CURRICULUM VITAE

Dake Chen [1, 2]

1. State Key Laboratory of Satellite Ocean Environment Dynamics
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Education

1989: Ph.D., Physical oceanography, State University of New York at Stony Brook.
1985: M.S., Physical oceanography, Second Institute of Oceanography.
1982: B.S., Physics, Hunan Normal University.

Work Experience

2006-present: Director, State Key Laboratory of Satellite Ocean Environment Dynamics.
2001-present: Doherty Senior Research Scientist, Lamont-Doherty Earth Observatory.
1999-2001: Senior Research Scientist, Lamont-Doherty Earth Observatory.
1996-1999: Research Scientist, Lamont-Doherty Earth Observatory.
1995-1996: Associate Research Scientist, Lamont-Doherty Earth Observatory.
1992-1995: Visiting Research Scientist, USRA at NASA Goddard Space Flight Center.
1989-1992: UCAR postdoctoral fellow, working at University of Rhode Island.
1985-1989: Research Assistant, State University of New York at Stony Brook.
1982-1985: Research Assistant, Second Institute of Oceanography, China.

Current Research Interest

Tropical/Subtropical Ocean Modeling;
Air-Sea Interaction and ENSO forecasting;
Multi-disciplinary Studies in Coastal Oceans;
Polar Climate Variability and Sea Ice Prediction;
Deep Sea Mixing and Thermohaline Circulation;
Oceanic Application of Satellite Remote Sensing.

Professional Activities and Honors

Associate Editor, Journal of Geophysical Research (Oceans) (1995-1999; 2007-).
Member, POC Committee, North Pacific Marine Science Organization (PICES) (2008-).
Member, Scientific Committee on Oceanic Research (SCOR)'s Chinese sub-committee (2008-).
Member, World Climate Research Programme (WCRP)'s Chinese sub-committee (2009-).
Adjunct Professor, University of Rhode Island (1993-).
Adjunct Professor, Xiamen University (2007-).
Adjunct Professor, South China Sea Institute of Oceanology (2007-).
Adjunct Professor, Zhejiang University (2008-).
Adjunct Professor, Ocean University of China (2008-).
Panelist, NOAA Climate Test Bed (CTB) Program.
Panelist, NOAA Pan American Climate Studies (PACS) Program.
Panelist, NASA Physical Oceanography Program.
Donald Pritchard Award, MSRC, SUNY at Stony Brook, 1990.
UCAR postdoctoral fellowship on ocean modeling, 1989.
Member, American Geophysical Union (1988-).

Selected Publications (out of a total over 100)

