

# Stanford

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## Morgan E. O'Neill

Assistant Professor of Earth System Science and Center Fellow, by courtesy, at the Woods Institute for the Environment

### Bio

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#### ACADEMIC APPOINTMENTS

- Assistant Professor, Earth System Science
- Center Fellow (By courtesy), Stanford Woods Institute for the Environment

#### HONORS AND AWARDS

- Gabilan Faculty Fellow, Stanford University (2020-2021)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Committee Member, American Meteorological Society - Committee on Atmospheric and Oceanic Fluid Dynamics (2020 - present)
- Nominating Committee member, American Physical Society - Topical Group on the Physics of Climate (2018 - 2018)
- Program Committee member, American Physical Society - Topical Group on the Physics of Climate (2016 - 2016)
- Member-at-Large (elected), American Physical Society - Topical Group on the Physics of Climate (2013 - 2016)
- Advisory Board member, SHOREline Project, National Center for Disaster Preparedness, Columbia University (2013 - 2015)

#### PROFESSIONAL EDUCATION

- B.S., Department of Physics, University of New Hampshire , Physics and Astronomy (2009)
- Ph.D., Program in Atmospheres, Oceans and Climate, Massachusetts Institute of Technology , Atmospheric Sciences (2015)

### Teaching

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#### COURSES

##### 2019-20

- Atmosphere, Ocean, and Climate Dynamics: The Atmospheric Circulation: CEE 161I, CEE 261I, EARTHSYS 146A, ESS 246A (Aut)

##### 2018-19

- Topics in Earth System Science: ESS 301 (Aut, Win, Spr)
- Tropical Meteorology: ESS 247 (Spr)

#### STANFORD ADVISEES

##### Postdoctoral Faculty Sponsor

Sai Prasanth

##### Doctoral (Program)

Hao Fu

## Publications

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### PUBLICATIONS

- **Exploring Controls on Tropical Cyclone Count through the Geography of Environmental Favorability** *JOURNAL OF CLIMATE*  
Hoogewind, K. A., Chavas, D. R., Schenkel, B. A., O'Neill, M. E.  
2020; 33 (5): 1725–45
- **Diurnal Cloud and Circulation Changes in Simulated Tropical Cyclones** *GEOPHYSICAL RESEARCH LETTERS*  
Ruppert, J. H., O'Neill, M. E.  
2019; 46 (1): 502–11
- **Practical rare event sampling for extreme mesoscale weather.** *Chaos (Woodbury, N.Y.)*  
Webber, R. J., Plotkin, D. A., O'Neill, M. E., Abbot, D. S., Weare, J.  
2019; 29 (5): 053109
- **Maximizing simulated tropical cyclone intensity with action minimization** *JOURNAL OF ADVANCES IN MODELING EARTH SYSTEMS*  
Plotkin, D. A., Webber, R. J., O'Neill, M. E., Weare, J., Abbot, D. S.  
2019; 11
- **Clusters of cyclones encircling Jupiter's poles** *NATURE*  
Adriani, A., Mura, A., Orton, G., Hansen, C., Altieri, F., Moriconi, M. L., Rogers, J., Eichstaedt, G., Momary, T., Ingersoll, A. P., Filacchione, G., Sindoni, G., Tabataba-Vakili, et al  
2018; 555 (7695): 216+
- **Accessible Environments for Diurnal-Period Waves in Simulated Tropical Cyclones** *JOURNAL OF THE ATMOSPHERIC SCIENCES*  
O'Neill, M. E., Perez-Betancourt, D., Wing, A. A.  
2017; 74 (8): 2489–2502
- **Galileo probe interpretation indicating a neutrally stable layer in the Jovian troposphere** *GEOPHYSICAL RESEARCH LETTERS*  
O'Neill, M. E., Kaspi, Y., Fletcher, L. N.  
2017; 44 (9): 4008–17
- **Slantwise convection on fluid planets** *GEOPHYSICAL RESEARCH LETTERS*  
O'Neill, M. E., Kaspi, Y.  
2016; 43 (20): 10611–20
- **Weak Jets and Strong Cyclones: Shallow-Water Modeling of Giant Planet Polar Caps** *JOURNAL OF THE ATMOSPHERIC SCIENCES*  
O'Neill, M. E., Emanuel, K. A., Flierl, G. R.  
2016; 73 (4): 1841–55
- **Polar vortex formation in giant-planet atmospheres dues to moist convection** *NATURE GEOSCIENCE*  
O'Neill, M. E., Emanuel, K. A., Flierl, G. R.  
2015; 8 (7): 523–U118
- **PRECISION POINTING OF IBEX-Lo OBSERVATIONS** *ASTROPHYSICAL JOURNAL SUPPLEMENT SERIES*  
Hlond, M., Bzowski, M., Moebius, E., Kucharek, H., Heitzler, D., Schwadron, N. A., Neill, M., Clark, G., Crew, G. B., Fuselier, S., McComas, D. J.  
2012; 198 (2)
- **Diagnosing the Neutral Interstellar Gas Flow at 1 AU with IBEX-Lo** *SPACE SCIENCE REVIEWS*  
Moebius, E., Kucharek, H., Clark, G., O'Neill, M., Petersen, L., Bzowski, M., Saul, L., Wurz, P., Fuselier, S. A., Izmodenov, V. V., McComas, D. J., Mueller, H. R., Alexashov, et al  
2009; 146 (1-4): 149–72