

# CURRICULUM VITAE

## Weiqing Han

### CURRENT POSITION

Professor

Department of Atmospheric and Oceanic Sciences (ATOC), the University of Colorado (CU)

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### EDUCATIONAL BACKGROUND

1999 PhD: Physical Oceanography, Nova SE University, USA (Advisor: Julian P. McCreary)

1989 M.S.: Meteorology, Chinese Academy of Meteorological Sciences, Beijing, P.R. China

1986 B.S.: Meteorology, Nanjing Institute of Meteorology, Nanjing, P.R. China

### EMPLOYMENT HISTORY

2016-pres: Professor, ATOC CU

2009-2016: Associate Professor, ATOC CU

2002-2009: Assistant Professor, ATOC, CU

1999-2002: Postdoctoral Research Associate, ATOC, CU (Advisor: Peter J. Webster)

1989-1992: Researcher, National Satellite Meteorology Center, Beijing, P.R. China

### SELECTED HONORS & SERVICES

- Fellow, American Meteorological Society, 2023
- Johannes Geiss Fellow, 2020: International Space Science Institute, Bern, Switzerland(<https://www.issibern.ch/index.php/program/johannes-geiss-fellowship/>)
- Excellence Cluster CliSAP Fellow, the University of Hamburg, Germany (2016)
- National Science Foundation Faculty Early CAREER Award (2009)
- World Climate Research Program (WCRP)/CLImate VARiability and predictability (CLIVAR) Indian Ocean Panel (IOP; 2011-2019)
- National Research Council/ National Academy of Sciences: Committee on Sea Level Rise in California, Oregon and Washington (2011-2012)
- Editor, Communications Earth & Environment, *Nature* Journal, 2023-pres
- Editor, Ocean-Land-Atmosphere Research, A *Science* Partner Journal, 2022-pres
- Associate Editor, JGR-Oceans. 2004-2010
- NSF Physical Oceanography Research Panels
- NASA Physical Oceanography Research Panels
- NASA Ocean Vector Wind Science Team Research Panel
- NASA Sea Level Rise Science Team Research Panel
- NOAA Climate Variability and Predictability Research Panel
- NCAR Project Scientist III Review Panel
- Session Chair and Convener: AGU Ocean Sciences Meetings
- Session Chair and Convener AGU Fall Meetings
- Session Chair, AGU West Pacific Geophysics meeting

- Research Proposal Reviews for US agencies:  
*NSF Physical Oceanography Program, NSF Climate and Large-Scale Dynamics Program, NASA Physical Oceanography Program, NASA Sea Level Rise Science Team program, NASA Ocean Vector Wind Science Team Program, NOAA Climate Variability and Predictability program, South Carolina Sea Grant Program, Delaware Sea Grant Program, Texas Sea Grant Program*
- Research Proposal Reviews for International agencies:  
*Natural Environment Research Council of UK, German Research Foundation (Geosciences), and Research Grant Council of Hong Kong*
- Peer Reviews for Journals:  
*Climatic Change, Climate Dynamics, Communications Earth & Environment, Continental Shelf Research, Current Science, Deep Sea Research, Dynamics of Atmospheres and Oceans, Environmental Research Letters, Geophysical Research Letters, J. Climate, J. Earth System Science, J. Geophys. Res., J. of Meteorological Research, J. Oceanography, J. Phys. Oceanogr., Meteorology and Atmospheric Physics, Nature Climate Change, Nature Communications, Nature Geoscience, Nature Reviews Earth & Environment., Ocean Dynamics, Progress in Oceanography, Remote Sensing of Environment, Science Advances, Scientific Reports, and Surveys in Geophysics.*
- Reviews for Books & Others:  
*AGU Books, Wiley-Blackwell;*  
*“The Indian Ocean and its role in the global climate system”, Elsevier;*
- PhD dissertation evaluation for the University of New South Wales, Australia

## **SELECTED LEADERSHIP, EDI, OPEN SCIENCE & OUTREACH ACTIVITIES**

- Director, ATOC REU program (to commence, May 2024)
- Chaired ATOC Faculty Diversity Action Plan Hire Committee and recruited a female faculty member from an underrepresented group
- Collaborated with NCAR SOARS Program to broaden participation particularly from historically under-represented groups through NSF CAREER award
- Mentored undergrads from underrepresented groups through NSF funded REU summer program at ATOC
- Participated in Mentoring Physical Oceanography Women to Increase Retention (MPOWIR) working group
- Promote women in science by recruiting female PhD students (60% are women)
- Work directly with policy makers on evaluating sea level rise along US west coast by serving on the NRC sea level rise committee for CA, OR and Washington states
- Co-lead for the Provost's Climate Across the Curriculum Training session "Teaching Climate Science Across the Curriculum" at the Univ. of Colorado
- Public lecture: Pro talk at the International Space Science Institute (ISSI) to public
- Lectures at the University of Denver Sturm College of Law in “Ocean and coastal law and policy” classes
- Article Review for EBSCO Industries Information Services on tropical air-sea interactions

- Work with NetZero Club students and teachers of the Summit Middle School at Boulder to raise the awareness of climate change, environmental issues, and policies.

