Timothy M. Dellapenna
Texas A&M University at Galveston
Dept. Marine, Coastal and Environmental Science
Dept. Oceanography (Joint Appointment)
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(a) Professional Preparation

Michigan State University	Geology	BS 1986
Western Michigan University	Geology	MS 1991
Western Michigan University	Hydrogeology	MS 1993
College of William and Mary	Marine Science	Ph.D. 1999
Texas A&M University	Oceanography	Post-doc 1999-2000

(b) Appointments

Sept. 2022 Professor, TAMUG-Dept. Marine and Coastal Environ. Sci/Oceanography
Sept. 2008 Associate Professor, TAMUG-Dept. of Marine Sciences/Oceanography
Sept. 2000 Assistant Professor, TAMUG-Dept. of Marine Sciences/Oceanography
Sept. 2000 Assistant Professor, TAMUG- Dept. Oceanography- joint appointment
1999-2000 Texas Institute of Oceanography Postdoctoral Fellow- Texas A&M University

(c) Recent Examples of Research Expertise

- Run the Coastal Geology Laboratory at Texas A&M University-Galveston Campus
- Conducted over 40 contracts for Texas General Land Office related to coastal geology issues
- Assessed the impact of estuarine dams in Korea on sedimentation
- Assessed Hg dispersal in parts of Kuwait Bay
- Mapped oyster reef distribution in Galveston, Copano, Lavaca and Matagorda Bays
- Assessed the impact of removing the western Brazos River flood gate on sediment dispersal for Texas General Land Office
- Developed 3-D monitoring project for Galveston Island shoreface using swath bathymetry, side scan sonar, and single beam bathymetry (mapped entire island 3 times (2001-2004; 2011; 2014).
- Assessed sediment dispersal, suspended sediment transport in upper Galveston Bay to address channel siltation issues for USACOE (Dellapenna et al., 2023)
- Collaborated with modelers to assess suspended sediment transport (and residence times in Galveston Bay-NOAA/TGLO/CMP (Du et al., 2019)
- Collected and assessed sediment cores from San Jacinto River for potential sand mining for San Jacinto River Authority and Houston Flood Control District (2020)
- Investigated sediment infilling of Barker Reservoir for USACOE (2020)
- Assessed sediment dispersal and deposition from Hurricane Harvey as well as the dispersal of Hg, Pb and PAH's in Galveston Bay from Hurricane Harvey (Du et al., 2019; Dellapenna et al., 2020; Camargo et al., 2020, Lopez et al., 2021; Dellapenna et al., 2021)

Products (Recent Papers):

Jung, Nathalie W., Thomas A. Doe, Yoonho Jung, and Timothy M. Dellapenna, 2024. "Massive Sea-Level-Driven Marsh Migration and Implications for Coastal Resilience along the Texas Coast." Remote Sensing 16, no. 13: 2268. https://doi-org.srv-proxy2.library.tamu.edu/10.3390/rs16132268

Dellapenna, T. M., Jung, N., +Schenk, R., +Sudduth, S., Lin, P., Figlus, J., 2023. How subsidence and cyclone driven sediment flux within Galveston Bay has caused elevated siltation within the Bayport Channel and Flare. *Conference Proceeding: Coastal Sediments 2023.*

Lee, G-H., Carlin, J., Fan, D., Dellapenna, T. M., 2023. Editorial: Process and management of altered estuaries and deltas in the Anthropocene. *Frontiers in Marine Science.* 10:1220155. https://DOI:10.3389/fmars.2023.1220155

Figlus, J., Joubert, J. J., Dellapenna, T. M., 2023 Field investigation of enhanced ship channel shoaling in a shallow bay system. *Conference Proceeding: Coastal Sediments 2023.*

* Wellbrock, N.B., Jung, N. W., Retchless, D. P., Dellapenna, T. M., Salgado, V. L., 2023. Introducing ICEDAP" An "iterative Coastal Embayment Delineation and Analysis Process" with application for the management of coastal change. Remote Sensing 15: 4034 https://doi.org/10.3390/rs15164034 .

