首页　　学院概况　　机构设置　　师资队伍　　党建工作　　教学工作　　学术科研　　学生工作　　招生就业　　校友工作　　合作交流　　规章制度

教师风采——高阳

发布时间：2016-11-30 [阅读：—— 次　|　添加：祁华]

基本资料：

高阳，男，博士，教授，博士生导师

通信地址：山东省青岛市崂山区松岭路238号　中国海洋大学环境科学与工程学院

邮编：266100

Email：yanggao@ouc.edu.cn

　　每年拟招收硕士生2-3人，博士生1-2人，欢迎报考。同时计划招收博士后1-2名，主要进行区域气候变化和大气污染的数值模拟研究，年薪10-20万。

教育背景：

2008.08–2012.12，田纳西大学，土木工程，博士

2006.08–2008.07，清华大学，环境工程，硕士

2002.08–2006.06，吉林化工学院，环境工程，学士

工作经历：

2016.10-至今，中国海洋大学，环境科学与工程学院，教授

2013.05-2016.10，美国西北太平洋国际实验室，大气科学与全球变化部，博士后

2013.01-2013.05，美国田纳西大学，土木与环境工程系，博士后

研究方向：

1.气候变化对区域大气污染和人体健康的影响

2.全球变暖下极端天气对臭氧和灰霾的影响

3.灰霾污染（包括新粒子生成）机理研究

科研项目：

1. 气候变化下我国华北地区热浪和静稳天气对臭氧影响的高精度区域模拟研究（41705124），国家自然科学基金青年项目，2018-01至2020-12，在研，主持

2. 全球变暖对我国东部灰霾和近海物质沉降影响的数值研究（ZR2017MD026），山东省面上科学基金，2017-08至2020-06，在研，主持

3. 中国海洋大学"青年英才工程"第一层次项目，2016.10-2021.10，在研，主持

4. 气溶胶与天气气候相互作用对我国冬季强霾污染的影响（91744208），国家自然科学重大研究计划重点

支持项目，2018-01至2021-12，在研，参加

5. 两洋一海"区域高分辨率多圈层耦合模式开发 (2017YFC1404101)，国家重点研发计划，2017-07至2020-12，在研，参加

6. 大气污染生消过程动力学和微观形成机制数值模拟（2017YFC0209801），国家重点研发计划，2017-07至2020-06，在研，参加

7. 青岛市灰霾污染机理及高精度动力降尺度短期预报研究（201762010），中央高校基本科研业务费专项，2017-05至2020-05，在研，参加

8. 美国能源部，KP1703010，Water Cycle and Climate Extremes Modeling，2013.01-2015.12，已结题，参加。

9. 美国疾病控制与预防中心，1 U01 EH000405，Assessing the Cumulative Climate -Related Health Risks in the Eastern U.S.，2009.01-2012.12，已结题，参加。

国际合作：
开展了与美国一流大学及科研机构的合作，包括美国西北太平洋国家实验室，美国环保署，加州伯克利大学和埃默里大学等，欢迎加入与合作。

会员：
Sigma Xi, 希格玛西科学研究会, 2014.03——至今
美国地球物理学会(AGU), 2011.01——至今

近年发表论文(Publications since 2012)：

2019:
46. Zhang, J., **Y. Gao**, L. R. Leung, K. Luo, H. Liu, J.-F. Lamarque, J. Fan, X. Yao, H. Gao and T. Nagashima (2019), Impacts of climate change and emissions on atmospheric oxidized nitrogen deposition over East Asia, *Atmos. Chem. Phys.*, in press.

45. Zhang, G., **Y. Gao**, W. Cai, L. R. Leung, S. Wang, B. Zhao, M. Wang, H. Shan, X. Yao and H. Gao (2019), A seesaw haze pollution in North China modulated by sub-seasonal variability of atmospheric circulation, *Atmos. Chem. Phys.*,19, 565-576,https://doi.org/10.5194/acp-19-565-2019.

44. Zhu, Y., K. Li, Y. Shen, **Y. Gao**, X. Liu, Y. Yu, H. Gao and X. Yao (2019), New particle formation in the marine atmosphere during seven cruise campaigns, *Atmos. Chem. Phys.*, 19, 89-113, https://doi.org/10.5194/acp-19-89-2019.

43. Cai, T., Y. Zhang, X. Ren, L. Bielory, Z. Mi, C. G. Nolte, **Y. Gao**, L. R. Leung, and P. G. Georgopoulos (2019), Development of a semi-mechanistic allergenic pollen emission model, *Sci. Total Environ.*, 653, 947-957, https://doi.org/10.1016/j.scitotenv.2018.10.243.

