Curriculum Vitae

SEBASTIAN W. HOCH

Research Associate Professor
Atmospheric Sciences
University of Utah
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Education

Diploma in Natural Sciences, ETH Zürich, Switzerland	1999
Doctor of Natural Sciences (Dr. sc. nat.), ETH Zürich, Switzerland	2006

Professional affiliations

Research Associate Professor, Atmospheric Sciences, University of Utah	2020 - present
Research Assistant Professor, Atmospheric Sciences, University of Utah	2009 - 2020
Research Associate, University of Utah	2006 - 2009

Languages

German (fluent), English (fluent), French (basics)

Funded Research Proposals

- FATIMA – Fog and Turbulence Interactions in the Marine Atmosphere, ONR, CoI, 2021-2024
- CFACT – Cold Fog Amongst Complex Terrain, NSF, Senior Personnel (PIs Pu & Pardyjak), 2021-2024
- RUI: Collaborative Research: Network Cluster: Dust in the Critical Zone from the Great Basin to the Rocky Mountains, NSF, Senior Personnel (PI Perry)
- Strömung um einen steilen Berg: Testen von Hypothesen durch Kombination von numerischen Simulationen und Beobachtungen. (Flow past a steep mountain: test of hypotheses by combining numerical simulations and observations), Deutsche Forschungsgemeinschaft (DFG, German Research Foundation), Co-PI and Mercator Fellow, 2020-2023
- Red Butte Canyon Air Mass Exchange and Pollution Transport Study, Utah Department of Air Quality, PI, 2019-2020
- Jordan Narrows Gap Ammonia Transport Study - Meteorological Support and Observations, Utah Department of Air Quality, PI, 2019
- Matterhorn Banner Cloud Preliminary Study, EPFL Switzerland, 2018
- C-FOG, Office of Naval Research. Co-Investigator, 2018-2020.

- Owens Valley Dust Transport Study, Air Sciences / LADWP, PI, 2018
- Cold Air Pool Exchange Processes during the Utah Wintertime Fine Particulate Study, NSF Rapid, PI, Jan-Dec 2017.
- UWFPS - Meteorological Support, Utah Department of Air Quality, PI, 2016-2017
- Study of Wintertime PM2.5 Pollution in the Salt Lake Valley, Utah Department of Air Quality, Co-Investigator, 2015-2016.
- METCRAX-II (Observing and modeling downslope-windstorm-type flow in a small-scale crater induced by larger-scale katabatic winds), NSF, Co-Investigator, 2013-2016.
- Mountain Terrain Atmospheric Modeling and Observations Program (MATERHORN). Office of Naval Research. Co-Investigator, 2011-2016.
- The role of radiative flux divergence in stable boundary layer development. Army Research Office. Co-Investigator, 2007-2010.

Fellowships

- Fellowship for Prospective Researchers, Swiss National Science Foundation SNSF: Radiative effects on cold-air pool formation. 1 Jul. 2006 - 30 Jun. 2007.

Field work experience

- FATIMA – Fog and Turbulence Interactions in the Marine Atmosphere. Sable Island (Canada) Campaign.
- Cold Fog Amongst Complex Terrain. Lidar, ceilometers, flux divergence towers. New balloon-borne gimbal-stabilized radiation measurements,
- Red Butte Canyon Air Mass Exchange and Pollution Transport Study. Doppler wind lidar, ceilometer, optical particle counter, AWS observations.
- Jordan Narrows Gap Ammonia Transport Study - Meteorological Support and Observations, Utah Department of Air Quality. Doppler wind lidar, ceilometer, AWS observations.
- Matterhorn Banner Cloud Preliminary Study (2018). Wind lidar observations of banner clouds. Zermatt and Lausanne, Switzerland.
- C-FOG: Toward Improving Coastal Fog Prediction. Ship- and land-based Doppler wind lidar, ceilometer, surface energy budget, radiative flux divergence, and micro-rain radar observations.
- Owens Valley Dust Transport Study (2018). Doppler wind lidar and ceilometer observations of local dust emissions and dust transport.
- Utah Wintertime Fine Particulate Study, Salt Lake City, UT: December 2016 - March 2017. PI and Research team member. Doppler wind lidar, ceilometer, surface energy budget, upper air soundings.
- Salt Lake Valley PM2.5 Pollution Study, Salt Lake City, UT: December 2015 - March 2016. Research team member. Doppler wind lidar, ceilometer, surface energy budget observations.
- DISCHMEX - Dischma Valley Experiment, Davos, Switzerland: April and October 2015. Research team member. Doppler wind lidar observations.