## STUDENT AWARDS

- Danni Du, 2<sup>nd</sup> Place in the AMS Student Oral Presentation Awards, 2023
- West Jason, Grand Prize Winner, AGU data visualization and storytelling contest (2017)
- Kenigson Jessica: Student poster award, WCRP sea level conference (2017)
- Kenigson Jessica: NASA Harriet G. Jenkins Graduate Fellowship (2013-2016)
- Bateman Richard: NASA Earth and Space Science Fellowship (2013-2016)
- Duncan Benet: Outstanding student paper award, American Geophysical Union (2010)

## PROFESSIONAL ASSOCIATIONS

- American Association for the Advancement of Science
- American Geophysical Union
- American Meteorological Society
- The Oceanography Society

## PUBLICATIONS

### Peer-Reviewed Journal Publications

\*Indicates mentored students & \*\*mentored postdocs

1. \*Du, D., Aneesh C. Subramanian, **W. Han**, William E. Chapman, Jeffrey B. Weiss and Elizabeth Bradley, 2023: Increase in MJO Predictability Under Global Warming. *Nature Climate Change*, <https://doi.org/10.1038/s41558-023-01885-0>.
2. \*\*Zhu Yingli, **W. Han**, M. Alexander, S-K Shin, 2023: Interannual Sea Level Variability Along the U.S. East Coast: Local versus Remote Forcing. *J. Clim.*, accepted.
3. Zhang L., C. Wang, W. Han, M.J. McPhaden, A. Hu, and W. Xing, 2023: Emergence of Center Atlantic Nino. *Science Advances*, accepted.
4. \*Wei J, **W. Han**, W. Wang, L. Zhang, 2023: Unprecedented intensification of heatwaves in China in recent decades: roles of climate modes, *Climate and Atmospheric Science*, 6, 98. <https://doi.org/10.1038/s41612-023-00428-w>.
5. Anjana S, Abhisek, **W. Han**, Prerna Singh, Sajidh C K, 2023: Role of oceanic internal insability in the generation of low-frequency variability in the Indian Ocean. *GRL*, e2022GL102489. <https://doi.org/10.1029/2022GL102489>.
6. Chen Gengxin, **W. Han**, Y. Li, Xueying Ma, Dongxiao Wang, 2023: Role of extreme Indian Ocean Dipole in regulating three-dimensional freshwater content in the Southeast Indian Ocean. *GRL*, <https://doi.org/10.1029/2022GL102290>.
7. \*Du D., A. Subramanian, **W. Han**, H. Wei, Beena Balan Sarojini, Magdalena Balmaseda, and Frederic Vitart, 2023: Assessing the Impact of Ocean In-situ Data Assimilation on MJO Propagation across the Maritime Continent in ECMWF Subseasonal Forecasts, *Journal of Advances in Modeling Earth Systems*, <https://doi.org/10.1029/2022MS003044>
8. Hu A., Gerald A. Meehl, Ayako Abe-Ouchi, **W. Han**, Bette Otto-Bliesner, Tongwen Wu, Nan Rosenbloom, Warren G. Strand, 2023: Thermal and haline effects on oceanic conveyor belt's stability and global climates. *Communications Earth & Environment*, 4, article no. 246.