1. Ou, H. W., X. Guan and D. Chen, Tidal effect on the dense water discharge: part 1. analytical model, In: Gordon, A., Padman, L., Bergamasco, A. (Eds.), *Deep-Sea Research Part II*, Southern Ocean Shelf Slope Exchange, in press.
2. Guan, X. H. W. Ou and D. Chen, Tidal effect on the dense water discharge: part 2: a numerical study, In: Gordon, A., Padman, L., Bergamasco, A. (Eds.), *Deep-Sea Research Part II*, Southern Ocean Shelf Slope Exchange, in press.
3. Zhang, R.-H., A. J. Busalacchi, X. Wang, J. Ballabrera-Poy, R. G. Murtugudde, E. C. Hackert and D. Chen, Role of ocean biology-induced climate feedback in the modulation of El Niño-Southern Oscillation (ENSO), *Geophys. Res. Lett.*, 36, L03608, doi:10.1029/2008GL036568, 2009.
4. Chen, D., Mechanisms of shelf-break frontogenesis. *Acta Oceanologica Sinica*, **27**, 9-20, 2008.
5. Chen, D., The ocean's role in climate variability. *Acta Oceanologica Sinica*, **27**, 1-8, 2008.
6. Tang, Y., Z. Deng, X. Zhou, Y. Cheng and D. Chen, Interdecadal variation of ENSO predictability in multiple models. *J. Climate*, **21**, 4811-4833, 2008.
7. Wang, G., D. Chen and J. Su, Winter eddy genesis in the eastern South China Sea due to orographic wind-jets. *J. Phys. Oceanogr*., **38**, 726-732, 2008.
8. Chen, D. and M. A. Cane, ENSO prediction and predictability. *J. Comput. Phys.*, **227**, 3625-3640, 2008.
9. Chen, D, J. Xu, J. Ma, X. Chen, G. Wang, W. Wang, G. Han, Q. Zhang, Y. Yuan and W. Zhou, Argo global observation network and studies of upper ocean structure, variability and predictability. *Advances in Earth Science*, **23**, 1-7, 2008.
10. Yuan, X. and D. Chen, Seasonal Forecast of Antarctic Sea Ice and Beyond. *Ice and Climate News* - The WCRP/SCAR Climate and Cryosphere Newsletter, **10**, 12-13, 2008.
11. Wang, G., J. Su, Y. Ding and D. Chen, Tropical cyclone genesis over the South China Sea. *J. Mar. Sys.*, doi:10.1016/J.jmarsys.2006.12.002, 2007.
12. Ou, H. W. and D. Chen, Wind-induced shear dispersion and genesis of the shelf-break front. *Prog. Oceanogr.*, **70**, 313-330, 2006.
13. Wang, G., D. Chen and J. Su, Generation and life cycle of the dipole in the South China Sea summer circulation. *J. Geophys. Res.*, **111**,C06002, doi:10.1029/2005JC003314, 2006.
14. Chen, D. and X. Yuan, Seasonal forecast of Antarctic sea ice. *CLIVAR Exchange*, **32**, 21-22 (and cover page), 2005.
15. Chen, D., Upper ocean response to surface momentum and freshwater fluxes in the western Pacific warm pool. *J. Trop. Oceanogr.*, **23**, 6, 1-15, 2004.
16. Chen, D., and X. Yuan, A Markov model for seasonal forecast of Antarctic sea ice. *J. Climate*, **17**, 3156-3168, 2004.
17. Dong, C., R. Houghton, H. W. Ou and D. Chen, Numerical study of the diapycnal flow through a tidal front with passive tracers. *J. Geophys. Res.*, **109**, C05029, doi:10.1029/2003 JC001969 , 2004.
18. Chen, D., M. A. Cane, A. Kaplan, S. E. Zebiak and D. Huang, Predictability of El Niño over the past 148 years. *Nature*, **428**,733-736, 2004.
19. Kaplan, A., M. A. Cane, D. Chen, D. Witter and R. Cheney, Small-scale variability and model error in tropical Pacific sea level. *J. Geophys. Res.*, **109**, C02001, doi:10.1029/2002 JC001743, 2004.
20. Dong, C., H. W. Ou, D. Chen and M. Visbeck, Tidally induced cross-frontal circulation, I: analytical study. *J. Phys. Oceanogr.*, **34**, 293-305, 2004.
21. Chen, D., T. W. Liu, W. Tang and Z. Wang, Air-sea interaction at an oceanic front: implications for frontogenesis and primary production. *Geophys. Res. Lett.*, **30**, 1745, doi:10.1029 /2003GL017536, 2003.
22. Ou, H. W., C. Dong and D. Chen, Tidal diffusivity: a mechanism for frontogenesis. *J. Phys. Oceanogr.*, **33**, 840-847, 2003.
23. Chen, D., H. W. Ou, and C. Dong, A model study of internal tides in coastal frontal zone. *J. Phys. Oceanogr*., **33**, 170-187, 2003.
24. Chen, D., A comparison of wind products in the context of ENSO prediction. *Geophys. Res. Lett.*, **30(3)**, 1107-1110, 2003.
25. Wang, Z., D. Wu, D. Chen, H. Wu, X. Song, and Z. Zhang, Critical time span and nonlinear action structure of climatic atmosphere and ocean. *Advances in Atmospheric Sciences*, **19**, 741-756,

2002.

26. Davey, M. K., M. Huddleston, K. R. Sperber, P. Braconnot, F. Bryan, D. Chen, and co-authors, STOIC: a study of coupled model climatology and variability in tropical ocean regions. *Climate Dynamics*, **18(5)**, 403-420, 2002.

27. Chen, D., Applying satellite remote sensing to predicting 1999-2000 La Niña. *Remote Sensing of Environment*, **77**, 275-278, 2001.

28. Chen, D., Application of altimeter observation to El Niño prediction. *International Journal of Remote Sensing*, **22**, 2621-2626, 2001.

29. Canizares, R., A. Kaplan, M. A. Cane, D. Chen, S. E. Zebiak, Use of data assimilation via linear low order models for the initialization of ENSO predictions. *J. Geophys. Res*., **106**, 30947-30959, 2001.

