

**Patrick C. Taylor, Ph. D**  
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**RELEVANT EXPERIENCE/RESEARCH AREAS:**

Dr. Taylor is a climate scientist at NASA Langley Research Center and a member of NASA’s Earth Radiation Budget Science Project. Dr. Taylor has dedicated his research career to understanding the role that clouds play in our climate system and the mechanisms and processes that control them. The interactions between clouds, the atmospheric circulation, and global energy flows represent some of the most consequential and poorly understood climate system processes. Due to the climate-vulnerable nature of the food, energy, and water systems, resolving the uncertainties associated with cloud-climate processes is an urgent, societally-relevant challenge. In his 10-year professional career Dr. Taylor has contributed to 63 total publications, including 54 peer-reviewed journal articles (Google Scholar H-Index of 18 and 1309 total citations). These publications have advanced scientific knowledge in several important areas:

- (1) tropical cloud, TOA radiation, and precipitation diurnal cycles,
- (2) geographic and seasonal cloud feedback analysis developing a novel technique for computing cloud feedbacks, and
- (3) sensitivity of clouds to atmospheric dynamic and thermodynamic conditions.

Recently, Dr. Taylor’s research has made key scientific advances in understanding Arctic cloud-climate processes providing evidence that Arctic clouds are not responding to summer sea ice loss, thus not slowing sea ice loss. Dr. Taylor is currently the principal investigator on a project to advance our understanding of the effects of cloud microphysics on Arctic cloud-climate interactions.

Dr. Taylor’s research accomplishments have culminated in several recognitions including the 2012 Presidential Early Career Award for Scientists and Engineers, an award only 102 people receive each year. In 2015, Dr. Taylor was recognized as a Kavli Frontiers of Science Fellow. Dr. Taylor also received the 2013 NASA Early Career Award. Dr. Taylor was appointed by Governor McAuliffe in 2014 to the Virginia Climate Change and Resiliency Update Commission and served on the science working group for the Old Dominion University led Hampton Roads Sea Level Rise Initiative. In 2017, Dr. Taylor also served as a lead author on the USGCRP Climate Science Special Report, Fourth National Climate Assessment Vol. I.

**EDUCATION:**

- Ph. D. Meteorology, Florida State University, 2009 (Prof. Robert G. Ellingson, advisor)
- M. S. Meteorology, Florida State University, 2006 (Prof. Robert G. Ellingson, advisor).
- B. S. Earth Science, California University of PA, 2004.

**EMPLOYMENT:**

- Research Scientist, NASA Langley Research Center 11/09-Present
- Graduate Research Assistant, Florida State Univ., Dept. of Meteorology 7/04-10/09

**HONORS AND AWARDS:**

- **Presidential Early Career Award for Scientists and Engineers (PECASE), 2012**
- **National Academy of Sciences, Kavli Fellow, 2015**

- **NASA Agency Early Career Medal, 2013**
- H. J. E. Reid Award, “Achieving Climate Change Absolute Accuracy in Orbit”, 2015
- NASA Langley Center Director’s Award, GROW Program, 2015
- NASA Langley Center Director’s Group Award, Earth Venture 2 FIREX Proposal, 2012
- NASA Agency Team Award, CLARREO Science Team, 2012
- Chi Epsilon Pi Meteorology Honor Society Member (Served as President)
- 16<sup>th</sup> AMS Conference on Applied Climatology Outstanding Student Presentation Award, 2007
- North Florida AMS Local Chapter of the Year Award, 2005 (President)
- Earth Science Senior Scholarship, 2003
- APSCUF Scholarship, 2003

