Kacie Nicole Shourd, M.S.

Atmospheric Scientist

Professional Experience

Ms. Shourd is an atmospheric scientist with six years of academic and professional experience. Ms. Shourd's areas of expertise include air quality permitting and compliance, Gaussian and Lagrangian air dispersion modeling, mesoscale weather modeling, Geographic Information Systems (GIS), severe weather and environmental disasters, and operational weather forecasting.

Education

M.S., Atmospheric Science, University of Nevada, Reno, 2017.

B.S., Geography (Professional Meteorology & Climatology), Ball State University, 2015.

Certifications and Relevant Computing Experience

- EPA Method 9 Visible Emissions Certification
- MSHA (Mine Safety and Health Administration) Part 48, New Miner Surface Training
- 3M Respirator Fit Test Certification
- Advanced Research Core Weather Research and Forecasting (WRF-ARW) Model mesoscale modeling and post-processing
- AERMOD (Gaussian plume) and HYSPLIT (Lagrangian particle) air dispersion modeling
- Python Programming Language versions 2.7 and 3.x
- Computation Information Systems Laboratory (CISL) National Center for Atmospheric Research (NCAR) Command Language (NCL)
- ESRI ArcGIS Desktop, 3-D Analyst, Data Reviewer, Network Analyst, Spatial Analyst, Model Builder (Python/ArcGIS Desktop), etc.
- Blue Marble Global Mapper
- Google Earth Pro, Keyhole Markup Language (KML)
- McIDAS IV & Unidata Integrated Data Viewer (IDV)
- NOAA Weather and Climate Toolkit

Professional Affiliations

American Meteorological Society

Weather Modification Association

Select Project Experience

Air Quality

Atmospheric Scientist responsible for preparing Nevada Division of Environmental Protection Title V/Class I and Class II new and revision Air Quality Operating Permit Applications, Mercury Operating Permits to Construct, and various permitting action requests on behalf of facilities. Activities include performing air dispersion modeling, visual emissions observing, developing emissions inventories, providing recommendations on equipment selection and placement (special

focus on meteorological and air quality observing equipment), indoor and outdoor air quality sampling, record keeping and reporting support, compliance support, serving as a regulatory liaison, etc.

Mining Projects:

- Jerritt Canyon Mine, Jerritt Canyon Gold, LLC., Elko, Nevada
- Relief Canyon Mine, Pershing Gold Corporation, Lovelock, Nevada
- Florida Canyon Mine, Rye Patch Mining US Inc., Imlay, Nevada
- Norman D. Sweeney Construction, Various Aggregate Pits, Winnemucca, Nevada
- Joy Engineering, Electric Avenue Aggregate Pit, Sparks, Nevada

Industrial and Manufacturing Projects:

- Aqua Metals, Lead-Acid Battery Recycling Plant, Storey County, Nevada
- Redwood Materials, Inc., Electronic Waste Recycling Plant, Carson City, Nevada
- Safety-Kleen Systems, Inc., Oil Re-Refinery and Recycling Plant, Fallon, Nevada
- Thiessen Team USA, Elko Shotcrete Facility, Elko, Nevada
- Tesla Motors Gigafactory 1, Sparks, Nevada
- KMI Zeolite Inc., Zeolite Processing Facility, Amargosa Valley, Nevada

Forensic Weather Reconstruction

Atmospheric scientist responsible for weather reconstruction for civil and criminal litigations. Activities include archived data retrieval, plotting of data using various coding languages and software packages, mesoscale modeling and modeling support, preparation of Federal Rule 26 reports and state court reports, etc.

Select Cases/Clients:

- UPS (United Parcel Service) Airlines Flight 1354 A300 crash
- 'American Made' Piper Smith Aerostar 600 crash
- 2018 Camp Fire in Northern California & 2017 Northern California Wildfires (CalFire)
- Cirrus Aircraft (numerous cases – crashes and incidents)
- Lordsburg Playa I-10 dust channel event – 2017 multi-car pileup
- 2012 Mid-Atlantic "Super Derecho" severe weather event

Weather Forecasting and Forecasting Support

Atmospheric Scientist/Meteorologist responsible for operational weather monitoring, weather forecasting, and weather forecasting support.

- Meteorological monitoring for Tesla Motors Gigafactory 1, Sparks, Nevada
- 4 years operational weather forecasting for Desert Research Institute weather modification activities at numerous locations in Nevada, California, and Colorado
- Remote weather forecasting support (forecast graphics, data collection, automated METAR/TAF updates) for the world-record breaking Airbus Perlan Mission II in El Calafate, Argentina during the 2018 season
- Severe weather forecasting for Ball State University Storm Chase Team and METC 490/590 Field Observation of Severe Local Storms in numerous locations
- "Game day" weather forecasts for Ball State University Football in Muncie, Indiana