# PROJECT ABSTRACT

## Colorado Plateau Cooperative Ecosystem Studies Unit
## (Cooperative Agreement # H1200-09-0005)

**Park:** Parks of the Southern Colorado Plateau I&M Network

**Project Title:** Geomorphic and Vegetation Mapping in the Escalante River Riparian Corridor Using Airborne High Resolution LiDAR and Multispectral Imagery

**Funding Amount:** $68,547

**CPCESU Partner Institution:** Utah State University

**Principal Investigator:** Christopher M. U. Neale, PhD, Professor, Dept. of Civil and Environmental Engineering, Director, Remote Sensing Services Laboratory, Utah State University, Logan, UT 84322-4110, Phone: (435) 797-3689, Fax: (435) 797-1248 Email: christopher.neale@usu.edu

**Co-Investigator:** Robert T. Pack, Associate Professor, Dept. of Civil and Environmental Engineering, Director, Center for Advanced Imaging Ladar, Utah State University, Logan, UT 84322-4110, Phone: (435) 797-7049, Fax: (435) 797-1185, Email: robert.pack@usu.edu

**NPS Key Official:** Lisa Thomas, Program Manager, NPS-SCPN, P.O. Box 5765 Northern Arizona University Flagstaff, AZ 86011, Phone: 928-523-9280, Fax: 928-523-2014, Email: Lisa_Thomas@nps.gov

**NPS Project Manager:** Jodi Norris, GIS Specialist, NPS-SCPN, P.O. Box 5765 Northern Arizona University Flagstaff, AZ 86011, Phone: (928) 523-1942, Fax: (928) 523-2014, Email: Jodi_Norris@nps.gov

**Start Date:** May 10, 2010

**End Date:** September 1, 2011

---

**Abstract:**
This project will provide natural resource managers with a detailed status of the riparian corridor of the Escalante River and three of its major tributaries within GLCA. These datasets will complement and add value to several existing NPS activities. The main products of this project are

- LiDAR elevation datasets including ground surface elevation, digital elevation models, and point clouds representing heights of bare earth, low vegetation and high vegetation
- Maps of major riparian land cover types including cottonwood, willow, tamarisk, Russian olive, herbaceous vegetation, stream, and unvegetated areas

- Multispectral imagery
- Summary report describing the methods, products, and accuracy assessment

From these products, SCPN and GLCA personnel will be able to create many derived products such as the total percent cover of different vegetation types, the width of the riparian corridor, the distribution and heights of different geomorphic surfaces (channel, floodplains, terraces), and general relationships between the vegetation types and the geomorphic surfaces.

**Keywords:**
Inventory / Maps; GIS Coverage; Riparian Habitats; Hydrology of Riparian Habitats