2018:
42. Chen, X., L. R. Leung, **Y. Gao**, Y. Liu, M. Wigmosta and M. Richmond (2018), Predictability of Extreme Precipitation in Western U.S. Watersheds Based on Atmospheric River Occurrence, Intensity, and Duration, *Geophys. Res. Lett.*, 45, 11,693-11,701, 10.1029/2018GL079831.

41. Hu, Q., K. Qu, H. Gao, Z. Cui, **Y. Gao** and X. Yao (2018), Large Increases in Primary Trimethylaminium and Secondary Dimethylaminium in Atmospheric Particles Associated With Cyclonic Eddies in the Northwest Pacific Ocean, *J. Geophys. Res.*, 123, 12,133-12,146, 10.1029/2018JD028836.

40. Ni, Z., K. Luo, **Y. Gao**, X. Gao, J. Fan and K. Cen (2018), Air quality improvement from ultralow emissions at coal-fired power plants in China, *Aerosol and Air Quality Research*, 18(1),1944-1951.

39. Zhang, J., **Y Gao.**, K. Luo, L. R. Leung, Y. Zhang, K. Wang, and J. Fan (2018), Impacts of compound extreme weather events on ozone in the present and future, *Atmos. Chem. Phys.*, 18, 1–17, https://doi.org/10.5194/acp-18-1-2018.

38. Hou, P., S. Wu , J. L. McCarty and **Y. Gao** (2018), Sensitivity of atmospheric aerosol scavenging to precipitation intensity and frequency in the context of global climate change, *Atmos. Chem. Phys.*, 18, 8173-8182, https://doi.org/10.5194/acp-18-8173-2018.

37. Xie, H., L. Feng, Q. Hu, Y. Zhu, H. Gao, **Y. Gao** and X. Yao (2018), Concentration and size distribution of

water-extracted dimethylaminium and trimethylaminium in atmospheric particles during nine campaigns - Implications for sources, phase states and formation pathways. *Sci. Total Environ.*, 631–632, 130-141.

36. Lu, J. X. Dao, **Y. Gao**, G. Chen, L. R. Leung and P. Staten (2018), Enhanced hydrological extremes in the western United States under global warming through the lens of water vapor wave activity, *nature partner journal (npj) Climate and Atmospheric Science*, in press.

35. Zhang, X., H.-Y. Li, Z. D. Deng, C. Ringler, **Y. Gao**, M. I. Hejazi, and L. R. Leung (2018), Impacts of climate change, policy and Water-Energy-Food nexus on hydropower development, *Renew0able Energy*, 116, 827-834, https://doi.org/10.1016/j.renene.2017.10.030.

2017:
34. **Gao, Y.**, L. R. Leung, C. Zhao, and S. Hagos (2017), Sensitivity of U.S. summer precipitation to model resolution and convective parameterizations across gray zone resolutions, J. Geophys. Res. Atmos., 122, 2714–2733, doi:10.1002/2016JD025896.

33. Xing, C., C. Liu, S. Wang, K. L. Chan, **Y. Gao**, X. Huang, W. Su, C. Zhang, Y. Dong, F. Fan, T. Zhang, Z. Chen, Q. Hu, H. Su, Z. Xie and J. Liu (2017), Observations of the vertical distributions of summertime atmospheric pollutants and the corresponding ozone production in Shanghai, China, *Atmos. Chem. Phys.*, 17, 14275-14289, https://doi.org/10.5194/acp-17-14275-2017.

32. Xue, L., J. Fan, Z.J. Lebo, W. Wu, H. Morrison, W.W. Grabowski, X. Chu, I. Geresdi, K. North, R. Stenz, **Y. Gao**, X. Lou, A. Bansemer, A.J. Heymsfield, G.M. McFarquhar, and R.M. Rasmussen (2017), Idealized Simulations of a Squall Line from the MC3E Field Campaign Applying Three Bin Microphysics Schemes: Dynamic and Thermodynamic Structure. *Mon. Wea. Rev.*, **145**, 4789–4812, https://doi.org/10.1175/MWR-D-16-0385.1

31. Meng, L., H. W. Gao, Y. Yu, X. H. Yao, **Y. Gao**, C. Zhang, and L. Fan (2017), A new approach developed to study variability in North African dust transport routes over the Atlantic during 2001–2015, Geophys. Res. Lett., 44, 10,026–10,035, doi:10.1002/ 2017GL074478.

30. Stowell, J. D., Y.-M. Kim, **Y. Gao**, J. S. Fu, H. C. Howard and Y. Liu (2017), The Impact of Climate Change and Emissions Control on Future Ozone Levels: Implications for Human Health, Environment International, 108, 41-50, https://doi.org/10.1016/j.envint.2017.08.001.

29. Zhu, Y., C. Yan, R. Zhang, Z. Wang, M. Zheng, H. Gao, **Y. Gao**, and X. Yao (2017), Simultaneous measurements of new particle formation in 1-second time resolution at a street site and a rooftop site, Atmos. Chem. Phys., 17,9469-9484, https://doi.org/10.5194/acp-17-9469-2017.

