

# DAVID VOLLARO

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12 Jefferson Rd  
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## EDUCATION

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| <b>MS</b> | University at Albany, Atmospheric Science<br>Thesis: "A large-scale analysis of the evolution of the outflow level winds in an intensifying tropical cyclone" | May 1988 |
| <b>BS</b> | University at Albany, Atmospheric Science<br>Graduated magna cum laude                                                                                        | May 1985 |

## EXPERIENCE

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**Senior Scientific Programmer**, 2000-present  
Research Foundation of the State University of New York

**Duties:**

- Used programming skills to process and interpret meteorological observations and model analyses.
- Learned new computer languages and research methods to more efficiently manipulate various data sources.
- Carried out numerous scientific calculations, created figures, and assisted in the writing of research publications and grant proposals.
- Mentored graduate students to strengthen their programming proficiency and develop proper research habits.

**Research Programmer**, 1988-2000  
Research Foundation of the State University of New York  
**Duties:** Similar to above.

## COMPUTER SKILLS

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- Extensive experience working with big datasets in various formats including gridded and spectral fields from ECMWF and NOAA.
- Ability to manipulate and visualize satellite data, radar data, lightning data, atmospheric surface and upper air observations.
- Knowledge of Python, Fortran, C-Shell, HTML, NCL, McIDAS, and GEMPAK programming languages
- Proficiency with Microsoft Office 2013 applications (Excel, Word, PowerPoint, Access).
- Platform experience: Linux, Windows, UNIX and Solaris.

## PROFESSIONAL TRAINING

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### **NSF XSEDE HPC Big Data Workshop**

DAES Albany, NY August 6-7 2019

Introduction to big data analytics and machine learning

### **Unidata Regional Software Training Workshop**

DAES Albany, NY May 29-30 2019

Introduction to python programming for the atmospheric sciences

### **NCAR Command Language Workshop**

DAES Albany, NY May 21-24 2013

Introduction to NCL programming language

## HONORS AND AWARDS

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- NASA Group achievement award, Hurricane and Severe Storm Sentinel 2015
- NASA Group achievement award, Genesis and Rapid Intensification Processes 2011
- First enrollee into SUNY combined BS/MS program in Atmospheric Science 1984

## PROFESSIONAL AFFILIATIONS

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American Meteorological Society 1988-Present

## PROFESSIONAL SERVICE

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### **Reviewer for:**

- Monthly Weather Review
- Journal of the Atmospheric Sciences

## PRESENTATIONS AND INVITED LECTURES

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### **Paper Presentations**

*Influences of vertical shear and upper level vorticity on tropical cyclone intensification.* 20th Conference on Hurricanes and Tropical Meteorology. May 10-14 1993, San Antonio, Texas

*Excitation of secondary eye walls by external interactions.* 19th Conference on Hurricanes and Tropical Meteorology. May 6-10 1991, Miami Florida.

## PUBLICATIONS

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Coauthor on 28 publications in peer-reviewed journals.

## COMMUNITY SERVICE

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### **Regional Food Bank of Northeastern New York**

Volunteer, Albany, 2016-2019

### **Bethlehem Soccer Club**

Youth coach 2010-2016

### **Big Brothers Big Sisters of the Capital Region**

Big brother volunteer, Albany, 1989-1991

## PUBLICATIONS

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Molinari, J., J. Zhang, R.F. Rogers, and D. Vollaro 2019: [REPEATED EYEWALL REPLACEMENT CYCLES IN HURRICANE FRANCES \(2004\)](#). *Monthly Weather Review*, **147**, 2009-2022.

Molinari, J., M. Rosenmayer, D. Vollaro, and S. Ditchek 2019: [Turbulence Variations in the Upper Troposphere in Tropical Cyclones from NOAA G-IV Flight-Level Vertical Acceleration Data](#). *Journal of Applied Meteorology and Climatology*, **58**, 569-583.

Romps, D.M., A. Charn, R. Holzwith, W. Lawrence, J. Molinari, and D. Vollaro 2018: [CAPE times P explains lightning over land but not the land-ocean contrast](#). *Geophysical Research Letters*, **45**, 12623-12630.

Molinari, J., and D. Vollaro 2017: [Monsoon Gyres of the Northwest Pacific: Influences of ENSO, the MJO, and the Pacific Japan Pattern](#). *Journal of Climate*, **30**, 1765-1777.

Ditchek, S., J. Molinari, and D. Vollaro 2017: [Tropical Cyclone Outflow-Layer Structure and Balanced Response to Eddy Forcings](#). *Journal of the Atmospheric Sciences*, **74**, 133-149.

Romps, D.M., J.T. Seeley, D. Vollaro, and J. Molinari, 2014: [Projected increase in lightning strikes in the United States due to global warming](#). *Science*, **346**, 851-854.

