

## **DEVELOP National Program**

### **2015 Summer Proposed Projects** *(tentative, subject to change)*

#### **NASA Center Locations**

##### **NASA Ames Research Center – Moffett Field, CA**

- Lake Erie Water Resources: Utilizing NASA Satellite Data to Model Indicators of Harmful Algal Blooms in the Maumee River Watershed of Lake Erie
- Navajo Nation Climate II: Assessing Climate Change Impacts on Ground Water Availability and Drought Vulnerability in the Navajo Nation Using NASA Earth Observations
- Sierra Nevada Eco Forecasting: Understanding the Effects of Wildfire Severity in Relation to Snowpack in the Sierra Nevada Mountains

##### **NASA Goddard Space Flight Center – Greenbelt, MD**

- Himalaya Disasters II: Evaluating Landslide Hazards in Nepal through Remotely Sensed Data, Event Nowcasting and Crowdsourcing
- Maryland Eco Forecasting: Utilizing NASA Earth Observations to Monitor and Strengthen the Survivorship of Maryland's Sea Turtles
- Middle East Water Resources: Utilizing NASA Earth Observations to Create Climatology for Jordan, Israel, and the West Bank to Enhance Rainfall Monitoring and Management
- Thailand Disasters: Monitoring Risk and Extent of Flood and Drought for Enhanced Decision Making and Resource Allocation

##### **NASA Jet Propulsion Laboratory – Pasadena, CA**

- Los Angeles Water Resources II: Monitoring Streamflow Regimes using NASA Sensor Data to Aid Classification-Based Decision Making for Streamwater Management in Los Angeles County
- Louisiana Eco Forecasting: Examining Historic Trends in Delta Building at Wax Lake Using Radar Imagery from NASA's UAVSAR and AirSWOT Instruments to Inform Conservation and Restoration Efforts Along the Louisiana Coast
- New Mexico Water Resources: Monitoring Rangeland Conditions in New Mexico Using MODIS-Derived Evapotranspiration Products
- Western US Disasters II: Using GRACE-derived Water and Moisture Products as a Predictive Tool for Fire Response in the Western United States

##### **NASA Langley Research Center – Hampton, VA**

- Alaska Disasters: Utilizing NASA Earth Observations to identify Oil Seeps off of the Northern shore of Alaska
- Arizona Health & Air Quality: Enhancing Extreme Heat Intervention and Preparedness Activities in Maricopa County, AZ with NASA Earth Observations
- Chile Agriculture: Utilizing NASA Earth Observations to Improve Monitoring of Pest Extent and Impacts to Agriculture in Chile
- Colorado Water Resources II: Utilizing NASA Earth Observations to Identify Changes in Contaminate Sources after the Colorado Floods of September 2013
- North Carolina Eco Forecasting: Evaluating how NASA Earth Observations Can be Applied to Rapidly Detect Change in Wetland Types at Regional Scales
- North Carolina Water Resources II: Utilizing NASA Earth Observations to Monitor Harmful Algal Blooms in the Albemarle Sound of North Carolina
- Northwest US Agriculture III: Analyzing Impacts of Potential Temperature and Precipitation Changes on Apple Crop Production and Insect Pest Development

##### **NASA Marshall Space Flight Center – Huntsville, AL**

- Central America Eco Forecasting: Utilizing NASA Earth Observations to Monitor and Manage Ocelot Habitat Loss
- Rwanda-Uganda Disasters: Assessing Landslide Characteristics and Develop a Landslide Potential Hazard Map in Rwanda and Uganda using NASA Earth Observations
- Thailand Agriculture: Monitoring Food Crop Health and Stress Due to Changing Climate for Enriched Agricultural Land Management

#### **NASA Stennis Space Center – Stennis, MS**

- California Disasters II: Assessing the Effectiveness of Simulated HypsIRI Data for Use in USDA Forest Service Post-Fire Vegetation Assessment and Decision Support
- Mississippi Eco Forecasting: Using NASA Earth Observations to Locate Potential Habitat for the Mississippi Gopher Frog

#### **Regional Locations**

##### **USGS at Colorado State University – Fort Collins, CO**

- Colorado Agriculture II: Mapping Forest Species Composition at the Colorado State Forest State Park using Landsat 8 with Integrative Spatial Modeling
- Ethiopia Eco Forecasting: Mapping fire history in the Galama Mountains, Ethiopia using Landsat Time Series

##### **BLM at Idaho State University GIS TReC – Pocatello, ID**

- Idaho Disasters III: Using SMAP Earth Observations to Analyze the Link between Vegetation Moisture and Fire Susceptibility

##### **International Research Institute for Climate & Society – Palisades, NY**

- Indonesia Disasters: Creating an Enhanced Methodology for Mapping Burn Scars in Indonesian Forests Using Landsat
- Malawi-Botswana Disasters: Using Defined Flood Definitions and NASA Earth Observations to Create a Flood Forecasting Tool Targeting Region Specific Flood Types

##### **Mobile County Health Department – Mobile, AL**

- Texas Water Resources: Utilizing NASA Earth Observations to Assess Estuary Health and Enhance Management of Water Resources in coastal Texas through Land Cover and Precipitation Mapping

##### **NOAA National Climatic Data Center – Asheville, NC**

- Africa Agriculture: Utilizing NOAA Climate Data Records (CDRs) and Madden-Julian Oscillation (MJO) to Track and Mitigate Drought
- Southwest US Disasters: Incorporating Atmospheric Teleconnections and CDRs to Create a Predictive Model of Post Burn Out Flood Risk

##### **Patrick Henry Building – Richmond, VA**

- Virginia Eco Forecasting: Utilizing NASA Earth Observations for Improved Monitoring Capabilities for Enhanced Resource Management of Virginia's Forests

##### **University of Georgia – Athens, GA**

- Colombia Climate: Utilizing NASA Earth Observations to Enable Broad Scale Flood Monitoring for Wildlife Habitat in Northwest Colombia
- Georgia Disasters: Utilizing NASA Earth Observations to Monitor Sinkhole Development and Identify Risk Areas

- Southeast US Water Resources: Utilizing NASA Earth Observations and Proximal Remote Sensing for Mapping the Spatio-temporal Distribution of Hydrilla
- Costa Rica Water Resources II: Utilizing NASA Earth Observations to Develop a Comprehensive Water Budget for the Arenal-Tempisque Irrigation District of Costa Rica

**Wise County Clerk of Court's Office – Wise, VA**

- Peru Disasters II: Utilizing NASA Earth Observations to Develop a Comprehensive Water Resources Management Plan for Asunción district in Cajamarca province, Peru
- Virginia Eco Forecasting: Utilizing NASA Earth Observations for Improved Monitoring Capabilities for Enhanced Resource Management of Virginia's Forests

**International Centre for Integrated Mountain Development – Kathmandu, Nepal**

- India Climate: Applications of Remote Sensing and NASA Earth Observations for Enhanced Decision Making (Specific Topic TBD)