Data Outputs

The statistically downscaled daily precipitation (Pr), maximum temperature (Tmax) and minimum temperature (Tmin) for the current climate (1961–2005) and future scenarios under the RCPs (RCP2.6, RCP4.5, and RCP8.5) are given in zipped boxes (Box\_1 to Box\_211). For instance in Box\_1, there are 15 text files (.OUT and.PAR) for the three variables as follows;

1. 1.

Daily precipitation (Pr)

* Pr.PAR, list of selected predictors for daily precipitation at location one.
* Pr-syn. OUT, model output of daily precipitation for the current period (1961–2005) generated using the weather generator.
* Pr-rcp26. OUT, projected daily precipitation under RCP2.6 (2006–2100).
* Pr-rcp45. OUT, projected daily precipitation under RCP4.5 (2006–2100).
* Pr-rcp85. OUT, projected daily precipitation under RCP8.5 (2006–2100).

1. 2.

Daily maximum temperature (Tmax)

* Tmax.PAR, list of selected predictors for daily maximum temperature at location one.
* Tmax-syn. OUT, model output of daily maximum temperature for the current period (1961–2005) generated using the weather generator.
* Tmax-rcp26. OUT, projected daily maximum temperature under RCP2.6 (2006–2100).
* Tmax-rcp45. OUT, projected daily maximum temperature under RCP4.5 (2006–2100).
* Tmax-rcp85. OUT, projected daily maximum temperature under RCP8.5 (2006–2100).

1. 3.

Daily minimum Temperature (Tmin)

* Tmin.PAR, list of selected predictors for daily minimum temperature at location one.
* Tmin-syn. OUT, model output of daily minimum temperature for the current period (1961–2005) generated using the weather generator.
* Tmin-rcp26. OUT, projected daily minimum temperature under RCP2.6 (2006–2100).
* Tmin-rcp45. OUT, projected daily minimum temperature under RCP4.5 (2006–2100).
* Tmin-rcp85. OUT, projected daily minimum temperature under RCP8.5 (2006–2100).

In each file, for example, precipitation (Pr-syn. OUT) at Box\_1, the model output contains 20 ensembles for the current period. The 20 ensembles produced for each predictand show the uncertainty in the projection and this depends on the selected predictors and predictand and length and quality of observed data. The parameter files (.PAR) only provide the short names of the predictors as shown in Table [1](https://www.nature.com/articles/s41597-019-0038-1#Tab1). The inclusion of the predictors selected for each station in this dataset enables researchers to identify the large-scale climate variable linked with the local climate. As East Africa is one of the most topographically complex parts of Africa, the predictors vary considerably from location to location. In addition to the data Zip file, location information (latitude (lat) and longitude (lon)) is given as an excel file (Box\_location.csv) for each box.