

Chesley McColl

Cooperative Institute for Research in Environmental Sciences

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Chesley.McColl@colorado.edu

Professional Experience

Senior Scientist

CIRES & NOAA ESRL, Physical Sciences Division, Boulder, CO **2016-Present**

- Perform regional climate studies to investigate climate trends and variability
- Uncoupled modeling of very large ensembles utilizing the NCEP Atmospheric Global Model
- Assemble and maintain the International Surface Pressure Databank
- CIRES Gold Medal Award for Scientific Achievement on the 20th Century Reanalysis Version 2c (2017)

Associate Scientist III

CIRES & NOAA ESRL, Physical Sciences Division, Boulder, CO **2009-2015**

- Independently assemble the International Surface Pressure Databank
- Proficient in generating very large ensembles of the NCEP Atmospheric Global Model
- Investigating climate variability in observational datasets and CMIP5 integrations
- Support production of peer-reviewed publications
- Perform and maintain backups for the Physical Science Divisions infrastructure
- CIRES cash award for extraordinary service to the ESRL Physical Sciences Division (2015)

Associate Scientist III

CIRES & NOAA Climate Diagnostic Center, Boulder, CO **1999-2009**

System Administrator, IT Department

- System/Network Administration
- Backup/Disaster Recovery specialist
- Hardware/Software installation, tuning, patching, troubleshooting
- Technical/User support and documentation
- Letter of Acknowledgement for contributions to the NOAA mission (2008)
- Nomination for CIRES award (1999)

Professional Research Assistant

CIRES & NOAA Climate Diagnostic Center, Boulder, CO **1994-1998**

Research using operational and research satellite data to study the global water cycle and studying interactions of the ocean and atmosphere.

- Designed Neural Network models
- Developed Models of the total radiative transfer

- Performed Two-dimensional variation analysis
- Published papers
- Special Recognition for outstanding effort on behalf of the Climate Diagnostic Center (1997)

Team Leader

Jet Propulsion Laboratory, NASA, Pasadena, CA

1989-1994

Leader for TOPEX /Poseidon Precision Orbit Determination and Verification team

Responsible for the management, planning and team operations

- Performed altimeter verification and calibrations
- Developed software and strategies for processing the GPS, laser and DORIS data.

Graduate Research Assistant

University of Colorado, Computational Fluids Department, Boulder, CO

1988-1989

- Numerical simulations

TRW: San Bernardino CA

Concept Design and Evaluation Department,

1986-1988

- Responsible for preliminary design activities
- Determined concept feasibility and design requirements
- Selected concepts for advanced development.

Research Assistant

Laboratory for Atmospheric and Space Physics, Boulder

1983-1985

- Helped develop the calibration scheme for the ultra-violet experiment on the Solar-Mesospheric Explorer.
- Evaluated the safety of and sent commands to the satellite in real time.

Education & Training

University of Colorado, Master of Science, Aerospace Engineering

University of Colorado, Bachelor of Science, Aerospace Engineering

- **IDL Scientific Programming (2013)**
- **Graduate Class in Atmospheric Dynamics (2010)**
- **Red Hat Networking and Security Admin, 2009**
- **GIAC Certified – Security Essentials, 2008**
- **Red Hat Rapid Track 300, 2004**
- **GIAC Certified – Security Essentials, 2004**
- **Cisco Administration, 1999**
- **Solaris Administration, 1998**

Refereed Publications

Cram, T.A., [G. P. Compo](#), X. Yin, R. J. Allan, C. McColl, R. S. Vose, [J.S. Whitaker](#), N. Matsui, L. Ashcroft, R. Auchmann, P. Bessemoulin, T. Brandsma, P. Brohan, M. Brunet, J. Comeaux, R. Crouthamel, B. E. Gleason, Jr., P. Y. Groisman, H. Hersbach, P. D. Jones, T. Jonsson, S. Jourdain, G. Kelly, K. R. Knapp, A. Kruger, H. Kubota, G. Lentini, A. Lorrey, N. Lott, S. J. Lubker, J. Luterbacher, G. J. Marshall, M. Maugeri, C. J. Mock, H. Y. Mok, O. Nordli, M. J. Rodwell, T. F. Ross, D. Schuster, L. Srncic, M. A. Valente, Z. Vizi, X. L. Wang, N. Westcott, J. S. Woollen, S. J. Worley, 2015: The International Surface Pressure Databank version 2. *Geoscience Data J.*, 2, 31-46. doi:[10.1002/gdj3.25](https://doi.org/10.1002/gdj3.25).

[Compo, G.P.](#), P.D. Sardeshmukh, [J.S. Whitaker](#), P. Brohan, P.D. Jones, and C. McColl, 2013: [Independent confirmation of global land warming without the use of station temperatures](#). *Geophys. Res. Letters*, 40, 12, 3170-3174, doi:10.1002/grl.50425

Bates, J.; Chesley McColl, K., 1996: Assessing the ocean surface vector wind signal in SSM/I data using neural networks. *Geoscience and Remote Sensing* vol.3, 27-31 May 1996 doi: 10.1109/IGARSS.1996.517861

Christensen, E.J., Haines, B.J., McColl, K.C., Nerem, R.S., (1994), Observations of Geographically Correlated Orbit Errors for TOPEX/POSEIDON Using the Global Positioning System, *J. Geophys. Res.* DOI:10.1029/94GL02191

Technical Skills

Expertise with: statistical processing, trend analysis, global circulation modeling, analyzing large data sets, along with backups and storage of large datasets.

Experience in: preparing poster presentations for conferences and creating plots for journal publications.

Hardware: Apple, PC, Sparc, SAN, NAS

Operating Systems: Linux, Unix, Solaris, Mac OS

Software: IDL, NCL, FORTRAN, C, Perl, Legato backup, MySQL, and Microsoft office products

Networking: DHCP, SMTP, DNS, FTP, SSH, cabling, LANs/WANs, VLAN, VPN

Community Service

- **Volunteer for Boulder Chamber Orchestra 2004-2015**
- **Volunteer for Food Bank, EFAA 2015**
- **Volunteer Boulder Food Rescue 2014-2015**
- **Girl Scout Cookie mom 2008-2010**
- **Board Member of Bixby School 2006-2008**