Statistical Significance Tests Technical Documentation

Climate By Forest

Column	Description
area_id	Location
variable	The climate variable that was selected (e.g. Average Daily Max Temp / tmax)
scenario	Two potential futures are labeled RCP 4.5 and RCP 8.5 for lower and higher emissions, respectively. Learn more about Representative Concentration Pathways (RCPs) at https://link.springer.com/article/10.1007/s10584-011-0148-z
stat	Indicates a test based on the weighted mean, minimum, or maximum values for each of 30 years
hist_mean	Means of the historical period (1961-1990) across all 30 years
proj_mean	Means of the projected period (2036-2065) across all 30 years
change	The measured difference between epochs (hist_mean and proj_mean)
CI	95% confidence interval (to be added to change)
ftest	F-test for a two-tailed comparison
ttest_ev	p-value based on an assumption of equal variance
ttest_uv	p-value based on an assumption of unequal variance
significance	The result of the two t-tests, with “S” being “significant” and “NS” being “not significant.” "S" indicates the difference of means is deemed significant with a Type II error level of 0.05

Notes:

- Statistical significance reports are only supported for the annual frequency.
- Because both RCP 4.5 and RCP 8.5 share the same historical reference data, the historical mean will be the same for each scenario for the given statistic.
- Tip: Because of the unique compound key consisting of the columns `area_id`, `variable`, `scenario`, and `stat`, multiple statistical significance report CSV files can be concatenated (ignoring the header in the first two rows) and then imported into a larger spreadsheet, without the risk of confusion as to which value came from where.

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