9. Shinoda, T., **W. Han**, and X. Feng, 2023: Air-sea flux and SST variability associated with atmospheric rivers in the southeast Indian Ocean. *Frontiers in Climate, predictions and projections, Frontiers in Climate, Volume 5*, <https://doi.org/10.3389/fclim.2023.1>
10. \*\*Zhu Y., **W. Han**, M. Alexander, 2023: Nonstationary Roles of Regional Forcings in Driving Low-frequency Sea level Variability Along the U.S. East Coast since the 1950s. *GRL*, <https://doi.org/10.1029/2023GL104191>.
11. **Han W.**, L. Zhang, G.A. Meehl, S. Kido, T. Tozuka, Y. Li, M.J. McPhaden, A. Hu, A. Cazenave, N. Rosenbloom, G. Strand, B.J. West & W. Xing, 2022: Sea level extremes and compounding marine heatwaves in coastal Indonesia. *Nature Communications*, 13, 6410. <https://doi.org/10.1038/s41467-022-34003-3>. *Nature Communications Editors' Highlights; CU/NCAR Press release*
12. \*\*Zhang, L., **W. Han**, Kristopher B. Karnauskas, Yuanlong Li, Tomoki Tozuka, 2022: Eastward Shift of Interannual Climate Variability in the South Indian Ocean since 1950. *J. Clim.*, DOI:<https://doi.org/10.1175/JCLI-D-21-0356.1>
13. Chen, G., **Han, W.**, Zu, T., Chu, X., & Chen, J. (2022). The deep-penetrating South Equatorial Undercurrent in the tropical South Indian Ocean. *Geophysical Research Letters*, 49, e2022GL098163. <https://doi.org/10.1029/2022GL098163>
14. Chu Xiaoqing, **W. Han**, L. Zhang, G. Chen, 2022: Effects of Climate Modes on Interannual Variability of the Equatorial Currents in the Indian Ocean. *Climate Dynamics*, <https://doi.org/10.1007/s00382-022-06515-7>.
15. Huang, K., Wang, D., Chen, G., Nagura, M., **Han, W.**, McPhaden, M. J., et al. (2022). Intensification and dynamics of the westward Equatorial Undercurrent during the summers of 1998 and 2016 in the Indian Ocean. *Geophysical Research Letters*, 49, e2022GL100168. <https://doi.org/10.1029/2022GL100168>.
16. Chen, G., **Han, W.**, Wang, D., Zhang, L., Chu, X., He, Y., & Chen, J., 2022: Seasonal structure and interannual variation of the South Equatorial Current in the Indian Ocean. *JGR-Oceans*, 127, e2022JC018969. <https://doi.org/10.1029/2022JC018969>.
17. \*Feng X., T. Shinoda, and **W. Han**, 2022: Topographic trapping of the Leeuwin Current and its impact on the Ningaloo Niño. *J. Clim.*, DOI:<https://doi.org/10.1175/JCLI-D-22-0218.1>.
18. \*\*Zhang, L., and **W. Han**, 2021: Indian Ocean Dipole leads to Atlantic Niño. *Nat Commun* 12, 5952 (2021). <https://doi.org/10.1038/s41467-021-26223-w>
19. Meehl, G.A., Richter, J.H., Teng, H. et al., 2021: Initialized Earth System prediction from subseasonal to decadal timescales. *Nat Rev Earth Environ* 2, 340–357. <https://doi.org/10.1038/s43017-021-00155-x>
20. \*\*Zhang, L., **W. Han**, G.A. Meehl, A. Hu, N. Rosenbloom, T. Shinoda, and M.J. McPhaden, 2021: Diverse impacts of Indian Ocean Dipole on El Niño-Southern Oscillation. *J. Clim.*, DOI:<https://doi.org/10.1175/JCLI-D-21-0085.1>.
21. \*\*Zhang, L., **W. Han** and ZZ Hu, 2021: Inter-basin and Multi-time Scale Interactions in generating the 2019 Extreme Indian Ocean Dipole. *J. Clim.*, DOI: <https://doi.org/10.1175/JCLI-D-20-0760.1>
22. Duan, J., Y. Li, F. Wang, A. Hu, **W. Han**, L. Zhang, P. Lin, N. Rosenbloom, and G.A. Meehl, 2021: Rapid Sea-Level Rise in the Southern-Hemisphere Subtropical Oceans. *J. Clim*, DOI: <https://doi.org/10.1175/JCLI-D-21-0248.1>
23. \*\*Zhang, L., G. Wang, M. Newman and **W. Han**, 2021: Interannual to Decadal Variability of Tropical Indian Ocean Sea Surface Temperature: Pacific Influence versus Local Internal Variability. *J. Clim.*, 2669–2684, DOI:<https://doi.org/10.1175/JCLI-D-20-0807.1>.

