

Peer Reviewed Journals

1. Dai*, M., W Zhai, W-J Cai, J. Callahan, B. Huang, S. Shang, T. Huang, X. Li, Z. Lu, W. Chen and Z. Chen, 2007 Effects of an Estuarine Plume-associated Bloom on the Carbonate System in the Lower Reaches of the Pearl River Estuary and the Coastal Zone of the Northern South China Sea, *Cont. Shelf Res.*, in press
2. Guo, X., W. Zhai, W-J Cai and M. Dai. Seasonal variation of the inorganic carbon system in the Zhujiang (Pearl) River estuary. *Cont. Shelf Res.*, in press
3. Cai, W-J., X. Guo, C-T. A. Chen, M. Dai, L. Zhang, W. Zhai, S. E. Lohrenz and Y. Wang, A comparative overview of weathering intensity and HCO_3^- flux in the world's largest rivers with emphasis on the Changjiang, Huanghe, Pearl and Mississippi Rivers, *Cont. Shelf Res.*, in press
4. Weidong Zhai, Minhan Dai* and Xianghui Guo, 2007, Carbonate system and CO_2 degassing fluxes in the inner estuary of Changjiang (Yangtze) River, China, *Mar. Chem.* in press
5. Martin Hassellöv, Ken O. Buesseler, Steven M. Pike, Minhan Dai, 2007 Application of cross-flow ultrafiltration for the determination of colloidal abundances in suboxic ferrous-rich ground waters, *Science of the Total Environment* 372, 636-644
6. Minhan Dai*, Xianghui Guo, Weidong Zhai, Liangying Yuan, Bengwang Wang, Lifang Wang, Pinghe Cai, Tiantian Tang and Wei-Jun Cai., 2006, Oxygen depletion in the upper reach of the Pearl River estuary during a very drought winter, *Marine Chemistry*, 102, 159-169.
7. Pinghe Cai, Minhan Dai, Weifang Chen, TianTian Tang, and Kuanbo Zhou, On the importance of the decay of ^{234}Th in determining size-fractionated $\text{C}/^{234}\text{Th}$ ratio on marine particles, *Geophysical Research Letters*, 33, L23602, doi:10.1029/2006GL027792.
8. Shuh Ji Kao, Chau-Ron Wu, Yi-Chia Hsin, and Minhan Dai, 2006, Effects of sea level change on the upstream Kuroshio Current through the Okinawa Trough, *Geophysical Research Letters*, VOL. 33, L16604, doi:10.1029/2006GL026822.
9. Pinghe Cai, Minhan Dai*, Dongwei Lv, Weifang Chen, How accurate are the ^{234}Th measurements in seawater based on MnO_2 -impregnated cartridge technique. 2006, *Geochemistry, Geophysics, Geosystems*, 7, Q03020, doi:10.1029/2005GC001104
10. Pinghe Cai, Minhan Dai*, Dongwei Lv, Weifang Chen, 2006, An improvement in the small-volume technique for determining thorium-234 in seawater, *Marine Chemistry*, 100, 282-2888
11. Wei-Jun Cai, Minhan Dai, and Yongchen Wang , 2006, Air-sea exchange of carbon dioxide in ocean margins: A province-based synthesis, *Geophysical Research Letters*, VOL. 33, L12603, doi: 10.1029/2006GL026219.
12. Zhang, C.Y., C.Hu, S. Shang, Frank E. Müller-Karger, Yan Li, Minhan Dai, Bangqin Huang, Xiuren Ning, Huasheng Hong, 2006, Bridging between SeaWiFS and MODIS for continuity of chlorophyll-a concentration assessments off Southeastern China. *Remote Sensing of Environment*, 102 (3-4): 250-263.

