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**Google Earth Engine Scripts**

1. **Annual rainfall Time series plotting**

**Description:** the CHIRPS daily precipitation dataset was used on this script. It calculates the total annual rainfall for an area in Zimbabwe for the years 2000 to 2020 by creating a function that computes the total annual rainfall and maps it over a list of the years. It then generates a timeseries chart with rainfall against the years. The last part exports the table data to drive in CSV format.

**Link to Script:** <https://code.earthengine.google.com/69585c46eafd7db4d0e141dec914b77c>

1. **Animated time-lapse gif animation video**

**Description:** Landsat 5, 7 and 8 surface reflectance image collections were used. The script filters the satellite image collection by date and cloud coverage to get the least cloudy image in a year. This function for each image collection is mapped over a list of each satellite mission years to build a list of annual composites. Each list is converted into an image collection and the collections merged. Animation parameters are set and mapped over the image collection to print the animation and also print a URL that will produce the animation when accessed.

**Link to script:** https://code.earthengine.google.com/915b63e208ca1c8e079cd65e67f6eec8

1. **Supervised classification**

**Description:** Landsat 4, 5, 7, 8 and sentinel 2 image collections were used. The script captures the region of interest and the training data as feature collection. The land cover classes are then assigned according to the Land cover code in the training data. The script then generates a panel with widgets that allows you to select the image collection to be used, the year of the image collection, a slider for selecting cloud threshold, RGB visualization for the image, the classifier to be used. When run the script produces the satellite image and a classified image clipped to the area of interest. The console prints out the confusion matrix and classification accuracy. The panel includes two widgets that allow exporting the classified image and the satellite image.

**Link to script:** https://code.earthengine.google.com/c81118992fe0ea3767c1450e067a673a

1. **Image Computation**

**Description:** NASA SRTM Digital Elevation dataset was used in this script. It is filtered to display areas with elevation above 2000m. The ee.Terrain.slope method is used to calculate the slope in degrees from the terrain DEM.

**Link to Script:** https://code.earthengine.google.com/b803d24feb23b927b6d6bfd528c2a9c1