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University of Arizona

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EDUCATION

1979 **Ph. D. in Geophysics & Space Physics** at University of California at Los Angeles
1977 **M.S. in Geophysics & Space Physics** at University of California at Los Angeles
1973 **M.S. in Physics** at University of Louisiana at Monroe
1971 **B.S. in Physics** (magna cum laude) at University of Louisiana at Monroe

EMPLOYMENT HISTORY

2019-	Research Professor	Lunar & Planetary Lab, University of Arizona
1995-2019	Senior Research Scientist	Lunar & Planetary Lab, University of Arizona
1989-1995	Associate Research Scientist	Lunar & Planetary Lab, University of Arizona
1983-1989	Assistant Research Scientist	Lunar & Planetary Lab, University of Arizona
1981-1983	Senior Research Associate	Lunar & Planetary Lab, University of Arizona
1979-1981	Postdoctoral Research Associate	Lunar & Planetary Lab, University of Arizona
1975-1979	Research Assistant	Inst. of Geophys. & Planetary Physics, UCLA
1971-1973	Teaching Assistant	Dept. of Physics, Univ. of Louisiana at Monroe

RESEARCH INTERESTS

My research is currently focused on two interdisciplinary areas: (1) coupling between the Earth's stratosphere and troposphere; and (2) mapping and interpretation of planetary crustal magnetic fields. The stratosphere/troposphere coupling work is especially oriented toward understanding the effects of the stratospheric quasi-biennial oscillation and solar UV-induced variations on tropospheric climate. The planetary crustal magnetic field work is most recently aimed at resolving long-standing issues relating to the origin of lunar crustal magnetism.

REFEREED PUBLICATIONS (149 total; 96 first-authored):

- Hood, L. L.**, M. Redman, W. Johnson, and T. J. Galarneau, Jr. (2020) Stratospheric influences on the MJO-induced Rossby wave train: Effects on intraseasonal climate, *J. Climate*, 33, 365-389, <https://doi.org/10.1175/JCLI-D-18-0811.s1>
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- Galluzzi, V., J. S. Oliveira, J. Wright, D. A. Rothery, and **L. Hood** (2021), *Geophys. Res. Lett.*, 48, e2020GL091767, <https://doi.org/10.1029/2020GL091767>.
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- Hood, L. L.**, J. S. Oliveira, V. Galluzzi, and D. A. Rothery (2018), Investigating sources of Mercury's

- crustal magnetic field: Further mapping of MESSENGER magnetometer data, *J. Geophys. Res. Planets*, *123*, 2647-2666.
- Maycock, A., K. Matthes, S. Tegtmeier, H. Schmidt, R. Thiéblemont, **L. Hood**, H. Akiyoshi, S. Bekki, M. Deushi, P. Jöckel, O. Kirner, M. Kunze, M. Marchand, D. Marsh, M. Michou, D. Plummer, L. Revell, E. Rozanov, A. Stenke, Y. Yamashita, and K. Yoshida (2018) The representation of solar cycle signals in stratospheric ozone. Part II: Analysis of global models, *Atmos. Chem. Phys.*, *18*, 11323-11343.
- Hood, L. L.** (2018) Short-term solar modulation of the Madden-Julian climate oscillation, *J. Atmos. Sci.* *75*, 857-873.
- Hood, L. L.** (2017) QBO/solar modulation of the boreal winter Madden-Julian oscillation: A prediction for the coming solar minimum, *Geophys. Res. Lett.*, *44*, 3849-3857
- Hood, L. L.**, P. D. Spudis (2016), Magnetic anomalies in the Imbrium and Schrödinger impact basins: Orbital evidence for persistence of the lunar core dynamo into the Imbrian epoch, *J. Geophys. Res. Planets*, *121*, 2268-2281.
- Hood, L. L.** (2016), Magnetic anomalies concentrated near and within Mercury's impact basins: Early mapping and interpretation, *J. Geophys. Res. Planets*, *121*, 1016-1025.
- Hood, L. L.** (2016), Lagged response of tropical tropospheric temperature to solar ultraviolet variations on intraseasonal timescales, *Geophys. Res. Lett.*, *43*, 4066-4075.
- Misios, S., D. M. Mitchell, L. J. Gray, K. Tourpali, K. Matthes, **L. Hood**, H. Schmidt, G. Chiodo, R. Thiéblemont, E. Rozanov, and A. Krivolutsky (2016), Solar signals in CMIP-5 simulations: Effects of atmosphere-ocean coupling, *Q. J. R. Meteorol. Soc.*, *142*, 928-941.
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- Hood, L. L.** (2015), Initial mapping of Mercury's crustal magnetic field: Relationship to the Caloris Impact basin, *Geophys. Res. Lett.*, *42*, 10,565-10,572, doi:10.1002/2015GL066451.
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- Mitchell, D. M., S. Misios, L. J. Gray, K. Tourpali, K. Matthes, **L. Hood**, H. Schmidt, G. Chiodo, R. Thiéblemont, E. Rozanov, D. Shindell, and A. Krivolutsky (2015), Solar signals in CMIP-5 simulations: The stratospheric pathway, *Quart. J. Roy. Meteorol. Soc.*, *141*, 2390-2403.
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SYNERGISTIC ACTIVITIES