Molinari, J., and D. Vollaro, 2014: [Symmetric instability in the outflow layer of a major hurricane](#). *Journal of the Atmospheric Sciences*, **71**, 3739-3746.

Molinari, J., P. Duran, and D. Vollaro, 2014: [Low Richardson number in the tropical cyclone outflow layer](#). *Journal of the Atmospheric Sciences*, **71**, 3164-3179.

Crandall, B., J. Molinari, and D. Vollaro, 2013: [Forecasting Challenges Associated with Tropical Cyclones Within Subtropical Gyres](#). *Weather and Forecasting*, **29**, 99-114.

- Molinari, J., J. Frank, and D. Vollaro, 2013: [Convective bursts, downdraft cooling, and boundary layer recovery in a sheared tropical storm](#). *Monthly Weather Review*, **141**, 1048-1060.
- Molinari, J., and D. Vollaro, 2013: [What percentage of western north Pacific tropical cyclones form within the monsoon trough?](#) *Monthly Weather Review*, **141**, 499-505.
- Molinari, J., D.M. Romps, D. Vollaro, and L. Nguyen, 2012: [CAPE in tropical cyclones](#). *Journal of the Atmospheric Sciences*, **69**, 2452-2463.
- Molinari, J. and D. Vollaro, 2012: [A subtropical cyclonic gyre associated with interactions of the MJO and the midlatitude jet](#). *Monthly Weather Review*, **140**, 343-357.
- Molinari, J., and D. Vollaro, 2010: [Rapid intensification of a sheared tropical storm](#). *Monthly Weather Review*, **138**, 3869-3885.
- Molinari, J., and D. Vollaro, 2010: [Distribution of helicity, CAPE, and shear in tropical cyclones](#). *Journal of the Atmospheric Sciences*, **67**, 274-284.
- Molinari, J., and D. Vollaro, 2008: [Extreme helicity and intense convective towers in Hurricane Bonnie](#). *Monthly Weather Review*, **136**, 4355-4372.
- Molinari, J., K. Lombardo, and D. Vollaro, 2007: [Tropical cyclogenesis within an equatorial Rossby wave packet](#). *Journal of the Atmospheric Sciences*, **64**, 1301-1317.
- Molinari, J., P. Dodge, D. Vollaro, K.L. Corbosiero, and F. Marks, Jr., 2006: [Mesoscale aspects of the downshear reformation of a tropical cyclone](#). *Journal of the Atmospheric Sciences*, **63**, 341-354.
- Molinari, J., D. Vollaro, and K.L. Corbosiero, 2004: [Tropical cyclone formation in a sheared environment: A case study](#). *Journal of the Atmospheric Sciences*, **61**, 2493-2509.
- Molinari, J., and D. Vollaro, 2000: [Planetary and synoptic scale influences on eastern Pacific tropical cyclogenesis](#). *Monthly Weather Review*, **128**, 3296-3307.
- Molinari, J., D. Vollaro, S. Skubis, and M. Dickinson, 2000: [Origins and mechanisms of eastern Pacific tropical cyclogenesis: A case study](#). *Monthly Weather Review*, **128**, 125-139.
- Molinari, J., S. Skubis, D. Vollaro, F. Alsheimer, and H. Willoughby, 1998: [Potential vorticity analysis of hurricane intensification](#). *J. Atmos. Sci.*, **55**, 2632-2644.
- Molinari, J., D. Knight, M. Dickinson, D. Vollaro, and S. Skubis, 1997: [Potential vorticity, easterly waves, and tropical cyclogenesis](#). *Monthly Weather Review*, **125**, 2699-2708.
- Molinari, J., S. Skubis, and D. Vollaro, 1995: [External influences on hurricane intensity: Part III. Potential vorticity structure](#). *J. Atmos. Sci.*, **52**, 3593-3606.

Molinari, J., D. Vollaro, and S. Skubis, 1993: [Application of the Eliassen balanced model to real-data tropical cyclones](#). *Monthly Weather Review*, **121**, 2409-2419.

Molinari, J., D. Vollaro, and F. Robasky, 1992: Use of ECMWF operational analyses for studies of the tropical cyclone environment. *Meteorology and Atmospheric Physics*, **47**, 127-144.

Molinari, J., and D. Vollaro, 1990: [External influences on hurricane intensity: Part II. Vertical structure and response of the hurricane vortex](#). *Journal of the Atmospheric Sciences*, **47**, 1902-1918.

Molinari, J., and D. Vollaro, 1989: [External influences on hurricane intensity: Part I. Outflow layer eddy angular momentum fluxes](#). *Journal of the Atmospheric Sciences*, **46**, 1093-1105.

## REFERENCES

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**Dr. John Molinari**, Research Professor, Retired.

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