# James Patrick Fowler

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## EDUCATION

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| Millersville University, Millersville, PA | University of Arizona, Tucson, AZ |
| **Bachelor of Science in Meteorology** | **Master of Science in Atmospheric Sciences** |
| Graduated: May 9th, 2015 | Graduated: May 12th, 2017 |
| GPA: 3.43/4.0 | GPA: 3.89/4.0 |
| Major GPA: 3.56/4.0 | Thesis: *Influence of Storm–Storm and Storm–Environment* |
| Minor: Mathematics | *Interactions on Tropical Cyclone Formation and Evolution* |
| | Advisor: Dr. Thomas Galarneau Jr. |

## PROFESSIONAL EXPERIENCE

**Meteorologist Intern at the National Weather Service:** Grand Junction, Colorado

*Series*: 1340     *Pay Scale*: GS     *Grade*: 7 Step 1

September 2017 – Current. (40 hours per week)

*Routine Duties:*
- Observed and interpreted surface observations, GOES-16 satellite data, and model data to assist forecasters in developing weather products.
- Became proficient in launching radiosondes within a month of being on-station.
- Conducted over the phone and on camera weather briefings and media interviews. The first on camera interview was about a radiosonde I launched during record breaking high winds.
- Wrote Terminal Aerodrome Forecasts (TAFs) for 11 airports across the Grand Junction CWA using AvnFPS and Digital Aviation Services and completed backup operations for Salt Lake City CWA's TAF sites.
- Monitored and completed quality control tests to 81 river gauges throughout eastern Utah and western Colorado.
- Issued severe Special Weather Statements (SPSs), Flash Flood Warnings, Severe Thunderstorm Warnings, and regular statements through WarnGen.
- Written Area Forecast Discussions (AFDs), and a weather synopsis product to be transmitted over weather radios.
- I have issued wildfire Spot forecasts to be used by Incident Meteorologists, fire departments, US Forest Service, and Bureau of Land Management officials. Some of the wildfires that I have provided these forecasts for include the 416 Fire (the sixth largest wildfire in Colorado history), Lake Christine Fire, Bull Draw Fire, Bear Trap Fire, and many other smaller incidents.
- Became proficient in the use of D2D and the use and manipulation of GFE to create gridded forecasts.
- Performed office verification for advisories and warnings.
- Trained student volunteers on operations of an NWS office and how to become proficient with some intern duties.

*Decision Support Services:*
- Briefed six local emergency managers at annual fire weather meeting about the extreme fire weather potential that the 2018 season had. The emergency managers thanked me for in-depth briefing and highlighting their main concerns.
- Supported emergency managers and incident meteorologists during high impact winter storms, flash flooding events, a rare western Colorado tornado event, and one of the most active fire weather seasons in Colorado's history. During these events, I was at the forefront of taking calls from the public, emergency managers, and other officials while making sure their concerns or questions were handled in a timely manner. Sometimes there would be multiple types of high impact weather events occurring at the same time which strengthened my ability to multitask during stressful events.

- Helped facilitate the first ever Integrated Warning Team (IWT) workshop between the Grand Junction WFO, the National Severe Storms Lab, and local core partners on current and experimental lightning products.

*El Nino Southern Oscillation (ENSO) Focal Point*
- Completed studies to see how the phase of ENSO affected temperature and precipitation across western Colorado and eastern Utah. I also constructed an "ENSO Frequently Asked Questions" webpage to be used by fellow forecasters in preparation for interviews.
- Presented a Winter Outlook and ENSO Overview at a conference with over 500 attendees that included avalanche scientists, ski patrol, Department of Transportation employees, and other NWS meteorologists. This talk was highly anticipated in the ski community due a prolonged drought that impacted the 2017-18 winter ski season.

*Social Media Focal Point*
- Maintained the office's social media presence by providing daily posts and engagement with the public and our partners.
- Created new social media templates for the daily Weather Story and holiday posts to be used by other forecasters. These revamped posts helped lead to an increase of thousands of followers over a three month period.
- Set up photo contests on our social media pages that people in our CWA could participate in. This led to increased interaction between our office and the public, while also increasing our repository of pictures to be used in future posts.
- Filmed climate summaries and seasonal outlooks that were posted to Facebook and YouTube which garnered thousands of views.