Examples of Outside Service to the Scientific Community:

- (1) Service on review panels for existing and planned NASA spacecraft missions and for a series of NASA research and analysis programs (an average of about one per year in the last 10 years)
- (2) Reviewer of submitted manuscripts for professional journals such as *Journal of Geophysical Research*, *Journal of the Atmospheric Sciences*, *Atmospheric Chemistry and Physics*: 50 manuscripts during the last 5 years; recipient of 2013 editor’s citation for excellence in refereeing, American Geophysical Union, *Geophysical Research Letters*.
- (3) Participant in a SPARC SOLARIS-HEPPA task force, led by Katja Matthes, to recommend a new prescribed 11-year ozone signal for CMIP-6, Nov. 2014 to present
- (4) Participant in SolarMIP, a project sponsored by SPARC SOLARIS-HEPPA, to evaluate solar signals in CMIP-5 climate models, 2014-2015
- (5) Participant in “The Effects of Solar Variability on Earth’s Climate: A Workshop”, sponsored by Space Studies Board, National Academy of Science, Boulder, Colorado, Sept. 8-9, 2011.
- (6) Co-author of a report assessing the progress of the NASA Living With a Star Targeted Research and Technology (TR & T) program on achieving the sun-climate strategic goal, 2012.
- (7) Chair, Solar-Terrestrial Working Group, International Commission on the Middle Atmosphere (ICMA); International Association of Meteorology and Atmospheric Sciences (IAMAS), 1992-2003.
- (8) Contributor to *Scientific Assessment of Ozone Depletion 2006*, World Meteorological Organization, Global Ozone Research and Monitoring Project, Report No. 50, one of several scientific and technical reports that earned the Intergovernmental Panel on Climate Change (IPCC) the 2007

Nobel Peace Prize.

(9) Member, Total Ozone Mapping Spectrometer (TOMS) team and co-recipient of the William T. Pecora award, 2008.

THESIS ADVISOR AND POSTGRADUATE SCHOLAR SPONSOR

Dr. John McCormack (Ph. D., 1997, currently at NRL, Washington, D. C.); David Zaff (M. S. 1995); Shawn Rossi (M. S. 1999); Matthew Beulen (M. S. 1999); Prof. Fred Ciesla (Ph. D., 2005 & postdoc, LPL, currently at Dept. of Geophysical Sciences, University of Chicago); Naydene Hays (grad. student, 2006-07), Dr. Nicola Richmond (postdoc and research associate, LPL, 2003-2010); Dr. Natalia Artemieva (research associate, LPL, 2008), Dr. Boris Soukharev (research associate, LPL, 2003-2012), Cameron Williams (grad. student, LPL, 1989-90), Aramis Zakharian (grad. student, LPL, 2000-01), John Jirikowic (grad. student, LPL, 1991-93).

Total number of grad. students advised: 9; total number of postdoctoral scholars sponsored: 4.