Dataset Title: Near-shore topography transects

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Classification: Hydrology

Data Overview:
        Near-shore topography transects perpendicular to the lake shore were conducted using a Sokkia® C310 Automatic Level and survey rod. Survey transects logged location, elevation, and surface condition (e.g. vegetation, snow/ice, or water) at approximately three meter intervals. The transect also measured bathymetry along the transect for several meters into the lake where possible. Survey stations were logged in space by Trimble® 5700 GPS receiver with a Zephyr Geodetic antenna. The horizontal accuracy of the DGPS point, based on the DGPS point processing reports, was approximately ±20 cm. Although vertical accuracy was roughly ±200 cm for the DGPS tie point, the accuracy of the transect points relative to each other was ~1cm.

Data Format:
        Most lakes in the area are unnamed so for this study, the lakes were named "L" and then a number counting up from 100 for lakes mapped in 2008, 200 for lakes mapped in 2009, and 300 for lakes mapped in 2010.
        This dataset is in ArcView shapefile format, and is projected in the UTM Zone 4 North with units of meters (m). All have the following attributes:
                FID: Unique feature identifier (integer)
                Shape: Point (geometry)
                lake_name: Lake name (L100, etc... see above) A, B, etc... for multiple transects
                UTM_X: X coordinate in UTM projection (m)
                UTM_Y: Y coordinate in UTM projection (m)
                UTM_Z: Z coordinate in UTM projection (m)
                surface: land surface type at point (text)
                ID: count of points in each transect (integer)

Topography Transect shape files:
all_transects.shp

Reference to Cite:

Lyons, E.A., Y. Sheng, L.C. Smith, J. Li, H.M. Hinkel, J.D. Lenters, J. Wang, 2011. Quantifying sources of error in multitemporal, Landsat-based lake mapping, *International Journal of Remote Sensing*, in review.