13. M. Rutgers van der Loeff, M.M. Sarin, M. Baskaran, C. Benitez-Nelson, K.O. Buesseler, M. Dai., O.Gustafsson, P. Masque, P.J. Morris, K. Orlandini, A. Rodrigo Baena, N. Savoye, S. Schmidt, R. Turnewitsch, I. Vöge, J.T. Waples, 2006, A review of present techniques and methodological advances in analyzing ^{234}Th in aquatic systems, *Marine Chemistry*, 100, 190-212.
14. Zhai W.D., Dai* M.H., Cai W.J., Wang Y.C. Hong H.S., 2005, The partial pressure of carbon dioxide and air-sea fluxes in the northern South China Sea in spring, summer and autumn, *Marine Chemistry*, 96:87-97.
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16. Ma Q.J., Hu M., Zhu T., Liu L.L., Dai M.H., 2005, Seawater, atmospheric dimethylsulfide and aerosol ions in Pearl River Estuary and the adjacent northern South China Sea, *Journal of Sea Research*, 53: 131-145
17. Zhai, W., Dai*, M., Cai, W.J., Wang, Y. and Wang, Z., 2005. High partial pressure of CO_2 and its maintaining mechanism in a subtropical estuary, the Pearl River estuary, China, *Marine Chemistry*, 93: 21-32
18. Cai, W.-J. and Dai, M. 2004. Comment on "Enhanced open ocean storage of CO_2 from shelf area pumping" by Thomas et al. (*Science* 304). *Science*, 306, 1477C
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20. Wei Jun-feng, Minhan Dai, Huasheng Hong, Xiaolin Li and Weifang Chen, 2004, Overviews on the interactions between marine colloids and trace metals, *Advances in Earth Science*, 19, 26-31 (in Chinese)
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26. Z. Zhang, M. Dai, H. Hong, J. L. Zhou and G. Yu, 2002 Dissolved insecticides and polychlorinated biphenyls in the Pearl Estuary and South China Sea, *Journal of Environmental Monitoring*, 4, 922-928

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29. He, Biyan, Minhan Dai, Li Cao, Xu Li, Wei Huang and Xinhong Wang, 2003. The application of capillary gas chromatography in the determination of the composition of polysacchrides in marine sediments. *Oceanologica et Limnologia Sinica*, 34: 233-240 (in Chinese)
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Book and Proceeding Chapters

1. Dai, M.H., H.S. Hong, T. Zhu and S.L. Shang, 2001, Prospective on the interactions between upper ocean biogeochemistry and air-sea exchange in the South China Sea, in *South China Sea - Environment and Resource*, Jilan Su (editor), China Ocean Press, pp.48-56. (in Chinese)
2. Dai, M.H., J.M. Martin and G. Cauwet 2000. Colloidal organic carbon and trace metals. In, Venice Lagoon Ecosystem-Inputs and Interactions between Land and Sea, P. Lasserre & A. Marzollo (editors), Chapter 3, pp. 47-58, Parthenon Publishing, UK
3. da Silva, J-M. Martin, M.H. Dai & L. Xu, 1998 Exploring Data from the Pearl River Estuary with simple tools, Proceedings *Second International Conference on the Pearl River Estuary in the Surrounding Area of Macao*, GUANGZHOU and MACAO, 11-15 MAY, 1998.
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3. Hong, H.S., M.H. Dai and Y. Zhang, S.L. Shang, Annual report for Marine Environmental Laboratory, , Xiamen University, 2002
4. Hong, H.S., M.H. Dai and Y. Zhang, S.L. Shang, Annual report for Marine Environmental Laboratory, , Xiamen University, 2003
5. Dai M.H. et al., Annual report for Marine Environmental Laboratory, , Xiamen University, 2004
6. Dai M.H. et al., Annual report for Marine Environmental Laboratory, , Xiamen University, 2005
7. Dai M.H. et al., Annual report for Marine Environmental Laboratory, , Xiamen University, 2006

