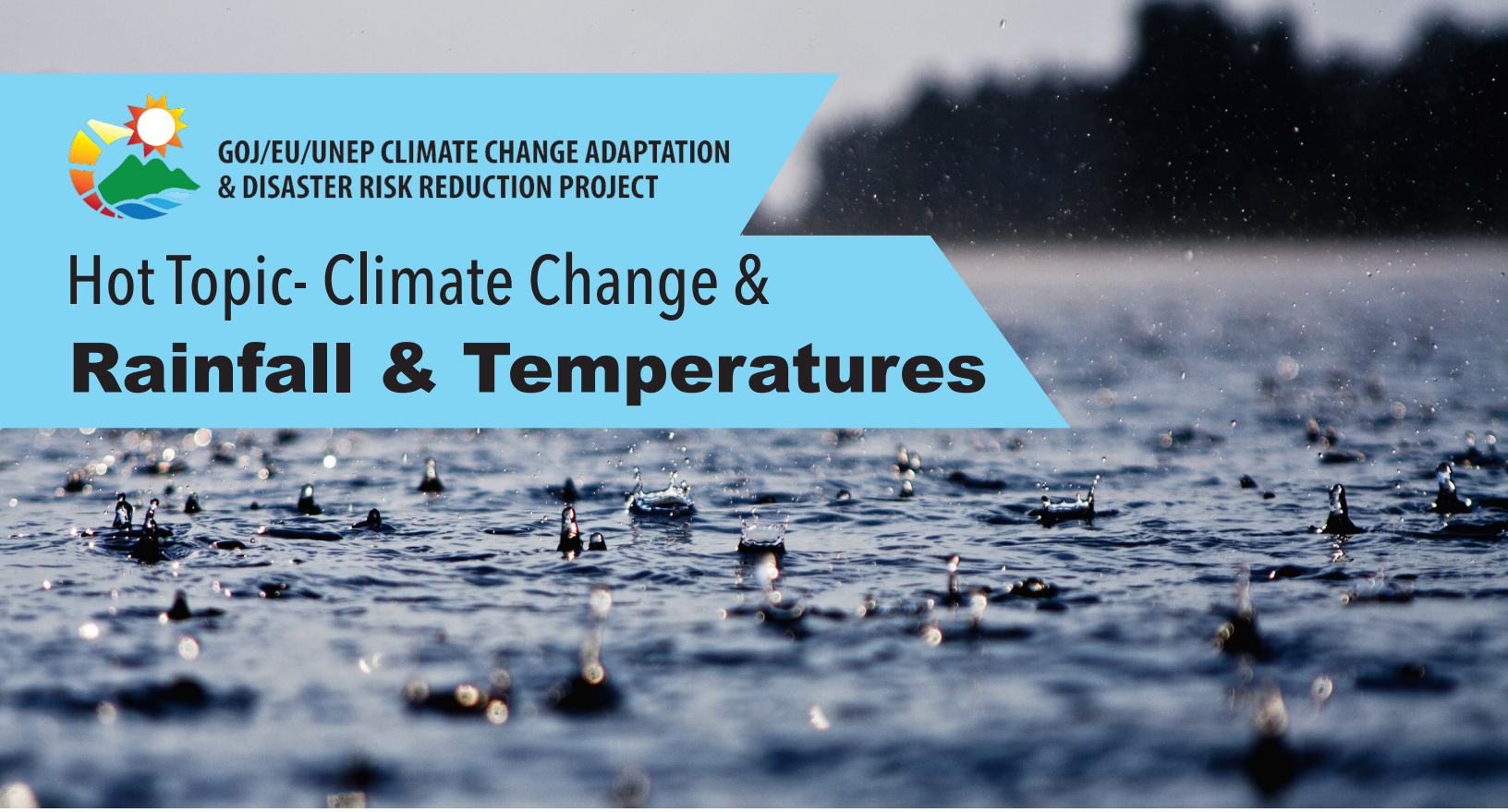
GOJ/EU/UNEP CLIMATE CHANGE ADAPTATION
& DISASTER RISK REDUCTION PROJECT

Hot Topic- Climate Change & **Rainfall & Temperatures**



What is climate change?

Our climate is changing because as human beings we have increased the amount of certain gases, called greenhouse gases, in our atmosphere.

We burn oil, coal and gas to produce energy for homes, factories and businesses and for our transportation needs. Burning these fossil fuels also produces greenhouse gases like Carbon Dioxide, Methane and Nitrous Oxide.

