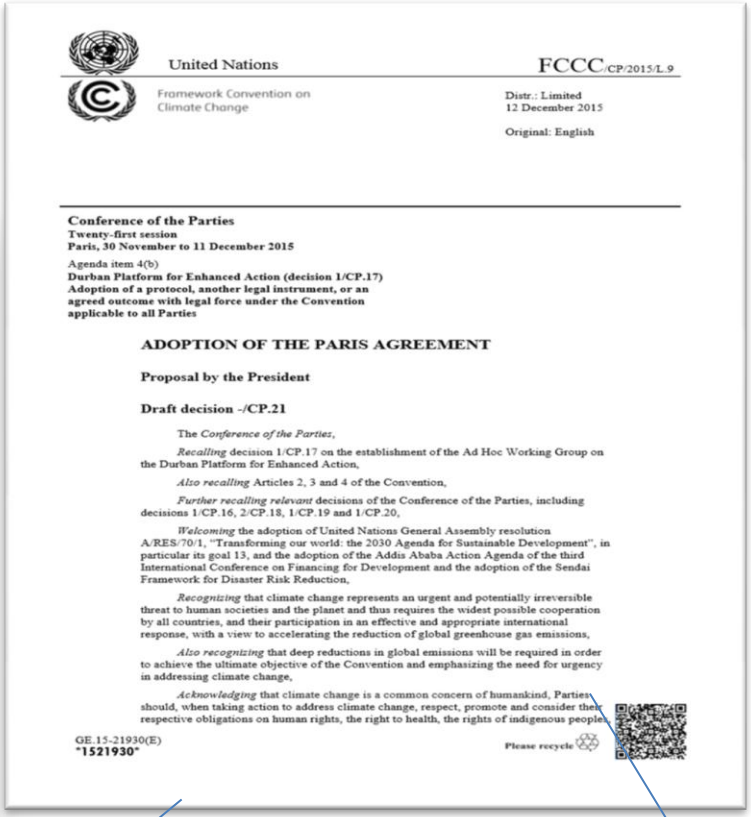
The Caribbean 1.5 Project

A brief overview of a regional climate change impacts project

- 45 regional scientists from physical and social sciences
- 11 regional institutions including Universities, Regional sector bodies and private sector
- 6 countries

Motivation

Caribbean Position



United Nations

Framework Convention on Climate Change

FCCC/CP/2015/L.9

Distr.: Limited
12 December 2015

Original: English

Conference of the Parties
Twenty-first session
Paris, 30 November to 11 December 2015

Agenda item 4(b)
Durban Platform for Enhanced Action (decision 1/CP.17)
Adoption of a protocol, another legal instrument, or an agreed outcome with legal force under the Convention applicable to all Parties

ADOPTION OF THE PARIS AGREEMENT

Proposal by the President

Draft decision -/CP.21

The *Conference of the Parties*,

Recalling decision 1/CP.17 on the establishment of the Ad Hoc Working Group on the Durban Platform for Enhanced Action,

Also recalling Articles 2, 3 and 4 of the Convention,

Further recalling relevant decisions of the Conference of the Parties, including decisions 1/CP.16, 2/CP.18, 1/CP.19 and 1/CP.20,

Welcoming the adoption of United Nations General Assembly resolution A/RES/70/1, "Transforming our world: the 2030 Agenda for Sustainable Development", in particular its goal 13, and the adoption of the Addis Ababa Action Agenda of the third International Conference on Financing for Development and the adoption of the Sendai Framework for Disaster Risk Reduction,

Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions,

Also recognizing that deep reductions in global emissions will be required in order to achieve the ultimate objective of the Convention and emphasizing the need for urgency in addressing climate change,

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous people,

GE.15-21930(E)
"1521930"

Please recycle

"… the region is already struggling with the impacts of a 1 ºC world, we must contain further increase…"

"…holding the increase in the global average temperature to well below 2 °C above pre- industrial levels and pursuing efforts to limit the temperature increase to 1.5°C"

Caribbean 1.5 Project

Assuming that 1.5 at the end of the century is not the path the world is on, how much time does the Caribbean have?

What are the likely impacts on quality of life for 1.5 versus 2 degrees or higher ?

What does the Caribbean look like (physically) at global markers of 1.5 and 2 degrees or higher - is there a difference?

