

ANNUAL REPORT ON GEOTRACES ACTIVITIES IN MEXICO

May 1st, 2023 to April 30th, 2024

New GEOTRACES or GEOTRACES-relevant publications

- Avendaño, K.A., Ponce-Jahen, S.J., Valenzuela, E.I., Pajares, S., Samperio-Ramos, G., Camacho-Ibar, V.F., Cervantes, F.J. 2024. Nitrogen loss in coastal sediments driven by anaerobic ammonium oxidation coupled to microbial reduction of Mn(IV)-oxide. *Science of the Total Environment*, 923. <https://doi.org/10.1016/j.scitotenv.2024.171368>.
- Contreras-Pacheco, Y.V., Herzka, S.Z., Vallejo-Espinosa G., Herguera J.C. 2023. Particulate organic carbon in the deep-water region of the Gulf of Mexico. *Frontiers in Marine Science*, 10. <https://doi.org/10.3389/fmars.2023.1095212>.
- Díaz-Asencio, M., Herguera, J.C., García Romero, F., Rafter, P., 2023. Sediment accumulation rates and carbonate fluxes of deep-sea sediments in the southern Gulf of Mexico. *Marine Geology*, 464. <https://doi.org/10.1016/j.margeo.2023.107131>.
- Frías-Espéricueta, M.G., Sánchez-Betancourt, A., Ruelas-Inzunza, J. Escobar-Sánchez, O., Osuna-Martínez, C.C., Aguilar-Juárez, M.A., Soto-Jiménez, M.F., Valenzuela-Quíñonez, F.V., Nieves-Soto, M., Bojórquez-Sánchez, Delgado-Alvarez, C.G. 2023. Total Mercury and Selenium in wild Shrimp from Coastal Lagoons of Northwest Mexico: Human Health risk Assessment. *Bulletin of Environmental Contamination and Toxicology* 110, 42. <https://doi.org/10.1007/s00128-022-03683-4>.
- Garcia-Orozco, J., Huerta-Diaz, M.A., Otero, X.L., Mejia-Piña, K.G., Valdivieso-Ojeda, J.A., Gregory, D.D., Díaz-de-Alba, M., Arenas-Islas, D., Cervantes-Flores, R. 2023. Reactive vanadium and iron fluxes in different modern sedimentary environments. *Geochimica et Cosmochimica Acta*, 356. <https://doi.org/10.1016/j.gca.2023.07.006>.
- Hernández-Sánchez, O.G., Camacho-Ibar, V.F., Barbero L., Herguera J.C., Herzka S.Z. 2023. A gulf-wide synoptic isoscape of zooplankton isotope ratios reveals the importance of nitrogen fixation in supporting secondary production in the central Gulf of Mexico. *Frontiers in Marine Science*, 9. <https://doi.org/10.3389/fmars.2022.1025387>.
- Mejia-Piña, K.G., Valdivieso-Ojeda, J.A., Huerta-Diaz, M.A., Chavez-Jimenez, M., Otero, X.L., Fernández-Díaz, V.Z., Arreguín-Rodríguez, G.J., 2023. Geochemical footprint of dredged material discharges and sediment health status in Todos Santos Bay, Mexico. *Regional Studies in Marine Science*, 62. <https://doi.org/10.1016/j.rsma.2023.102962>.
- Millán-Núñez, E., Delgadillo-Hinojosa, F., Hakspiel-Segura, C., Torres-Delgado, E.V., Félix-Bermúdez, A., Segovia-Zavala, J.A., Camacho-Ibar, V.F., Muñoz-Barbosa, A. 2023. Phytoplankton composition and biomass under oligotrophic conditions in the Guaymas Basin (Gulf of California) Composición y biomasa fitoplanctónica bajo condiciones oligotróficas en la cuenca de Guaymas (Golfo de California). *Ciencias Marinas*, 49, e3302. <https://doi.org/10.7773/cm.y2023.3302>.
- Ontiveros-Cuadras, J.F., Ruiz-Fernández, A.C., Cardoso-Mohedano, J.G., Pérez-Bernal, L.H., Santiago-Pérez, S., Velázquez-Reyes, D.A., Cisneros-Ramos, Z.J., Crisanto-Ruiz, A.S., Gómez-Ponce, M.A., Flores-Trujillo, J.G., Sanchez-Cabeza, J.-A., 2024. Potentially toxic elements fluxes in 210Pb-dated sediment cores from a large coastal

lagoon (southern Gulf of Mexico) under environmental stress. *Marine Pollution Bulletin*, 201. <https://doi.org/10.1016/j.marpolbul.2024.116226>.

- Rechimont, M.E., Ruelas-Inzunza, J., Amezcua, F., Páez-Osuna, F., Castillo-Géniz, J.L. 2024. Hg and Se in muscle and liver of blue shark (*Prionace glauca*) from the entrance of the Gulf of California: An insight to the potential risk to human health. *Archives of Environmental Contamination and Toxicology*, 86, 165-177. <https://doi.org/10.1007/s00244-024-01054-0>.
- Rodríguez-Pérez, M.Y., Sánchez-Velasco, L., Ruvalcaba-Aroche, E.D., Beier, E., Tenorio-Fernandez, L. 2024. $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ zooplankton isoscapes as trace of water masses and mesoscale activity in the Pacific Tropical-Subtropical Convergence off Mexico during June 2010. *Science of The Total Environment*, 909. <https://doi.org/10.1016/j.scitotenv.2023.168497>.
- Samperio-Ramos, G., Hernández-Sánchez, O., Camacho-Ibar, V.F., Pajares, S., Gutiérrez, A., Sandoval-Gil, J.M., Reyes, M., De Gyves, S., Balint, S., Oczkowski, A., Ponce-Jahen, S.J., Cervantes, F.J. 2024. Ammonium loss microbiologically mediated by Fe(III) and Mn(IV) reduction along a coastal lagoon system. *Chemosphere*, 349. <https://doi.org/10.1016/j.chemosphere.2023.140933>.
- Uc-Peraza, G.R., Gutiérrez-Galindo, E.A., Delgado-Blas, V.H. et al. 2024. Trace metals in the mussel *Mytilus californianus* from the West Coast of Baja California, Mexico. *Bulletin of Environmental and Contamination Toxicology*, 112, 38. <https://doi.org/10.1007/s00128-024-03862-5>.
- Whitehead, D.A., Gayford, J.H., Pancaldi, F., Gobbato, J., Boldrin, G., Tringali, M., Ketchum, J.T., Galvan Magaña, F., Seveso, D., Montano, S. 2024. Heavy metal and trace element concentrations in the blood of scalloped hammerhead sharks (*Sphyrna lewini*) from La Paz Bay, México. *Marine Pollution Bulletin*, 201. <https://doi.org/10.1016/j.marpolbul.2024.116155>.

New GEOTRACES or GEOTRACES-relevant Books

- Olascoaga, M.J., Herzka, S.Z., Aguirre-Macedo, M.L., Delgadillo-Hinojosa, F., Eds. (2023). Novel insights into the circulation, biogeochemistry, and ecosystem function of the Gulf of Mexico: A perspective from Mexican waters in support of oil spill preparedness. Lausanne: Frontiers Media SA. <https://doi.org/10.3389/978-2-8325-4028-2>

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