

TREY D. CROUCH

6 Phelps Lab, PO Box 116350 Gainesville, FL 32611-6350 | US Cell: (928) 814 2660 | treycrouch@gmail.com; treycrouch@ufl.edu

EDUCATION

University of Wyoming, Laramie, WY

M.S. in Civil Engineering, Water Resources

2012

Thesis topic: Quantifying Hydrological Ecosystem Services of Various Land Covers and Uses within the Panama Canal Watershed

University of Wyoming, Laramie, WY

B.S. in Civil Engineering

2009

Area of concentration: Water Resources

Passed Fundamentals of Engineering Exam (EIT)

RELATED EXPERIENCE

GCMRC - USGS Natal Origins Project, Flagstaff, AZ, USA

Amazon Dams Network Volunteer

Jun. - Jul. 2015

Fundación Natura, Bogotá, Colombia Project for Reciprocal Water Agreements (ARA)

Consultant

Oct. 2013 – May 2015

Planning and implementation of the water quantity and quality monitoring under a pay for ecosystems services scheme between the downstream municipality's water treatment and supply company and upstream farmers.

The Field Museum Rapid Conservation Inventory Biological Team, Tapiche-Blanco, Loreto, Perú

Geologist/Hydrologist

Oct. - Nov. 2014

INGETEC S.A. Hydrology and Hydraulic Design Departments, Bogotá, Colombia

Civil Engineer

Oct. 2012 – Sept. 2014

Hydrology Department:

Hydrological and meteorological characterization for environmental assessment and feasibility studies of water resource engineering projects in the countries of Colombia Panama and Chile.

Flood risk evaluation through field visits and hydrological and channel hydraulic analysis.

Design flood and minimum required ecological flow estimations.

Hydraulic Design Department:

Preliminary and detailed hydraulic design from intake to tailrace for small to medium sized hydroelectric projects in Colombia, Costa Rica and Chile. Installed capacity 5-150 MW.

Optimization of structure dimensions through cost-benefit analyses.

Empirical river morphology and scour estimations.

University of Wyoming, Laramie, WY

Research Assistant

Aug. 2009 – May 2012

Spent various extended field seasons in Panama with three field technicians assuring quality data acquisition, processing, and data-basing for the Agua Salud Project.

Elaborated of field and database QA/QC protocol for hydrological technicians. Assisted in laboratory experiment looking at the effects of sedimentation on v-notched weirs

Assistant Field Instructor

Aug. 2011

Arranged field activities for the second week of a two-week field course at the Agua Salud Project sites with the Environmental and Natural Resources Department of the University of Wyoming.

Smithsonian Tropical Research Institute, Panama City, Panama

Field campaign coordinator

Fall 2011

Helped design water sampling campaign for the Agua Salud Project

Undergraduate Research and Field Assistant

May 2009 – Aug. 2009

Assisted in installing hydrological network for the experimental Agua Salud Project sites in Panama. Equipment installed included eddy covariance, meteorological, rain gauge network, shallow piezometers, stream sensors, etc.

University of Wyoming Engineers Without Borders Student Chapter

2008 – 2010

Design Team for Guatemala Project

Designed and travelled to Guatemala for the construction of an elementary school for a landslide displaced community on Lake Atitlan

Kenya Project

Assisted in the initial stages of the water supply project; helped develop relationships with the small community of Mbita, Kenya through alternative design feasibility reports, and local Wyoming communities through fundraising

PUBLICATIONS AND CONFERENCES

Quantifying Hydrological Ecosystem Services of Various Land Covers and Uses on Small Experimental Catchments within the Panama Canal Watershed: The Agua Salud Project

Dec. 2011

American Geophysical Union poster presentation, San Francisco, CA

An Eco-Hydrologic Assessment of Small Experimental Catchments with Various Land Uses

Dec. 2010

American Geophysical Union poster presentation, San Francisco, CA

Effect of land cover and use on dry season river runoff, runoff efficiency, and peak storm runoff in the seasonal tropics of Central Panama Ogden, Fred; **Crouch, Trey**; Stallard, Robert; Hall, Jefferson. WATER RESOURCES RESEARCH, VOL. 49, 1–20.

2013

SOFTWARE AND OTHER

Matlab, R, SciLab, ArcGIS, HEC-RAS, HEC-HMS, Hydrus 1D and 2D/3D, AutoCad 2012 y Civil 3D 2012, Water Hammer and Mass Oscillation (WHAMO 3.0), Fedora 10 Linux Operating System WMS -Watershed Modeling System, five day training course, Aug. 2009

Stream gaging and sampling: including In-Situ Inc. and HOBO pressure transducers and ISCO systems

Hydrometeorological equipment: including Campbell Scientific, HOBO and LICOR systems

Surveying Experience: channel surveying for hydraulic modeling using total station

LANGUAGES

English – native speaker

Spanish – full professional proficiency (reading, speaking and writing)

TRANSLATION

Translated a first draft of a manuscript to be published in an English-speaking journal:

“A COUPLED UNSTEADY AND STEADY FLOW MODEL FOR WATER NETWORK SYSTEMS BASED ON FINITE VOLUMES METHOD”

For Professor Hector William Clavijo Sanabria of the Civil Engineering Department at Pontificia Universidad Javeriana, Bogotá, Colombia.

MEMBERSHIPS

Tau Beta Pi, Engineering Honor Society
Engineers Without Borders
American Water Works Association
American Geophysical Union

REFERENCES

Fred L. Ogden
Professor, University of Wyoming
Master's Major Advisor
fogden@uwyo.edu

Scott Miller
Associate Professor, University of Wyoming
Spatial Analysis of Watershed & Landscape Systems Group
smiller@uwyo.edu

Catalina Jaime
Disaster Risk Management Delegate
Swiss Red Cross, Philippines
Jaime.catalina@redcross.ch