

Dr. Vivian S. Hobbins
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EDUCATION

Sonora Institute of Technology	Ecohydrology	Ph.D. 2016
Sonora Institute of Technology	Sciences in Natural Resources	M.S. 2012
Sonora Institute of Technology	Diploma in Mathematics	2010
Sonora Institute of Technology	Civil Engineering	B.S. 2002-2006

SCHOLARSHIPS AND RECOGNITIONS

Researcher Candidate Title – National Science Foundation in Mexico - 2017
Consejo Nacional de Ciencia y Tecnología, México (CONACYT). PhD Degree Scholarship.
Consejo Nacional de Ciencia y Tecnología, México (CONACYT). International Exchange ASU
Scholarship.
Consejo Nacional de Ciencia y Tecnología, México (CONACYT). Master’s Degree
Scholarship.
Civil Engineer of the Year. 2005. College of Civil Engineers, Ciudad Obregón, Sonora.

EXPERIENCE

Project Manager – Research (October 2023 to date) at Ira A. Fulton Schools of Engineering Arizona State University supporting Arizona Water Innovation Initiative and the Center for Hydrologic Innovations.

Address: 777 E University Dr., Tempe, AZ 85287. WCPH 510.

Supervisor: Stacy Esposito and Dr. Enrique Vivoni

Projects and Activities:

- Plans, develops, implements, and manages project-team tasks and assignments.
- Works closely and collaboratively with stakeholders, researchers, and students.
- Monitors project expectations with team.
- Prepares reports and communications.
- Supports decision making process.
- Prepares and maintains project budget and resource projections.
- Develops and gives presentations for stakeholders and staff.

Program Manager, Growing Water Smart Program (December 2022 to October 2023) at Sonoran Institute – nonprofit organization.

Address: PO Box 9792. Denver, CO 80209

Supervisor: Waverly Klaw and Francisco Zamora

Projects and Activities:

- Researching and authoring reports and proposals.
- Building and managing projects.
- Leading US-MX Border Growing Water Smart.
- Organizing and leading meetings and listening sessions.
- Developing and giving presentations for stakeholders and staff.
- Data analysis.
- Overseeing contracts.
- Reviewing water policies to integrate water and land use.
- Proposing water conservation strategies.
- Supporting communities on finding new ways to measure water savings and promote water conservation.
- Communicating with water providers and utility companies.
- Workshop development.

Faculty Manager (June 2019-June 2022) at Grand Canyon University (GCU)

Address: 3300 W Camelback Rd. Phoenix, AZ 85017.

Supervisor: Georgette Gorman

Projects and Activities:

- Faculty Support and Training.
- Developing training materials for faculty.
- Faculty coaching and training on: Classroom Management, Engagement Activities, Assessment Techniques.
- Data analysis: Generate reports from internal system (xRM).
- Analysis of End of the Course Survey (EOCS) Results – College Scale from pivot table
- Using interactive technology for educational settings: assessment tools, multimodal production tools, video tools, communication.
- Organizing conferences.
- Organizing webinars and On-Demands for faculty and staff.

Skills developed:

- Project administration.
- Communication.
- Presentation skills.
- Task prioritization.
- Develop and assist faculty.
- Collaboration skills.
- Leadership skills.

Postdoctoral researcher (December 2016 – December 2018) at Sonora Institute of Technology (ITSON).

Address: 818 South, 5 de Febrero Street, ZP 85000 Ciudad Obregon Sonora.

Supervisor: Dr. Agustin Robles, ITSON. Dr. Nancy Grimm, Dr. Enrique Vivoni- ASU

Projects and activities:

- Regional hydrological analysis to study the effects of climate extreme events (flooding and drought) in urban centers.
- Analysis of the vulnerability of urban population of Hermosillo to heat waves based on physical and social factors.
- Analysis of the meteorological and socioeconomical drought effects in historical and future periods at Hermosillo.
- Co-Founder and Co-Host of the Urban Resilience to Extremes Sustainability Research Network Future Cities Podcast.
- Field campaigns. Activities: instrument installation (rain gauges, Eddy Covariance system, temperature and humidity sensors, data loggers, GPS and others) data acquisition, instrument maintenance.