- SO3S - Great Salt Lake Summer Ozone Study, Utah, USA: 1 Jun. – 21 Aug. 2015. Research team member. Sodar and lidar observations to support observations of O_3 concentration variations.
- MATERHORN-X3-FOG, Utah, USA: 1 Oct. 2012 – 31 Mar. 2015. Research team member. Surface radiation and surface energy balance, lidar, radiosonde, radiative flux divergence observations, planning and deployment.
- Kennecott Mine Experiment, Utah, USA: 15 Dec. 2013 - 1 May 2014. Research team leader. Ceilometer, temperature data logger planning and deployment.
- METCRAX-II Meteor Crater Experiment, Arizona, USA: 30 Sept. - 31 Oct. 2013. Research team member. Lidar, AWS, temperature data logger planning and deployment.
- MATERHORN-X2-Spring, Utah, USA: May 2013. Research team member. Lidar, radiosonde, temperature data logger planning and deployment.
- Kennecott Mine Experiment, Utah, USA: 15 Dec. 2012- 1 May 2013. Research team member. Ceilometer, temperature data logger planning and deployment.
- MATERHORN-X1-Fall, Utah, USA: 15 Sep. 2012 - 20 Oct. 2012. Research team member. Lidar, radiosonde, temperature data logger planning and deployment.
- Kennecott Mine Experiment, Utah, USA: 1 Dec. 2011 - 1 Mar. 2012. Research team member. Lidar, AWS deployment, temperature data logger planning and deployment.
- Persistent Cold Air Pool Study, Utah, USA: 1 Dec. 2010 - 7 Feb. 2011. Research team member. Sodar, AWS deployment, temperature data logger planning and deployment.
- Kennecott Mine Experiment, Utah, USA: 1 Dec. 2010 - 30 Apr. 2011. Research team member. Experiment design, lidar, AWS and temperature data logger deployment.
- Meteor Crater Revisited, Meteor Crater, Arizona, USA: 19 Sep. - 19 Oct. 2009. Research team member. Experiment design, sodar and AWS deployment.
- Meteor Crater Experiment, METCRAX, Arizona, USA: 26 Sep. - 4 Nov. 2006. Research team member. Design and implementation of radiative flux divergence measurements. Maintenance of radiation sensors, tethered balloon soundings.
- Greenland Summit Environmental Observatory, Summit, Greenland: Apr. - Aug. 2002. Research team member. Same activities as during 2001 field season. Responsible for coordination of ETH field program activities with the IGLOS project.
- Greenland Summit Environmental Observatory, Summit, Greenland: Apr. - Jul. 2001. Research team member. Installation and maintenance of scientific equipment on a 50 m meteorological tower. Data acquisition and analysis. Measurements of radiation budget and energy budget components. Maintenance of eddy correlation systems, upper air soundings, and instrument calibrations.
- Greenland Summit Environmental Observatory, Summit, Greenland: Jun. - Jul. 2000. Research team member. Assembly of a 50 m meteorological tower and installation of a radiation monitoring station.

