Introduction to the Proceedings of the 7th Tampa Bay Area Scientific and Information Symposium

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Since 1982, the Bay Area Scientific and Information Symposium (BASIS) has provided a forum for sharing innovative research on Tampa Bay and its watershed. Thousands of scientists, resource managers, decision-makers, students, and community members work every day to protect and restore the natural resources provided to our region by Tampa Bay. The collective understanding generated from this work requires a common setting where individuals can freely share and discuss the state of the science that is the foundation for informed bay management. BASIS provides such a venue and has been a regularly occurring event since its inception. To date, BASIS has convened on six occasions, with the seventh and most recent occurring February 28th to March 4th, 2022 in St. Petersburg, Florida.

The proceedings herein represent the combined works of all presenters at the seventh BASIS conference, BASIS7 ([Figure 1](#fig-logo)). Over 250 area researchers, resource managers, policy makers, and students attended the event. The BASIS7 conference was also held jointly for the first time with the annual meeting of the Association of National Estuary Programs, bringing partners from all 28 estuary programs in the United States. Over the five days of the conference, 77 talks and 21 posters were provided in 13 thematic sessions that each focused on critical research needs and the state of the science on relevant bay management topics. The proceedings in this special issue are organized around these sessions:

1. Community-based science
2. The unseemly-unseen: Tracking contaminants in our bays and estuaries
3. Harmful algal blooms
4. Debris monitoring
5. Fish conservation, monitoring, and management
6. Shellfish
7. Planning for climate change
8. Coastal acidification
9. Development, growth, and land use change
10. Episodic and catastrophic events
11. Managing and mapping marine macrophytes
12. Ecosystem services
13. Novel restoration techniques

The papers in this special issue and the knowledge they represent integrate local insights with those from the broader estuarine collective. Readers of this special issue can learn from the different perspectives to better understand how to pursue actionable science for the benefit of restoring our shared national coastal and estuarine assets. Each paper has also been peer-reviewed by at least two experts, marking the first such occasion of BASIS proceedings undergoing this rigorous process. The decision to peer-review each paper represents the commitment of the Tampa Bay Estuary Program in adopting a defensible, transparent, and science-based foundation for bay management. We owe a debt of gratitude to the assistant guest editors that helped facilitate this process: Dr. Aaron Brown, Holly Greening, Dr. David Karlen, Kerry Flaherty-Walia, and Dr. Kimberly Yates.

BASIS7 would not have been possible without the support of our many sponsors. The following sponsors were instrumental in making BASIS7 a reality: Association of National Estuary Programs, the Balmoral Group, City of St. Petersburg, CSA Ocean Sciences, Inc., Earth Resources, Environmental Science Associates, Faller, Davis & Associates, Inc., Florida Fish and Wildlife Conservation Commission, GPI, Hillsborough County, Janicki Environmental, Inc., Manatee Fish & Game Association, National Oceanic and Atmospheric Administration, One Lagoon, Pinellas Chapter of the Florida Native Plant Society, Port Tampa Bay, Save the Manatee, Science and Environment Council, Shafer Consulting, St. Petersburg Audubon Society, Stantec, Tampa Audubon, Tampa Bay Regional Planning Council, University of South Florida College of Marine Science, and the University of Tampa. The support of the many student volunteers that assisted during the conference is also greatly appreciated. Finally, a special thanks is extended to our keynote speakers, Dr. Mark Rains and Hilary Van Dyke ([Figure 2](#fig-plenary)), whom provided additional informed perspectives on current issues affecting Tampa Bay.

Much has changed in the Tampa Bay region since the first BASIS meeting. The population in the watershed has more than doubled from 1.4 million to 3.2 million today. Despite the continued growth of our region, water quality has improved dramatically since the 1980s and continues to be driven by reductions in point source pollution. Seagrasses have recovered over the past thirty years to an all time high in 2016 at 41,655 acres, although coverage has declined by 28% since then. Persistent harmful algal blooms in Old Tampa Bay and loss of native habitats in the watershed to development continue to challenge the protection of bay resources. Global stressors related to climate change have further affected both Tampa Bay and the region as a whole. Many of the papers in this special issue discuss these challenges, describing both the current knowledge on these topics, as well as proposing actionable science for getting the bay back on track. BASIS continues to serve as a vehicle for the synthesis of this foundational work, documenting shared experiences, successes and failures. More importantly, BASIS serves to build community and collaboration, which are critical in making meaningful progress towards restoring and protecting estuaries of national significance.

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| Figure 1: Logo for the 7th annual Bay Area Scientific and Information Symposium, hosted jointly with the Association of National Estuary Programs. |

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| Figure 2: BASIS7 attendees view a keynote address. |