**PROFESSIONAL ACTIVITIES:**

- *Professional Society and Science Team Memberships:* American Meteorological Society, American Geophysical Union, ASR Cloud Life Cycle Working Group, CERES Science Team, CLARREO Science Team, CFMIP-2 Science Team, NASA Energy and Water Cycle Studies Science Team, Arctic Radiation Icebridge Sea and ice Experiment (ARISE) Science Team
- *Scientific Community Support:* Rapporteur for the “Observing and Modeling Earth’s Energy Flows” workshop hosted by the International Space Science Institute, Journal Peer Reviewer (Science, Nature, Journal of Climate, Journal of the Atmospheric Sciences, Journal of Hydrometeorology, Journal of Geophysical Research, Climate Dynamics), Reviewer for NASA RFPs (NESSF, ROSES, and NPP), Reviewer for IPCC AR5, IARPC Systematic Improvements in Reanalysis of The Arctic (SIRTA) Working Group Member, GA Tech. Aerospace Systems Design Laboratory (ASDL) External Advisory Board, GA Tech. Master’s Thesis Committee, IPCC Expert Reviewer, IPCC Government Review Panelist (SROCC and AR6), NASA Earth Venture Continuity Radiation Budget Science Working Group Member, US CLIVAR Process Studies and Model Improvement Panelist and Co-Chair (2019-2022).
- *Scientific Conference Chair/Convener:* Co-Chair of the Arctic Climate Change and Variability Session (AMS Annual Meeting 2018), Primary convener for the Arctic clouds, surface, and atmospheric circulation interactions session (2016, 2017), Convener at the POLAR2018 International Meeting (2018), Radiation and Climate Gordon Research Conference Chair-Elect (2019, 2023)
- *Agency and Center Support:* NASA Post-doctoral Program Advisor (Post-doc: Dr. Noel Baker, Dr. Brant Dodson, Dr. Bradley Hegyi, Dr. Sergio Sejas, Dr. Macarena Ortiz), Mentor for NASA Pathways Program, Member of NASA Langley Science Directorate 10-year plan committee, Co-lead for the Langley’s Radiation Budget Product Unit, Blue and Red Team Reviewer for Langley Earth Venture Proposals, Radiation Budget Instrument Alternative Approaches Team, Informational sessions with Congressional Staff Members (Sen. Kaine, Sen. Warner, Rep. Rigell, and Rep. Forbes)

- *Public Service:* Member of the Virginia Governor’s Climate Change and Resiliency Update Commission, Member of the Hampton Road Sea Level Rise Initiative Science Advisory Committee, Climate Science Special Report Lead Author

**PROFESSIONAL DEVELOPMENT:**

- Leading through Influence Skills Training (LIST), May 2012
- NASA Langley GROW Mentorship program, October 2014-May 2015
- NASA Science Communication Course, Sept. 2015
- Collaborative Leadership, Office of Personal Management, June 2016
- Technical writing seminar, Sept. 2016
- NASA Flight Projects Development Program Workshop, Sept. 2017

**EDUCATION/PUBLIC OUTREACH ACTIVITIES:**

- NASA Post-doctoral Program Advisor
  - Current Post-docs: Dr. Sergio Sejas
  - Past Post-docs: Dr. Noel Baker, Dr. J. Brant Dodson, Dr. Macarena Ortiz, Dr. Bradley M. Hegyi
- Master’s Committee Member (Manon Huguenin, 2018)
- Williamsburg Kiwanis Club: Taking Earth’s Pulse: A Guide to the 2017 Climate Science Special Report (August 2018)
- Virginia Living Museum: Our interconnected Earth system: What does the Arctic have to do with Hampton Roads? (April 2018)
- NASA Langley, Earth Day, Taking Earth’s Pulse: A Guide to the 2017 Climate Science Special Report (April 2018)
- Presentation to NASA Develop Fellows retreat (Jan. 2017)
- General Climate presentation to GROW Pod 2, NASA Langley (Feb. 2017)
- GLOBE Observer Profile (Feb. 2017)
- Joint GoogleHangout Presentation with 5<sup>th</sup> grade class (March 2017)
- Virginia Space Grant Virtual Presentation: Active remote sensing (April 2017)
- Charlottesville, VA LEAP panel discussion and movie screening (May 2017)
- 6<sup>th</sup> and 7<sup>th</sup> Grade class Achievable Dream Academy (July 2017, 4 classes ~80 student)
- GLOBE 21<sup>st</sup> Century Community Learning Center Subject Matter Expert
- January 2017: Virtual Presentation, Middle School Science Class (North Carolina)
- 2012-2016 NASA LARSS/NIFS Program Mentor
- 2011 NASA USRP Program Mentor
- AMS Weatherfest (2011, 2012): S’Cool and My NASA DATA
- 1<sup>st</sup> Grade Weather Presentation, ~100 students (2010)
- 6<sup>th</sup> Grade Weather and Climate Presentation, ~200 students, (2010, 2011, 2012)
- 10<sup>th</sup> Grade Climate Feedback and Forcing Presentation ~30 students, (2011, 2012)
- Participant in NASA Langley Day of Education (2011, 2012)
- 2010 NASA Day on the Hill