SYMPOSIUM PRESENTATIONS

1. Hong H.S, Dai M.H and Chen S., Variation in phosphorus species with the growth of phytoplankton in Xiamen Harbour and Jiulong River Estuarine Waters. *International Symposium on Biogeochemical Study of Changjiang Estuary and its Adjacent Coastal Waters of the East China Sea*, March 21-25, 1988, Hangzhou, China.
2. Martin, J.M., Dai M.H., G. Gieu, W.W Huang and Y.Y. Yoon, Trace metal behaviour (Cd, Cu, Fe, Ni, Pb and Zn) in major Russian estuaries (Lena, Ob and Yenisey), *Ocean Science Meeting*, AGU, Match, 1994, California, USA (see *EOS*, 173, N°3: 73).
3. Dai, M.H., J.M. Martin and G. Cauwet, Importance of colloidal material in the transport of organic carbon and trace metals in the Rhône Delta (France), 5th *EROS-2000 (European River-Ocean System) workshop*, 28-30 Match, 1994, Hamburg, Germany.
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5. Dai, M.H., M.H. Cotté, W. Huang, and J.M. Martin. Interchange of organic carbon and trace metals between two rias (Vigo and Arosa) and adjacent Atlantic coastal waters. 2nd EU Workshop: Exchange processes at the continent/ocean margins in the North Atlantic, Knokke, Belgium, 22-24 Feb., 1995.
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21. Buesseler, K.O., M.H. Dai and J.M. Kelley, S. Pike, R. Nelson, S. Goodwin and J.F. Wacker Speciation and isotopic composition of plutonium in the groundwater at the Hanford Site, DOE/EMSP National Workshop, Atlanta, April 2000.
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25. Dai, M.H., H.S. Hong, South China Sea and Global Change – a biogeochemistry perspective, Workshop on global change and regional impact, NSF-China, June, 2001, Beijing.
26. Dai, M.H., W.D. Zhai, Z.M. Lu, H.S. Hong and P.H. Cai, Prospectives in China carbon cycle study, Annual meeting of IGBP-China National Committee, Dec. 2001, Chongqing, China.
27. Dai, Minhan, China SOLAS - A Biogeochemical Perspective, China SOLAS committee meeting, Jan. 12-13, 2002, Beijing, China
28. Julie Callahan, Minhan Dai, Robert F. Chen, Xiaolin Li, Zhongming Lu, Weidong Guo, Weifang Chen, 2002, Dissolved Organic Matter in the Pearl River Estuary, Ocean Science Meeting, AGU/ASLO, Honolulu, Hawaii, 11-15 February 2002.
29. Minhan Dai, Weidong Zhai, Weijun Cai, Tao Huang, Shuitu Chen, Zhaohui Wang, Bangqing Huang, Julie Callahan, Xiaolin Li, Zhongming Lu, Li Cao, Weifang Chen, Xianzhong Xu, Fan Zhang, Wuqi Ruan, Shaoling Shang, Yongchen Wang, Linjian Ou, Huasheng Hong, 2002, Biogeochemical Response to a River Plume Induced Phytoplankton Bloom in the Pearl River Estuary, South China Sea, Ocean Science Meeting, AGU/ASLO, Honolulu, Hawaii, 11-15 February 2002.

30. Yonchen Wang, Weidong Zhai, Zhaohui Wang, Zhongming Lu, Minghan Dai and Wei-Jun Cai, 2002, Biogeochemical studies of carbon in the South China Sea, Ocean Science Meeting, AGU/ASLO, Honolulu, Hawaii, 11-15 February 2002.
31. Shang, S, Shang S, Dai, M, Wu, J, and Chen, Z, 2002, Enhanced Chlorophyll Offshore Pearl River Estuary during May, 2001, Ocean Science Meeting, AGU/ASLO, Honolulu, Hawaii, 11-15 February, 2002.
32. Dai Minhan, Weidong Zhai, Wei-Jun Cai. How significant is the outgassing of CO₂ from some major Chinese estuaries, AGU Ocean Sciences Meeting, Jan. 26-30, 2004, Portland, Oregon
33. Minhan Dai, Weidong Zhai, Xianghui Guo, Liangyin Yuan, Bengwang Wang, Oxygen depletion in the upstream estuary of the Pearl River in the winter of 2004, 8th International Estuarine Biogeochemistry Symposium, Maryland, May 16-20, 2004
34. Dai Minhan, Biogeochemical coupling of carbon, nitrogen and oxygen in the Pearl River Estuary, plenary talk , “Coastal Ecosystem Responses to Changing Nutrient Inputs from Large Temperate and Sub-tropical Rivers, with Emphasis on Comparison among the Mississippi (USA), Pearl (China), Yangtze (China) and Rhône (France) Rivers-an international symposium”, May 29-June 1, 2005, Xiamen, China
35. Minhan Dai, Weidong Zhai, Pinghe Cai, Wei-Jun Cai, CO₂ source or sink of a continental margin-implication from a comparison between South China Sea and East china sea, ASLO Summer meeting, American Society of Limnology and Oceanography, June 18-25, 2005, Santiago de Compostela, Spain
36. Dai Minhan, Some thoughts on China Geotraces Program, plenary talk , “A regional workshop on GEOTRACES”, Aug 25-27, 2005, Xiamen, China
37. Dai Minhan, Climate Change/Ocean Carbon Cycle and Marginal Sea. plenary talk , Eighth Annual Chinese-American Frontiers Of Science Symposium, Chinese Academy of Sciences - U.S. National Academy of Sciences, Nov 2-4, 2005, Xiamen, China
38. Dai Minhan, Pinghe Cai, Weifang Chen, Tiantian Tang, Qing Li, Dongwei Lv, Upper Ocean Export of particulate organic carbon in the Southern China Sea derived from Thorium-234, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA
39. Weifang Chen, Minhan Dai, Pinghe Cai, Particulate organic carbon export fluxes derived from high resolution sampling of ²³⁴Th in the Northern South China Sea, poster, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA
40. Dai Minhan, Weidong Zhai, Wei-Jun Cai, Baoshan Chen, Xianghui Guo, Zhimian, Cao, Pinghe Cai, Carbon cycling in China Marginal Seas-an overview, poster, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA
41. Minhan Dai, Lifang Wang, Xianghui Guo, Weidong Zhai, Qing Li and Wei-Jun Cai, Biogeochemical coupling of carbon, nitrogen and oxygen in the Pearl River Estuary, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA

