

Supplement of Earth Syst. Dynam., 9, 187–195, 2018  
<https://doi.org/10.5194/esd-9-187-2018-supplement>  
© Author(s) 2018. This work is distributed under  
the Creative Commons Attribution 4.0 License.



*Supplement of*

## **Changes in tropical cyclones under stabilized 1.5 and 2.0 °C global warming scenarios as simulated by the Community Atmospheric Model under the HAPPI protocols**

**Michael F. Wehner et al.**

*Correspondence to:* Michael F. Wehner (mfwehner@lbl.gov)

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

### Supplement

Figures S1 and S2 show the differences between HAPPI scenarios for the tropical storm track and cyclogenesis densities. The top panels show the differences for each warmer stabilized scenario minus the Historical simulation individually. The lower left panels show the difference between the 2.0°C and 1.5°C stabilized scenarios. The lower right panels show the difference between the average of the two stabilized scenarios minus the Historical simulation.

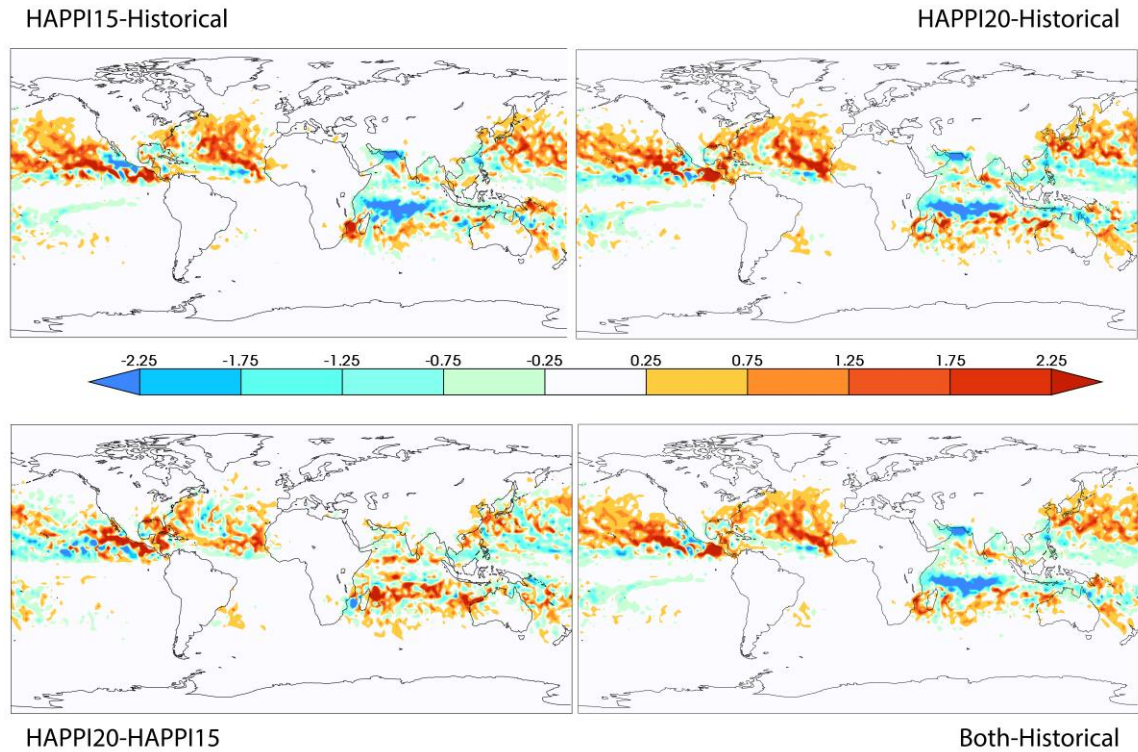


Figure S1. Percent difference of normalized tropical cyclone track density for the HAPPI simulations.