"…holding the increase in the global average temperature to well below 2 °C above pre- industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C…"

Paris Agreement

Caribbean 1.5 Project

Climate Models – both GCMs and RCMs to develop the **climate profile of the Caribbean** at 1.5 vs 2.0 vs 2.5 degrees futures.

7 impact case studies in 6 territories coupling climate and impact models.

- Energy (Suriname)
- Agriculture (Cuba, Jamaica)
- Marine Environment (Cuba)
- Water (Barbados)
- Health (Jamaica)
- Livelihoods (Trinidad & Tobago)
- Economies (Regionwide)

Peer reviewed publications

Summary for policy makers

Caribbean 1.5 Project

Climate Models – both GCMs and RCMs to develop the **climate profile of the Caribbean** at 1.5 vs 2.0 vs 2.5 degrees futures.

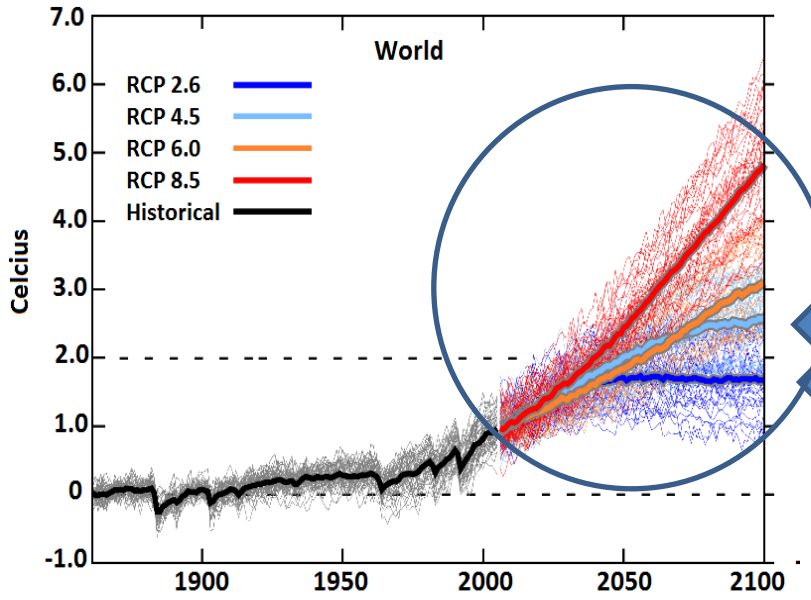
3 Interim Headlines

(+ opening byline)

Headline 1: “We don’t have a lot of time for 1.5 if…”

- Of the 4 future pathways only 1 puts us below 2.0 ^{o}C by the end of the century.
- Being optimistic (Paris agreement) the 2nd best path puts us at ~ 2.5 ^{o}C by end of century
- Our current global rate of GHG emissions does not put us on that path or near it.

Messages of yesterday



4 alternative futures dependent on mitigation strategies

Just about 2.5 ^{o}C

Only pathway to yield less than 2 ^{o}C

Headline 1: "We don't have a lot of time for 1.5 if…"

