

Full Publication List

Book Edited:

1. *Advances in Geosciences, Ocean Science* (2009), edited by: **J. Gan** (Hong Kong University of Science and Technology), v. 12, pages 260, ISBN: 978-981-283-615-1., World Scientific Publishing Company
2. *Advances in Geosciences, Ocean Science* (2010), edited by: **J. Gan** (Hong Kong University of Science and Technology), v. 18, pages 248, ISBN: 978-981-283-813-1., World Scientific Publishing Company
3. *Advances in Geosciences, Ocean Science* (2011), edited by: **J. Gan** (Hong Kong University of Science and Technology), v. 24, pages 144, ISBN: 978-9814355346., World Scientific Publishing Company

Refereed book chapter:

1. **Gan, J.***, J. Hu and Z. Liu (2020). Ocean processes and responses under the climate changing in China Seas (in Chinese). *The first scientific assessment of ocean and climate change*, Ocean Press, Beijing.
2. **Gan, J.***, Z. Liu, Rex Hui, Y. Tang, Z. Cai and J. Li (2020). The Changing Circulation of Asia-Pacific Marginal Seas in the South China Sea: a Physical View *The Changing Asia-Pacific Marginal Seas*, ed. by Arthur Chen and Xinyu Guo. Springer.
3. Lin, P. **J. Gan** and J. Hu* (2020). Coastal upwelling in the northern South China Sea. *Regional Oceanography of the South China Sea*, pp 289-321. ed. by Hu et al. , World Scientific. <https://doi.org/10.1142/97898112069170011>
4. Dai, M.*, **J. Gan**, A. Han, H. S. Kung and Z. Yin (2012). Physical Dynamics and Biogeochemistry of the Pearl River Plume. *Biogeochemical Dynamics at Large River-Coastal Interfaces: Linkages with Global Climate Change*. Edited by Thomas Bianchi, Mead Allison, and Wei-Jun Cai.
5. Chen*, P., R. Ingram, and **J. Gan** (1993). A numerical study of hydraulic jump and mixing in a stratified channel with a sill. *Estuary and Coastal Modeling III*, ed. by M. Spauldng et al., Oak Brook, Illinois, 119-133.

Peer-reviewed paper:

2025 :

143. Lin, S. and **J. Gan***, 2025. Dynamic adjustment of upwelling circulation to conservative waves effects over a steep shelf. *J. Phys. Oceanogr.* JPO-D-24-0154
142. Zhang, Y. and **J. Gan***, 2025. Spatiotemporal dynamics of future hydrology in the Pearl River Basin: Controls of climate change and land surface. *J. of Hydrology: Regional Studies*, 58, 102239.
141. Eusebi1, R., H. Su,* L. Wu, P. Rong, K. Balaguru, R. Leung, Y. Choi, P. Chan, **J. Gan**, M. DeMaria, G. Chirokova, 2025. Improving tropical cyclone rapid intensification forecasts with satellite measurements of sea surface salinity and calibrated machine learning. *Environmental Research Letters*, 20 034010DOI 10.1088/1748-9326/adac7f

2024 :

- 140.** Chen, X., **J. Gan**, L. Fu*, 2024. The mean temperature-velocity relation and a new temperature wall model for compressible laminar and turbulent flows. *J. Fluid Mechanics*, JFM-2024-1525.
- 139.** Sun. J., L. Yu, X. Yang, **J. Gan**, H. Liu, J. Li*, 2024. Sediment oxygen uptake and hypoxia in coastal oceans, the Pearl River Estuary region. *Water Res.*, WR88297R1.
- 138.** Chen. X., **J. Gan***, Rex Hui and J. McWilliams, 2024. Parameterization of the vertical mixing for the Luzon undercurrent in the northern Western Pacific Ocean. *J. Geophys. Res.-Oceans*, 2024JC021378
- 137.** Qi, H., Y Liu*, H. Wang, X. Kuang, J. J. Jiao, **J. Gan**, 2024. Carbonate weathering enhances nitrogen assimilatory uptake in river networks. *Research Square*, <https://doi.org/10.21203/rs.3.rs-3996692/v1>
- 136.** Wang, Z., Z. Cao,* Z. Liu, W. Zhai, Y. Luo, Y. Lin, E. Roberts1, **J. Gan**, M. Dai*, 2024. Pacific Ocean originated anthropogenic carbon and its long-term variations in the South China Sea. *Science Advances*, No. adn9171
- 135.** Chen. X., **J. Gan*** and J. McWilliams, 2024. Baroclinic nonlinear saturation and secondary instability of current-undercurrent meanders. *Physical Review Fluids*, FU10298.
- 134.** Lin, S. and **J. Gan***, 2024. Dynamics of tidal effects on coastal upwelling circulation over variable shelves in the northern South China Sea. *J. Geophys. Res. (Oceans)*, 2024JC021193.
- 133.** Cheng, W. and **J. Gan***, 2024. Variability of the bottom boundary layer induced by the dynamics of the cross-isobath transport over a variable shelf. *J. Geophys. Res. (Oceans)*, 2024JC020895.
- 132.** Sun, J. L. Yu, X. Yang, **J. Gan**, H. Yin, J. Li*, 2024. Sediment oxygen uptake and hypoxia: a simple mass-balance model for estuaries and coastal oceans. *ESS Open Archive*, doi: 10.22541/essoar.171042761.13416162/v1.
- 131.** Chen, X., **J. Gan**, L. Fu*, 2024. An improved Baldwin-Lomax algebraic wall model for high-speed canonical turbulent boundary layers using established scalings. *J. Fluid Mechanics*, JFM-23-1613.R2.
- 130.** Zhang, Y., **J. Gan***, Q. Yang, 2024. Spatiotemporal variability of streamflow in the Pearl River Basin: controls of land surface processes and atmospheric impacts. *Hydrological process*, doi: 10.1002/hyp.15151
- 129.** Lin, Y., **J. Gan**, Z. Cai, Q. Quan, T. Zu, Z. Liu*, 2024. Coherent interannual decadal potential temperature variability in the tropical north Pacific Ocean and deep South China Sea. *Geophys. Res. Lett.*, <https://doi.org/10.1029/2023GL106256>.
- 128.** Wu, B.* **J. Gan**, X. Lin, and B. Qiu, 2024. Long-term decreasing of sea level along latitude of the Luzon Strait during 1993-2020: surface versus subsurface perspectives. *J. Geophys. Res. (Oceans)*, <https://doi.org/10.1029/2023JC019805>.

