

## DARREN L. JACKSON

### Cooperative Institute for Research in Environmental Sciences

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## PROFESSIONAL EXPERIENCE

### Senior Associate Scientist and CIRES Lead of Hydrometeorology Observations and Processes Team

2015

*CIRES & NOAA Earth System Research Laboratory, Physical Sciences Division, Boulder, CO*

- Develop and validated algorithms of intercalibrated satellite-derived near-surface temperature and specific humidity and extend product time series to 1987-2015 time period.
- Construct climatology of atmospheric rivers (ARs) from satellite and reanalysis data sets and study impact ARs have on extreme precipitation.
- Manage dropsonde funding for NOAA SHOUT field campaign and assist in the field as dropsonde operator and mission scientist.
- Serve as CIRES team lead and supervisor for the Hydrometeorology Observations and Processes Team.

### Senior Associate Scientist

2004-2014

*CIRES & NOAA Earth System Research Laboratory, Physical Sciences Division, Boulder, CO 2005-2014*

- Developed and validated algorithms for satellite-derived near-surface temperature and specific humidity.
- Developed method that using satellite retrievals to derive gas transfer velocity at ocean surface using COARE gas transfer model and developed propagation of errors model to characterize transfer velocity error.
- Managed real-time acquisition of several satellite data sets and archival of those data to digital linear tape library.
- Developed method to remove diurnal and inter-satellite biases from HIRS observations.

*CIRES & NOAA Environmental Technology Laboratory, Boulder, CO 2004-2005*

- Developed multi-instrument retrieval of near-surface temperature and specific humidity using satellite microwave observations
- Examined interannual variations between HIRS upper tropospheric water vapor radiances with those derived from GFDL climate model simulations and reanalysis products.
- Developed optimal interpolation method for blending SST observations derived from infrared and microwave satellite observations.

### Associate Scientist III

*CIRES & NOAA Environmental Technology Laboratory, Boulder, CO*

1999-2004

- Developed code to limb correct, cloud-clear, and retrieve cloud parameters using 23 years of TOVS/ATOVS 1b data
- Developed upper tropospheric humidity (UTH) retrieval, processed 20 years of UTH data, and performed trend analysis and significance testing on UTH data.

### Professional Research Assistant

*CIRES & NOAA Climate Diagnostic Center, Boulder, CO*

1994-1999

- Processed and analyzed the NESDIS HIRS Operational sounding clear column radiance data.
- Performed intercomparison of upper tropospheric humidity from TOVS, SSM/I, SAGE, and radiosonde data and compared these observed data to climate model simulations

### Graduate Research Assistant

*Colorado State University, Fort Collins, CO*

1989-1994

- Analyzed temporal and spatial variability of four years of precipitable water from SSM/I.

## EDUCATION

Colorado State University, Master of Science, Atmospheric Science, GPA 3.9/4.0

1989 – 1992

Iowa State University, Bachelor of Science, Meteorology, GPA 3.7/4.0, Graduated with Distinction and Honors

1985 – 1989

## TECHNICAL SKILLS

- Expertise using UNIX, Linux, and Microsoft OS
- Extensive experience with IDL, FORTRAN, C, Bourne, Bash, Perl
- Expertise analyzing large data sets such as satellite and reanalysis data
- Expertise using radiative transfer codes and working forward models with satellite data
- Expertise with statistical processing, characterizing error, and trend analysis

- Proficiency with Microsoft Office products
- Experience in writing journal articles and preparing oral and poster presentations for conferences

PROFESSIONAL MEMBERSHIPS

- American Meteorological Society** 2015 – 1986  
Attend various scientific conferences and served as reviewer for various journals
- American Geophysical Union** 2015 – 1999  
Attend various scientific conferences and served as reviewer for various journals

PROFESSIONAL SERVICE

- CIRES Member’s Council*  
**Representative** 2008 – 2005  
Attended meetings discussing the interests of CIRES members and providing a conduit between CIRES members and CIRES administration.
- CIRES Awards Committee** 2007 – 2006  
Serve on committee that conducted the advertisement, evaluated nominations, and selected winners of the CIRES science and service awards. Served as Chairperson in 2007.
- Executive/Fellows Meeting Representative** 2008  
Attended CIRES Executive and Fellows’ Meetings as representative of the CIRES Members’ Council. Reported to CMC the topics of the these meetings and brought forward to the meetings CIRES membership issues
- Reviewer for Professional Journals** 2015-2000  
Served as reviewer for Journal of Geophysical Research, Geophysical Research Letters, Journal of Oceanography, Journal of Climate, Journal of Applied Remote Sensing, Journal of Atmospheric and Oceanic Technology

COMMUNITY SERVICE

- Conducted water cycle presentations at Prospect Ridge Academy, Broomfield, CO 2015 – 2012
- Served as Boy Scout Committee Member for Troop 69 in Louisville, Colorado 2015 – 2010
- Board Member of Commerce Children’s Center (Secretary and President), Boulder, CO 2009 - 2008
- Conducted weather presentations at Peak to Peak Charter School, Lafayette, CO 2006 - 2002
- Cub Scout Den Leader, Treasurer, and Committee Member for Pack 63, Louisville, CO 2008 - 2003