CoUREC Research Group, Xiamen University, China

Coastal Urbanization and Regional Eco-environmental Change

厦门大学海岸带城市化与区域生态环境变化研究组

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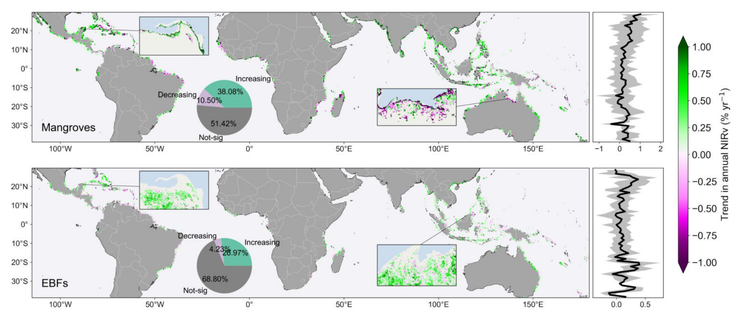
Seascape Spatial Analysis Lab at Xiamen University

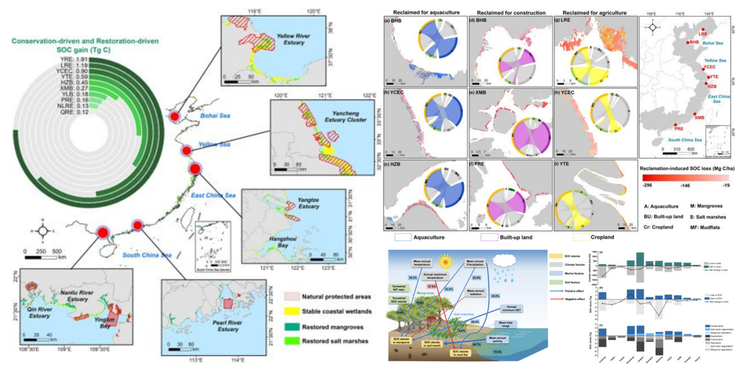
Research Interests：
- Coastal Resilience
- Ocean Cities and SDGs
- Integrated Ocean Management
- Remote Sensing of Environment and Spatial Planning

- **Seascape Spatial Analysis Lab focuses on coastal resilience and integrated land-sea planning.**
- **Our research integrates Environemtal Management, Ecology and Marine Affairs knowledge of, and innovation in land-water-biodiversity nexus, and application of resilience theory in coastal areas to achieve land-sea sustainable development goals.**

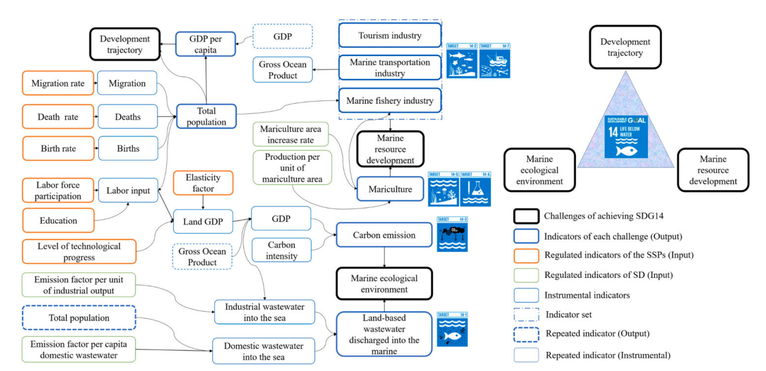
Highlights



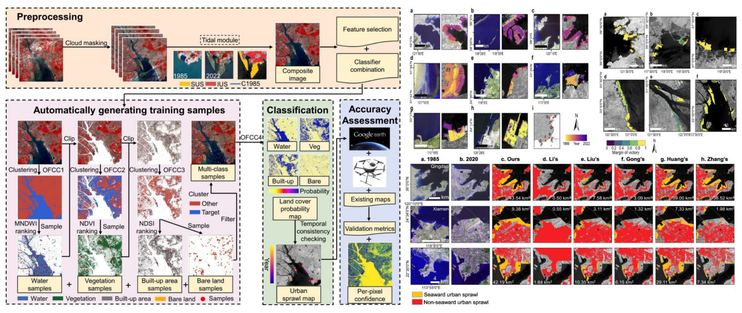
Differences in productivity trends between mangrove and broadleaf evergreen forest vegetation globally, 2001-2020
(Nature Ecology & Evolution)