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- 127.** Lai, W. and **J. Gan*** (2023) Variability in coastal downwelling circulation in response to high-resolution regional atmospheric forcing off the Pearl River estuary. *Ocean science*, v. 19, Issue: (4), 1107-1121, ISSN: 1812-0784;1812-0792, DOI: 10.5194/os-19-1107-2023.
- 126.** Chen, X., **J. Gan***, and J. McWilliams (2023). Biglobal analysis of baroclinic instability

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- 125.** Zhao, F., **J. Gan**, Kun Xu* (2023). High-order compact gas-kinetic scheme for two-layer shallow water equations on unstructured mesh. *J. Comput. Phys.* 498 (2024) 112651.
- 124.** Chen, X., C. Cheng, **J. Gan** and L. Fu* (2023). Study of the linear models in estimating coherent velocity and temperature structures for compressible turbulent channel flows. *J. Fluid Mechanics*, v. 973, No: A36, ISSN: 0022-1120;1469-7645, DOI: 10.1017/jfm.2023.768.
- 123.** Liang, W. T. Liu, Y. Wang J Jiao, **J. Gan** and D. He* (2023). Spatiotemporal-aware machine learning approaches for dissolved oxygen prediction in coastal waters *Science of the Total Environment*, Vol: v. 905, No: 167138, ISSN: 0048-9697;1879-1026, DOI: 10.1016/j.scitotenv.2023.167138.
- 122.** Lu, Y., S. Cheung, X., Koh, X. Xia, H. Jing, P. Lee, S. Kao, **J. Gan**, M. Dai and H. Liu* (2023). Nitrification Microbial Assemblages in the Hypoxic Zone in a Subtropical Estuary. *SSRN Electronic Journal*, DOI:10.2139/ssrn.4033193.
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- 120.** Li, D. and **J. Gan***, Z. Lu, W. Cheng, H. Kung and J. Li (2023). Hypoxia formation triggered by the organic matter from subsurface chlorophyll maximum in a large estuary-shelf system *Water Research*. . 240, Period: 15 July 2023, Article No: 120063, ISSN: 0043-1354;1879-2448, DOI: 10.1016/j.watres.2023.120063.
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- 117.** Chen, X., C. Cheng, L. Fu* and **J. Gan** (2023). Linear response analysis of super-sonic turbulent channel flows with a large parameter space. *J. Fluid Mechanics*, 962, A7, doi:10.1017/jfm.2023.244.
- 116.** Cai*, Z., D. Chen and **J. Gan** (2023). Formation of the layered circulation in South China Sea with the mixing stimulated exchanging current through Luzon Strait. *J. Geophys. Res.-Oceans*,17673334, doi: 10.1029/2023JC019730.
- 115.** Sun, Z., Z. Zhang, R. Huang, **J. Gan**, C. Zhou, W. Zhao*, J. Tian (2023). Novel insights into the zonal flow and transport in the Luzon Strait based on long-term mooring observations. *J. Geophys. Res.-Oceans*. 2022JC019017.
- 114.** Dai*, M., Y. Zhao, F. Chai, M. Chen, N. Chen, Y. Chen, D. Cheng and **J. Gan** et al. (2023). Persistent eutrophication and hypoxia in the coastal ocean, *Cambridge Prisms: Coastal Futures*, CFT-22-0058.R1.