**FUNDED PROJECTS:**

1. Analysis of Monthly Radiative Flux and Surface Temperature Variability and Their Covariance in a Suite of CMIP5 Present-Day Climate Simulations, PI: Dr. Patrick Taylor, NASA Coupled Model Evaluation Program 2011 (CMEP), 10/1/2010-9/30/2011, \$25,000.
2. Towards an Improved Understanding of the Diurnal Cycle Influence on Earth's Energy and Water Cycle Variability and Prediction. PI: Dr. Patrick Taylor, NASA Energy and Water Cycle Studies, 10/01/12-09/30/14, \$230,000.
3. Understanding the Cloud Response to a Changing Ice Cover: Implications to North American Climate, PI: Dr. Patrick Taylor, NASA Interdisciplinary Studies in Earth Science, 12/01/13-11/30/16, ~\$1,500,000.
4. Investigation of Earth radiation budget variability by cloud object analysis, Co-I. (PI: Seiji Kato, NASA LaRC), NASA Energy and Water Cycle Studies, 10/01/12-9/30/14, \$300,000.
5. Coupled atmosphere-ocean interactions in the suppressed phase of the Madden-Julian Oscillation using a multiplatform strategy, Co-I. (PI: J. Brent Roberts, NASA MSFC), 10/01/14-9/30/17, \$350,000.
6. Measuring Entrainment rate for Climate Applications (MECA): A SmallSat Train Concept and Technical Capability Study, PI: Patrick Taylor, \$50,000. NASA Langley Independent Research and Development (IRAD) Fund. 10/01/15-09/31/16.
7. Measuring Entrainment rate for Climate Applications (MECA): A SmallSat Train Concept and Observation System Simulation Experiment, PI: Patrick Taylor, \$150,000. NASA Science Innovation Fund. 10/01/15-5/31/17.
8. Exposing systematic errors in Arctic clouds in climate models and their implications for climate change simulations, PI: Patrick Taylor, ~\$425,000, NASA Data for Operation and Assessment (NDOA). 3/1/17-2/28/19.
9. Small Payloads and Innovation Network, co-PIs: Patrick Taylor and Laura Rogers, \$125K, NASA Langley ACT2 Transformation 06/01/19-09/31/19.
10. Small Payloads and Innovation Network-2, co-PIs: Patrick Taylor and Laura Rogers, \$100K, NASA Langley ACT2 Transformation 06/01/19-09/31/19.
11. Unmanned Cloud Assessment Research and Environmental (UCARE) modeling study, PI: James Nielan, Role: Co-I, \$100K, NASA Langley Independent Research and Development (IRAD) Fund. 10/01/19-09/31/20.
12. Understanding the Cloud Response to a Changing Ice Cover: Implications to North American Climate, PI: Dr. Linette Boisvert, NASA Interdisciplinary Studies in Earth Science, 6/01/20-09/30/23, ~\$1,500,000.

## **BIBLIOGRAPHY**

## PUBLICATIONS/REPORTS:

1. **Taylor, P. C.**, 2018: Local processes with a global reach. *Nature Climate Change*, doi: 10.1038/s41558-018-0342-3.
2. Governor Terence R. McAuliffe's Climate Change and Resiliency Update Commission, 2015: Report and Final Recommendations to the Governor. **P. C. Taylor**, Information Working Group Member. <https://naturalresources.virginia.gov/media/5101/climate-commission-and-resiliency-update-commission-report.pdf>
3. Cullather, R., T. M. Hamill, D. Bromwich, X. Wu, and **P. C. Taylor**, 2016: Systematic Improvements of Reanalyses in the Arctic (SIRTA): A White Paper. Inter-agency Arctic Research Policy Committee (IARPC) Principals.] <https://www.iarpccollaborations.org/news/6004>
4. **Taylor, P. C.** and S. Lee, 2018: Section I: The character and mechanisms of Arctic Amplification. [In: *Summary of workshop on Arctic change and possible influence on mid-latitude climate and weather*] US CLIVAR Report 2017-6. <https://indd.adobe.com/view/352be82e-9f4b-4637-b45e-9b58665f7a45>
5. Considine, D. and coauthors (including **P. C. Taylor**), 2018: Recommended Measurement and Instrument Characteristics for an Earth Venture Continuity Earth Radiation Budget Instrument. Report of the NASA Earth Venture Continuity Radiation Budget Science Working Group. [https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/atoms/files/ERB\\_SWG\\_Rept\\_FINAL\\_0.pdf](https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/atoms/files/ERB_SWG_Rept_FINAL_0.pdf)
6. **Taylor, P. C.**, 2015: Why the Arctic warms faster? [Essay published in Mills, E.W. ed. 2015. *Weather Studies: introduction to atmospheric science*. Boston, MA: American Meteorological Society]
7. **Taylor, P. C.**, 2014: Why the Arctic warms faster? [Essay published in Kauffman, C.M. 2014. *Our Changing Climate: introduction to climate science*. Boston, MA: American Meteorological Society.]