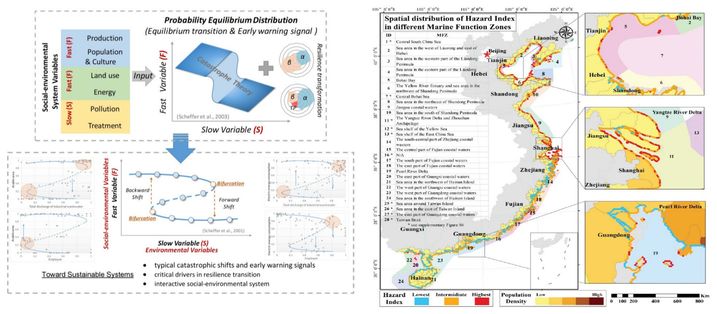
Spatial pattern of the reclamation-induced SOC loss in China's coastal wetlands
(Global Change Biology)



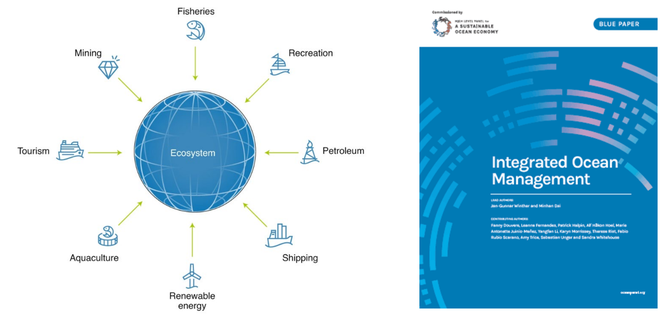
Land-sea integration SD model
(Resources, Conservation and Recycling)



Fully Automatic Detection of Urban Sprawl monitoring algorithms and application to reclamation studies
(Remote Sensing of Environment)



Spatial vulnerability assessment and early warning system
(Environment International; Earth's Future)



Integrated Ocean Mangement
(Nature Ecology & Evolution; Blue Paper)

Selected Publications

1. 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***, https://doi.org/10.1038/s41559-023-02264-w.
2. 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***, e17039.
3. Zhang, Q., Zhang, Z., Xu, N., & **Li, Y. F.***, 2023. Fullyautomatic training sample collection for detecting multidecadal inland/ seaward urban sprawl. ***Remote Sensing of Environment***, 298, 113801.
4. 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(11): 1451-1458.
5. Zhang, Z., Xu, N., **Li, Y., Li, Y. F.***, 2022. Subcontinental-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.
6. Fan, B., **Li, Y. F.***, 2022. Coupled land-sea warming dominates the net land carbon uptake variability in the Greater Bay Area of South China. ***Earth's Future***, 10, e2021EF002556.
7. Zhao, Y. Z., **Li, Y. F.***, Wang, X. W., 2022. The land-sea system dynamics model with shared socioeconomic pathways can identify the gaps in achieving Sustainable Development Goal 14. ***Resources, Conservation and Recycling***, 181, 106257.
8. 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.
9. **Li, Y.**, Yin, B. C., **Li, Y. F.***, 2019. Early warning signal of landscape connectivity and resilience in natural climate solutions**.** ***Land Degradation & Development***, 30: 73-83.
10. **Li, Y., Li, Y. F.***, Kappas M., Pavao-Zuckerman M., 2018. Identifying the key catastrophic variables of urban social-environmental resilience and early warning signal. ***Environment International***, 113: 184-190.

Projects

- Regime shift of urban-mangroves under coastal squeeze and adaptive management, 2023-2026. Funded by the National Natural Science Foundation of China (NSFC).
- Blue carbon sink and integrated ecological service functions of coastal wetland ecosystem, 2023-2025. Funded by the National Key R&D Program of China.
- Responses and feedbacks of typical forest ecosystems to global change, 2022-2027. Funded by the National Key R&D Program of China.