28. Sun, J., J. S. Fu, J. A. Lynch, K. Huang and **Y. Gao** (2017), Climate-driven exceedance of total (wet + dry) nitrogen (N) + sulfur (S) deposition to forest soil over the conterminous U.S. Earth's Future, 5: 560–576. doi:10.1002/2017EF000588

27. Yang, Q., L. R. Leung, J. Lu, Y.-L. Lin, S. Hagos, K. Sakaguchi and **Y. Gao** (2017), Exploring the effects of a nonhydrostatic dynamical core in high-resolution aquaplanet simulations, J. Geophys. Res. Atmos., 122, 3245–3265, doi:10.1002/2016JD025287.

26. Wu, F., C. Fu, Y. Qian, **Y. Gao** and S. Wang (2017), High-frequency variability of daily temperature in China and its relationship with large scale circulation, International Journal of Climatology, 37(2), 570-582

2016:
25. Leung, L. R. and **Y. Gao** (2016), Regional downscaling of S2S prediction: Past lessons and future prospects, US CLIVAR Variations, 14(4), 13-18.

24. **Gao, Y.**, J. Lu and L. R. Leung (2016), the dynamical modulations and inter-model uncertainties of atmospheric rivers over Europe, *J. Climate*, 29(18), 6711-6726.

23. Wu, F, S. Wang, C. Fu, Y. Qian, **Y. Gao**, D.K. Lee, D.H. Cha, J. Tang and S.y. Hong (2016), Evaluation and projection of summer extreme precipitation over East Asia in the Regional Model Inter-comparison Project, *Climate Research*, 69: 45-58, doi: 10.3354/cr01384.

22. Hagos, S. M., L. R. Leung, J.-H. Yoon, J. Lu and **Y. Gao**(2016),A Projection of Changes in Landfalling Atmospheric River Frequency and Extreme Precipitation over Western North America from the Large Ensemble CESM Simulations, *Geophys. Res. Lett.,*43, 1357–1363, doi:10.1002/2015GL067392.

21. Chuang, M.-T., J. S. Fu, C.-T. Lee, N.-H. Lin, **Y. Gao**, S.-H. Wang, G.-R. Sheu, T.-C. Hsiao, J.-L. Wang, M.-C. Yen, T.-H. Lin, N. Thongboonchoo (2016), The Simulation of Long-Range Transport of Biomass Burning Plume and Short-Range Transport of Anthropogenic Pollutants to a Mountain Observatory in East Asia during the 7-SEAS/2010 Dongsha Experiment, Aerosol and Air Quality Research, 16: 2933–2949, doi: 10.4209/aaqr.2015.07.0440.

2015:
20. **Gao, Y.**, J. Lu, L. R. Leung, Q. Yang, S. Hagos and Y. Qian (2015), Dynamical and thermodynamical modulations on future changes of landfalling atmospheric rivers over western North America, *Geophys. Res. Lett.,* 42, 7179–7186: doi:10.1002/2015GL065435.

19. **Gao, Y.,** L. R. Leung, J. Lu, and G. Masato (2015), Persistent Cold Air Outbreaks over North America in a Warming Climate, *Environ. Res. Lett.*, 10(4), 044001.
   Highlighted in Science News (https://www.sciencenews.org/article/fewer-cold-snaps-forecast)
   Highlighted in Nature Climate Change
   (http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2674.html)

18. Chuang, M.-T., J. S. Fu, N.-H. Lin, C.-T. Lee, **Y. Gao**, S.-H. Wang, G.-R. Sheu, T.-C. Hsiao, J.-L. Wang, M.-C. Yen, T.-H. Lin, N. Thongboonchoo and W.-C. Chen (2015), Simulating transport and chemical evolution of biomass burning pollutants originating from Southeast Asia during 7-SEAS/2010 Dongsha Experiment, *Atmos. Environ.* 112, 294–305.

17. Sun, J., J. S. Fu, K. Huang and **Y. Gao** (2015), Estimation of future $PM_{2.5}$- and ozone-related mortality over the continental United States in a changing climate: An application of high-resolution dynamical downscaling technique, *J. Air Waste Manag. Assoc.*, 65(5), 611-623.

16. Wong, D., C. E. Yang, J. S. Fu, K. Wong and **Y. Gao** (2015), An approach to enhance pnetCDF performance in environmental modeling applications, *Geosci. Model Dev.*, 8, 1033-1046, doi:10.5194/gmd-8-1033-2015.

15. Zhao, B., S. X. Wang, J. Xing, K. Fu, J. S. Fu, C. Jang, Y. Zhu, X. Y. Dong, **Y. Gao**, W. J. Wu, J. D. Wang and J. M. Hao (2015), Assessing the nonlinear response of fine particles to precursor emissions: development and application of an extended response surface modeling technique v1.0, *Geosci. Model Dev.*, 8, 115-128, doi:10.5194/gmd-8-115-2015.