## PEER REVIEWED PUBLICATIONS:

### 2021

8. Boeke, R. C., **P. C. Taylor**, S. Sejas, 2021: On the nature of the positive Arctic lapse rate feedback. *Geophys. Res. Lett.*, **48**, e2020GL091109. <https://doi.org/10.1029/2020GL091109>
9. Iitterly, K., **P. C. Taylor**, J. B. Roberts, 2021: Satellite perspective of sea surface temperature diurnal warming on atmospheric moistening and radiative heating during MJO. *J. Climate*, **34**, 1203-1226, doi: <https://doi.org/10.1175/JCLI-D-20-0350.1>.

### 2020

10. Monroe, E., **P. C. Taylor**, L. N. Boisvert, 2020: Arctic Cloud Response to a Perturbation in Sea Ice Concentration: The North Water Polynya. *J. Geophys. Res. Atmos.*, in review, 2020.
11. Dodson, J. B., **P. C. Taylor**, R. H. Moore, D. H. Bromwich, K.M. Hines, K. L. Thornhill, C. A. Corr, B. E. Anderson, E. L. Winstead, J. R. Bennet, 2020: Evaluation of simulated cloud water in low clouds over the Beaufort Sea in Arctic System Reanalysis using ARISE airborne in situ observations. *Atmos. Chem. Phys. Disc.*, [preprint], <https://doi.org/10.5194/acp-2020-1003>, in review.
12. Young, C. L., C. Lukashin, **P. C. Taylor**, R. Swanson, W. S. Kirk, M. Cooney, W. H. Swartz, A. Goldberg, T. Stone, T. Jackson, D. R. Doelling, J. A. Shaw, C. Buleri, 2020, Trutiner: A Conceptual Study for a Next-Generation Earth Radiant Energy Instrument, *Remote Sensing*, **12**, 3281, doi: <https://doi.org/10.3390/rs12203281>.
13. Hu, X., H. Fan, M. Cai., S. A. Sejas, **P. C. Taylor**, S. Yang, 2020: A less cloudy picture of the inter-model spread in future global warming projections. *Nat. Commun*, **11**, 4472, <https://doi.org/10.1038/s41467-020-18227-9>.
14. Cohen, J., Zhang, X., Francis, J. *and coauthors (including P. C. Taylor)*, 2020: Divergent consensus on Arctic amplification influence on midlatitude severe winter weather. *Nat. Clim. Chang.* **10**, 20–29, doi:10.1038/s41558-019-0662-y.
15. Duncan, B. N., Ott, L. E., Abshire, J. B., Brucker, L., Carroll, M. L., Carton, J., et al. (including **P.C. Taylor**), 2020: Space-based observations for understanding changes in the arctic-boreal zone. *Reviews of Geophysics*, **58**, e2019RG000652. <https://doi.org/10.1029/2019RG000652>
16. Alkama, R., **Taylor, P. C.**, Cescatti, A. Garcia-San Martin, L., Douville, H., Duveiller, G., Forzieri, G., and Swingedouw, D., 2020: Clouds damp the impacts of Polar sea ice loss, *The Cryosphere Discuss.*, <https://doi.org/10.5194/tc-2019-283>, *The Cryosphere* **14** (8), 2673-2686, <https://doi.org/10.5194/tc-14-2673-2020>.
17. Chen, H., Schmidt, S., King, M. D., Wind, G., Bucholtz, A., Reid, E. A., Segal-Rozenhaimer, M., Smith, W. L., **Taylor, P. C.**, Kato, S., and Pilewskie, P., 2020: Shortwave Radiative Effect of Arctic Low-Level Clouds: Evaluation of Imagery-Derived Irradiance with Aircraft Observations, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2019-344>.

