**NASA DEVELOP National Program**

****NASA John C. Stennis Space Center

**Summer 2015**

**Short Title: Southern California Disasters II**

**Updated Abstract**

California Disasters II Abstract:

The USDA Forest Service has multiple programs in place (e.g. BAER and RAVG) which monitor post-fire burn severity. These programs primarily utilize Landsat imagery to produce burn severity indices which provide widely-used wildfire damage assessment tools to decision makers. When the Hyperspectral Infrared Imager (HyspIRI) is launched, its hyperspectral resolution will support new methods for assessing natural disaster impacts on ecosystems, including wildfire damage to forests. Since it is critical to evaluate and understand the capabilities and limitations of this satellite prior to its proposed launch date in 2022, NASA conducted an airborne campaign to simulate HyspIRI data starting in 2013 and continuing into 2015. HyspIRI data were simulated from co-located AVRIS and MASTER sensors onboard a NASA ER-2 aircraft. A NASA DEVELOP project completed in the summer of 2014 qualitatively compared burn indices calculated using simulated HyspIRI data. This research expanded upon those efforts using simulated HyspIRI data to study three southern California fires from 2013 and 2014: Aspen, French, and King. Burn severity indices were calculated from the data and the results were quantitatively compared to the USFS products currently in use. The final results from this project indicate how HyspIRI data may be used in the future to enhance vegetation assessment of fire-damaged areas and provide additional monitoring tools for decision support to agencies such as the USDA Forest Service.

Please contact me directly if you would like help or need clarification with any of the suggested edits. CRains (JPL)