2020: Co-Chair of the 2020 AMS 19th Conference on Mountain Meteorology

Publications

Submitted / In Review:

Singh, D.K., S.W. Hoch, and E.R. Pardyjak: A case study of the life cycle of a stratus-lowering coastal-fog event in Newfoundland, CA. Submitted to the *Quarterly Journal of the Royal Meteorological Society.*

Pu, Z., E. R. Pardyjak, S. W. Hoch, I. Gultepe, A, G. Hallar, A. Perelet, R. Beal, G. Carrillo-Cardenas, X. Li, M. Garcia, S. Oncley, W. Brown, J. Anderson, A. Vakhtin, 2023: Cold Fog Amongst Complex Terrain. Submitted to *Bulletin of the American Meteorological Society*

Kristianti, F., J. Dujardin, F. Gerber, H. Huwald, S.W. Hoch, M. Lehning: Combining Weather Station Data and Short-Term LiDAR Deployment to Estimate Wind Energy Potential with Machine Learning: A Case Study from The Swiss Alp. Submitted to *Boundary-Layer Meteorology.*

Accepted:

Puccioni, M., M. Calaf, E. Pardyjak, S. W. Hoch, T. Morrison, A. Perelet, G. V. Iungo, 2023: Identification of the energy contributions associated with wall-attached eddies and very-large-scale motions in the near-neutral atmospheric surface layer through wind LiDAR measurements. Accepted for publication in *Journal of Fluid Mechanics*

Published:

2022:

Mendoza, D. L., T. M. Benney, R. Bares R, B. Fasoli, C. Anderson, S. A. Gonzale, E. T. Crosman, M. Bayles, R. T. Forrest, J. R. Contreras, S. Hoch, 2022: Air Quality and Behavioral Impacts of Anti-Idling Campaigns in School Drop-Off Zones. *Atmosphere*, 13(5):706. https://doi.org/10.3390/atmos13050706

Mendoza, D. L.,T. M. Benney, R. Bares, B. Fasoli, C. Anderson, S. A. Gonzales, E. T. Crosman, S. Hoch, 2022: Investigation of Indoor and Outdoor Fine Particulate Matter Concentrations in Schools in Salt Lake City, Utah. *Pollutants.* 2022; 2 (1):82-97.

2021:

Dorman, C.E., Hoch, S.W., Gultepe, I., Wang, Q., R. T. Yamagucchi, H. J. S. Fernando, R. Krishnamurthy, 2021: Large-Scale Synoptic Systems and Fog During the C-FOG Field Experiment. *Boundary-Layer Meteorol* **181,** 171–202 (2021). https://doi.org/10.1007/s10546-021-00641-1

Hallar, A. G., Brown, S. S., Crosman, E., Barsanti, K. C., Cappa, C. D., Faloona, I., Fast, J., Holmes, H. A., Horel, J., Lin, J., Middlebrook, A., Mitchell, L., Murphy, J., Womack, C. C., Aneja, V., Baasandorj, M., Bahreini, R., Banta, R., Bray, C., Brewer, A., Caulton, D., de Gouw, J., De Wekker, S. F., Farmer, D. K., Gaston, C. J., Hoch, S., Hopkins, F., Karle, N. N., Kelly, J. T., Kelly, K., Lareau, N., Lu, K., Mauldin, R. L., III, Mallia, D. V., Martin, R., Mendoza, D. L., Oldroyd, H. J., Pichugina, Y., Pratt, K. A., Saide, P. E., Silva, P. J., Simpson, W., Stephens, B. B., Stutz, J., & Sullivan, A., 2021: Coupled Air Quality and

Boundary-Layer Meteorology in Western U.S. Basins during Winter: Design and Rationale for a Comprehensive Study, *Bulletin of the American Meteorological Society*, *102*(10), E2012-E2033, https://doi.org/10.1175/BAMS-D-20-0017.1

Perelet, A. O., I. Gultepe, S. W. Hoch, and E. R. Pardyjak, 2021: Discriminating Fog and Rain at the Kilometre Scale Using the Extinction from Collocated Infrared and Microwave Scintillometers. *Boundary-Layer Meteorol*. https://doi.org/10.1007/s10546-021-00609-1