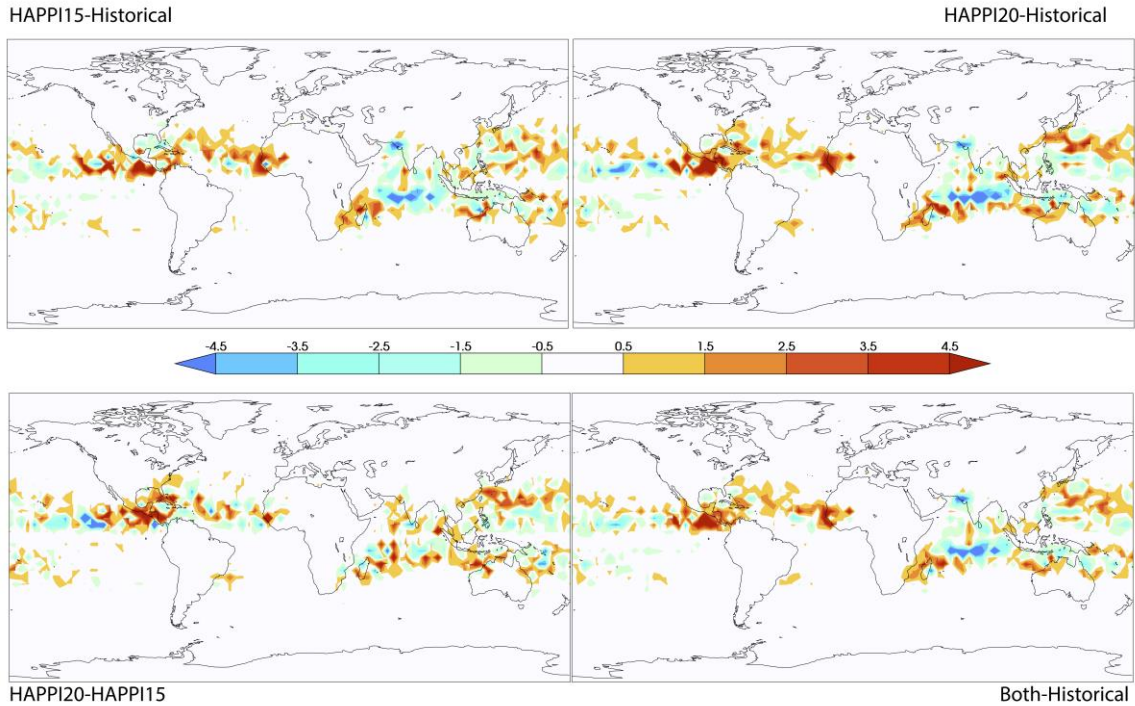


Figure S2. Percent difference of normalized tropical cyclogenesis density for the HAPPI simulations.

	Global	NH	SH	North Atlantic	NE Pacific	NW Pacific	North Indian	South Indian	South Pacific
HAPPI1.5 minus historical	-3%	2%	-13%	12%	3%	3%	-29%	-14%	-9%
HAPPI2.0 minus historical	-10%	-6%	-19%	9%	-8%	-6%	-29%	-18%	-23%
HAPPI2.0 minus HAPPI1.5	-7%	-7%	-7%	-3%	-10%	-8%	0%	-4%	-15%

Table S1: Percent change in the total number of tropical cyclones (category 0- 5) between the three HAPPI scenarios.

	Global	NH	SH	North Atlantic	NE Pacific	NW Pacific	North Indian	South Indian	South Pacific
HAPPI1.5 minus historical	35%	37%	28%	23%	72%	21%	-17%	48%	-37%
HAPPI2.0 minus historical	27%	30%	19%	28%	52%	17%	-62%	32%	-23%

HAPPI2.0 minus HAPPI1.5	-6%	-5%	-7%	4%	-12%	-3%	-54%	-11%	22%
-------------------------------	-----	-----	-----	----	------	-----	------	------	-----

Table S2: Percent change in the total number of intense tropical cyclones (category 4 and 5) between the three HAPPI scenarios.