## **2019**

18. Yu, Y., Taylor, P. C., and Cai, M. (2019). Seasonal variations of arctic low-level clouds and its linkage to sea ice seasonal variations. *J. Geophys. Res.: Atmos.*, **124**, 12206– 12226. <https://doi.org/10.1029/2019JD031014>
19. **Taylor, P. C.**, R. C. Boeke, Y. Li, and D. W. J. Thompson, 2019: Arctic cloud annual cycle biases in climate models. *Atmos. Chem. Phys.* **18**, 8759-8782, doi: 10.5194/acp-19-8759-2019.

## **2018**

20. Boeke, R. C. and **P. C. Taylor**, 2018: Seasonal energy exchange in sea ice retreat regions contributes to differences in projected Arctic warming. *Nature Comm.*, **9**, 5017, doi: 10.1038/s41467-018-07061-9.
21. **Taylor, P. C.**, B. M. Hegyi, R. C. Boeke, and L. N. Boisvert, 2018: On the increasing importance of air-sea exchange in a thawing Arctic: A review. *Atmosphere*, 9(2):41, doi:[10.3390/atmos9020041](https://doi.org/10.3390/atmos9020041).
22. Hegyi, B. M., **P. C. Taylor**, 2018: The unprecedented 2016-17 Arctic sea ice growth season: The crucial role of atmospheric rivers and longwave fluxes. *Geophys. Res. Lett.*, **45**, 5204–5212. <https://doi.org/10.1029/2017GL076717>
23. Hu, X. S. A. Sejas, M. Cai, **P. C. Taylor**, Y. Deng, and S. Yang, 2018: Decadal evolution of the surface energy budget during the fast warming and global warming hiatus periods in the ERA-Interim. *Climate Dyn.* Doi: 10.1007/s00382-018-4232-1.
24. Dodson, J. B., **P. C. Taylor**, and M. Branson, 2018: Microphysical variability of mature Amazonian deep convection observed by CloudSat, and relevance for cloud-resolving model, *Atmos. Chem. Phys.*, **18**, 6493-6510, doi: 10.5194/acp-18-6493-2018.
25. Sejas, S., **P. C. Taylor**, M. Cai, 2018: Unmasking the Negative Greenhouse Effect over the Antarctic Plateau. *npj Climate and Atmospheric Science*, **1**, doi:10.1038/s41612-018-0031-y. (article featured by Science Magazine: <http://www.sciencemag.org/news/2018/07/greenhouse-gases-are-warming-world-chilling-antarctica-here-s-why>)
26. Iterly, K. F., **P. C. Taylor**, J. B. Dodson, 2018: Sensitivity of the Amazonian convective diurnal cycle to its environment in observations and reanalysis. *J. Geophys. Atmos.* Doi: 10.1029/2018/JD029251.

## **2017**

27. Wuebbles, D. J., D. W. Fahey, K. A. Hibbard, B. Deangelo, S. Doherty, K. Hayhoe, R. Horton, J. P. Kossin, **P. C. Taylor**, A. M. Waple, and C. P. Weaver, 2017: Executive summary. In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D. J., S. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Steward, and T. K. Maycock (eds.)]. U.S. Global Climate Change Research Program, Washington, DC, USA, pp. 12-34, doi:10.7930/J0DJ5CTG.
28. **Taylor, P. C.**, W. Maslowski J. Perlwitz, and D. J. Wuebbles, 2017: Arctic Changes and their Effects on Alaska and the Rest of the United States. In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D. J., S. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Steward, and T. K. Maycock (eds.)]. U.S. Global Climate Change Research Program, Washington, DC, USA, pp. 303-332, doi: 10.7930/J00863GK.
29. Wuebbles, D. J., D. R. Easterling, K. Hayhoe, T. Knutson, R. E. Kopp, J. P. Kossin, K. E. Kunkel, A. N. LeGrande, C. Mears, W. V. Sweet, **P. C. Taylor**, R. S. Vose, and M. F. Wehner, 2017: Our globally changing climate. In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D. J., S. W. Fahey, K. A. Hibbard, D. J.

Dokken, B. C. Steward, and T. K. Maycock (eds.)). U.S. Global Climate Change Research Program, Washington, DC, USA, pp. 35-72, doi: 10.7930/J08S4N35.