24. \*Kumar, Praveen, Benjamin Hamlington, Se-Hyeon Cheon, **W. Han**, and Philip Thompson, 2020: 20th Century Multivariate Indian Ocean Regional Sea Level Reconstruction. *JGR-Oceans*, 125, <https://doi.org/10.1029/2020JC016270>.
25. \*\*Zhang, L. and **W. Han**, 2020: Barrier for the Eastward Propagation of Madden-Julian Oscillation over the Maritime Continent: A Possible New Mechanism, *Geophy. Res. Lett.*, <https://doi.org/10.1029/2020GL090211>
26. Huang, Ke, Dongxiao Wang, Ming Feng, **Weiqing Han**, Gengxin Chen, Chaojiao Sun, Xiaolin Zhang, Qiang Xie, Weiqiang Wang, Qinyan Liu, Jinglong Yao, 2020: Baroclinic characteristics and energetics of annual Rossby waves in the southern tropical Indian Ocean. *JPO*, 50, 2591-2607.
27. Chen Gengxin, **W. Han**, X. Zhang, L. Liang, H. Xue, D. Wang, Y. He, J. Li, 2020: Determination of tempo-spatial variability of the Indian Equatorial Intermediate Current. *J.Phys. Oceanogr.*, *J. Phys. Oceanogr.* 50 (11): 3095–3108.
28. Chen, G., DX Wang, **W. Han**, M. Feng, F. Wang, Y. Li, J. Chen, and A. Gordon, 2020: The extreme El Nino events suppressing the intraseasonal variability in the eastern tropical Indian Ocean. *JPO*, 50(8), 2359-2372. <https://doi.org/10.1175/JPO-D-20-0041.1>
29. Li Yuanlong, **Weiqing Han**, Fan Wang, Lei Zhang, Jing Duan, 2020: Vertical Structure of the Upper Indian Ocean Thermal Variability. *J. Climate*, *J. Climate*, 33(17), DOI: 10.1175/JCLI-D-19-0851.1.
30. Beal, L., J. Vialard, M.K. Roxy, J. Li, M. Andres, H. Annamalai, M. Feng, **W. Han**, et al., 2020: A roadmap to IndOOS-2: Better observations of the rapidly-warming Indian Ocean. *BAMS*, <https://doi.org/10.1175/BAMS-D-19-0209.1>
31. \* West, J., **W. Han**, L. Zhang and Y. Li, 2020: The Role of Oceanic Processes in the Initiation of Boreal Winter Intraseasonal Oscillations over the Indian Ocean. *JGR-Oceans*, <https://doi.org/10.1029/2019JC015426>
32. Shinoda, T., **W. Han**, L. Zamudio, X. Feng, 2020: Influence of atmospheric rivers on the Leeuwin Current system. *Climate Dyn.*, <https://doi.org/10.1007/s00382-020-05228-z>
33. \*\*Zhang, X., and **W. Han**, 2020: Effects of climate modes on interannual variability of upwelling in the tropical Indian Ocean. *J. Clim.*, 33, 1547-1573, <https://doi.org/10.1175/JCLI-D-19-0386.1>. (*WCRP CLIVAR December 2020 Bulletin, science highlight*).
34. Xing, W., Han, W. & Zhang, L., 2020: Improving the prediction of western North Pacific summer precipitation using a Bayesian dynamic linear model. *Clim Dyn* 55, 831–842 (2020). <https://doi.org/10.1007/s00382-020-05297-0>.
35. \*Kido, S., T. Tozuka, and **W. Han**, 2019: Experimental assessments on impacts of salinity anomalies on the positive Indian Ocean Dipole. *J. Geophys. Res.*, 124, DOI: 10.1029/2019JC015479.
36. \*Kido, Shoichiro, Tomoki Tozuka, and **W. Han**, 2019: Anatomy of salinity anomalies associated with the positive Indian Ocean Dipole. *J. Geophys. Res.*, 125, 8116-8139, DOI: 10.1029/2019JC015163.
37. \*\*Zhang, L., **W. Han**, K. B. Karnauskas, G. A. Meehl, A. Hu, N. Rosenbloom, and T. Shinoda (2019) Indian Ocean Warming Trend Reduces Pacific Warming Response to Anthropogenic Greenhouse Gases: An Interbasin Thermostat Mechanism. *Geophys. Res. Lett.*, 46, 10,882-10,890, DOI: 10.1029/2019GL084088.
38. Huang, K., D. Wang, **W. Han**, M. Feng, G. Chen, W. Wang, J. Chen, and J. Li, 2019: Semiannual Variability of Mid-depth Zonal Currents along 5N in the Eastern Indian Ocean: Characteristics and Causes. *J. Phys. Oceanogr.*, 49, 2715-2729, <https://doi.org/10.1175/JPO-D-19-0089.1>.

