Leif Holmquist

Remote Sensing Internship at UN-SPIDER

June 1, 2016 – August 1, 2016

**Summary Report**

UN-SPIDER is a United Nations program for increasing the access and developmental capacity for countries and organizations in GIS based information to help with disaster management and emergency response. I was an intern at UN-SPIDER at their Bonn, Germany office for 9 weeks. The Bonn office deals primarily with the Latin America region in an advisory support role of providing technical techniques for utilizing freely available remote sensing data with open-source tools in various applications such as drought monitoring and flood hazard mapping.

While at UN-SPIDER I was tasked with multiple activities involving remote sensing data. The majority of which was involved in drought monitoring using the vegetation condition index (VCI). This including analyzing the viability of using cloud masking for use in time series and how this affected the VCI through zonal statistics. This was further expanded on by creating a methodology for using MODIS remote sensing data in EVI, NDVI and pixel reliability for creating cloud frequency map time series for Guatemala, Honduras, El Salvador and Namibia. The tools utilized to achieve these goals were applications such as QGIS, R, Excel and the MODIS reprojection tool.

The outcome of my internship gave me a more in-depth knowledge of early warning systems for drought affected regions. It additionally furthered my knowledge in remote sensing applications and usage of vegetation indices and how they can be applied in an organization for the benefit of improving pre-emptive policy decisions.