30. Fahey, D. W., S. J. Doherty, K. A. Hibbard, A. Romanou, and **P. C. Taylor**, 2017: Physical drivers of climate change. In: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D. J., S. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Steward, and T. K. Maycock (eds.)]. U.S. Global Climate Change Research Program, Washington, DC, USA, pp. 73-113, doi:10.7930/J0513WCR.
31. Hu, X., **P. C. Taylor**, M. Cai, S. Yang, Y. Deng, and S. Sejas, 2017: Bringing Uncertainty into Focus: ‘Control Climate Lens’ Clarifies the Inter-Model Spread in Global Warming Projections. *Scientific Reports*, **7**, 4300, doi: 10.1038/s41598-017-04623.
32. Hegyi, B. M. and **P. C. Taylor**, 2017: The Arctic Oscillation and Arctic Dipole regionally influence the wintertime surface radiation budget. *Geophys. Res. Lett.* **44**, doi: 10.1002/2017GL073281.
33. Smith, W. L. and coauthors (including **P. C. Taylor**), 2017: Arctic Radiation-IceBridge Sea and Ice Experiment (ARISE): The Arctic Radiant Energy System During the Critical Seasonal Ice Transition. *Bull. Amer. Meteor. Soc.* Accepted. Available online. 10.1175/BAMS-D-14-00277.1
34. Xu, K.-M, T. Wong, S. Dong, F. Chen, S. Kato, and **P. C. Taylor**, 2017: Cloud object analysis of CERES Aqua observations of tropical and subtropical cloud regimes: Evolution of cloud object size distributions during the Madden–Julian Oscillation. *J. Quant. Spectr. Rad. Trans.*, **188**, 148-158.
35. **Taylor, P. C.**, 2017: Does the relationship between Arctic low clouds and sea ice matter? Current Problems in Atmospheric Radiation (IRS 2016): AIP Conference Proceedings **1810**, 070009, doi: <http://dx.doi.org/10.1063/1.4975530>.
36. Dodson, J. B. and **P. C. Taylor**, 2017: Monthly covariability of Amazonian convective cloud properties and radiative diurnal cycle. Current Problems in Atmospheric Radiation (IRS 2016): AIP Conference Proceedings **1810**, 070002, doi: <http://dx.doi.org/10.1063/1.4975523>
37. Hegyi, B. M. and **P. C. Taylor**, 2017: Seasonal Clear-sky Flux and Cloud Radiative Effect Anomalies in the Arctic Atmospheric Column Associated with the Arctic Oscillation and Arctic Dipole. Current Problems in Atmospheric Radiation (IRS 2016): AIP Conference Proceedings **1810**, 070003, doi: <http://dx.doi.org/10.1063/1.4975524>
38. Iterly, K. F and **P. C. Taylor**, 2017: Evaluation of the sensitivity of the Amazonian diurnal cycle to convective intensity in reanalysis. Current Problems in Atmospheric Radiation (IRS 2016): AIP Conference Proceedings **1810**, 070004, doi: <http://dx.doi.org/10.1063/1.4975525>

## **2016**

39. Baker, N. C. and **P. C. Taylor**, 2016: A framework for evaluating climate model performance metrics. *J. Climate*, **29**, 1773-1782, doi:10.1175/JCLI-D-15-0114.1.



40. Dodson, J. B. and **P. C. Taylor**, 2016: Sensitivity of Amazonian TOA Flux Diurnal Cycle Composite Variability to Choice of Reanalysis. *J. Geophys. Res.*, **121**, doi:10.1002/2015JD024567.
41. Sejas, S. A., M. Cai, G. Liu, **P. C. Taylor**, and K.-K. Tung, 2016: A longwave radiative transfer explanation of the direct radiative heating response to an increase of CO<sub>2</sub>. *J. Geophys. Res.*, **121**, doi: 10.1002/2015JD024738.
42. Iterly, K. F. **P. C. Taylor**, J. B. Dodson, and A. B. Tawfik, 2016: On the sensitivity of the diurnal cycle in the Amazon to convective intensity. *J. Geophys. Res.*, **121**, 8186-8208, doi: 10.1002/2016/JD025039.
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## **2015**

45. **Taylor, P. C.** and N. C. Baker, 2015: Intelligent Ensemble projections of precipitation and surface radiation in support of agricultural climate change adaptation. *ASABE 1st Climate Change Symposium: Adaptation and Mitigation Conference Proceedings*, 152095877, doi:10.13031/cc.20152095877.
46. **Taylor, P. C.**, S. Kato, K.-M. Xu, and M. Cai, 2015: Covariance between Arctic sea ice and clouds within atmospheric state regimes at the satellite footprint level. *J. Geophys. Res. Atmos.*, **120**, 12656-12678, doi:10.1002/2015JD023520.