14. Kim, Y. M., Y. Zhou, **Y. Gao**, J. S. Fu, B. A. Johnson, C. Huang, and Y. Liu. (2015), Spatially resolved estimation of ozone-related mortality in the United States under two representative concentration pathways (RCPs) and their uncertainty, *Climatic Change*, 128, 71–84.

2014:
13. Hodges, M., J. Belle, E. Carlton, S. Liang, H. Li, W. Luo, M. C. Freeman, Y. Liu, **Y. Gao**, J. Hess and J. V. Remais (2014), Delays in reducing waterborne and water-related infectious diseases in China under climate change, *Nature Clim. Change*,4(12), 1109-1115.

12. Wu, J., Y. Zhou, **Y. Gao**, J. S. Fu, B. Johnson, C. Huang, Y.-M. Kim, and Y. Liu (2014), The Time Trend Temperature–Mortality as a Factor of Uncertainty Analysis of Impacts of Future Heat Waves: Wu et al. Respond, *Environ. Health. Perspect.*, 122(5), A118-A119.

11. **Gao, Y.**, L. R. Leung, J. Lu, Y. Liu, M. Huang, Y. Qian (2014), Robust spring drying in the southwestern US and seasonal migration of wet/dry Patterns in a warmer climate, *Geophys. Res. Lett.,* 41, 1745–1751, doi:10.1002/2014GL059562.

10. Dong X., J. Li, J. S. Fu, **Y. Gao**, K. Huang and G. Zhuang (2014). Inorganic aerosols responses to emission changes in Yangtze River Delta, China, *Science of the Total Environment,* 481, 522-532.

9. Wu, J., Y. Zhou, **Y. Gao**, J. S. Fu, B. A. Johnson, C. Huang, Y. M. Kim, Y. Liu (2014). Estimation and uncertainty analysis of impacts of future heat waves on mortality in the eastern United States. *Environ. Health. Perspect.* 122, 10–16,http://dx.doi.org/10.1289/ehp.1306670

8. Huang, K., J. S. Fu, **Y. Gao**, X. Dong, G. Zhuang, and Y. Lin (2014), Role of sectoral and multi-pollutant emission control strategies in improving atmospheric visibility in the Yangtze River Delta, China, *Environmental Pollution*, 184, 426-434.

7. Zhou, Y., J. Hammitt, J. S. Fu, **Y. Gao**, Y. Liu, J. I. Levy (2014), Major Factors Influencing the Health Impacts from Controlling Air Pollutants with Non-Linear Chemistry: An Application to China. *Risk Analysis,* 34(4), 683-697.

2013:

6. **Gao, Y.**, J. S. Fu, J. B. Drake, J.-F. Lamarque and Y. Liu (2013), The impact of emissions and climate change on ozone in the United States under representative concentration pathways (RCPs), *Atmos. Chem. Phys.*, 13, 9607-9621, doi:10.5194/acp-13-9607-2013.

5. Dong, X, **Y. Gao**, J. S. Fu, J. Li, K. Huang, G. Zhuang, and Y Zhou (2013), Probe into Gaseous Pollution and Assessment of Air Quality Benefit under Sector Dependent Emission Control Strategies over Megacities in Yangtze River Delta, China, *Atmos. Environ.,* 79, 841-852.

4. Huang, K., J. S. Fu, N. C. Hsu, **Y. Gao**, X. Dong, S.-C. Tsay, and Y. F. Lam (2013), Impact assessment of biomass burning on air quality in Southeast and East Asia during BASE-ASIA, *Atmos. Environ.,* 78, 291-302.

2012:

3. **Gao, Y.**, J. S. Fu, J. B. Drake, Y. Liu and J.-F. Lamarque (2012), Projected changes of extreme weather events in the Eastern United States based on a high-resolution climate modeling system. *Environ. Res. Lett.,* 7, 044025. (Featured in Science Daily: https://www.sciencedaily.com/releases/2012/12/121217121732.htm; *environmentalresearchweb*http://environmentalresearchweb.org/cws/article/news/51762)

2. Fu, J. S., X. Dong, **Y. Gao**, D. Wong and Y. F. Lam (2012), Sensitivity and linearity analysis of ozone in East Asia: The effects of domestic emission and intercontinental transport, *J. Air Waste Manag. Assoc.*, 62(9), 1102-1114.

1. Fu, J. S., N. C. Hsu, **Y. Gao,** K. Huang, C. Li, N. H. Lin, and S. C. Tsay (2012), Evaluating the influences of biomass burning during 2006 BASE-ASIA: a regional chemical transport modeling, *Atmos. Chem. Phys.*, 12, 3837-3855.