*RiverPro Focal Point*
- Maintained the Regional Temperature and Precipitation (RTP) product by adding new COOP sites, eliminating old COOP sites, and fixing the template whenever there was an issue.

*Blue Sky Day Focal Point*
- Helped design the local "Blue Sky Day" intranet site, which is a Central Region Weather Ready Nation Roadmap initiative to allow forecasters to complete research, training, or outreach by strengthening relationships and connections with core partners on non-critical weather days.

*Outreach Team*
- As a member of the local Outreach Team, I have participated in five outreach events since September 2017. This includes office tours, outdoor heritage days, and a local safety fair that hosted thousands of children and adults.

*Completed numerous training requirements:*
- New Hire Training
- Upper Air Certification
- Radar and Applications Course (RAC)
- Warning Operations Course (WOC) Core & Severe
- AWIPS 2
- Distance Learning Aviation Course (DLAC) 1 & 2
- Professional Competency Units (PCU) 1 – 3
- Various MetED modules covering topics from Tropical, Severe, and Winter Weather to Numerical Modeling.

## Graduate Assistant for the Department of Hydrology and Atmospheric Sciences:
Tucson, Arizona
August 2015 – May 2017 (20 hours per week)
- Utilized National Centers for Environmental Prediction Climate Forecast System Reanalysis data to examine how tropical cyclones within a train of African Easterly Waves (AEWs) interact with each other and their environment. I focused on tropical cyclones Danielle, Earl, Fiona, and Gaston during the 2010 Atlantic Hurricane season.
- Analyzed GFS and ECMWF ensemble forecasts to see how these models handled the cyclogenesis of these AEWs.
- Presented my research to a panel of professors at the University of Arizona, at a University of Arizona Spanish/English conference named *El Día de Aqua y la Atmosfera* and finally at the *97th Annual AMS Meeting.*
- Graded weekly assignments for three undergraduate classes.
- Held weekly scheduled office hours where undergraduate students could receive assistance in their classes. Students would come to my office to gain a better understanding of class lectures, homework, and lab assignments.

## Millersville University Campus Weather Service Forecaster: Millersville, Pennsylvania
September 2011 – 2015
- Wrote weather forecasts for Millersville University and the surrounding region using surface and upper-air meteorological data.
- Composed a short-term weather discussion about the current weather and weather for the following week that could be understood by a non-scientific audience.
- Recorded a public forecast discussion for the Millersville University Weather Information Center phone line with a text write up discussion for Millersville University's newspaper.
- Released radiosondes to help develop our forecasts and to demonstrate how this is done to both students and the general public.
- Became proficient in translating METAR codes and the use of BUFKIT to forecast winter storms.
- Led forecast shifts as shift leader during my last two years at Millersville which broadened my duties to include holding weather briefings to other students and then leading a group of student-forecasters in their efforts to complete forecasts.

## FIELD PROGRAM EXPERIENCE
## NASA Project: Deriving Information on Surface conditions from Column and Vertically Resolved Observations Relevant to Air Quality (DISCOVER-AQ): Golden, Colorado
July 2014 – August 2014 (30 hours per week)
- Studied air-quality in Colorado and what meteorological influences there were on air-quality.
- Setup, ran, and performed analysis for a SODAR with RASS profiler that recorded atmospheric conditions to support the launched tethersondes that recorded boundary layer atmospheric and chemical observations.
- Launched radiosondes, helmed a tethered balloon, record surface observations, and attended all daily weather and atmospheric chemistry discussions for Golden, CO.

## NSF Project: Ontario Winter Lake-effect System (OWLeS): Geneva, New York
December 2013 – January 2014 (40 hours per week)
- Worked on a project focusing on how topography, wind patterns, and other parameters affect lake-effect systems coming off Lake Ontario.
- Led a team that launched radiosondes into and around intense lake-effect snow bands to not only gather information on the snow bands for research purposes, but also to support the forecast discussions.
- Monitored a SODAR instrumentation to get vertical profiles of the atmosphere downstream of short fetch lake-effect bands coming off Lake Ontario and upstream of Finger Lake bands off Lake Seneca.
- Flew in the research aircraft, the University of Wisconsin King Air, to take airborne measurements of the lake-effect systems.