## **2014**

47. **Taylor, P. C.**, 2014: Variability of monthly diurnal cycle composites of TOA radiative fluxes in the tropics. *J. Atmos. Sci.*, **71**, 754-776.
48. Phojanamongkolkij, N, S. Kato, B. A. Wielicki, **P. C. Taylor**, and M. Mlynchak, 2014: Analysis method comparison of climate signal trend detection uncertainty. *J. Climate*, **27**, 3363-3376.
49. Sejas, S, M. Cai, A. Hu, J. Meehl, W. Washington, and **P. C. Taylor**, 2014: On the seasonality of polar warming amplification. *J. Climate*, **27**, 5653-5669.
50. Iterly, K, and **P. C. Taylor**, 2014: An evaluation of the TOA flux diurnal cycle in MERRA and ERA-Interim reanalysis products. *J. Climate*, **27**, 4781-4796.
51. **Taylor, P. C.**, 2014: Variability of regional TOA flux diurnal cycle composites at the monthly timescale. *J. Atmos. Sci.*, **71** 3483-3498. doi: <http://dx.doi.org/10.1175/JAS-D-13-0336.1>

52. Lambert, F. Hugo, and **P. C. Taylor**, 2014: Regional variation of the tropical water vapor and lapse rate feedbacks, *Geophys. Res. Lett.*, **41**, 7634–7641, doi:10.1002/2014GL061987.

### **2013**

53. **Taylor, P. C.** and N. G. Loeb, 2013: Impact of sun synchronous diurnal sampling on tropical TOA flux interannual variability and trends. *J. Climate*, **26**, 2184-2191, Doi: <http://dx.doi.org/10.1175/JCLI-D-12-00416.1>.
54. **Taylor, P. C.**, M. Cai, A. Hu, J. Meehl, W. Washington, G. J. Zhang, 2013: A Decomposition of Feedback Contributions to Polar Warming Amplification. *J. Climate*, **26**, 7023–7043. doi: <http://dx.doi.org/10.1175/JCLI-D-12-00696.1>
55. Wielicki, B. A., and coauthors (including **P. C. Taylor**), 2013: Achieving climate change absolute accuracy in orbit. *Bull. Amer. Meteor. Soc.*, **94**, 1519-1539.

### **2012**

56. **Taylor, P. C.**, 2012: The role of clouds: An introduction and rapporteur report. *Surv. Geophys.*, 1-9, DOI: 10.1007/s107-12-012-9182-2.
57. **Taylor, P. C.**, 2012: Tropical outgoing longwave radiation and longwave cloud forcing diurnal cycles from CERES. *J. Atmos. Sci.*, **69**, 3652-3669, doi: <http://dx.doi.org/10.1175/JAS-D-12-088.1>.

### **2011**

58. **Taylor, P. C.**, R. G. Ellingson, and M. Cai, 2011: Geographic distribution of climate feedbacks in the NCAR CCSM3.0. *J. Climate*, **24**, 2737-2753. Doi: <http://dx.doi.org/10.1175/2010JCLI3788.1>.
59. **Taylor, P. C.**, R. G. Ellingson, and M. Cai, 2011: Seasonal distribution of climate feedbacks in the NCAR CCSM3.0. *J. Climate*, **24**, 3433-3444. Doi: <http://dx.doi.org/10.1175/2011JCLI3862.1>.
60. Kato, S., B. A. Wielicki, F. G. Rose, X. Liu, **P. C. Taylor**, and coauthors, 2011: Sensitivity of spatially and temporally averaged all-sky top-of-atmosphere nadir-view longwave spectrum and application to detect atmospheric property changes. *J. Climate*, **24**, 6392-6407. Doi: <http://dx.doi.org/10.1175/JCLI-D-10.05005.1>.

### **2010**

61. **Taylor, P. C.**, 2010: Diagnosis and analysis of climate feedbacks in the NCAR CCSM3.0. Ph. D. Dissertation, Florida State University, Tallahassee, FL, 155 pp.

