

Tom Darby – Geospatial Analyst Introduction

Employed as a geographer for the Army Corps of Engineers for the past nine years. Served thirty-two years gaining leadership and management experience in problem-solving and team-building as an Engineer and Logistics officer in the US Army Reserve Army.

Experienced Geospatial Analyst

Uses Geographic Information Systems (GIS) to create and analyze map data and produce cartographic products. Uses ESRI ArcPro, ArcGIS Online and Portal apps to manage and display large datasets. Utilizes elevation

data from LIDAR and Fluvial Geomorphology techniques to analyze stream reaches. Develops web apps, including ArcGIS Experience Builder, for field collection in Field Maps and to display project sites and data in an online product for better team collaboration.

Supported emergency operations in Puerto Rico for restoration of transmission lines and Florida to assess homes for the FEMA Blue Roof Program. Used GIS/GPS in the field to navigate QA teams to distant substations and project sites. Provides ongoing support to Quincy Flood Area team for levee inspections and during flood response. Uses Field Maps app and field collection techniques to update the Emergency Operations Center about levee status.

Fluvial Geomorphology Experience and Expertise

Uses the fluvial geomorphology ArcPro toolset to provide rapid analysis and assessment using LIDARderived terrain data. Produces cost-effective stream channel dimension extraction across wide areas of interest. Through toolset and process development, make the FluvGeo system streamlined for efficient and effective stream analysis. Allow multiple stream reaches to be assessed and stream metrics to be generated and delivered to the customer with improved turnaround time. Researched LIDAR data and developed large digital elevation models (DEMs) across hydrologic reaches to use Fluvial Geomorphology tools to remotely assess stream changes across regions over multiple years.

Supported projects that include: DOTS infrastructure assessments, development of the Streambank Manual, Regional Curves, and determination of Ordinary High-Water Mark. Project sites included streambanks protected under the Delta Headwaters Project, and terrain analysis for the Rio Coca dam and waterfall collapse in Ecuador to analyze major erosion issues. Analyzed flood prone watersheds and post-wildfire sites in Oregon, California and New Mexico. Tracked sediment flows to determine mitigation techniques. Performed impact analysis of Engineering with Nature sites and streambank protection to measure their efficacy.

Skillset

Geospatial analysis using ArcPro and cloud-based systems to solve problems. Elevation raster development on a large scale to support hydrologic unit flow analysis. Fluvial Geomorphology tool process development to analyze streambank changes. Data research to obtain and maintain accurate data for project development. Field data collection using Field Map app and GPS devices. Map viewer applications for data collection at field sites and project locations. Program data storage, archiving and retrieval for future updates. Change analysis to compare elevation rasters from multiple years to view

elevation change. Management support to hire qualified employees. Field support to emergency management operations.

Education

- B. S. Social Science Evangel University, Springfield, MO
- M. A. Education Administration Univ. of Missouri-St. Louis, MO
- Certificate in Geographic Information Systems Washington University in St Louis, MO

Advanced Certificate in International Affairs Washington University in St. Louis, MO