39. \*\*Zhang L., **W. Han**, Y. Li, N. Lovenduski, 2019: Variability of Sea Level and Upper-Ocean Heat Content in the Indian Ocean: Effects of Subtropical Indian Ocean Dipole and ENSO, *Journal of Climate*, 32, 7227-7245, DOI: 10.1175/JCLI-D-19-0167.1
40. **Han W.**, Detlef Stammer, Philip Thompson, Tal Ezer, Hindu Palanisamy, Xuebin Zhang, Catia M. Domingues, Lei Zhang, Dongliang Yuan, 2019: Impacts of basin-scale climate modes on coastal sea level: a review. *Surveys in Geophysics*, 40, 1493 - 1541, DOI: 10.1007/s10712-019-09562-8.
41. Li, Y., **W. Han**, L. Zhang, and F. Wang, 2019: Decadal SST Variability in the Southeast Indian Ocean and Its Impact on Regional Climate. *J. Clim*, 32, 6299-6318, <https://doi.org/10.1175/JCLI-D-19-0180.1>.
42. Carson, Mark, Kewei Lyu, Kristin Richter, M. Becker, Catia M. Domingues, **W. Han**, Laure Zanna, 2019: Climate model uncertainty and trend detection in regional sea level projections: a review. *Surveys in Geophysics*, 40, 1631 - 1653, DOI: 10.1007/s10712-019-09559-3.
43. Rui M. Ponte & coauthors, 2019: Towards comprehensive observing and modeling systems for monitoring and predicting regional to coastal sea level. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2019.00437>.
44. Hermes J.C., & coauthors, 2019: A sustained ocean observing system in the Indian Ocean for climate related scientific knowledge and societal needs. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2019.00355>.
45. Qiu Y., **W. Han**, X. Lin, B. J. West, Y. Li, W. Xing, X. Zhang, K. Arulanathan, X. Guo, 2019: Upper Ocean Response to the Super Tropical Cyclone *Phailin* (2013) over the Freshwater Region of the Bay of Bengal. *J. Phys. Oceanogr.*, 49, 1201-1228. <https://doi.org/10.1175/JPO-D-18-0228.1>
46. Chen G., **W. Han**, Y. Li, D. Wang, J. Yao, 2019: Intraseasonal variability of the Equatorial Undercurrent in the Indian Ocean. *J. Phys. Oceanogr.*, 49, 85-101, <https://doi.org/10.1175/JPO-D-18-0151.1>.
47. Zhao X., D. Yuan, G. Yang, J. Wang, H. Liu, R. Zhang, and **W. Han**, 2019: Interannual variability and dynamics of intraseasonal wind rectification in the equatorial Pacific Ocean. *Clim. Dyn.*, 52, 4351-4369, <https://doi.org/10.1007/s00382-018-4383-0>.
48. \*\*Zhang L., **W. Han**, Y. Li, and T. Shinoda, 2018: Mechanisms for Generation and Development of Ningaloo Nino. *J. Clim.*, 31, 9239-9259, <https://doi.org/10.1175/JCLI-D-18-0175.1>
49. \*\*Zhang L., **W. Han**, Y. Li, and E. Maloney, 2018: Role of North Indian Ocean Air-Sea Interaction in Summer Monsoon Intraseasonal Oscillation. *J. Clim.*, 31, 7885-7908, *J. Clim.*, <https://doi.org/10.1175/JCLI-D-17-0691.1>.
50. \*\*Li Y., **W. Han**, A. Hu, G.A. Meehl, and F. Wang, 2018: Multidecadal Changes of the Upper Indian Ocean Heat Content during 1965-2016. *J. Clim.*, 31, 7863-7884, *J. Clim.*, <https://doi.org/10.1175/JCLI-D-18-0116.1>.
51. \*\*Zhang, L., and **W. Han**, 2018: Impact of Ningaloo Niño on Tropical Pacific and An Inter-Basin Coupling Mechanism. *Geophys. Res. Lett.*, 45, 11,300 - 11,309 doi: 10.1029/2018GL078579. *Chosen by AGU for Research Spotlight*.
52. **Han W.**, Detlef Stammer, G. A. Meehl, Aixue Hu, Frank Sienz and LeZhang 2018: Multi-Decadal Trend and Decadal Variability of the Regional Sea Level over the Indian Ocean since the 1960s: Roles of Climate Modes and External Forcing, *Climate*, 6(2), 51; <https://doi.org/10.3390/cli6020051>. *Featured article of that issue*.
53. Huang K., **W. Han**, D. Wang, W. Wang, Q. Xie, J. Chen, and G. Chen, 2018: Features of the