### **2009**

62. **Taylor, P. C.**, R. G. Ellingson, 2009: On the use of probability of clear line of sight models in parameterizing surface downwelling longwave radiation in the tropical western Pacific. Current Problems in Atmospheric Radiation (IRS 2008): Proceedings of the International Radiation Symposium, American Institute of Physics, 502-505. doi: <http://dx.doi.org/10.1063/1.3117032>.

**2008**

63. **Taylor, P. C.** and R. G. Ellingson, 2008: A study of probability of clear line of sight through single-layer cumulus cloud fields in the tropical western Pacific. *J. Atmos. Sci.*, **65**, 3497-3512. Doi: <http://dx.doi.org/10.1175/2008JAS2620.1>

## **INVITED PRESENTATIONS:**

March 2010, California University of Pennsylvania, Seminar for Department of Earth Science, “Climate Sensitivity: Using Models and Observations Towards a Better Understanding”

June 2011, University of Reading, Seminar for Department of Meteorology, “An improved understanding of diurnal time scale TOA irradiance variability using CERES Observations”

June 2011, Imperial College London, Seminar for Department of Physics, “The OLR diurnal cycle from CERES”

July 2012, GLOBE Teacher Training Workshop, “NASA Earth Science: Using Satellites to Understand Climate”

July 2012, NASA Earth Science Workshop, “Observing Earth’s Energy Budget from Space”

November 2012, Florida State University, “Monitoring Earth’s Energy Budget: Past, Present, and Future”

July 2013, NASA LEARN Teacher Training, “NASA and Climate Science”

April 2014, California University of Pennsylvania, Seminar for Department of Earth Science, “An Adventure through Atmospheric Science: Cal U to NASA”

July 2014, NASA LEARN Teacher Training, “NASA Earth Science: Satellites and Climate Change”

October 2014, WCRP Climate Symposium, “Interactions and feedbacks between sea ice, clouds, and the circulation in the Arctic”

April 2015, College of William and Mary Sponsored Panel Discussion: “The Science of Sea Level Rise and its Impacts on the Historical Triangle.”

October 2015, University of Virginia, Department of Environmental Science: “Arctic sea ice says jump, clouds say why bother.”

December 2015, COP-21, Paris, France, US Center “What Happens in the Arctic Doesn’t Stay in the Arctic?” (event with Dr. John Holdren)

February 2016, NASA Goddard Space Flight Center, Radiation Sciences Branch: “Arctic sea ice says jump, clouds say why bother.”

April 2016, Florida State University, Department of Earth, Ocean, and Atmospheric Science: “If Arctic sea ice says jump, do low clouds say how high?”

April 2016, Chi Epsilon Pi Meteorology Honor Society Banquet Keynote Address, “Observations of an Early Career Climate Scientist”

September 2016, Hampton University, “Rapid Arctic Climate Change: What’s cloud got to do with it?”

October 2016, GLOBE 21<sup>st</sup> Century Community Learning Center Teacher Workshop, “Lunch with a Cloud Scientist”

January 2017, NASA DEVELOP Fellow Retreat, “Observations of an Early Career Scientist”

August 2018, OneNOAA Seminar Series, “The Causes and Consequences of a Rapidly Changing Arctic.

August 2018, Williamsburg Kiwanis Club: “Taking Earth’s Pulse: A Guide to the 2017 Climate Science Special Report”

September 2018, NOAA GFDL, “The Local and Remote Mechanisms of Arctic Amplification: Friend or Foe?”

June 2019, NASA GSFC, “Contributions of local and remote mechanisms to Arctic Amplification”

October 2020, Virginia Space Grant Consortium Science and Technology in Our Changing World Series, “Our Interconnected Earth.”

December 2020, Fall Meeting of the American Geophysical Union, “Process drivers, inter-model spread, and a path forward: What do we know about Arctic Amplification?”

#### **INVITED/APPLICATION WORKSHOPS:**

January 2011, International Space Studies Institute, “Observing and Modeling Earth’s Energy Flows”, Rapporteur

October 2015, Aspen Global Change Institute, “Integrating Remote Sensing, Integrated Assessment Models, and Decision Science”, Facilitator

November 2015, 27<sup>th</sup> Kavli Frontiers in Science Symposium, Poster Presenter

February 2017, US CLIVAR, “Arctic-Midlatitude Weather and Climate Connections”