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Researcher

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EDUCATION

Doctor of Nature Science, Geophysical fluid dynamics, Graduate University of CAS, Beijing, China (2005-2008).

Master of Science, Meteorology, Nanjing University of Information Science and Technology, Nanjing, China (2002-2005).

Bachelor of Science, Meteorology, Nanjing Institute of Meteorology, Nanjing, China (1993-1997).

RESEARCH EXPERIENCE

- March 2014 – present: Nansen Environmental and Remote Sensing Center, Researcher.
- January 2010 – March 2014: Institute of Atmospheric Physics of CAS, Associate researcher.
- July 2008 – December 2009: Institute of Atmospheric Physics of CAS, Assistant researcher.
- September 2005 – June 2008: Institute of Atmospheric Physics of CAS, PhD student.

RESEARCH INTERESTS

- Focused on the ensemble data assimilation method in operational oceanography, developing the practical data assimilation schemes implemented in different forecast systems.
- Evaluation and investigation new types of ocean and sea ice observations in operational forecast systems.

Peer Reviewer

The Cryosphere, Ocean Modeling, Ocean science, JGR Ocean, Remote Sensing, Advances in Space Research, Ocean Dynamics, Atmosphere Research, Journal of Atmospheric and Oceanic Technology, Quarterly Journal of the Royal Meteorological Society.

PUBLICATIONS

1. **Xie, J.**, Counillon, F., and Bertino, L.: Impact of assimilating a merged sea-ice thickness from CryoSat-2 and SMOS in the Arctic reanalysis, *The Cryosphere*, 12, 3671-3691, <https://doi.org/10.5194/tc-12-3671-2018>, 2018.
2. **Xie, J.**, Bertino, L., Cardellach, E., Semmling, M., and Wickert, J.: An OSSE evaluation of the GNSS-R altimetry data for the GEROSS mission as a complement to the existing observational networks, *Remote Sens. Environ.*, 209, 152-165, doi:10.1016/j.rse.2018.02.053, 2018.
3. Balibrea-Iniesta, F., **Xie, J.**, Garcia-Garrido, V., Bertino, L., Maria Mancho, A., and Wiggins, S.: Lagrangian transport across the upper Arctic waters in the Canadian Basin. *Quarterly Journal of the Royal Meteorological Society*, <https://doi.org/10.1002/qj.3404> 2018.
4. Nakanowatari, T., Inoue, J., Sato, K., Bertino, L., **Xie, J.**, Matsueda, M., Yamagami, A., Sugimura, T., Yabuki, H., and Otsuka, N.: Medium-range predictability of early summer sea ice thickness distribution in the East Siberian Sea based on the TOPAZ4 ice-ocean data assimilation system, *The Cryosphere*, 12, 2005-2020, <https://doi.org/10.5194/tc-12-2005-2018>, 2018.
5. Arduin, F., Aksenov, Y., Benetazzo, A., Bertino, L., Brandt, P., Caubet, E., Chapron, B., Collard, F., Cravatte, S., Delouis, J.-M., Dias, F., Dibarboure, G., Gaultier, L., Johannessen, J., Korosov, A., Manucharyan, G., Menemenlis, D., Menendez, M., Monnier, G., Mouche, A., Nougulier, F., Nurser, G., Rampal, P., Reniers, A., Rodriguez, E., Stopa, J., Tison, C., Ubelmann, C., van Sebille, E., and **Xie, J.**: Measuring currents, ice drift, and waves from space: the Sea surface Kinematics Multiscale monitoring (SKIM) concept, *Ocean Sci.*, 14, 337-354, <https://doi.org/10.5194/os-14-337-2018>, 2018.
6. Uotila, P., Goosse, H., Haines, K., Chevallier, M., Barthélemy, A., Bricaud, C., Carton, J., Fučkar, N., Garric, G., Iovino, D., Kauker, F., Korhonen, M., Lien, V. S., Marnela, M., Massonnet, F., Mignac, D., Peterson, A., Sadikn, R., Shi, L., Tietsche, S., Toyoda, T., Xie, J., Zhang, Z.: An assessment of ten ocean reanalyses in the polar regions, *Climate Dynamics*, <https://doi.org/10.1007/s00382-018-4242-z>, 2018.
7. **Xie, J.**, Bertino, L., Counillon, F., Lisæter, K., and Sakov, P.: Quality assessment of the TOPAZ4 reanalysis in the Arctic over the period 1991-2013, *Ocean Sci.*, 13(1), 123-144, doi:10.5194/os-13-123-2017, 2017.
8. **Xie, J.**, Counillon, F., Bertino, L., Tian-Kunze, X., and Kaleschke, L.: Benefits of assimilating thin sea ice thickness from SMOS into the TOPAZ system, *The Cryosphere*, 10, 2745-2761, doi:10.5194/tc-10-2745-2016, 2016.

