CoUREC Research Group on Resilience, Xiamen University
CoUREC: COASTAL URBANIZATION AND ECO-ENVIRONMENTAL CHANGE

CoUREC Current Members

Faculty Team

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CoUREC Members
The research team consists of one research assistant, and around 20 graduate students.

Seascape Spatial Analysis Lab at Xiamen University
Seascape Spatial Analysis Lab focuses on coastal resilience and integrated land-sea planning.

Our research integrates knowledge of environmental studies, ecology, and marine affairs, innovation in the land–water–biodiversity nexus, as well as the application of resilience theory to coastal areas, to achieve land–sea sustainable development goals.

Research Interests
Coastal Resilience, Ocean Cities and SDGs, Integrated Ocean Management, Remote Sensing of Environment and Spatial Planning

Graduate Programs Recruitment
Environmental Management, Ecology, Marine Affairs, Environmental Engineering (Natural Resources and Environment)

Projects

- Blue carbon ecosystem response and resilience mechanisms to environmental changes along the Western Taiwan Straits, 2026-2029. Funded by the Natural Science Foundation of China (NSFC).
- Regime shift of urban-mangroves under coastal squeeze and adaptive management, 2023-2026. Funded by the National Natural Science Foundation of China (NSFC).
- Responses and feedbacks of typical forest ecosystems to global change, 2022-2027. Funded by the National Key R&D Program of China.
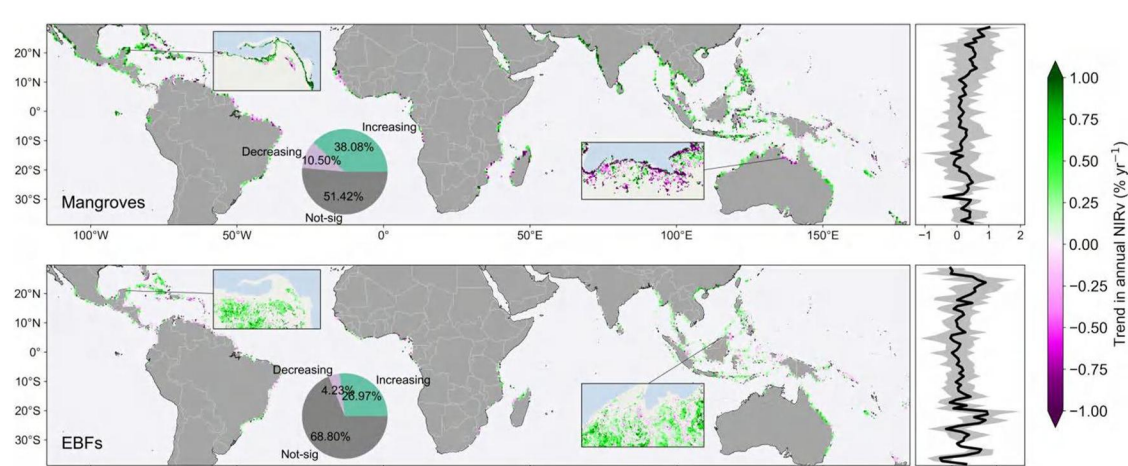- Practical projects on urban ecological planning and coastal restoration.