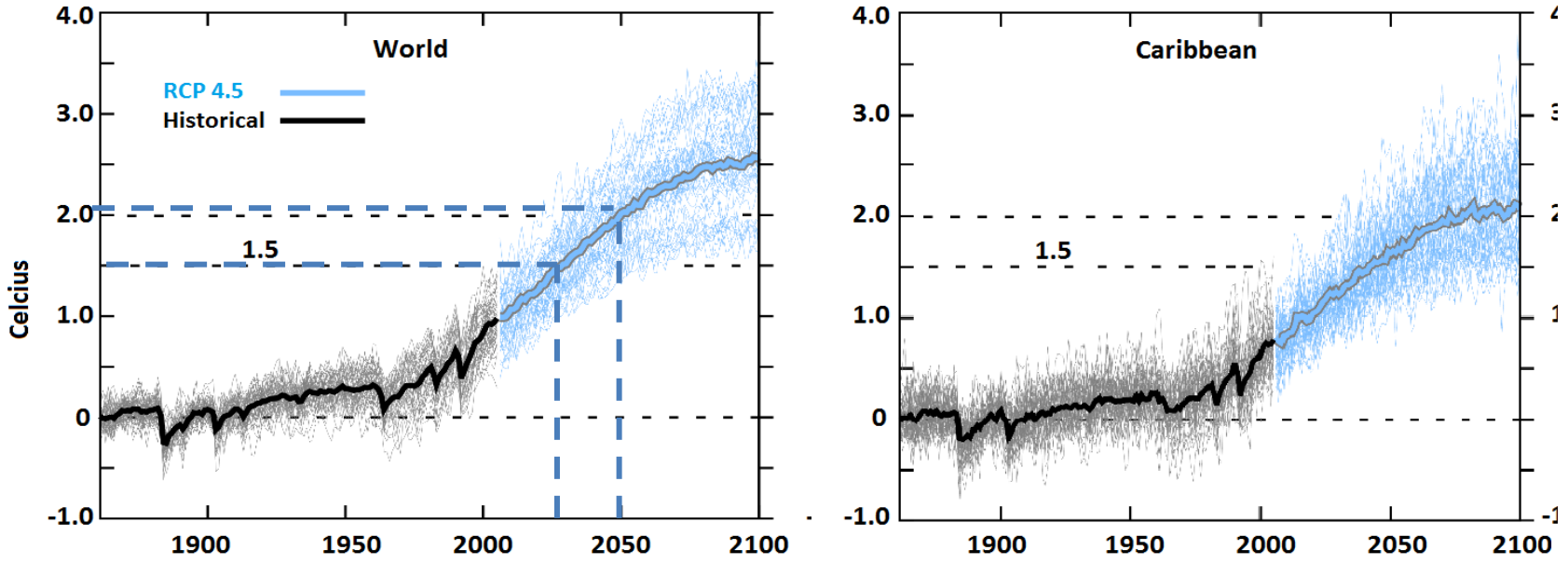
"At the IPCC Outreach event in Kingston the Caribbean 1.5 project reported that even with global action which may keep us close to the Paris Agreement ideal, 1.5 occurs much sooner than we might be thinking…"

World
Model Ensemble Mean

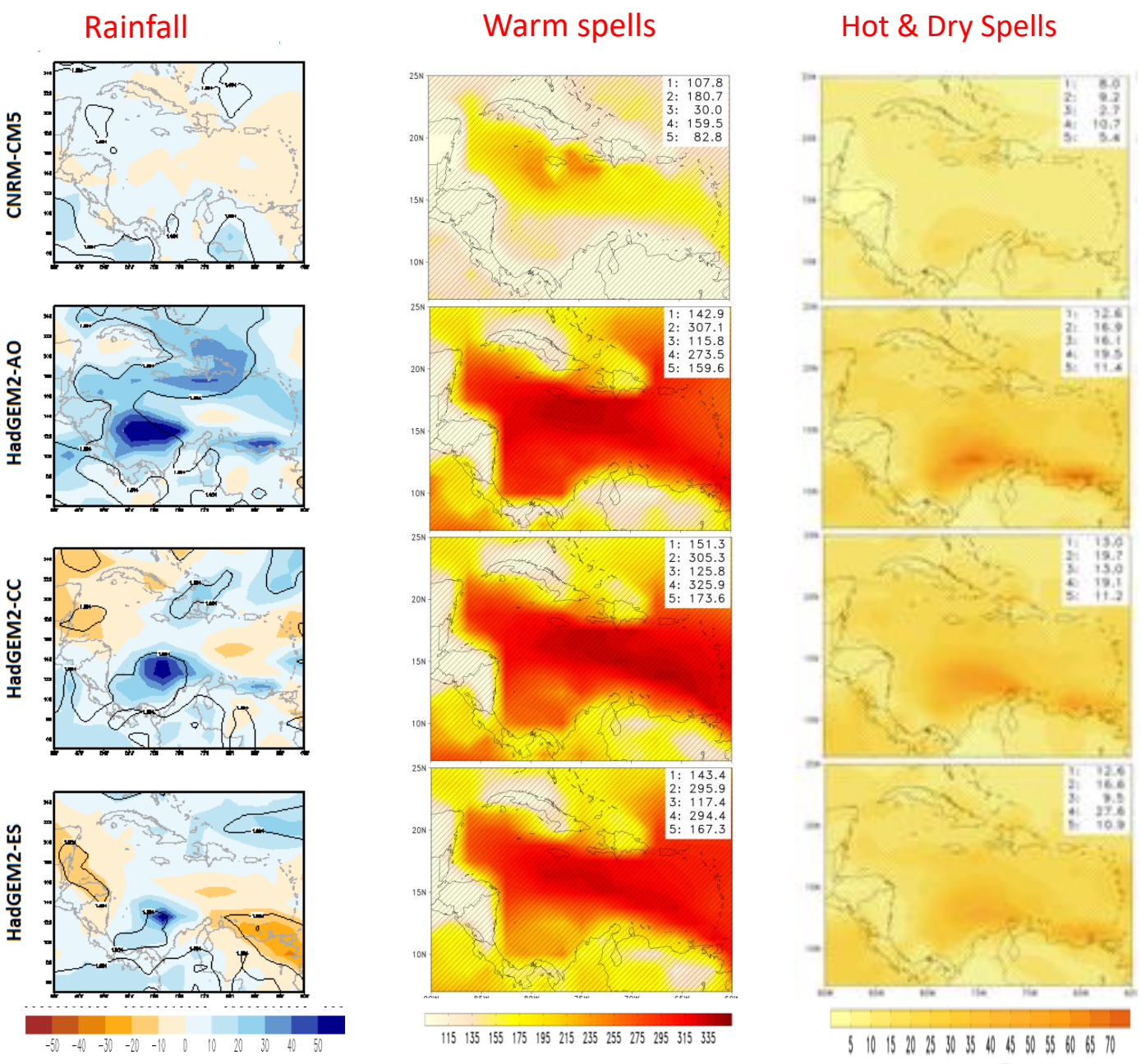
- 1.5 °C in 2031
- 2.0 °C in 2051
- 2.5 °C just about 2100