9. Simona Simoncelli, S. Masina, L. Axell, Y. Liu, S. Salon, G. Cossarini, L. Bertino, **J. Xie**, A. Samuelsen, B. Levier, G. Reffray, E. O'Dea, R. McEwan, T. Kristiansen. 2016, MyOcean regional reanalysis: overview of reanalysis system and main results. *Mercator ocean Journal*, 43-62.
10. Wickert, J., E. Cardellach, M. Martín-Neira, B. Laurent, et al., **J. Xie**, and C. Zuffada, 2016: Geros-ISS: GNSS Reflectometry, Radio Occultation, and Scatterometry Onboard the International Space Station. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 9(10) p. 4552-4581.
11. Zhou, G., Zhang H., Zhang F., **Xie J.**, Xue F., and You X., 2016: Studies on High-Resolution Atmospheric and Oceanic General Circulation Models. In: Development and Evaluation of High Resolution Climate System Models. Springer, Singapore, https://doi.org/10.1007/978-981-10-0033-1_2.
12. **Xie, J.**, Zhu, J., Counillon, F., and Bertino, L.: Analysis of the northern South China Sea counter-wind current in winter using a data assimilation model. *Ocean Dynamics*, 65, 523-538, doi:10.1007/s10236-015-0817-y, 2015.
13. Mignac, D., Tanajura, C. A. S., Santana, A. N., Lima, L. N., and **Xie, J.**: Argo data assimilation into HYCOM with an EnOI method in the Atlantic Ocean. *Ocean Sci.*, 11, 195-213, 2015
14. Yan, C., Zhu, J., and **Xie, J.**: An ocean data assimilation system in the Indian ocean and west Pacific ocean, *Adv. Atmos. Sci.*, 32(11), 1460-1472, doi: 10.1007/s00376-015-4121-z, 2015.
15. Ren, S.H., **XIE, J.**, and Zhu, J.: The Roles of Different Mechanisms Related to the Tide-induced Fronts in the Yellow Sea in Summer. *Adv. Atmos. Sci.*, 31(5), 1079-1089, doi: 10.1007/s00376-014-3236-y, 2014
16. Lyu, G., Wang, H., Zhu, J., Wang, D., **Xie, J.**, and Liu, G.: Assimilating the along-track sea level anomaly into the regional ocean modeling system using the ensemble optimal interpolation, *Acta Oceanol. Sin.*, 33(7), 72-83, doi:10.1007/s13131-014-0469-7, 2014.
17. Tanajura, C.A.S, Santana, A. N., Mignac, D., Lima, L. N., Belyaev, K., and **Xie, J.**: The REMO Ocean Data Assimilation System into HYCOM (RODAS_H): General Description and Preliminary Results. *Atmospheric and Oceanic Science Letters*, 7(5), 464-470, 2014.
18. **Xie, J.**, Counillon, F., Zhu, J., and Bertino, L.: An eddy resolving tidal-driven model of the South China Sea assimilating along-track SLA data using the EnOI. *Ocean Sci.*, 7, 609-627, 2011
19. Yan, C., J. Zhu, and **J. Xie**, 2010: An ocean reanalysis system for the joining area of Asia and Indian-Pacific ocean. *Atmospheric and Oceanic Science Letters*, 3(2), 81-86.
20. **Xie, J.**, and Zhu, J.: Ensemble optimal interpolation schemes for assimilating Argo profiles into a hybrid coordinate ocean model. *Ocean Modelling*. doi: 10.1016/j.ocemod.2010.03.002, 33, 283-298, 2010
21. **Xie, J.**, and Zhu, J.: A dataset of global ocean surface currents for 1999-2007 derived from Argo float trajectories: A comparison with surface drifter and TAO measurements. *Atmospheric and Oceanic Science Letters*, 2, 97-102, 2009
22. **Xie, J.**, and Zhu, J.: Estimation of the Surface and Mid-Depth Currents from Argo floats in Pacific and Error Analysis. *Journal Marine Systems*, 73, 61-75, 2008.

