DYLAN SCOTT

Portfolio | https://dylanscott.dev
Email | HelloDylanScott@gmail.com
Phone | 520 - 904 - 7105

EXPERIENCE (Sorted by Relevance)

Founder | Tucson Pathways **Oct 2018 – Present**

- Created tucsonpathways.org; a route-planner web-map that provides cycling-directions focused on safer, quieter, more scenic bicycle-routing (see *Tech-Demo*, *Slidedeck* or *Web-App* for more details)
- Routing engine software maximizes use of Residential Street-Network along with Traffic-Controlling Crosswalks, to bypass High-Traffic Roadways (web-map currently in pre-alpha development, as an operational proof-of-concept)
- Project utilizes OpenStreetMap datasets, Mapbox-GL architecture, and a customized Graphhopper routing engine
- Daily-workflows involve: QGIS, Git Bash, JOSM, iD, Geofabrik, Overpass-Turbo, Mapbox-GL API, Graphhopper API, Geojson.io, web-design (HTML/CSS/Javascript), Docker, ogr2ogr, and Python
- Entirely self-taught in all softwares listed above, while working full-time as a Bartender & Bicycle-Mechanic in Tucson
- Project has been featured in *Arizona Public Media* & *KVOA News*

GIS Analyst Intern | City of Tucson, Bicycle & Pedestrian Program **May 2017 – Sept. 2017**

- Analyzed methods used to generate the *Bicycle Network Analysis web-map* for the City of Tucson
- Utilizing city data along with open-source data from OpenStreetMap to validate the accuracy of Tucson's Bicycle Network Connectivity Score
- Work will better bicycle infrastructure through the City of Tucson, to determine where to direct resources for future infrastructure projects

GIS Research Analyst (Contractor) | Natural Infrastructure Program, World Resources Institute May – Nov 2014

- Developed all methods and geospatial analysis for the *Forests-for-Water Map Platform* – series of global map datasets intended for corporate audiences, that illustrate where green infrastructure can mitigate water management issues; using WRI's *Aqueduct Water Risk Atlas*, *Global Forest Watch*, & *Atlas of Forest Landscape Restoration Opportunities*
- Studied natural and anthropogenic processes affecting forestry, watershed hydrology, and land-use change; Created metrics to evaluate their impact on water security in a GIS-framework
- Led in-office meetings and directed project workflow; frequently briefed supervisors & colleagues on research findings
- Well versed in ArcGIS, data management, python scripting, spatial analyst tools, modelbuilder, online data networks
- Authored presentations, GIS datasets, project proposals, reports, maps, audience notes, blog posts, and infographics

GIS Hydrological Technician | Water-Use Program, United States Geological Survey March 2010 – Aug 2013

- Regularly modeled water-use and energy-use by watershed, state, and national boundary for agricultural, municipal, thermoelectric, industrial, mining, hydroelectric usage, as part of *The National Water Use Information Program* & *The Arizona Water Resources Reporting Program*
- Very well versed in industrial-agriculture practices and associated effects on water-use and land-use (e.g. irrigation systems efficiencies, crop consumptive-use, multi-cropping practices, GW vs. SW delivery systems, etc.)
- Designed object-oriented databases/equations to calculate statewide water-use, from user defined parameters and variables (for estimation models in agricultural, municipal, and thermoelectric water-use categories)

Project Coordinator Intern | Office of Sustainability, University of Arizona Jan 2012 – Jan 2013

- Developed expertise in a wide variety of sustainable technologies, their benefits and limitations
- Managed Water Harvesting Team – assisted in design and planning of rainwater-capture and flooding mitigation projects
- Gained experience with community outreach, grant writing, marketing, and earthworks design

GIS Data Mapping Intern | Watershed Management Group **Jan 2009 – Feb 2010**

- Analyzed city infrastructure and earthworks feature, and their effect on urban stormflow mitigation
- Provided GIS support for analysis of rainwater harvesting systems throughout the City of Tucson
- Digitized and analyzed various flood-mitigating earthwork features in ArcMap