Gultepe, I,, A.J. Heymsfield, H.J.S Fernando, E. Pardyjak, C. E. Dorman, Q. Wang, E. Creegan, S. W. Hoch, D. D. Flagg, R.Yamaguchi, R. Krishnamurthy, S. Gaberšek, W. Perrie, A. Perelet, D.K. Singh, R. Chang, B. Nagare, S. Wagh, and S. Wang, 2021: Coastal Fog Microphysics during C-FOG. *Boundary-Layer Meteorol.*, 181, 227–265 https://doi.org/10.1007/s10546-021-00659-5

Gultepe, I., Pardyjak, E., Hoch, S.W., H. J. S. Fernando, C. Dorman, D. D> Flagg, R. Krishnamurthy, Q. Wang, S. Gaberšek, E. Creegan, N. Scantland, S. Desjardins, A. Heidinger, M. Pavolonis & A. J. Heymsfield, 2021: Coastal-Fog Microphysics Using In-Situ Observations and GOES-R Retrievals. *Boundary-Layer Meteorol* **181,** 203–226 (2021). https://doi.org/10.1007/s10546-021-00622-4

Fernando, H. J. S., Gultepe, I., Dorman, C., Pardyjak, E., Wang, Q., Hoch, S. W., Richter, D., Creegan, E., Gaberšek, S., Bullock, T., Hocut, C., Chang, R., Alappattu, D., Dimitrova, R., Flagg, D., Grachev, A., Krishnamurthy, R., Singh, D. K., Lozovatsky, I., Nagare, B., Sharma, A., Wagh, S., Wainwright, C., Wroblewski, M., Yamaguchi, R., Bardoel, S., Coppersmith, R. S., Chisholm, N., Gonzalez, E., Gunawardena, N., Hyde, O., Morrison, T., Olson, A., Perelet, A., Perrie, W., Wang, S., & Wauer, B., 2021. C-FOG: Life of Coastal Fog, *Bulletin of the American Meteorological Society*, *102*(2), E244-E272. https://doi.org/10.1175/BAMS-D-19-0070.1

Connolly, A., F.K. Chow, and S.W. Hoch, 2021: Nested Large-Eddy Simulations of the Displacement of a Cold-Air Pool by Lee Vortices. Boundary-Layer Meteorol 178, 91–118 . https://doi.org/10.1007/s10546-020-00561-6

2020:

Stiperski, I., A. A. M. Holtslag, M. Lehner, S. W. Hoch, and C. D. Whiteman, 2020: On the turbulence structure of deep katabatic flows on a gentle mesoscale slope. Quart. J. Roy. Meteor. Soc., 146: 1206– 1231. https://doi.org/10.1002/qj.3734

2019:

Lehner, M., C. D. Whiteman, S. W. Hoch, B. Adler, N. Kalthoff, 2019: Flow separation in the lee of a crater rim. Boundary-Layer Meteorol., 173, 263–287, https://doi.org/10.1007/s10546-019-00466-z

2018:

Whiteman, C. D., M. Lehner, S. W. Hoch, B. Adler, N. Kalthoff, and T. Haiden, 2018: Katabatically driven cold air intrusions into a basin atmosphere. *J. Appl. Meteor. Climatol.*, **57** (2), 435-455.

Nadeau, D. F., H. J. Oldroyd, E. R. Pardyjak, N. Sommer, S. W. Hoch, and M. B. Parlange, 2018: Field observations of the morning transition over a steep slope in a narrow alpine valley. *Environ. Fluid Mech., https://doi.org/10.1007/s10652-018-9582-z*

Lin, J.C., L. Mitchell, E. Crosman, D.L. Mendoza, M. Buchert, R. Bares, B. Fasoli, D.R. Bowling, D. Pataki, D. Catharine, C. Strong, K.R. Gurney, R. Patarasuk, M. Baasandorj, A. Jacques, S. Hoch, J. Horel, and J. Ehleringer, 2018: CO2 and Carbon Emissions from Cities: Linkages to Air Quality, Socioeconomic Activity, and Stakeholders in the Salt Lake City Urban Area. *Bull. Amer. Meteor. Soc.*, **99**, 2325–2339, https://doi.org/10.1175/BAMS-D-17-0037.1