Highlights
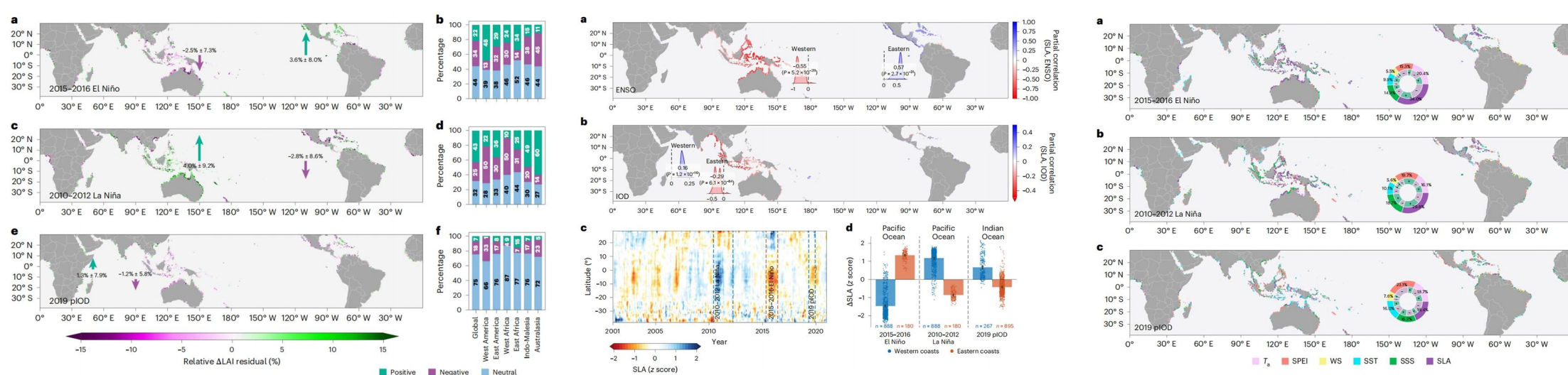
A seesaw-like pattern in the response of mangrove growth to climatic oscillations.
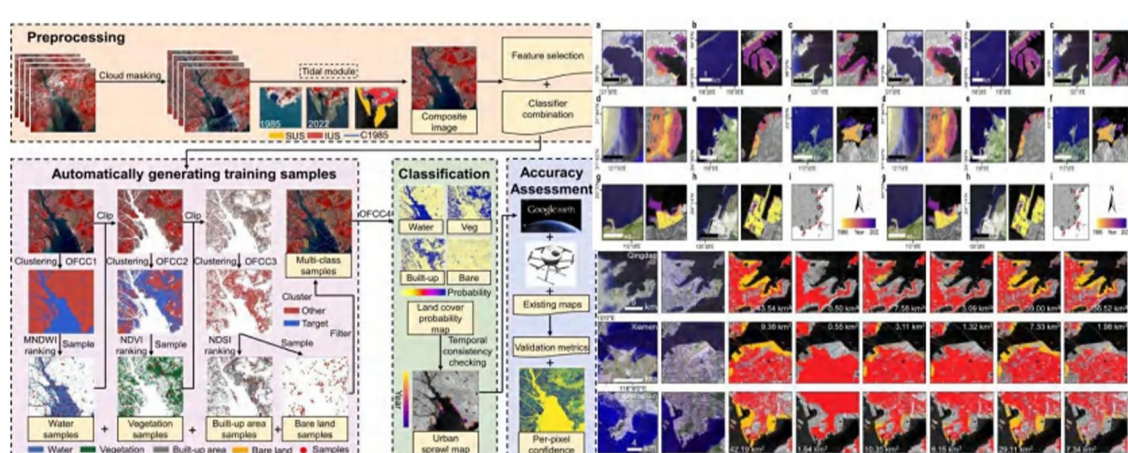**Nature Geoscience, 2025**
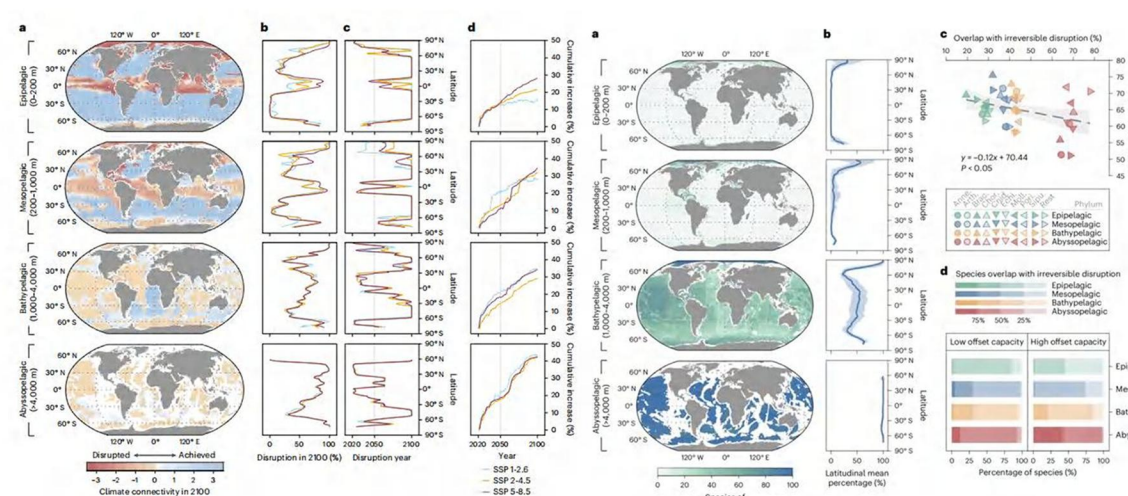
Climate-driven connectivity loss impedes species adaptation to warming in the deep ocean.
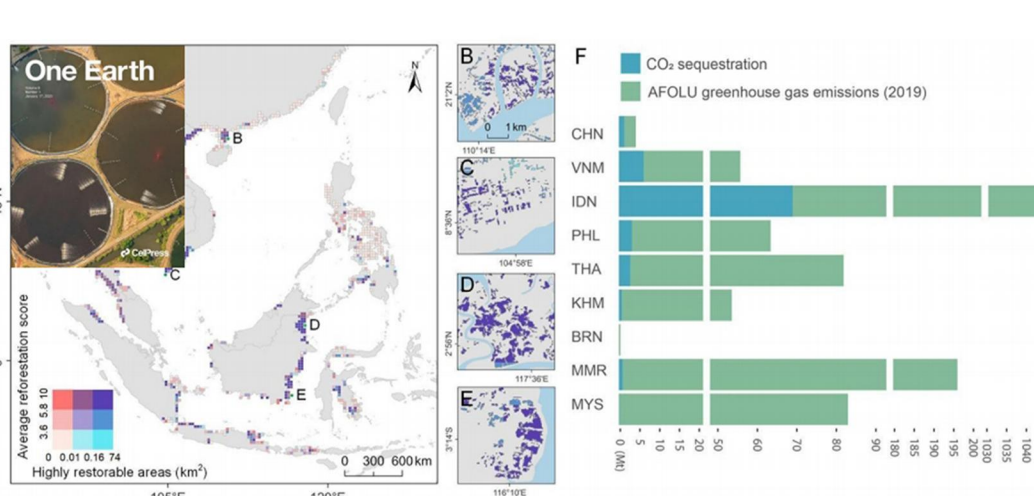**Nature Climate Change, 2025**