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- 110.** Lai, W. **J. Gan*** (2022). Impacts of high-resolution atmospheric forcing and air-sea coupling on coastal ocean circulation off the Pearl River Estuary. *Estuarine, Coastal and Shelf Science*, YECSS-D-22-00113.
- 109.** Li, J. and **J. Gan*** (2022) Characteristics and formation of the Luzon undercurrent near the western north Pacific boundary. *J. Geophys. Res.-Oceans*, doi: 10.1029/2022JC019160.
- 108.** Deng, Y., Z. Liu*, T. Zu, J. Hu, **J. Gan**, Y. Lin, Z. Li, Q. Quan, Z. Cai* (2022). Climatic Controls on the Interannual Variability of Shelf Circulation in the Northern South China Sea. *J. Geophys. Res. (Oceans)*, doi: 10.1029/2022JC018419.
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- 105.** Dai, M*, J. Su, Y. Zhao, E. E. Hofmann, Z. Cao, W, Cai, **J. Gan**, F. Lacroix, G. G. Laruelle,F. Meng, J. Mller,P.A.G. Regnier, G. Wang, and Z. Wang (2022). Carbon Fluxes in the Coastal Ocean: Synthesis, Boundary Processes and Future Trends. *Annual Review of Earth and Planetary Sciences*. <https://doi.org/10.1146/annurev-earth-032320-090746>
- 104.** Lu, Z, L. Yu and **J Gan*** (2022). External and internal forcings for hypoxia formation in an urban harbour in Hong Kong. *Front. Mar. Sci.* 9:858715. doi: 10.3389/fmars.2022.858715.
- 103.** Yu, L. and **J. Gan*** (2022). Reversing impact of phytoplankton phosphorus limitation on coastal hypoxia due to interacting changes in surface production and shoreward bottom oxygen influx. *Water Research*,doi: <https://doi.org/10.1016/j.watres.2022.118094>
- 102.** Zhang, Y., X. Wang, X. Wang, R. Zhang, Y. Li, **J. Gan** (2022). IOD, ENSO, and seasonal precipitation variation over Eastern China. *Atmospheric Research*, 106042, ATMOS106042, S0169, 8095(22)00028

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- 101.** Han, A., **J. Gan***, M. Dai, Z. Lu L. Liang and X. Zhao (2021). Intensification of down-slope nutrient transport and associated biological responses over the northeastern South China Sea during wind-driven downwelling: a modeling study. *Front. Mar. Sci.*, 8:772586. doi: 10.3389/fmars.2021.772586.
- 100.** Cai*, Z., G. Liu, Z. Liu, **J. Gan** (2021). Three dimensional seasonal and intra-tidal variabilities of water exchange in the Pearl River Estuary. *Estuarine, Coastal and Shelf Science* (in press).
- 99.** Liu, Ye*, J. Xie, Z. Liu, **J. Gan** and J. Zhu (2021). The assimilation of temperature and salinity profile observations for forecasting the river-estuary-shelf waters *J. Geophys. Res.-Oceans*, 2020JC017043
- 98.** Lee, J., J. T. Liu*, I. H. Lee, K. H. Fu, R. J. Yang, W. Gong and **J. Gan** (2021). Encountering shoaling internal waves on the dispersal pathway of the pearl river plume in summer.

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- 96.** Chen, F., X. P. Koh, M. L. Y. Tang, **J. Gan**, S. C.K. Lau* (2021). Microbiological assessment of ecological status in the Pearl River Estuary, China *Ecological Indicators* 130 (2021) 108084.
- 95.** Xu, Z., Y. Wang, Z. Liu , J. C. McWilliams, and **J. Gan*** (2021). Insight into the dynamics of the radiating internal tide associated with the Kuroshio Current. *J. Geophys. Res.-Oceans*, 126, e2020JC017018. <https://doi.org/10.1029/2020JC017018>.
- 94.** Yang, W., X. Guo, Z. Cao, Y. Xua, L. Wang, L. Guo, T. Huang, Y. Li, Y. Xu, **J. Gan**, M. Dai* (2021). Seasonal dynamics of the carbonate system under complex circulation schemes on a large continental shelf: The northern South China Sea, *Progress in Oceanography*, doi: <https://doi.org/10.1016/j.pocean.2021.102630>.
- 93.** Liu, Z.*, **J. Gan**, J. Hu, H. Wu, Z. Cai and Y. Deng (2021). Progress on circulation dynamics in the East China Sea and southern Yellow Sea: Origination, pathways, and destinations of shelf currents, *Progress in Oceanography*, doi: <https://doi.org/10.1016/j.pocean.2021.102553>.
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- 76.** Du, C., **J. Gan**, C. Rex Hui, Z. Lu, X. Zhao, E. Roberts and M. Dai* (2020). Dynamics of dissolved inorganic carbon in the South China Sea: a modeling study. *Progress in Oceanography*, 186 (2020) 102367, doi: 10.1016/j.pocean.2020.102367 .
- 75.** Lv, R., P. Cheng* and **J. Gan** (2020). Adjustment of river plume fronts during downwelling-favorable wind events. *Cont. Shelf Res.*, 10.1016/j.csr.2020.104143, doi: 10.1016/j.csr.2020.104143.
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