42. Weidong Zhai, Minhan Dai, Weijun Cai, Seasonal and inter-annual variations of CO₂ Air-Sea Fluxes in the Northern South China Sea, Ocean Science Meeting, Feb 20-24, 2006, Hawaii, USA
43. Minhan Dai, Weidong Zhai, Wei-Jun Cai, On the importance of estuaries in the global carbon cycle, invited talk, 9th International Estuarine Biogeochemistry Symposium, May 7-11, 2006, Warnemünde, Germany
44. Weidong Zhai, Xianghui Guo and Minhan Dai, CO₂ partial pressure and fluxes in Changjiang River Estuary, China, poster, 9th International Estuarine Biogeochemistry Symposium, May 7-11, 2006, Warnemünde, Germany
45. Dai Minhan, Zhai Weidong, Chen Baoshan, Zhou Kuanbo, Diurnal variation of surface seawater *p*CO₂ and its potential implication on air-sea CO₂ flux estimation, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
46. Tiantian Tang, Minhan Dai, Jianrong Lin, Xianghui Guo, On the total organic carbon in the South China Sea-enrichment in the intermediate waters, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
47. Zhongming Lu, Minhan Dai, Jinshun Chen, Kunming Xu, Yinhao Liao, Development and application of an in situ optical fiber chemical CO₂ sensor, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
48. Baoshan Chen, Minhan Dai and Huasheng Hong, *p*CO₂ and the carbonate system in a coastal upwelling system – Taiwan Strait, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
49. Weidong Zhai and Minhan Dai, On the distribution of dissolved CO₂ and O₂ in the coastal waters of East China Sea and in the Yellow Sea in Spring 2005, poster, Western Pacific Geophysics Meeting, 24-27 July, 2006, Beijing, China
50. Dai Minhan, Carbon Dynamics in the Oligotrophic South China Sea, Invited talk, International Conference on Contrasting Marine Ecosystems, Oct. 23-25, 2006, Hong Kong, China

GRANT HISTORY

- 01/2007-12/2011 “111” international collaboration program, Ministry of Education & State Bureau for Foreign Experts, principal investigator (4.5 M)
- 01/2006-12/2008 Marine Biogeochemistry-processes and mechanism, Group of excellence award, NSF-China, principal investigator (4.2 M).
- 01/2006-12/2008 Biogeochemical coupling of carbon, nitrogen and oxygen in the Pearl River estuary (NSF-China), principal investigator (520 K).
- 01/2003-12/2006 Source/sinks of atmospheric CO₂ in the Northern South China – fluxes and modulations, NSFC key project (NSF-China #90211020), principal investigator (1.6 M).
- 09/2003-09/2006 Sources, speciation and mobility of plutonium and other transuranics in the groundwater at the Savannah River Site (US department of Energy) (Ken O. Buesseler, Minhan Dai)

01/2003-12/2005 Air-Sea CO₂ flux and carbon biogeochemistry in the Pearl River Estuary and in the adjacent Northern South China Sea, Overseas Young Scientist Collaborative Project (NSF-China #40028007). Co-principle investigator (Wei-jun Cai and Minhan Dai) (400 K)

01/2002-12/2004 Interactions between Air-Sea CO₂ flux and upper ocean biogeochemical processes in the South China Sea (NSF-China #40176025). principal Investigator (230 K)

01/2002-12/2004 Fine structure of pCO₂ in the mixed layer, China Ministry of Education# 2002B0421020, principal investigator (100 K)

10/2002-04/2005 Development of a high precision and fast response chemical fiber CO₂ sensor, China High-tech program (Ministry of Science and Technology#2002AA635140), principal investigator (700 K).

01/2000-12/2002 Structural and compositional characterization of colloidal organic matter in the Pearl River Estuary and in the adjacent Northern South China Sea (NSF-China#49976021), Co-principle investigator (Li Xu and Minhan Dai) (180 K)

09/1999-06/2003 Speciation, mobility and fate of actinides in the groundwater at the Hanford Site (US Department of Energy #DE-FG07-96ER14733), Co-principle investigator (K.O. Buesseler, Minhan Dai and D. Repeta)

01/1999 –12/2002 Transport and transformation of organic carbon in the Pearl River Estuary and in the adjacent Northern South China Sea, Distinguished Young Scientist Award (NSF-China # 49825162), principal investigator (800 K)