Excess greenhouse gases in our atmosphere are trapping too much heat around the earth. This heat makes our earth warmer, like a greenhouse. This is what is known as global warming. It is this increase in temperature over time which results in climate change. Scientists are projecting significant changes in rainfall and temperatures.

How we get future projections?

We use computer models (Global Climate Models and Regional Climate Models) run with scenarios (storylines) of future global development (possible levels of greenhouse gas emissions, possible adaptation and mitigation interventions etc.) to get ideas of what the climate could be like in the future.

What do the models say about future projections for Temperature?

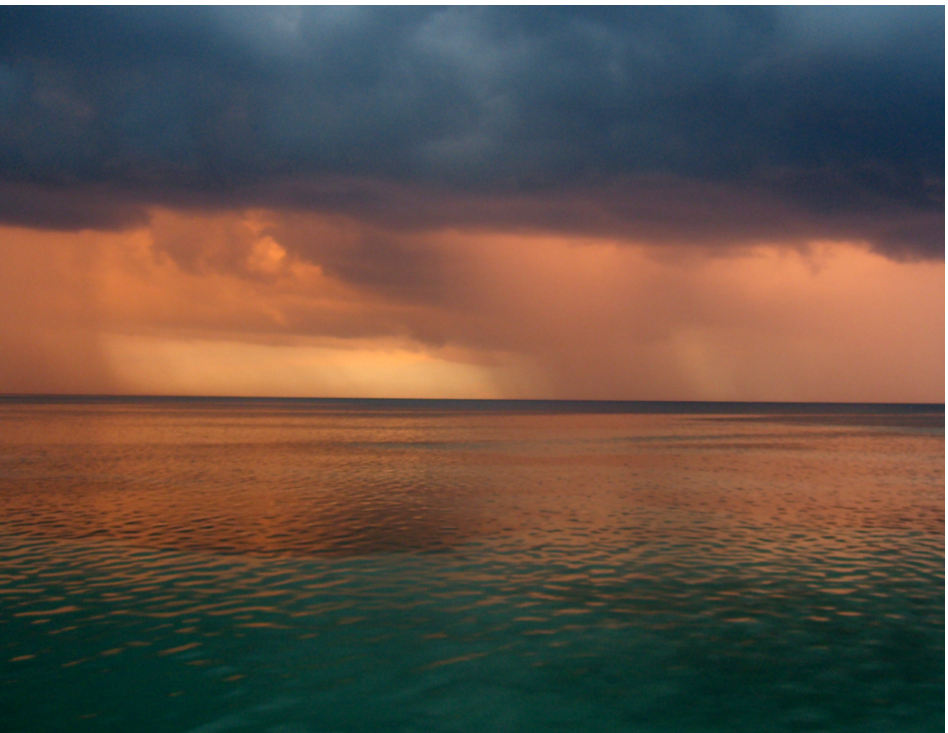
- All models show that temperature is expected to increase markedly over the next century.
- Regional models suggest slightly higher increases (2.9˚C and 3.4˚C) by the 2080s.
- Land surfaces will warm more rapidly than the nearby ocean.
- Southern Jamaica will warm faster than northern Jamaica.
- There will be substantial increase in the frequency of hot days and nights
- Cold days and nights are projected to be practically non-existent by the 2050s.

Range of Projected Mean Annual Increase in Temperature (Based on All Scenarios from Global Climate Models)	
PERIOD/DECADE	PROJECTED TEMPERATURE INCREASE
2030s	0.3 to 1.3^{o}C
2060s	0.6 to 2.3^{o} C
2090s	1.1 to 3.5^{o}C

What do the models say about future projections for rainfall?

- Models show a drying trend.
- Regional models suggest much more severe changes and the trend is still a drying one.
- Largest decreases in rainfall are projected for the period between June and July, and over the rainy season (May – November).
- Though the entire island is getting dryer, the most severe drying seems to occur in the west and the least severe in Portland
- The proportion of heavy rainfall events all show decreasing trends to the end of century.

Range of Projected Mean Annual Change in Rainfall (Based on All Scenarios from Global Climate Models)	
PERIOD/DECADE	PROJECTED CHANGE IN RAINFALL
2030s	-24 to +14%
2060s	-41 to + 5%
2090s	-58 to +19%



Sources:
CSGM 2013. State fo the Climate Jamaica 2012 : Information for Resilience Building (Summary for Policymakers) Planning Institute of Jamaica (PIOJ), Kingston, Jamaica.

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