**Field Site Operator for the National Atmospheric Deposition Program:** Millersville, Pennsylvania
June 2013 – May 2015 (5 hours per week)
- Operated a field site for the NADP at site PA47.
- Collected rainwater samples, collected weekly data, and sent these samples back to headquarters to complete a chemical analysis on these samples.
- Assigned as the assistant site manager during my last year working that added shift management to my duties.

## PROFESSIONAL SERVICE
**Millersville University Chapter of the American Meteorological Society:** Millersville, Pennsylvania
May 2012 – May 2015 (20 hours per week)
- Served as Secretary, Vice President, and President of the local chapter of AMS from sophomore through senior year respectively.
- Led the local chapter, planned events such as our annual banquet and Public Weather Awareness Day and organized public outreach initiatives and activities.
- Presented to local schools and community centers on various aspects of meteorology.

**NCAR Undergraduate Leadership Workshop:** Boulder, Colorado.
June 2014
- I was selected to attend a workshop hosted by NCAR that focused on building leadership abilities and public outreach skills.

**Community Emergency Response Team (CERT) Member**: Millersville, Pennsylvania
September 2011 – 2015
- Completed the FEMA CERT course and passed the readiness test.
- Gained the necessary skills to be able to work within a team and achieve a specific goal.
- Trained to be organized in stressful, disorganized, and dangerous situations.

## AWARDS
**Recommendation for Recognition (WFO Grand Junction, CO),** 2018
- Awarded for making specific accomplishments that moved the office forward in achieving the mission of the protection of lives and property.
- Quotes from the award:
  - "Jimmy has been doing an outstanding job as a member of the Climate Team. He has taken on the role of ENSO expert and basically rebuilt our ENSO products. Very well may be the next rock star intern."
  - "Only a month into his career, Jimmy was an integral part of the operations team that worked the winter season's first snow storm in early October [2017]. His alertness, diligence and extra time at the workplace was key in providing DSS to core partners, including the Eagle County Sheriff's office. Jimmy's demeanor, as noted by the Lead Forecaster, translated into great public service during his first hazardous weather event."

**Galileo Circle Scholar,** 2016-2017
- The Department of Hydrology and Atmospheric Sciences nominated me to be one of a select group of University of Arizona students that best represented the tremendous breadth of research interests within the College of Science.

**WxChallenge First Place Overall for Laramie, WY**, 2015
- Finished as the top forecaster for Laramie, WY ahead of over 2,000 other students, professors, and professionals.

**Dean's List**
- I earned a GPA higher than a 3.5 for 5 semesters while attending Millersville University.

**Paul H. Nichols Scholarship**, 2014 – 2015.
- A scholarship awarded to Junior-year Earth Sciences major who is chosen based on outstanding motivation and academic excellence.

**Blanche-Snyder Scholarship**, 2012 - 2013.
- A scholarship that is awarded to a student recommended by a professor and selected by the president of the University.

## SUPPORTIVE SKILLS:
**Operating systems:** Linux, Windows, and Macintosh
**Microsoft Office Suite:** Word, Excel, PowerPoint, and Exchange
**Software Packages:** AWIPS II, Gempak, BUFKIT, Gr2Analyst, GARP, NMAP2, ENVI, IDV, and ArcGIS
**Programming Languages:** MATLAB, NCL, and Python

## CONFERENCE PRESENTATIONS
"Ensemble-based Analysis of Factors Contributing to the Development of Tropical Cyclones from African Easterly Waves," presented at *El Dia de Aqua y la Atmosfera*, April 1, 2016 Tucson, Arizona.

"Influence of Storm-Environment Interactions on Tropical Cyclone Development from a Train of African Easterly Waves," presented at the *97th AMS Annual Meeting*, January 26, 2017 Seattle, Washington.

"Return of the Ridiculously Resilient Ridge: 2017 – 2018 Winter Review and Upcoming Winter Preview," presented at the *17th Colorado Snow and Avalanche Workshop*, October 5, 2018 Breckenridge, Colorado.

"ENSO Modoki's Impacts on Western Colorado's Winters," presented at the *Avalanche and Winter Weather Coordination Meeting*, November 28, 2018 Grand Junction, Colorado.

## PUBLICATIONS
Fowler, J.P. and T.J. Galarneau, 2017: Influence of Storm–Storm and Storm–Environment Interactions on Tropical Cyclone Formation and Evolution. *Mon. Wea. Rev.,* **145**, 4855 – 4875, https://doi.org/10.1175/MWR-D-17-0131.1