Skills developed:

- Semi-distributed macroscale hydrological modeling.
- Managing and analyzing large datasets.
- Code development.
- Use and management of Couple Model Intercomparison Project 5 future climate projections from LOCA statistical downscaling.
- Quantitative analysis techniques of social factors.
- Teamwork.
- Science communication.
- Remote sensing data analysis.

Project Manager of the Department of Public Works (March 2012 – December 2012) at Sonora Institute of Technology (ITSON).

Address: 818 South, 5 de Febrero Street, ZP 85000 Ciudad Obregon Sonora.

Supervisor: Graciela Catalina-Treviño

- Designing and budgeting of the Arena ITSON.
- Leading maintenance projects of different buildings in ITSON.

Skills developed:

- Leadership
- Water supply systems design.
- Use of Geographic Information Systems (GIS) in water distribution networks.
- Use of Autocad for project design.
- Designing, planning, and project cost administration of a residual water treatment plant.
- Projects of the rehabilitation of the water pipes.
- Executive project of rehabilitation, reinforcement, sectorization and extension of water systems.

Consultant at Alcaraz Consultancy (2010 - 2012).

Address: 48 Enrique Garcia Sanchez Street, Apt. 9, San Benito, ZP 83140 Hermosillo, Sonora.

Supervisor: Alejandro Alcaraz-Ruiz

Telephone: +52 662 2157888

Projects:

- Executive project of rehabilitation, reinforcement, sectorization and extension of potable water system.

Skills developed and software used:

- Teamwork.
- Leadership (supervisor of 5 workers).
- Project design in two dimensions (AutoCAD).
- Budgeting, cost administration (OPUS).
- Project management (OPUS, Excel).
- Field work.

Construction Budget Manager at Remodeling of the General Hospital of Ciudad Obregon, SON. (2011) for BISSA (Buffet de Ingenieria de Sonora).

Supervisor: Eduardo Diaz

Activities:

- Quantification and supervision of project advances.
- Project design and update.
- Budgeting of additional cost of the awarded work.
- Modifications, price review of the work in progress.

Independent projects (2009)

- Design and budgeting of water treatment plant (biological oxidation pond system).
- Design and budgeting of the rehabilitation and extension of the drinking water supply network for Tepache Sonora.
- Building expansion project design and budgeting for Agro-business and agro-industry park or area.

Project Manager (March 2006 – June 2009) at OOMAPAS in Cajeme (Urban potable water, sewer and sanitation management operation authority of Cajeme, Sonora).

Address: 150 North, Sinaloa Street, ZP 85000

Supervisor: Tyla Meza Chavez

Skills developed and software used:

- Design of water supply systems.

- Use of Geographic Information Systems (ArcGIS) in water distribution Networks.
- Designing, planning (AutoCAD), and budgeting (OPUS) of a residual water treatment plant.
- Projects of the rehabilitation of the water pipes.
- Executive project of rehabilitation, reinforcement, sectorization, and extension of water systems.

RESEARCH

PhD student - full time 2012-2016

Postdoctoral researcher 2016 to 2018 at ITSON.

Elaboration of course content and programs of Civil and Mining engineering program at LA SALLE University (2012-2014).

PUBLICATIONS AND ORAL PRESENTATIONS

Verduzco, V. S. (2012). Management of Natural Resources using Geo-Spatial Advanced Tools and Technologies". Speaker at Instituto Regional de Guaymas, A. C.

Verduzco, V.S., Yépez E.A., Robles-Morua A., Garatuza-Payan J., Rodriguez J.C., Watts C. (2013). Precipitation seasonality effects on Carbon fluxes in the North American Monsoon region: a flux frequency analysis. American Geophysical Union. Meeting of the Americas. Cancún, Quintana Roo.

