ORGANIZATION ROLE

Principal for Research Strategies

PROJECT ROLE / FOCUS AREAS

Structured decision making

Coastal restoration decision support

Coastal morphology and sediment transport

Waves and nearshore hydrodynamics

EDUCATION

Ph.D., Mechanical Engineering (Thermal Science and Fluid Dynamics), University of Florida, 2008

MS, Mechanical Engineering, University of Florida, 2006

MS, Geological Oceanography, Oregon State University, 2001

BS, Physics Mathematics, Eckerd College, 1999

PROFESSIONAL MEMBERSHIP

American Geophysical Union
American Society of Limnology and Oceanography
Florida Association of Environmental Professionals
Association of Women Geoscientists

P. SOUPY DALYANDER, PH.D.

Principal for Research Strategies

Dr. Patricia “Soupy” Dalyander, structured decision-making (SDM) facilitator and oceanographer, has more than 20 years of experience in research and decision-support.

Soupy received her bachelor’s degree in physics and mathematics from Eckerd College in St. Petersburg, Florida, a master’s degree in geological oceanography from Oregon State University, and another master’s degree from University of Florida in mechanical engineering. She received her Ph.D. from University of Florida in mechanical engineering with a focus in thermal science and fluid dynamics.

Soupy’s professional experience includes working with the Coastal and Marine Hazards and Resources Program of the U.S. Geological Survey. In addition, she worked on decision-support projects, sediment management, and water quality as a research scientist for the Engineering Research and Development Center of the U.S. Army Corps of Engineers.

Dalyander specializes in SDM application and has been certified through the USFWS National Conservation Training Center (NCTC). She also studies sediment transport and morphodynamic change, beach and barrier island evolution, and developing ways to predict coastal restoration project success. At The Water Institute, she led a team assisting the U.S. Army Corps of Engineers (USACE) Southwestern Division in the development of a Civil Works Strategic Plan, co-led team to develop a Research & Development Strategy for USACE and created a new barrier island evolution numerical model for the Louisiana Coastal Protection and Restoration Authority (CPRA). Her activities at USGS included developing a new empirical dune growth (EDGR) model and contributing to model frameworks to predict the decadal scale evolution of Dauphin Island, Alabama, and Breton Island, Louisiana, as well as collaborating to develop new ways to incorporate data and models into decision-support for the restoration of Ship Island, Mississippi.

PROFESSIONAL EXPERIENCE

2024–Present: Lead Research Scientist/Principal for Research Strategies, The Water Institute
2019–2024: Senior Research Scientist, The Water Institute

2010–2019: Research Oceanographer, U.S. Geological Survey

2008–2010: Research Physical Scientist, U.S. Army Corps of Engineers

2001–2008: Oceanographer, Integrated Statistics and ECO

SELECTED PROJECTS

Study to Define the Environmental Benefits of Dredged Sediments in Benefit-Cost Ratio Calculation. *Gulf of Mexico Alliance (GOMA). (2023–Present). PI.* Developing best practice for valuing beneficial use of dredged material and research sediment management, including economic, environmental, and social considerations.

Louisiana Barrier Island System Management (BISM) Project. *Louisiana Coastal Protection and Restoration Authority (CPRA). (2019–2021; 2023–Present). PI and SDM Facilitator.* Developing a framework for regional sediment management in barrier island restoration, including inventorying available data for model development and identifying potential stakeholder concerns.

Development of a Classification Scheme for Offshore Sediment Resources. *Bureau of Ocean Energy Management (BOEM). (2023–Present). PI and SDM Facilitator.* Using Structured Decision Making to guide development of a classification scheme using pilot application to previously used borrow areas. The scheme will allow potentially similar sediment resources to be identified based on relatively limited information and to inform new data collection.

Accelerating the Integration of Nature-Based Solutions (NBS) into USACE Civil Works Practice. *U.S. Army Corps of Engineers (USACE). (2023–Present). PI.* Identifying challenges and opportunities in the implementation of NBS by USACE and facilitating the development of a strategy for the Engineering with Nature Program to accelerate NBS in practice.

Louisiana Climate Initiatives Task Force. *Louisiana Governor's Office of Coastal Activities. (2022). SDM Facilitator.* The Institute advised the Governor's Office through a one-year planning process to support the Climate Initiatives Task Force in developing a roadmap and specific actions to meet the state's ambitious goal of net zero greenhouse gas emissions by 2050. This effort engaged more than 140 multidisciplinary experts across the Task Force, four Advisory Groups, and six Sector Committees, as well as the public, throughout a transparent and collaborative planning process grounded in SDM framework.

SELECTED PUBLICATIONS

1. Kibria, A. SMG, Seekamp, E., Xiao, X., Dalyander, P.S., Eaton, M. (2024). Multi-criteria Decision Approach for Climate Adaptation to Preserve Cultural Resources in the Atlantic Coast of the Southeastern United States. Climate Risk Management 43, 100587.
2. Dalyander, P.S., Tebyanian, N., Henkel, J. (2023). Resilient Jacksonville: Analysis of Spatial Planning Alternate Future Scenarios. The Water Institute. Baton Rouge, LA, 15 pp.
3. Fischbach, J. R., Dalyander, P.S., Carruthers, T., McHugh, C., DeJong, A., McMann, B., Littman, A., Haertling, A., Kane, P., and Bond, C.A. (2023). Case Study Analysis Results and Recommendations. The Water Institute of the Gulf. Baton Rouge, LA, 241 pp.
4. Kiskaddon, E., Dalyander, P.S., DeJong, A., McHugh, C., Parfait, J., Littman, A., Hemmerling, S.A., Dausman, A. (2023) Evaluation of emission reduction and other societal and environmental outcomes: SDM for the Louisiana Climate Action Plan. J. Env. Mngt. (344), 118936.
5. Kiskaddon, E., Bienn, H., Hemmerling, S., Dalyander, P.S., Grismore, A., Parfait, J., Miner, M.D., Cameron, C., Hopkins, T.E., Allen, Y., Jones-Farrand, D., Martin, M., Tirpak, B.E., Green, M., Rhinehart, K., Carruthers, TJB. (2022). Supporting habitat restoration in the northern Gulf of Mexico through synthesis of multiple and interacting benefits and stressors, J. Env. Mngt. (318), 115589.
6. Dalyander, P.S., Meyers, M., Mattsson, B., Steyer, G., Godsey, E., McDonald, J., Byrnes, M., and M. Ford (2016). Use of structured decision-making to explicitly incorporate environmental process understanding in management of coastal restoration projects: case study on barrier islands of the northern Gulf of Mexico. J. Env. Mngt. 183(3), 497–509.