HOW LOCALIZED CLIMATE PROJECTIONS ARE DEVELOPED, VALIDATED, AND UTILIZED

DOWNSCALE PROJECTIONS

GCM (100-200km)
GLOBAL CLIMATE MODEL (GCM)

RCM (25km)
REGIONAL CLIMATE MODEL (RCM)

GCMs are complex computer programs that simulate climate patterns for the whole globe on a very large scale.

RCMs are complex computer programs that simulate local climate patterns zoomed in on specific areas on a finer scale.

CLIMATE PROJECTION ENSEMBLE

BASELINE RCP4.5 NEAR FUTURE RCP4.5 MID FUTURE RCP4.5 FAR FUTURE

MODEL EVALUATION and BIAS ADJUSTMENT

BIAS CORRECT

Bias adjustment method is a method used to 'adjust' the mean, variance, and/or distribution of GCM or RCM climate data using observations and/or reanalyses datasets.

>> closer values but still retains climate change signals

CLIMATE CHANGE-MODIFIED HAZARD MAP

Climate ensemble is the average of a collection of comparable model simulations.