

# Yi-Hui Wang

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## EDUCATION

- Ph.D., Department of Earth System Science,  
University of California, Irvine** June 2013  
School of Physical Sciences Faculty Endowed Fellowship
- M.S., Department of Earth System Science,  
University of California, Irvine** December 2010
- B.S., Department of Atmospheric Sciences,  
National Taiwan University** June 2007  
President's Award

## RESEARCH EXPERIENCE

- California Polytechnic State University** San Luis Obispo, California June 2020 – Present  
*Research Scientist*
- Integrate analyses of wind energy data with fishery and other environmental data to perform tradeoff analysis for marine spatial planning.
  - Estimate the potential impact of offshore wind development in call areas on California commercial fisheries.
  - Lead analysis of a variety of fishery data to characterize temporal and spatial variations in California commercial fisheries.
  - Estimate offshore wind power potential within call areas under different scenarios of turbine technology, inter-turbine spacing, and wind farm sizes, and compare the estimates with the capacities of regional power plants.
- California Polytechnic State University** San Luis Obispo, California February 2017 – May 2020  
*Research Associate*
- Used mesoscale model simulations (WRF) to compute effective wind speeds at hub height based on the IEC standard, calculated realistic offshore wind power potential with latest power curves, quantified its temporal and spatial variations, and evaluated the value of offshore wind power based on the relationship between its variability with that of electricity demand, solar and land-based wind power.
  - Validated various wind datasets, ranging from WRFs, reanalysis, to satellite-based observations, against buoy measurements, for offshore wind energy.
- Four Twenty-Seven, Inc.** Berkeley, California September 2016 – October 2016  
*Consultant | Independent Contractor*
- Estimated probabilities of local precipitation and quantified fluctuations in extreme precipitation events under high emissions scenarios for clients.

**Jet Propulsion Laboratory** Pasadena, California

February 2014 – February 2016

*NASA Postdoctoral Fellow, NASA Postdoctoral Program Fellowship recipient*

- Demonstrated the impact of warm ocean currents on local atmosphere using satellite-based observations.
- Evaluated biases in modeled climate variables (upper-ocean and land surface properties) by comparing with observations and quantified the role of precipitating ice and its radiative effects using sensitivity experiments of a coupled climate model.

**University of California, Irvine** Irvine, California

September 2007 – December 2013

*Graduate Student Assistant*

- Quantified temporal variability of large-scale atmospheric circulation using principal component analysis and clustering techniques. Untangled the relationship between large-scale atmospheric circulation and atmospheric eddies by building multivariate linear regression models.
- Measured spatial uncertainty of atmospheric circulation using bootstrap approaches.

### **LEADERSHIP/TEAMWORK EXPERIENCE**

**California Polytechnic State University** San Luis Obispo, California

January 2020 – Present

*Statistics Lecturer*

- Teach introductory statistics for groups of 30-35 students with diverse backgrounds. Topics include descriptive statistics, probability distribution, and inferential statistics such as confidence interval and hypothesis testing.
- Design course materials including class notes, lab exercises using Excel, and exams.

### **SKILLS**

- Proficiency in MATLAB, R, and Microsoft Suite. Familiarity with Python and ArcGIS.
- Strong background and understanding in statistics and machine learning.

### **SELECTED PUBLICATIONS**

- **Wang, Y-H.**, R. Walter, C. White, M. D. Kehrli, and B. I. Ruttenberg, 2021: Scenarios for Offshore Wind Power Production for Central California Call Areas, *Wind Energy*, <https://doi.org/10.1002/we.2646>.
- Farr, H., B. I. Ruttenberg, R. Walter, **Y-H. Wang**, C. White, 2021: Potential environmental effects of deepwater floating offshore wind energy facilities, *Ocean & Coastal Management*, <https://doi.org/10.1016/j.ocecoaman.2021.105611>.
- **Wang, Y-H.**, R. Walter, C. White, M. D. Kehrli, S. Hamilton, P. H. Soper, and B. I. Ruttenberg, 2019: Spatial and temporal variation of offshore wind power and its value along the central California coast, *Environmental Research Communications*, <https://doi.org/10.1088.2515-7620/ab4ee1>.

- **Wang, Y-H.**, R. Walter, H Farr, C. White and B. I. Ruttenburg, 2019: Assessment of the wind data sets for estimating offshore wind energy along the central California coast, Renewable Energy, <https://doi.org/10.1016/j.renene.2018.10.008>.

### **SELECTED PRESENTATIONS**

- E-lightning presentation 'Scenarios for Offshore Wind Power Production for BOEM Central California Call Areas' during American Geophysical Union Annual Meeting, December 2020.
- Oral presentation 'Offshore wind power potential along the Central California Coast: an assessment of wind datasets, variability, and value' at Jet Propulsion Laboratory, June 2019.
- Oral presentation 'Spatial and temporal variations of offshore wind power and its demand-based relative value along the Central California Coast', during American Geophysical Union Annual Meeting, Washington D.C. December 2018.