30. Latif, M., K. Sperber, J. Arblaster, P. Braconnot, D. Chen, and co-authors, ENSIP: the El Niño simulation intercomparison project. *Climate Dynamics*, **18**, 255-276, 2001.

31. Chen, D., M. A. Cane, S. E. Zebiak, Rafael Canizares and A. Kaplan, Bias correction of an ocean-atmosphere coupled model. *Geophys. Res. Lett.*, **27**, 2585-2588, 2000.

32. Ou, H.-W., C. Dong, and D. Chen, Can property flux induced by tides be counter-gradient? *J. Phys. Oceanogr.*, **30**, 1472-1477, 2000.

33. Chen, D., M. A. Cane, and S. E. Zebiak, The impact of NSCAT winds on predicting the 1997/98 El Niño: A case study with the Lamont model. *J. Geophys. Res.*, **104**, 11321-11327, 1999.

34. Chen, D., T. Liu, S. E. Zebiak, M. A. Cane, Y. Kushnir and D. Witter, The sensitivity of the tropical Pacific ocean simulation to the spatial and temporal resolution of wind forcing. *J. Geophys. Res*., **104**, 11261-11271, 1999.

35. Rothstein, L. M., R. Zhang, D. Chen and A. J. Busalacchi, A numerical simulation of the mean water pathways in the subtropical and tropical Pacific Ocean. *J. Phys. Oceanogr*., **28**, 322-343, 1998.

36. Kessler, W., L. M. Rothstein and D. Chen, The annual cycle of SST in the eastern tropical Pacific diagnosed in an ocean GCM. *J. Climate*, **11**, 777-799, 1998.

37. Chen, D., M. A. Cane, S. E. Zebiak and A. Kaplan, The impact of sea level data assimilation on the Lamont model prediction of the 1997/98 El Niño. *Geophys. Res. Lett.*, **25**, 2837-2840, 1998.

38. Chen, D., S. E. Zebiak, A. J. Busalacchi and M. A. Cane, On the initialization and predictability of a coupled ENSO forecast model. *Mon. Wea. Rev*., **125**, 773-788, 1997.

39. Chen D., Computer models for ENSO prediction: a brief review of their development, performance and predictability. *Sea Technology*, **38**, 37-42, 1997.

40. Rothstein, L. M. and D. Chen, The El Niño/Southern Oscillation Phenomenon: seeking its trigger and working toward prediction. *Oceanus*, **39**, 39-41, 1996.

41. Chen, D., S. E. Zebiak, A. J. Busalacchi and M. A. Cane, An improved procedure for El Niño forecasting: implications for predictability. *Science*, **269**, 1699-1702, 1995.

42. Chen, D., L. M. Rothstein, and A. J. Busalacchi, A hybrid vertical mixing scheme and its application to tropical ocean models. *J. Phys. Oceanogr.*, **24**, 2156-2179, 1994.

43. Chen, D., A. J. Busalacchi and L. M. Rothstein, The Roles of vertical mixing, solar radiation and wind stress in a model simulation of the tropical Pacific seasonal cycle. *J. Geophys. Res.*, **99**, 20345-20359, 1994.

44. Yan, X.-H., V. Klemas and D. Chen, The western Pacific warm pool observed from space, *EOS*, 73, 41-44, 1992.

45. Chen, D. and L. M. Rothstein, Modeling the mixed layer structures in the western equatorial Pacific. *TOGA Notes*, **2**, 13-16, 1991.

46. Wang, D.-P., D. Chen and T. J. Sherwin, Coupling between mixing and advection in shallow sea front. *Continental Shelf Research*, **10**, 123-136, 1990.

47. Chen, D. and D.-P. Wang, Simulating the time-variable coastal upwelling during CODE 2. *J. Mar. Res.*, **48**, 335-358, 1990.

48. Wang, D.-P. and D. Chen, Modeling material transport in estuaries and coastal waters. *Forefronts*, Cornell University, 4, 9, 4-6, 1989.

49. Chen, D., S. G. Horrigan and D.-P. Wang, The late summer nutrient mixing in Long Island Sound. *J. Mar. Res.*, **46**, 753-770, 1988.

50. Chen, D. and J. Su, Continental shelf waves along the coasts of China. *Acta Oceanologica Sinica*, **6**, 317-344, 1987.