Lopez, A. M., Fitzsimmons, J. N., Adams, H. M., **Dellapenna. T. M.,** and Brandon, A. D. (2022). A time-series of heavy metal geochemistry in sediments of Galveston Bay estuary, Texas, 2017-2019. *Science of the Total Environment*. https://doi-org.srv-proxy1.library.tamu.edu/10.1016/j.scitotenv.2021.150446

Camargo, K., Unger, M., Vogelbein, M. A., Horney, J., **Dellapenna, T. M.,** Knap, A. H., Sericano, J. L., Wade, T. L., McDonald, T. J., and Chiu,W. A. (2022). Biosensor Applications in Galveston Bay: Implications for Disaster Research Response. *Environmental Research 204*, p.111893. https://doi-org.srv-proxy2.library.tamu.edu/10.1016/j.envres.2021.111893

Dellapenna, T. M., *Hoelscher, C. E., *Hill, L., *Critides, L., *Bartlett, V., +Bell, M., Al Mukaimi, Du, J., Park, K., M., Knap, A. (2021). Hurricane Harvey delivered a massive load of mercury rich sediment to Galveston Bay, Texas, USA. *Estuaries and Coasts*. https://doi.org/10.1007/s12237-021-00990-7

Du, J., Park, K., Jensen, C., **Dellapenna, T. M.,** Zhang, W. G., and Yong, S., 2021. Massive oyster kill in Galveston. *Science of The Total Environment,* 774: 145132. https://doi-org.srv-proxy1.library.tamu.edu/10.1016/j.scitotenv.2018.10.403

*Schmidt, N., **Dellapenna, T. M.,** Lin, P. (2021). Cold Front Sediment Resuspension, Age, and Residence Times of Suspended Sediment Using $^{7}Be/^{210}Pb_{xs}$ Ratio in Galveston Bay. *Frontiers in Marine Science,* 8: 703945. https://doi.org/10.3389/fmars.2021.703945

Lopez, A. M., Brandon, A. D., Ramos, F. C., Fitzsimmons, J. N., **Dellapenna, T. M.,** Adams, H. M. (2021). Lead geochemistry of sediments in Galveston Bay, Texas. *Environmental Advances*, 100057, https://doi.org/10.1016/j.envadv.2021.100057

Dellapenna, T. M., *Hoelscher, C. E., Hill, L., Al Mukaimi, M., Knap, A., 2020. How tropical cyclone flooding caused erosion and dispersal of mercury-contaminated sediment in an urban estuary: the impact of Hurricane Harvey on Buffalo Bayou and the San Jacinto Estuary, Galveston Bay, USA. Science of the Total Environment (published online). https://doi.org/10.1016/j.scitotenv.2020.141226

Carlin, J.A., Schreiner, K.M., **Dellapenna, T.M.,** *McGuffin, A. and Smith, R.W., 2021. Evidence of recent flood deposits within a distal shelf depocenter and implications for terrestrial carbon preservation in non-deltaic shelf settings. *Marine Geology*, 431, 106376. https://doi.org/10.1016/j.margeo.2020.106376

Du, J., Park, K., **Dellapenna, T. M**., & Clay, J. M., 2019. Dramatic hydrodynamic and sedimentary responses in Galveston Bay and adjacent inner shelf to Hurricane Harvey. Science of The Total Environment (online). https://doi.org/10.1016/j.scitotenv.2018.10.403

*Al Mukiami, M., **Dellapenna, T. M.,** and Williams, J., 2018. Impacts of enhanced land subsidence on Galveston Bay, Texas: interactions between sediment accumulation rates and relative sea level rise. *Estuarine Coastal and Shelf Science*. doi:10.1016/j.ecss.2018.03.023

*Al Mukiami, M., Kaiser, K., *Williams, J. R., **Dellapenna, T. M.,** Louchourn, P., & Santschi, P. H. 2018. Centennial record of anthropogenic impacts in Galveston Bay: Evidence from trace metals (Hg, Pb, Ni, Zn) and lignin oxidation products. *Environmental Pollution*, *237*, 887-899. doi:10.1016/j.envpol.2018.01.027

*Carlin, J.A., **Dellapenna, T.M.,** Strom, K., and *Noll IV, C.J. (2015) The influence of a salt wedge intrusion on fluvial suspended sediment and the implications for sediment transport to the adjacent coastal ocean: a study of the lower Brazos River, TX, USA. *Marine Geology*, 359, 134-147, doi:10.1016/j.margeo.2014.11.001.

