

全球水循环研究进展

RECENT RESEARCH ADVANCES IN THE GLOBAL WATER CYCLE

This is a seminar-style course that focuses on the basic aspects and recent research advances in the area of the global water cycle. As such, students are required to read a number of research articles in groups, orally present the results from some of the articles by each group, and participate in classroom discussions of the articles. The goal is for the students to gain knowledge of the current status in the global water cycle research, practice oral presentation and discussion skills, and learn how to



Nature Nature Climate Change



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Some courses in atmospheric and Earth sciences are helpful, but not required. Lectures are given in English.

			1. The Global Water Cycle An Overview	
			2. Water Vapor and Clouds	
			3. Precipitation Formation	
			4. Precipitation Measurements and Characteristics	
			5. Evaporation	
			6. Transpiration	
			7. Soil Moisture and Groundwater	
			8. Runoff and Streamflow	
			9. Drought	
			10. Precipitation Response to Global Warming	
			11. Snow and Ice	
			12. Ocean Freshwater Budget and Sea-level Rise	
			Student Oral Presentations on Research Papers	
			13. Climate Change over the Tibetan Plateau	
			14. Model Projected Changes in the Global Water Cycle	
			Final Exam during the last class	

Tang, Q. and T. Oki (eds.), 2016: *Terrestrial Water Cycle and Climate Change: Natural and Human-Induced Impacts*, Geophysical Monograph 221, AGU, John Wiley & Sons.

Bengtsson, L., et al. (eds), 2014: *The Earth's Hydrological Cycle*. Springer, ISBN 978-94-017-8789-5.

Plus a list of recent research articles.

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| 1. Participation in classroom discussions | 20% |
| 2. Oral presentation | 30% |
| 3. Final Exam | 40% |
| 3. Attendance of the class | 10% |