Restoring mangroves lost by aquaculture offers large blue carbon benefits.
One Earth, Cover Paper, 2025

Differences in productivity trends between mangrove and broadleaf evergreen forest vegetation.
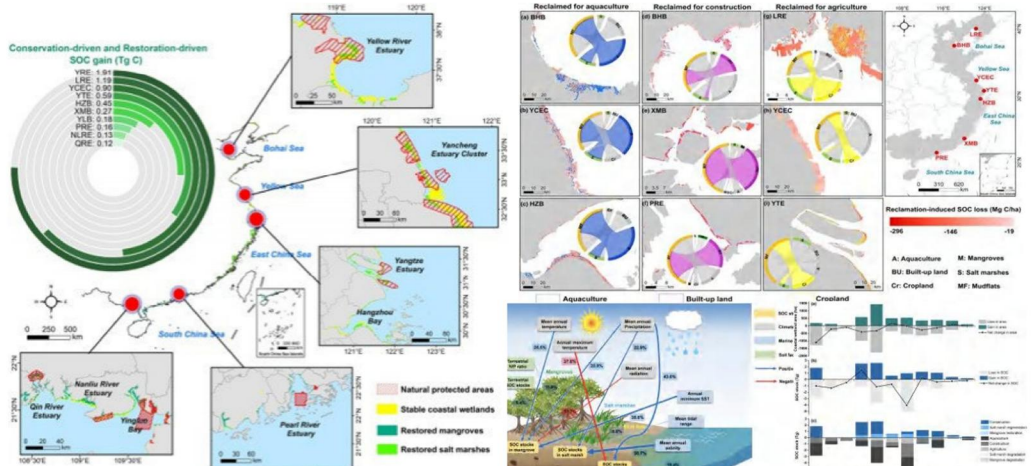**Nature Ecology & Evolution, 2024**

Spatial pattern of the reclamation-induced SOC loss in China's coastal wetlands.
Global Change Biology, 2023

Urban Sprawl monitoring algorithms and application to reclamation studies.
Remote Sensing of Environment, 2023

