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STATEMENT OF PURPOSE:

Global water resources are important for societies, economies, and the environment. In Niger, limited water resources restrict the expansion of communities and agriculture. Mercy Corps, a humanitarian aid agency, currently works in over forty countries around the world to address a variety of stresses. These include water resources and building long-term food resilience. A partnership between NASA DEVELOP and Mercy Corps was established as a means to facilitate the integration of NASA Earth observations into Mercy Corps' resilience building process. Using the Moderate Resolution Imaging Spectroradiometer (MODIS), Global Precipitation Measurement (GPM), and Landsat 8 Operational Land Imager (OLI), the team created a Google Earth Engine tool, RAIN (Rainfall Analysis Integration). RAIN was built to help visualize and analyze both environmental and socioeconomic datasets. This tool allows for near real-time updates of trends in precipitation and improves Mercy Corps' ability to spatially evaluate changes in resiliency by monitoring shocks and stressors, such as disease, drought, and food security.

DESCRIPTION OF DATA SETS:

NASA: MODIS Monthly NDVI MOD09 MODIS Land Surface Temperature MOD11 GPM Monthly Precipitation Landsat 8 OLI Non-NASA: Healthsites.io Global Healthsites, public Oxford Malaria Atlas Project, Malaria Prevalence in 2015, public WorldPop, v4 UN-Adjusted Human Population, public Joint Research Center, Global Surface Water, public Esri Imagery Basemap, available for use with citation Still images: Taken by author