- Equatorial Intermediate Current associated with basin resonance in the Indian Ocean. *J. Phys. Oceanogr.*, 48, 1333-1347.
54. \*West J., **W. Han**, and Y. Li, 2018: The Role of Oceanic Processes in the Initiation of Indian Summer Monsoon Intraseasonal Oscillations over the Indian Ocean. *JGR-Oceans*, 123, 3685-3704.
55. \*\*Li Y., **W. Han**, W. Wang, L. Zhang, and M. Ravichandran, 2018: The Indian Summer Monsoon Intraseasonal Oscillations in CFSv2 Forecasts: Biases and Importance of Improving Air-Sea Interaction Processes. *J. Clim.*, 31, 5351-5370.
56. \*\*Zhang L., **W. Han**, and F. Sienz, 2018: Unraveling causes for the changing behavior of tropical Indian Ocean in the past few decades. *J. Clim.*, 31, 2377-2388, doi: 10.1175/JCLI-D-17-0445.
57. \*Kenigson, J., **W. Han**, B. Rajagopalan, Yanto, and M. Jasinski, 2018: Decadal Shift of NAO-Linked Interannual Sea Level Variability along the US Northeast Coast. *J. Clim.*, 31, 4981-4989.
58. \*\*Li Y., **W. Han**, and L. Zhang, 2017: Enhanced Decadal Warming of the Southeast Indian Ocean during the Recent Global Surface Warming Slowdown. *Geophys. Res. Lett.*, 44, 9876-9884, *Geophys. Res. Lett.*, DOI: 10.1002/2017GL075050.
59. Shinoda T., **Han W.**, Zamudio, R.-C. Lien, and M. Katsumata, 2017: Remote ocean response to the Madden-Julian Oscillation during the DYNAMO field campaign: Impact on Somali Current system and Seychelles-Chagos thermocline ridge. *Atmosphere*, 8, 171; doi:10.3390/atmos8090171.
60. **Han, W.**, G.A. Meehl, A. Hu, J. Zheng, and J. Vialard, Jessica Kenigson, 2017: Surface Branches of Indo-Pacific Walker Cells: Do They Co-Vary with the Warm Pool Convection on Decadal and Multi-Decadal Timescales? *J. Clim.*, 30, 8447-8468. DOI: 10.1175/JCLI-D-16-0783.1.
61. Hu, A.,G. A. Meehl, D. Stammer, **W. Han**, W. G. Strand, 2017: Role of perturbing ocean initial condition in simulated regional sea level change, *Water*, 9, 401, DOI:10.3390/w9060401.
62. \*\*Li Y., **W. Han**, M. Ravichandran, Wanqiu Wang, Toshiaki Shinoda, Tong Lee, 2017: Bay of Bengal Salinity Stratification and Indian Summer Monsoon Intraseasonal Oscillation: 1. Intraseasonal Variability and Causes. *J. Geophys. Res., Oceans*, 122, 4291-4311, DOI: 10.1002/2017JC012691.
63. \*\*Li Y., **W. Han**, W. Wang, M. Ravichandran, T. Lee, and T. Shinoda, 2017: Bay of Bengal Salinity Stratification and Indian Summer Monsoon Intraseasonal Oscillation: 2. Impact on SST and convection. *J. Geophys. Res.*, 122, 4312-4328, DOI: 10.1002/2017JC012692. (AGU research highlight)
64. \*\*Chen G., **W. Han**, Y. Li, M.J. McPhaden, J. Chen, WQ Wang, DX Wang, 2017: Strong Intraseasonal Variability of Meridional Currents near 5N in the Eastern Indian Ocean: Characteristics and Causes. *J. Phys. Oceanogr.*, 47, 979-996, DOI: <http://dx.doi.org/10.1175/JPO-D-16-0250.1>.
65. Yuan D., Hu Xiaoyue, Xu Peng, Zhao Xia, Yukio Masumoto, and **W. Han**, 2017: The IOD-ENSO precursory teleconnection over the tropical Indo-Pacific Ocean: Dynamics and long-term trends under global warming. *Chinese Journal of Oceanology and Limnology*, Doi: 10.1007/s00343-018-6252-4.
66. Srinivasu, U., M. Ravichandran, **W. Han**, S. Sivareddy, H. Rahman, Y. Li, and S. Nayak, 2017: Causes for the reversal of North Indian Ocean decadal sea level trend in recent two decades. *Clim. Dyn.*, DOI: 10.1007/s00382-017-3551-y .
67. **Han, W.**, G. Meehl, D. Stammer, A. Hu, B. Hamlington, J. Kenigson, H. Palanisamy, and P. Thompson, 2017: Spatial Patterns of Sea Level Variability Associated With Natural Internal Climate Modes. *Surveys in Geophysics*, 38(1), 217-250, DOI:10.1007/s10712-016-9386-y.

68. Joseph Sudheer, M. Ravichandran, B. Praveen Kumar1, Raju V. Jampana, and **W. Han**, 2016: Ocean Atmospheric Thermal Decoupling in the Eastern Equatorial Indian Ocean. *Clim. Dyn.*, DOI: 10.1007/s00382-016-3359-1.
69. \*\*Chen, G., **W. Han**, Y. Shu, Y. Li, and Q. Xie, 2016: The Role of Equatorial Undercurrent in Sustaining the Eastern Indian Ocean Upwelling, *Geophys. Res. Lett.*, 43, DOI: 10.1002/2016GL069433.
70. \*\*Chen, G., **W. Han**, Y. Li, and D. Wang, 2016: Interannual Variability of Equatorial Eastern Indian Ocean Upwelling: Local versus Remote Forcing. *J. Phys. Oceanogr.*, 46, 789-807, doi:10.1175/JPO-D-15-0117.1.
71. \*\*Li Y., **W. Han**, W. Wang, and M. Ravichandran, 2016: Intraseasonal Variability of SST and Precipitation in the Arabian Sea during Indian Summer Monsoon: Impact of Ocean Mixed Layer Depth. *J. Clim.*, 29, 7889-7910, DOI: <http://dx.doi.org/10.1175/JCLI-D-16-0238.1>.
72. \*\*Li, Y., and **W. Han** , 2016: Causes for Intraseasonal Sea Surface Salinity Variability in the Western Tropical Pacific Ocean and Its Seasonality. *J. Geophys. Res.-Oceans*, 121, 85-103, doi:10.1002/2015JC011413.
73. Shinoda, T., **W. Han**, T. Jensen, L. Zamudio, E.J. Metzger, and R.-C. Lien, 2016: Impact of the Madden-Julian Oscillation on the Indonesian Throughflow in Makassar Strait during the CINDY/DYNAMO field campaign. *J. Clim.*, 29, 6085-6108 (DYNAMO/CINDY/AMIE/LASP special collection), DOI: <http://dx.doi.org/10.1175/JCLI-D-15-0711.1>
74. Suresh, I., J. Vialard, T. Izumo, M. Lengaigne, **W . Han**, J. McCreary, P.M. Muraleedharan, 2016: Dominant role of winds near Sri Lanka in driving seasonal sea-level variations along the west coast of India, *Geophys. Res. Lett.*, 43, doi: 10.1002/2016GL069976.
75. Hu, A., S. Levis, G.A. Meehl, **W. Han**, W.M. Washington, K.W. Oleson, B.J. van Ruijven, M. He, and W.G. Strand, 2016: Impact of Solar Panels on Global Climate. *Nature Climate Change*, 6, 290-294, doi:10.1038/nclimate2843.
76. Chen, G., **W. Han**, Y. Li, D. Wang, and T. Shinoda, 2015: Intraseasonal Variability of Upwelling in the Equatorial Eastern Indian Ocean. *J. Geophys. Res.-Oceans*, 120, 7598-7615, DOI: 10.1002/2015JC011223.
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#### **Peer-Reviewed Book Chapter**