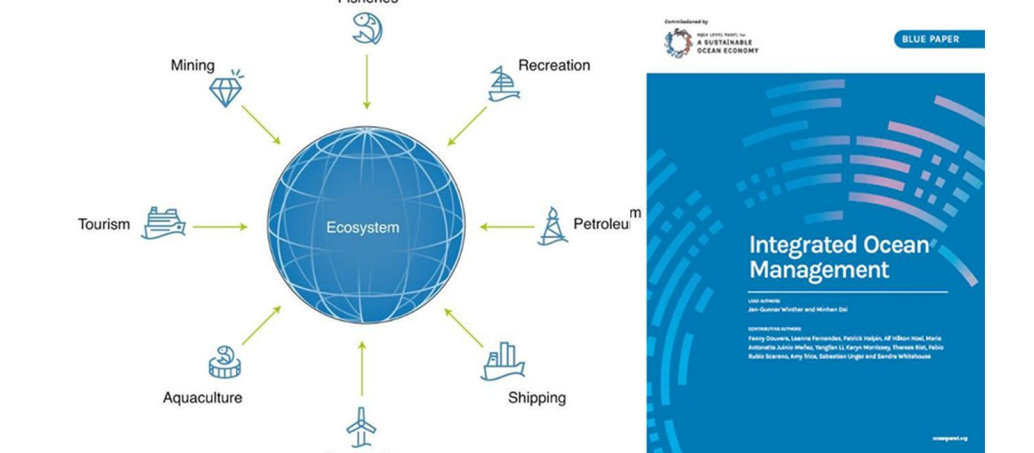Integrated Ocean Mangement.
**Nature Ecology & Evolution; Blue Paper, 2020**

Selected Papers

1. Zhang, Z.*, Luo, X., Friess, D. A., **Li, Y. F.***, 2025. Global mangrove growth variability driven by climatic oscillation-induced sea-level fluctuations. **Nature Geoscience**. 18, 488-494.

2. Lin, Y., Chen, Y., Liu, X., Lin, X., Laws, E. A., Zhou, Y., Xiang, Z., Zhang, X., Chen, Z., **Li, Y.***, Lu, Y., 2025. Climate-driven connectivity loss impedes species adaptation to warming in the deep ocean. **Nature Climate Change**, 15, 315-320.

3. Zhang, Z., Luo, X.*, Friess, D. A., Wang, S., **Li, Y., Li, Y. F.***, 2024. Stronger increases but greater variability in global mangrove productivity compared to that of adjacent terrestrial forests. **Nature Ecology & Evolution**, 8, 239-250.

4. Jiang, Y., Zhang, Z., Friess, D. A., **Li, Y. F.***, Zhang, Z., Xin, R., Li, J., Zhang, Q., **Li, Y.***, 2025. Restoring mangroves lost by aquaculture offers large blue carbon benefits. **One Earth**, 8, 101149. (Cover Paper)

5. Winther, J. G.*, Dai, M., Rist, T, Hoel, A. H., **Li, Y. F.**, Trice, A., Morrissey, K., Juinio-Meñez, M. A., Fernandes, L., Unger, S., Scarano, F. R., Halpin, P., Whitehouse, S., 2020. Integrated ocean management for a sustainable ocean economy. **Nature Ecology & Evolution**, 4, 1451-1458.

6. Fan, B., **Li, Y. F.***, 2024. China's conservation and restoration of coastal wetlands offset much of the reclamation-induced blue carbon losses. **Global Change Biology**, 30(1), e17039.

7. Zhang, Q., Zhang, Z., Xu, N., & **Li, Y. F.***, 2023. Fully automatic training sample collection for detecting multi-decadal inland/seaward urban sprawl. **Remote Sensing of Environment**, 298, 113801.

8. Zhang, Z., Xu, N., **Li, Y., Li, Y. F.***, 2022. Sub-continental-scale mapping of tidal wetland composition for East Asia: A novel algorithm integrating satellite tide-level and phenological features. **Remote Sensing of Environment**, 269, 112799.

9. Sajjad, M., **Li, Y., Li, Y. F.***, Chan, J. C. L., Khalid, S., 2019. Integrating typhoon destructive potential and social-ecological systems toward resilient coastal communities. **Earth's Future**, 7, 805-818.

