

Executive Summary for Remote Sensing Project

First, in order to determine if there is more detectable vegetation in the Mojave Desert Preserve during a 'Super Bloom' year compared to a dry year, 48 remotely sensed images have been processed. Second, to compare Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) data from a pre-calculated source (MODIS) versus NDVI and EVI values calculated within ArcGIS Pro, data from MODIS and Landsat 8 have been processed and compared. Graphing the data processed via automated scripts for the first task showed that there is an increase in detectable vegetation during 'Superbloom' years in the Mojave Desert Preserve. Comparing NDVI and EVI data from MODIS (after extracting layers from hdf files and masking them to the study area) and Landsat 8 (calculated via raster calculator and Raster functions within ArcGIS Pro) for showed that NDVI values are comparable between the two satellite systems and differences in value ranges may be a result of the higher spatial resolution of Landsat 8 data. However, initial research showed EVI ranges were quite different between the two sources and thus are probably not comparable. Further research will be needed to determine why this occurred.