Caribbean
Model subset Ensemble Mean

- 1.2 °C
- 1.5 °C
- 1.9 °C



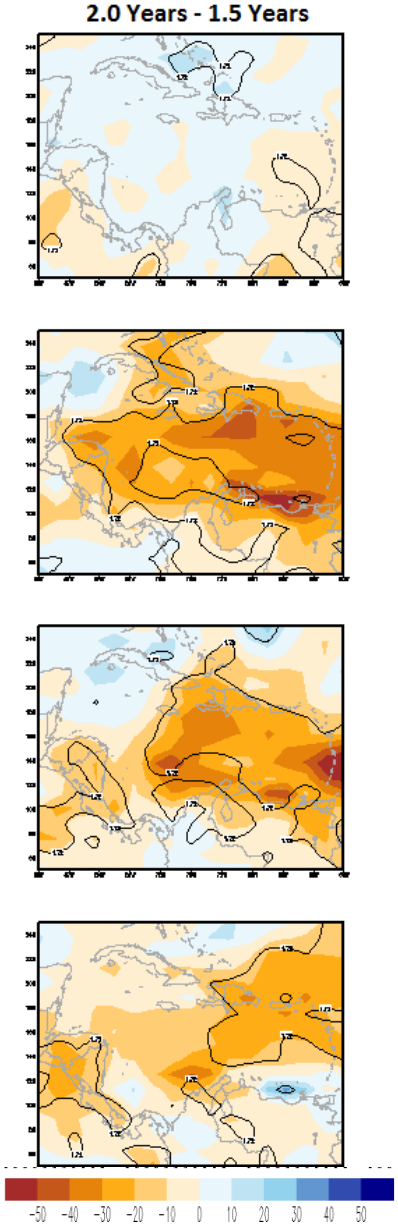
Headline 2: “1.5 doesn’t stop the change…”