23. **Xie, J.**, Zhu, J., and Li, Y.: Assessment and inter-comparison of five high-resolution sea surface temperature products in the shelf and coastal seas around China. *Continental Shelf Research*, **28**, 1286-1293, 2008.
24. **Xie, J.**, J. Zhu, L. Xu, and P. Guo, 2005: Evaluation of mid-depth currents of NCEP reanalysis data in the tropical pacific using ARGO float position information, *Adv. Atmos. Sci.*, Vol.**22**, No.5, pp.677-684.
25. Yan, C., **Xie J.**, and Zhu J., 2011: An analysis system for rapid estimate of three dimensional ocean temperature, salinity, and current fields and its application in the gulf of Aden. *Climatic and Environmental Research (in Chinese)*, 16(4), 419-428, doi:10.3878/j.issn.1006-9585.2011.04.02.
26. Ye, D. and **J. Xie**, 2011: Data assimilation experiment in the northern South China Sea based on Ensemble Optimal Interpolation method, *Marine Science Bulletin (in Chinese)*, 30(4), 376-396.
27. **Xie, J.**, Guo P., and Wang Y., 2005: Antarctic circumpolar waves and its association with the abnormality of summer rainfall over China, *Journal of Nanjing Institute of Meteorology (in Chinese)*, 28 (3), 376-383.

Presentations and lectures (selected)

1. Quantitative assessment of the TOPAZ4 Reanalysis in Arctic of 1991-2013, Workshop Evaluation of Ocean Reanalysis, Helsinki, 23 March 2016.
2. Benefits of assimilating thin sea-ice thickness from SMOS-Ice into the TOPAZ system, 7th IICWG Data Assimilation and PPP Ice Verification Workshop, Frascati, Italy, 5-7 April 2016.
3. Status of the TOPAZ system and development plans for the Copernicus Arctic MFC, lecture at NMEFC, Beijing, 4 August 2016.
4. A study of improving the predictability of mesoscale eddies by ensemble data assimilation, Symposium on ocean circulation, Ecosystem, Hypoxia and consequences, Hongkong, 23-25 February 2017.
5. The roles of the sea ice thickness measurements from satellites in the TOPAZ system, 8th EuroGOOS Conference, Bergen, 3-5 October 2017.
6. The Arctic sea ice thickness (SIT) constrained by the merged retrievals of Cryosat-2 and SMOS, 8th Annual meeting of GODAE ST, Bergen, 6-10 November 2017.
7. Evaluation of the Arctic reanalysis in TOPAZ and new efforts on sea ice thickness (SIT), EOS meeting in COST Action, Malta, 17-18 April 2018
8. Quantitative evaluation of the Arctic reanalysis from the TOPAZ4 system, 50th Liège Colloquium on ocean dynamics, Liège, 29th May 2018