Technological Capability
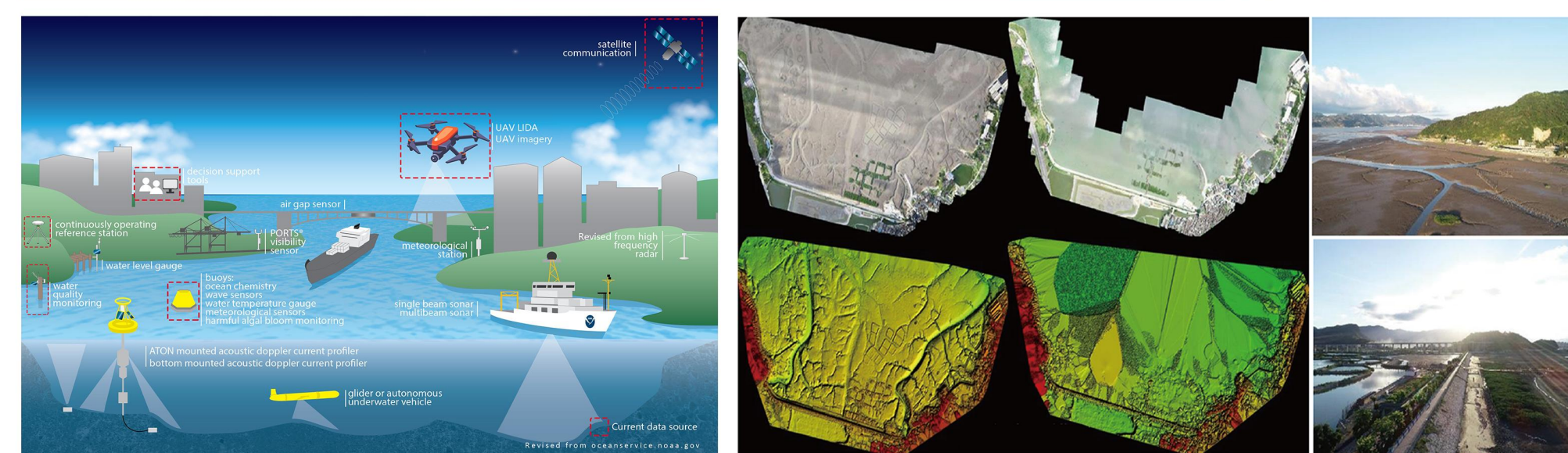
A roadmap of air-space-ground-sea integrated monitoring and assessment
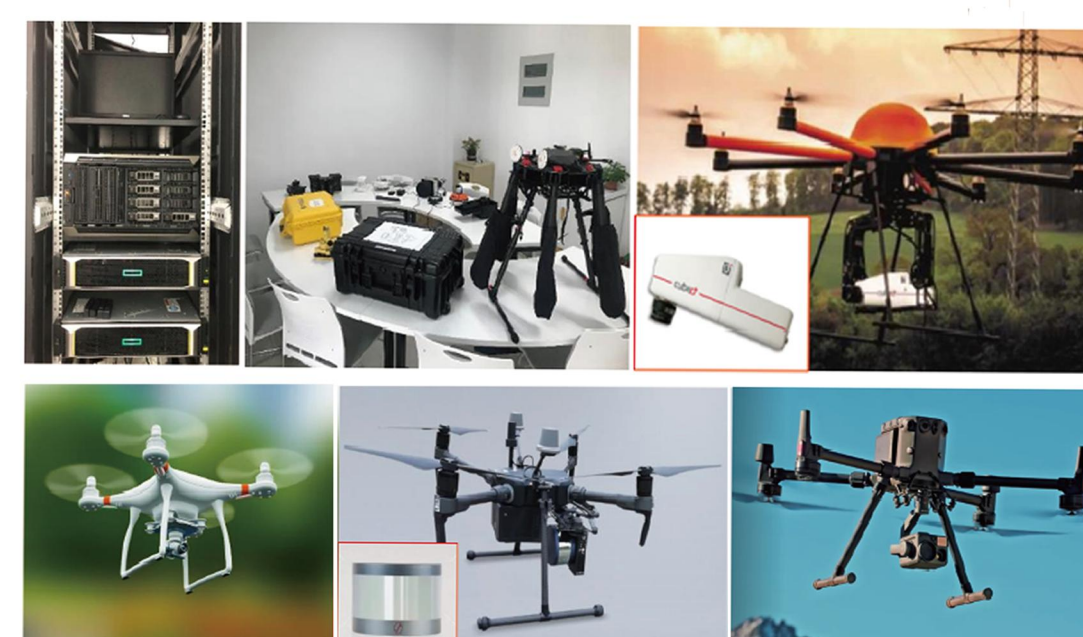
High-Performance Computers, UAV and Research Equipments

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