Verduzco, V.S., Yépez E.A., Robles-Morua A., Garatuza-Payan J. (2014). Net Primary Productivity Variations Among Three Ecosystems Located in the North American Monsoon Region. International Carbon Symposium in Mexico 2014, Merida, Yucatan.

Verduzco, V. S., Garatuza-Payán, J., Yépez, E. A., Vivoni, E. R., Watts, C., Rodriguez, J.C., Robles-Morua, A. (2015). Seasonal Precipitation Variability Effects on Carbon Exchange in a Tropical Dry Forest of Northwest Mexico. American Geophysical Union, Fall Meeting. San Francisco, California, December 2015.

Verduzco, V., Garatuza-Payán, J., & Díaz, S. (2015). Priorización de necesidades de reemplazo de tuberías usando SIG y evaluación multicriterio. *Tecnología y Ciencias del Agua*, **6**(1), 99-120.

Verduzco, V. S., Garatuza-Payán, J., Yépez, E. A., Watts, C. J., Rodríguez, J. C., Robles-Morua, A., Vivoni, E. R. (2015). Variations of net ecosystem production due to seasonal precipitation differences in a tropical dry forest of northwest Mexico. *Journal of Geophysical Research: Biogeosciences*, **120**(10), 2081-2094.

Verduzco, V. S., Vivoni, E. R., Yépez, E. A., Rodriguez, J., Watts, C., Tarín, T., Garatuza-Payán, J., Robles-Morua, A., Ivanov, V. (2017). Climate change impacts on net ecosystem productivity in a subtropical scrubland of northwestern México. *Agricultural and Forest Meteorology*.

Verduzco, V. S., Vivoni, E. R., Yépez, E. A., Rodriguez, J., Watts, C., Tarín, T., Garatuza-Payán, J., Robles-Morua, A., Ivanov, V. (2017). Impactos del cambio climático en la productividad neta del ecosistema en ecosistemas semiáridos del noroeste de México. Simposio internacional del carbono en México. Ensenada, Baja California, Mayo 2017.

Poster Presentations

Verduzco V., Navarro J., Robles-Morua A., Vivoni E.R., and Peñuñuri L. (2017). Geographical data layers of urban features in Hermosillo, Sonora to address urban resilience to extremes. City Comparison Working Group. All hands meeting of " Urban resilience to extreme events".

Verduzco V., Bohn T., Robles-Morua A., and Vivoni E.R. Impacts of meteorological extreme events on regional water balance and susceptibility of urban populations: Poster session in all hands meeting of " Urban resilience to extreme events " project. Climate Hydrological Extreme Events Working Group. All hands meeting of " Urban resilience to extreme events".

SUPPLEMENTARY TRAINING

Design of network distribution of sewage working with CIVILADS and SWMM.

Completed workshop of drinking water and sewage fees.

Completed workshop of public construction laws and services related.

Completed workshop of social evaluation of the projects.

Completed workshop of evaluation of the projects.

Hydraulics Works and supervision.

Qualified seminar: Gathering, actualization, integration, view, consult and Analysis of geographical information using ArcGIS 10 and GPS technology.

Macroscale hydrological simulation with VIC model.

Hydrological and Ecohydrological modelling tRIBS and tRIBS-VEGGIE.

Science Diplomacy & Leadership Program. Center for engagement & training in science and society. Arizona State University. Washington DC.

Science and Communication Workshop (COMPASS) at New School, New York.

SOFTWARE KNOWLEDGE

Microsoft office (Excel, Word, Access, Publisher, Outlook, PowerPoint)

AutoCAD

OPUS

ArcGIS

Microstation

OPUS

EPANET

Civil-Cad

Statgraphics

MATLAB

R

VIC (hydrologic model)

tRIBS (hydrologic model)

LANGUAGES SPOKEN

Spanish (Native)

English (Fluent)