Stanford



Joy Kumagai

Ph.D. Student in Biology, admitted Autumn 2022

Bio

BIO

Joy is interested in the ways conservation and disease affect the resilience of coastal foundational species. Her current focus includes studying how seagrasses and kelp forests respond to simultaneous pressures, including marine heatwaves and disease dynamics, and how marine protected areas may affect the resistance and recovery of these ecosystems. She is passionate about useful, transdisciplinary research that increases the wellbeing of people through the sustainable management of marine ecosystems. Using her skillset in GIS, her previous work focused on marine conservation of coastal ecosystems, spanning valuing carbon stocks within Mexico to developing metrics quantifying the extent of area-based conservation. Additionally, she worked for IPBES at the science-policy interface implementing data management within international assessments focused on biodiversity and ecosystem services. When not at her desk, she likes to be out in nature, hiking, swimming, or knitting.

Research & Scholarship

LAB AFFILIATIONS

- Giulio De Leo, De Leo (9/1/2022)

Publications

PUBLICATIONS

- **High-capacity nations can unlock momentum for quality marine protection.** *iScience*
  Favoretto, F., Kumagai, J. A., López-Sagástegui, C., Brannigan, D., Driedger, A., Sletten, J., Colegrove, C., Vincent, T., Zetterlind, V., Guidetti, P., Aburto-Oropeza, O.
  2026; 29 (3): 115043

- **Recovery mode: Marine protected areas enhance climate resilience of invertebrate species to marine heatwaves** *FUNCTIONAL ECOLOGY*
  Olguin-Jacobson, C., Arafeh-Dalmau, N., Early-Capistran, M., Kumagai, J. A., Schoeman, D. S., Espinoza Montes, J., Hernandez-Velasco, A., Martinez, R., Romero, A., Torre, J., Woodson, C., De Leo, G., Micheli, et al
  2025

- **Marine Protected Areas That Preserve Trophic Cascades Promote Resilience of Kelp Forests to Marine Heatwaves.** *Global change biology*
  Kumagai, J. A., Goodman, M. C., Villaseñor-Derbez, J. C., Schoeman, D. S., Cavanuagh, K. C., Bell, T. W., Micheli, F., De Leo, G., Arafeh-Dalmau, N.
  2024; 30 (12): e17620

- **Biological invasions on Indigenous peoples' lands** *NATURE SUSTAINABILITY*
  Seebens, H., Niamir, A., Essl, F., Garnett, S. T., Kumagai, J. A., Molnar, Z., Saeedi, H., Meyerson, L. A.
  2024

- **Head in the clouds, feet on the ground: how transdisciplinary learning can foster transformative change-insights from a summer school** *BIODIVERSITY AND CONSERVATION*

Atienza Casas, S., Calicis, C., Candiago, S., Dendoncker, N., Desair, J., Fickel, T., Finne, E., Frison, C., Haensel, M., Hinsch, M., Kulfan, T., Kumagai, J. A., Mialyk, et al
2023

- **Sediment depth and accretion shape belowground mangrove carbon stocks across a range of climatic and geologic settings** *LIMNOLOGY AND OCEANOGRAPHY*
  Costa, M. T., Ezcurra, E., Ezcurra, P., Salinas-de-Leon, P., Turner, B., Kumagai, J., Leichter, J., Aburto-Oropeza, O.
  2022; 67: S104-S117

- **Habitat Protection Indexes-new monitoring measures for the conservation of coastal and marine habitats** *SCIENTIFIC DATA*
  Kumagai, J. A., Favoretto, F., Pruckner, S., Rogers, A. D., Weatherdon, L. V., Aburto-Oropeza, O., Niamir, A.
  2022; 9 (1): 203

- **Discovering marine biodiversity in the 21st century** *ADVANCES IN MARINE BIOLOGY, VOL. 93*
  Rogers, A. D., Appeltans, W., Assis, J., Ballance, L. T., Cury, P., Duarte, C., Favoretto, F., Hynes, L. A., Kumagai, J. A., Lovelock, C. E., Miloslavich, P., Niamir, A., Obura, et al
  edited by Sheppard, C.
  2022; 93: 23-115

- **Diving tourism in Mexico - Economic and conservation importance** *MARINE POLICY*
  Arcos-Aguilar, R., Favoretto, F., Kumagai, J. A., Jimenez-Esquivel, V., Martinez-Cruz, A. L., Aburto-Oropeza, O.
  2021; 126

- **Driven by Drones: Improving Mangrove Extent Maps Using High-Resolution Remote Sensing** *REMOTE SENSING*
  Hsu, A. J., Kumagai, J., Favoretto, F., Dorian, J., Martinez, B., Aburto-Oropeza, O.
  2020; 12 (23)

- **Prioritizing mangrove conservation across Mexico to facilitate 2020 NDC ambition** *AMBIO*
  Kumagai, J. A., Costa, M. T., Ezcurra, E., Aburto-Oropeza, O.
  2020; 49 (12): 1992-2002