Compost Officer | University of Arizona, Compost Cats **June 2012 – June 2013**

- City-wide student led operation, gathered 300,000 lbs/year of food-waste and reprocessed to compost
- Helped in education/outreach/sales programs with locals businesses & community organizations
- Gained experience, and newfound appreciation for farm operation, equipment, and labor practices

PUBLICATIONS & HONORS

Lead-Developer | Global Natural Infrastructure Opportunity Web Map (Draft Project Data)
Forests for Water Management Webmap (Draft) ; Cobean, D; (Published Nov 2015)
Summary: Natural Infrastructure (e.g. Forests, Wetlands, Riparian Vegetation…) has been proven to help mitigate various water risk (e.g. reduce flooding, regulate water chemistry, sedimentation capture…). As a Proof-of-Concept, global sedimentation risk was mapped and alongside is forest conservation and forest restoration efforts which would mitigate that risk.

- Lead Developer of all methods and resulting datasets as part of WRI's Natural Infrastructure Program

Author | Scientific Investigation Report, United States Geological Survey
Dickens, J., Forbes, B., Cobean, D., Tadayon, S.; (Nov. 2011). *Documentation of Methods and Inventory of Irrigation Data Collected for the 2000 and 2005 U.S. Geological Survey Estimated Use of Water in the United States, Comparison of USGS-Compiled Irrigation Data to Other Sources, and Recommendations for Future Compilations.*

- Marked as a *Publication of Note* by the USGS Office of Science Quality and Integrity
- Was one of approximately a dozen undergraduate student in the nation to be published with the USGS

Top Presentation | Donald R. Davis Undergraduate Award
Cobean, D., Whitaker M., Tadayon, S.; El Dia del Agua Conf. Tucson Az, (March 2011). *Analysis and Utilization of the Arizona Cropland Data Layer Map as a Source of Crop Acreage in Consumptive Use Estimates of Irrigation Water Use*

EDUCATION

Bachelor of Science, with Distinction | Applied Mathematics & Environmental Hydrology
University of Arizona, Tucson Arizona (May 2013)

Coursework Included: • Environmental Physics • Risk Assessment for Environmental Systems • Linear Algebra • Mathematical Modeling • Field Hydrology • Atmospheric Science • Advanced Calculus • Hydrogeology

LEADERSHIP & VOLUNTEER

Youth Climbing Instructor | Rocks & Ropes Climbing Gym **June 2018 – March 2020**
- Volunteered 1-on-1 with kids (ranging 4-16 years old), coaching in sport-climbing/bouldering

Board Member | University of Arizona Sports Club Allocation Committee **Sept 2008**
- Allocated $45,000 in total, to various UA sports organizations, per committee review
- Inventoried more than $200,000 worth of yearly expenses from the UA Club Sports Program

President | University of Arizona Men's Ultimate Frisbee **May 2007 – May 2009**
- Managed club budget, student accounts, schedule of events, weekly officer meetings
- Renovated club's accounting and payment system to adopt online system
- Organized UPA-sanctioned College Sectionals Tournament (2008 & 2009)

Tutor | Mathematics and Physics **Aug 2004 – May 2009**
- Developed competence in student-teaching methods
- Mathematics – Algebra, Calculus I & II, Vector Calc, Matrix Analysis, Differential Equations
- Physics – Kinematics I, Thermodynamics I, Electromagnetics I

SUBJECT-MATTER EXPERIENCE

Geospatial Analysis: • ArcGIS 9.0 – 10.3 • QGIS 3.1 • ModelBuilder • QGIS Graphical Modeler • OpenStreetMaps • iD (OSM Editor • JOSM (OSM Editor) • ogr2ogr • Photoshop • Google Docs/Drive • Microsoft Suite

Program Languages: • Git • Mapbox-GL Api • Graphhopper 0.13-1.0 API • HTML • JavaScript • jQuery • CSS • SQL • Bootstrap 3-4 • Leaflet.js • Node • CartoCSS • Python

Sector-Specific Knowledge: • Urban Design Theory • City Planning • Industrial Agriculture • Web-Mapping • Technical Writing • Data Visualization • Data Management • Project Development • Leadership/Team Management • Communication • Sustainable Dev. Technologies • Watershed Hydrology • Natural Resources Management