

XIAOXU TIAN

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EDUCATION

2017	Ph.D in Atmospheric and Oceanic Science	University of Maryland, College Park
2014	M.S. in Meteorology	Florida State University
2012	B.S. in Meteorology	Florida State University

EXPERIENCE

2019 - present	Assistant Research Scientist, University of Maryland
2017 - 2019	Postdoc Associate, University of Maryland
2015 - 2017	Graduate Research Assistant, University of Maryland
2012 - 2014	Graduate Research Assistant, Florida State University
2011	Teaching Assistant, Florida State University

PROFESSIONAL SOCIETY MEMBERSHIP

- American Meteorological Society
- American Geophysical Union
- Royal Meteorological Society

REFEREED PUBLICATION

- Tian, X.** and K. Ide, 2021: Hurricane Predictability Analysis with Singular Vectors of the Multiresolution Global Shallow Water Model, *J. Atmos. Sci.*, **78(4)**, 1259-1273.
- Tian, X.**, 2020: Evolutions of Errors in the Global Multiresolution Model for Prediction Across Scales - Shallow Water (MPAS-SW), *Q. J. Royal Meteorol. Soc.*, **147**, 382-391.
- Tian, X.** and X. Zou, 2020: Development of the Tangent Linear and Adjoint Models of the MPAS-Atmosphere Dynamic Core and Applications in Adjoint Relative Sensitivity Studies. *Tellus A*, **71(1)**, 1-17.
- Tian, X.** and X. Zou, 2020: Comparison of ATMS biases estimated using RO and Hurricane Florence (2018) captured by NOAA-20 and S-NPP. *Adv. Atmos. Sci.*, **37**, 269-277.
- Tian, X.** and X. Zou, 2019: A Comprehensive 4D-Var Vortex Initialization Using a Nonhydrostatic Axisymmetric TC Model with Convection Accounted for. *Tellus A*, **71(1)**, 1-15.
- Tian, X.** and X. Zou, 2019: Mitigation of Striping Noise in ATMS Calibration Counts by Symmetric Filters. *J. Atmos. Oceanic Technol.*, **36(7)**, 1297-1312.
- Zou, X. and **X. Tian**, 2019: Comparison of ATMS Striping Noise between NOAA-20 and S-NPP and Noise Impact on Warm Core Retrieval of Typhoon Jelawat (2018). *IEEE JSTAR.*, **12(7)**, 2504-2512.
- Zou, X. and **X. Tian**, 2019: Striping Noise Analysis and Mitigation for Microwave Temperature Sounder (MWTS)-2 Observations. *Adv. Atmos. Sci.*, **36(7)**, 711-720.
- Tian, X.** and X. Zou, 2018: Capturing Size and Intensity Changes of Hurricanes Irma and Maria (2017) from Polar-orbiting Satellite Microwave Radiometers. *J. Atmos. Sci.*, **75(8)**, 2509-2522.

- Zou, X. and **X. Tian**, 2018: Hurricane Warm-Core Retrievals from AMSU-A and Remapped ATMS Measurements with Rain Contamination Eliminated. *J. Geophys. Res.*, **123**, 10815-10829.
- Tian, X.**, X. Zou, and S. Yang, 2018: A Limb Correction Method for the Microwave Temperature Sounder 2 and Its Applications. *Adv. Atmos. Sci.*, **35(12)**, 15471552.
- Tian, X.** and X. Zou, 2016: ATMS- and AMSU-A-derived Hurricane Warm Core Structures Using a Modified Retrieval Algorithm. *J. Geophys. Res.*, **121(21)**, 12630-12646.
- Tian, X.** and X. Zou, 2016: Television Frequency Interference in AMSR2 K-Band Measurements Over Reflective Surfaces. *IEEE Geosci. Remote Sens. Lett.*, **13(11)**, 1621-1625.
- Tian, X.** and X. Zou, 2016: An Empirical Model for Television Frequency Interference (TFI) Correction of AMSR2 Data over Ocean near U.S. and Europe. *IEEE Trans. Geosci. Remote Sens.*, **54(7)**, 3856-3867.
- Zou, X., **X. Tian**, and F. Weng, 2014: Detection of Television Frequency Interference with Satellite Microwave Imager Observations over Oceans. *J. Atmos. Oceanic Technol.*, **31**, 2759-2776.

PHD DISSERTATION

- Tian, X., 2017: Improved Satellite Microwave Retrievals and Their Incorporation into a Simplified 4D-Var Vortex Initialization Model Using Adjoint Techniques, University of Maryland, College Park.

SELECTED PRESENTATIONS

- AMS 2021: Development of the Tangent Linear and Adjoint Models of the MPAS-Atmosphere Dynamic Core and Applications in Adjoint Relative Sensitivity Studies, 11-15 January, 2021
- AGU 2020: A local ensemble transform Kalman filter data assimilation for a regional Eulerian level set wildfire model, 1-17 December, 2020
- NCAR MMM Seminar: A Comprehensive 4D-Var Vortex Initialization Using a Nonhydrostatic Axisymmetric TC Model with Convection Accounted for, 30 January, 2020, Boulder, Colorado
- AMS 2019: A Simplified 4D-Var Vortex Model to Improve 0-12 h Hurricane Intensity Forecasts through Assimilation of Satellite Microwave Retrieval Products, 6-10 January 2019, Phoenix, Arizona.
- AGU 2018: NOAA-20 and S-NPP ATMS Captures Warm-Core Evolutions of Typhoon Maria (2018), 10-14 December 2018, Washington D.C.
- IGARSS 2018: Comparison of ATMS Stripping Noise Between NOAA-20 and S-NPP, 22-27 July 2018, Valencia, Spain.
- IGARSS 2018: Comparison of ATMS Biases Between NOAA-20 and Suomi-NPP, 22-27 July 2018, Valencia, Spain.
- AMS 2017: ATMS Derived Warm Core Evolution of Hurricanes Using a Modified Retrieval Algorithm, 22-26 January 2017, Seattle, Washington
- AMS 2016: A Physical Model for Television Frequency Interference (TFI) Correction of AMSR2 Data over Ocean near U. S. and Europe, 11-14 January 2016, New Orleans, Louisiana.

CONTRACTS AND GRANTS

- June 2016 - June 2020, Developing Front-End-Processing for Mitigating JPSS ATMS Radiance Stripping and Radio-Frequency Interference. Funded by NOAA/CICS/ATMS. Total award \$663,000. (Collaborator)

July 2016 - June 2017, Development of New Satellite Data Applications for Global and Regional Weather Monitoring and Forecasting. Funded by NOAA/CICS/ATMS. Total award \$156,000. (Collaborator)

February 2015 - January 2017, Improving Satellite Data Assimilation and Vortex Initialization for Hurricane Forecast Using HWRF Forecast. Funded by NOAA/HFIP. Total award \$300,000. (Collaborator)

August 2012 - July 2016, Improve Hurricane Structure Monitoring and Intensity Forecast Using NPP ATMS and GCOM-W AMSR2. Funded by NOAA. Total award \$1,000,000. (Collaborator)