

Pacific Islands Climate Science Center

presents the Pacific Climate Science Webinar Series

Very fine resolution dynamical downscaling of past and future climates for assessment of climate change impacts on the islands of Oahu and Kauai



with Yuqing Wang and Chunxi Zhang

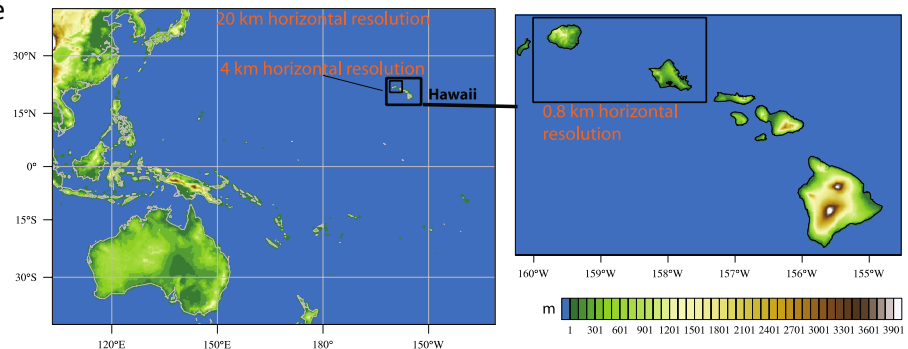
International Pacific Research Center, University of Hawai'i at Mānoa

Wednesday, December 21 at 11:00 HST

[1 PM PDT/ 4 PM EDT/ 9 PM UTC/ Dec 22, 7:00 AM ChST]

We provide fine resolution (800 m x 800 m pixel) resolution climate information for the Hawaiian islands of Oahu and Kauai based on very high resolution computer model simulations. Projected future climate changes for the late 21st century (2080-2099) forced with a high emission scenario (RCP8.5) and a moderate emission scenario (RCP4.5) are provided. The surface air temperature (SAT) is projected to increase by 1.5 – 2.0 °C for RCP4.5 and 3.0 – 3.5 °C for RCP8.5 over both Kauai and Oahu, slightly higher than over the neighboring ocean. The SAT increases more on leeward sides than on the windward sides. The projected future changes in rainfall over both islands in the RCP8.5 scenario exceed 15% in some locations

and are generally positive on the windward slopes and negative in the leeward areas. Projected changes in the RCP4.5 scenario follow the same pattern but are smaller in magnitude. Note that over much of the area of the islands the projected rainfall changes are relatively small and statistically insignificant. We find that daily extreme rainfall events are likely to increase over both islands.



We have high confidence on the projected future SAT change over the islands of Kauai and Oahu as well as the daily maximum and minimum SATs. We have relatively low confidence for the projected future rainfall changes. By realistically resolving the topography in the model, we found that the topography-forced local climate change probably is not dominant in response to the future warming over those two islands. The combination of the local response and the synoptic scale response to the global warming could make the projections of future rainfall change insignificant.

Webinar and Call-in Information for PICSC Webinar

Date: Wednesday, December 21, 2016

Time: 11:00 am, Hawaii Time (Honolulu, GMT-10:00)

Meeting Number: 716 219 374, no password required

When it is time to attend the meeting, please visit this link:

<https://usgs.webex.com/usgs/j.php?MTID=mf7a9175a4937d1cba44fe9301571b690>

To hear the speaker, you must call the teleconference: (703) 648-4848 plus 71487# when prompted