1. Tozuka, T., Lu Dong, **W. Han**, Matthieu Lengaigne, and Lei Zhang, 2023: Decadal variability of the Indian Ocean and its predictability. A book chapter, in press.
2. Tozuka, T, M. Feng, **W. Han**, and S. Kido and L. Zhang, 2021: The Ningaloo Nino/Nina: Mechanisms, Relation with Other Climate Modes and Impacts. Book chapter in "Tropical and Extra-tropical Air-Sea Interactions", 207-219, <https://doi.org/10.1016/B978-0-12-818156-0.00006-X>.
3. Lee T., J.T. Farrar, T. Durland, S. Arnault, B. Meyssignac and **Han W.**, 2018: Monitoring and interpreting the tropical oceans by satellite altimetry. Chapter 7 of Satellite Altimetry Over Oceans and Land Surfaces. D. Stammer and A. Cazenave (eds). ISBN-13: 978-1-4987-4345-7, CRC Taylor and Francis Group, LLC.
4. Webster, P.J., C. Clark, G. Chirokova, J. Fasullo, **W. Han**, J. Loschnigg, and K. Sahami, 2002: The monsoon as a self-regulating coupled ocean-atmosphere system. Meteorology at the Millennium, Eds., R.Pierce, Academic press, 198--219, 333 pp.

#### **Encyclopedia Chapter**

**Han, W.**, 2017: Oceans and Climate. In *The International Encyclopedia of Geography: People, the Earth, Environment and Technology*. Eds. Douglas Richardson. Malden, Oxford: John Wiley and Sons, Ltd., Online ISBN: 9781118786352. DOI:10.1002/9781118786352.

## **Peer-Reviewed NRC Report**

National Research Council (NRC), 2012: Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. NRC Report, The National Academies Press, 500 Fifth Street, N.W., Washington, DC 20001 (accessible at: [http://www.nap.edu/catalog.php?record\\_id=13389](http://www.nap.edu/catalog.php?record_id=13389)). Authors: Committee on Sea Level Rise in California, Oregon, and Washington; Board on Earth Sciences and Resources; Ocean Studies Board; Division on Earth and Life Studies; NRC.

## **SELECTED INVITED PRESENTATIONS**

- Climate driven sea level extremes and height-heat extreme compounds in coastal regions of the tropical east Indian Ocean. June 29, 2023. *Laboratory of Space Geophysical and Oceanographic Studies, Toulouse, France*
- Regional sea level variations: physical drivers and interdisciplinary impacts. July 3, 2023. *La Rochelle University, La Rochelle, France*.
- Spatially uneven sea level changes: physical drivers and impacts on coastal communities and marine ecosystems, July 20, 2023. ISSI, Bern, Switzerland
- Interannual Variability in the Tropical Indian Ocean. *Lecture, The 4th Summer School on Theory, Mechanisms and Hierarchical Modeling of Climate Dynamics & Atlantic Variability and Tropical Basin Interactions at Interannual to Multi-Decadal Time Scales (31 July - 11 August 2023). International Center for Theoretical Physics (ICTP), Trieste, Italy*.
- Co-lead with Bourassa M, Fewings M and Grieco G, Ocean Vector Winds: science and data needs in coastal regions, International Ocean Vector Wind Science Team meeting, Nov 1<sup>st</sup>, 2023 (virtual).
- Climate-driven sea level extremes and height-heat extreme compounds in coastal regions of the tropical east Indian Ocean, Lecture, *The 15th international winter school of ocean, climate and environmental changes, Nov 6-17, 2023*, State Key Laboratory of Tropical Oceanography (LTO), South China Sea Institute of Oceanology, Guangzhou, China.
- A review of Indian Ocean decadal variability. *Workshop on Indian Ocean Variability and Teleconnections. International Centre for Theoretical Physics (ITCP), Mar 15-17, 2021*.
- Indian Ocean warming trend reduces Pacific warming response to anthropogenic greenhouse gases: an interbasin thermostat mechanism (Zhang and Han). *Workshop on Indian Ocean Variability and Teleconnections, International Centre for Theoretical Physics (ITCP), Mar 15-17, 2021*.
- A Warming Indian Ocean on Planet Earth: Changes in Ocean Circulation, Sea Level and Heat Content. *Pro Vortrag, ISSI, Bern, Switzerland. Nov 24, 2021*.
- Indian Ocean circulation, dynamics and climate variability modes. *FHL, U. of Washington, ECCO Summer School, May 19-31, 2019*.
- Intensified interannual and decadal variability of the tropical Indian and western-Pacific Ocean: the role of inter-basin interaction. *Foothill Lab, NCAR, Boulder, Colorado, COAA-CC, June 7, 2019*.
- Knowns and unknowns about past and future influence of climate modes on coastal sea level, International Space Science Institute, Bern, Switzerland, March 5-9, 2018.
- Ocean-Atmosphere Interaction over the Seychelles-Chagos Thermocline Ridge (SCTR), Scripps, CA, KUDOS meeting, November 6-8, 2018.