Dellapenna, T.M., *Fielder, B.R., *Noll, C.J., and Savaresse, M. (2015) Geological responses to urbanization of the Naples Bay Estuarine System, Southwestern Florida, USA. *Estuaries and Coasts*, 38, 81-96, doi:10.1007/s12237-013-9704-2.

*Carlin, J.A. and **Dellapenna, T.M.**, 2015. The evolution of a subaqueous delta in the Anthropocene: a stratigraphic investigation of the Brazos River Delta, TX, USA. *Continental Shelf Research*, 111: 139-149. doi:10.1016/j.csr.2015.08.008.

Harter, C., Figlus, J., **Dellapenna, T.M., 2015. The role of hurricanes on the morphological evolution of a sediment-starved barrier island along the upper Texas coast: Follets Island. Coastal Sediments 2015, May 2015 Conference Proceeding. San Diego, CA.

*Carlin, J., **Dellapenna, T.M.,** Figlus, J., and **Harter, C., 2015. Investigating morphological and stratigraphic changes to the submarine shoreface of a transgressive barrier island: Follets Island, northern Gulf of Mexico. Coastal Sediments 2015, May 2015 Conference Proceeding. San Diego, CA.

*Williams, J.R., **Dellapenna, T.M**., and Lee, G-H., 2013. Shifts in depositional environments as a natural response to anthropogenic alterations: Nakdong Estuary, South Korea.

Troiani, B.T., Simms, A.R., **Dellapenna, T.**, *Piper, E., and Yokoyama, Y. (2011) The importance of sea-level and climate change, including changing wind energy, on the evolution of a coastal estuary: Copano Bay, Texas. *Marine Geology*, 280, 1-19, doi:10.1016/j.margeo.2010.10.003.

Allison, M.A., **Dellapenna, T.M.,** Gordon, E.S., Mitra, S., and Petsch, S.T. (2010) Impact of Hurricane Katrina (2005) on shelf organic carbon burial and deltaic evolution. *Geophysical Research Letter*, 37, L21605, doi:10.1029/2010GL044547.

Maddox, J., Anderson, J.B., Milliken, K.T., Rodriguez, A.B., **Dellapenna, T.M.**, and Giosan, L. (2008) The Holocene evolution of the Matagorda and Lavaca estuary complex, Texas, USA. *Geological Society of America Special Papers*, 443, 105-119, doi:10.1130/2008.2443(07).

Dellapenna, T.M., Allison, M.A., Gill, G.A., Lehman, R.D., and Warnken, K.W. (2006) The impact of shrimp trawling and associated sediment resuspension in mud dominated, shallow estuaries. *Estuarine, Coastal and Shelf Science,* 69, 519-530, doi:10.1016/j.ecss.2006.04.024.

*Maddox, D.S., Sager, W., and **Dellapenna, T.M.,** 2006*.* Sonar mapping of bay bottom sediments and anthropogenic impacts in Galveston Bay, Texas. *Gulf Coast Association of Geological Society Transitions* **54:** 462-472*.*

Robb, B.K., Allison, M.A., and **Dellapenna, T.M**., 2003. Anthropogenic and natural controls on shoreface evolution along Galveston Island, Texas. Proceedings of the International Conference on Coastal Sediments 2003*. CD-ROM Published by World Scientific Publishing Corp. and East Meets West Productions, Corpus Christi, Texas, USA.* ISBN 981-238-422-7, 13p.

*Graduate students mentored by Dellapenna at time research was conducted

+Undergraduates mentored by Dellapenna at time research was conducted