

Objective:

Refine research question:

Quantify the impact of different climate scenarios on precipitation in the Western Cape.

Research Gap.

Previous research only used RCP 8.5, but other climate scenarios have not been studied.

Some say CO2 emission doesn't impact the climate that much. Impact of global warming levels spatially. What are locations that are under studied.

Research design:

Western Cape

Find a range of RCP scenarios:

Data input: find data result of global climate model or general circulation models under RCP 2.6, 4.5, 6, 8.5 : http://www.ccafs-climate.org/data_spatial_downscaling/ Downscale to study

location: Western Cape. Generate a shapefile of the boundary (grid)

*Method of downscaled global climate model in Western Cape:

analysis: <https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/met.1802>

*Method for comparing different model scenarios:

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015GL065854>

Analysis software: data analysis using R (R package to open ncdf file format) We focus on 1 climate metric, precipitation. Compare ppt in different climate scenarios (RCP 2.6 vs 4.5), and discuss the implication to the region.