- Enhanced Decadal Warming of the Southeast Indian Ocean During the Recent Global Surface Warming Slowdown, Indian Institute of Tropical Meteorology (IITM) joint with CLIVAR SSG, Pune, India, Nov 27-30, 2017.
- Regional decadal sea level variability associated with internal climate modes. Joint Colloquium of the Max-Planck Institute of Meteorology & the University of Hamburg, Hamburg, Germany. June 30, 2016.
- Space-time variability and multi-decadal trend of sea level over the Indian Ocean: impact of internal climate modes. The University of Hamburg, Hamburg, Germany, July 21, 2016.
- Dynamics of the Indian Ocean Equatorial Undercurrent and its role in sustaining eastern basin upwelling. The University of Kiel, Kiel, Germany. July 25, 2016.
- Multi-decadal trend and space-time variability of sea level over the Indian Ocean since the 1950s: roles of climate modes and external forcing. AGU Fall Meeting, OS23D01, Dec 12-16, San Francisco CA, 2016.
- Decadal-Multidecadal Variability of Sea Level Associated with Natural Internal Climate Modes. The International Space Science Institute Workshop on Sea level and associated climatic components, Bern, Switzerland, Feb 2-6, 2015.
- Interannual variability of the surface summertime eastward jet (SEJ) in the South China Sea. The South China Sea Workshop, the Woods Hole Oceanographic Institution, MA, Jan 28-30, 2015.
- Revisiting the processes that determine wintertime intraseasonal SST variability in the thermocline ridge of the tropical South Indian Ocean. Invited talk, AGU Fall Meeting, SF, CA, Dec 15-19, 2014.
- Intensification of Decadal-Multidecadal Sea Level Variability in the Western Tropical Pacific during Recent Decades: Impacts of Climate Modes and Warming Trend. The Climate Symposium, Darmstadt, Germany, Oct 13-17, 2014.
- Indian-Ocean decadal variability & its interaction with the Pacific decadal mode. PanCLIVAR Pacific Panel – Indian Ocean Panel, the Hague, the Netherlands, July 14-18, 2014.
- Remote and local forcing of decadal sea level and thermocline depth variability in the south Indian Ocean. Invited presentation for Young Investigators of Emerging Information and Technology Association (EITA) – Young Investigator conference (YIC), MIT, Cambridge, MA, USA, August 1-2, 2013.
- Intensification of decadal & multi-decadal sea level variability in the western tropical Pacific during recent decades. Beijing Climate Center, Beijing, P.R. China, Aug. 5, 2013.
- Intensification of decadal & multi-decadal sea level variability in the western tropical Pacific during recent decades. Chinese Academy of Meteorological Sciences, Beijing, P.R. China, Aug. 7, 2013.
- Basin Resonances in the Equatorial Indian Ocean (Invited Talk). AGU Fall Meeting, Dec. 5-9, San Francisco, CA, 2011.
- Patterns of Indian Ocean Sea Level Change during Recent Decades. Intergovernmental Oceanographic Commission (IOC) of UNESCO/World Climate Research Program (WCRP) workshop on regional sea level change. Paris, France, Feb 7-9 2011.
- Patterns of Indian Ocean sea level change in a warming climate. Keynote talk: NASA/CNES OSTST meeting. Lisbon, Portugal, October 18-20 2010.
- Patterns of Indian Ocean Sea Level Change in a Warming Climate. June 22, 2010. Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, P.R. China.
- Basin Modes in the Equatorial Indian Ocean. University of Tokyo, Japan, June 18, 2010.

- Indian Ocean Sea Level Change in a Warming Climate. Japan Agency for Marine-Earth Science and Technology (JAMSTEC), June 4, 2010.
- Indian Ocean Sea Level Rise and Climate Change: National Institute of Oceanography, Dona Pola, India. Nov 12, 2009; and Indian Institute of Science, Bangalore, India. Nov 15, 2009.
- Causes for the Vertical Warming Structure and Decadal Change of the Tropical Indian Ocean. World Ocean Conference (WOC), Manado, Indonesia, May 11-14, 2009.