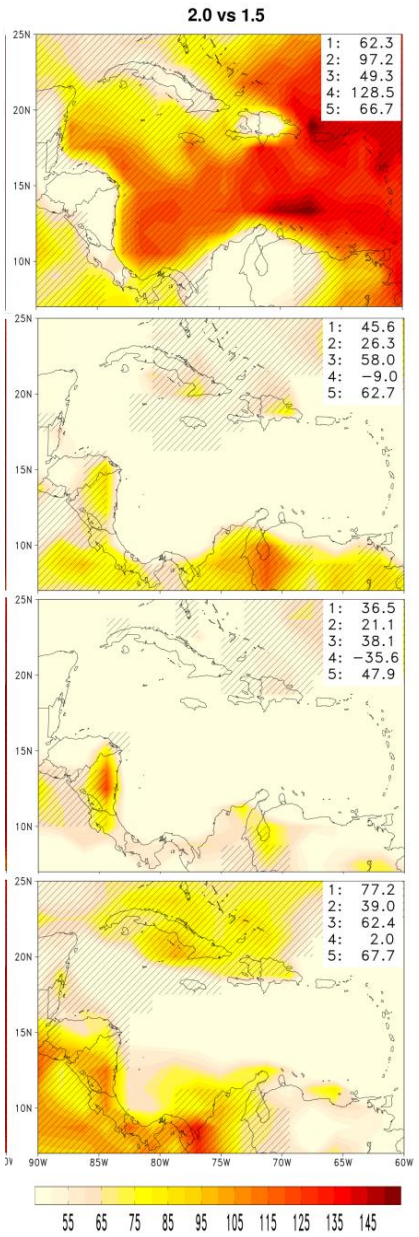
“At the IPCC Outreach event in Kingston the Caribbean 1.5 project reported that limiting global warming to 1.5 does not stop further significant changes in regional climate with which the region will have to contend…”

Headline 3: “1.5 is still a better option than 2.0 or 2.5…”

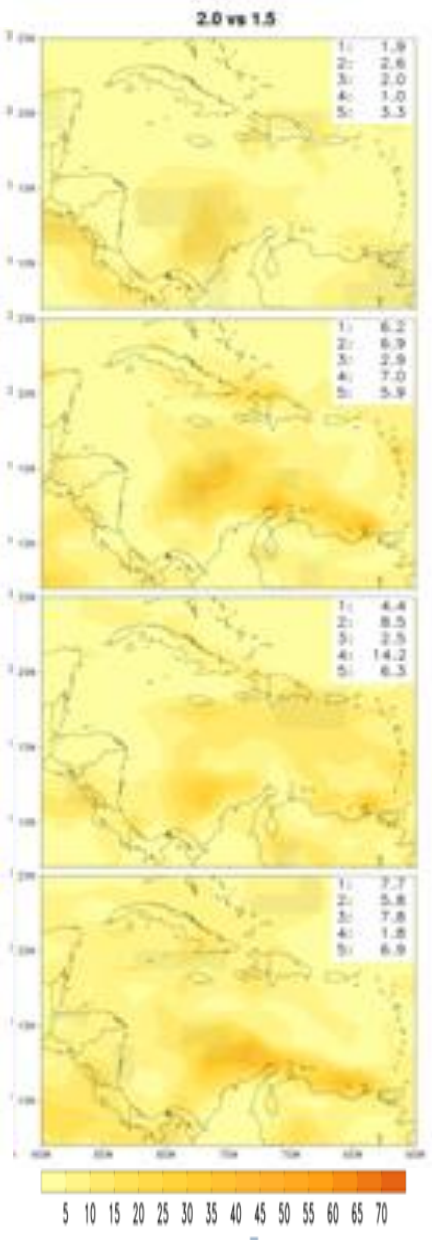
Rainfall



Warm spells



Hot & Dry Spells



“At the IPCC Outreach event in Kingston the Caribbean 1.5 project reported that 2.0 degrees will result in even further significant changes (over 1.5) in regional climate which take us close to climates we have not experienced to date and will likely disrupt life as we now know it…”

Interim Conclusions

- Caribbean has already seen significant impacts under a ~1.2 ^{o}C global rise in mean temperatures.
- A 1.5 global threshold will possibly occur by mid 2030s or before if lowest RCP path not followed.
- 1.5 will still see further significant changes in climate patterns for the Caribbean.
- Statistically significant differences between mean state and occurrence of extremes in models for 1.5 and 2.0 state – not splitting hairs!
- Perhaps there is need for even greater global action that goes much farther than implied by 1.5.

Arnoldo Bezanilla[1] , Abel Centella[1] ; Leonardo Clarke[2] , Tannecia Stephenson[2] ; Jayaka Campbell[2,] Jhordanne Jones[2]

1. Instituto de Meteorologia, Cuba
2. Climate Studies Group, Mona; University of the West Indies, Mona; Jamaica

Thank you

Acknowledgements

1. **CDB**
2. **5C's**
3. **IDB**