Franchin, A., D. L. Fibiger, L. Goldberger, E. E. McDuffie, A. Moravek, C. C. Womack, E. T. Crosman, K. S. Docherty, W. P. Dube, S. W. Hoch, B. H. Lee, R. Long, J. G. Murphy, J. A. Thornton, S. S. Brown, M. Baasandorj, A. M. Middlebrook, 2018: Airborne and ground-based observations of ammonium-nitrate-dominated aerosols in a shallow boundary layer during intense winter pollution episodes in northern Utah. *Atmospheric Chemistry and Physics*, **18**, 23, 17259-17276, doi: 10.5194/acp-18-17259-2018

Whiteman, C. D., M. Lehner, S. W. Hoch, B. Adler, N. Kalthoff, R. Vogt, I. Feigenwinter, and M. O. G. Hills, 2018: The nocturnal evolution of atmospheric structure in a basin as a larger-scale katabatic flow is lifted over its rim. *J. Appl. Meteor. Climatol.,* 57, 969-989.

Bares, R., J. C. Lin, S. W. Hoch, M. Baasandorj, D. L. Mendoza, B. Fasoli, L. Mitchell, D. Catharine, B. B. Stephens, 2018: The wintertime co-variation of CO2 and criteria pollutants in an urban valley of the Western U.S, *JGR Atmospheres. 123(5), 2684-2703. DOI: 10.1002/2017JD027917*

2017:

Baasandorj, M., S. W. Hoch, R. Bares, J. C. Lin, S. S. Brown, D. B. Millet, R. Martin, K. Kelly, K. J. Zarzana, C. D. Whiteman, W. P. Dube, G. Tonnesen, I. C. Jaramillo, and J. Sohl, 2017: Coupling between Chemical and Meteorological Processes under Persistent Cold-Air Pool Conditions: Evolution of Wintertime PM2.5 Pollution Events and N2O5 Observations in Utah's Salt Lake Valley. *ES&T*, 51 (11), 5941-5950, DOI: 10.1021/acs.est.6b06603

Gerber, F., M. Lehning, S. W. Hoch, and R. Mott, 2017: A close-ridge small-scale atmospheric flow field and its influence on snow accumulation, J. Geophys. Res. Atmos., 122, 7737–7754, doi:10.1002/2016JD026258.

Jeglum, M. E., S.W. Hoch, D. D. Jensen, R. Dimitrova, and Z. Silver, 2017: Large Temperature Fluctuations due to Cold-Air Pool Displacement along the Lee Slope of a Desert Mountain. *J. Appl. Meteor. Climatol.,* **56**, 1083–1098, https://doi.org/10.1175/JAMC-D-16-0202.1

Jensen, D. D., Nadeau, D. F., Hoch, S. W. and Pardyjak, E. R., 2017: The evolution and sensitivity of katabatic flow dynamics to external influences through the evening transition. *Q.J.R. Meteorol. Soc.* 143: 423–438. doi:10.1002/qj.2932

Massey, J. D., W. J. Steenburgh, S. W. Hoch, and D. D. Jensen, 2017: Simulated and Observed Surface Energy Balance Contrasts and Resulting Playa Breezes during the MATERHORN Field Campaigns. *J. Appl. Meteor. Climatol.,* 56, 915–935, https://doi.org/10.1175/JAMC-D-16-0161.1

2016:

Lehner, M., C. D. Whiteman, S. W. Hoch, E. T. Crosman, M. E. Jeglum, N. W. Cherukuru, R. Calhoun, B. Adler, N. Kalthoff, R. Rotunno, T. W. Horst, S. Semmer, W. O. J. Brown, S. P. Oncley, R. Vogt, A. M. Grudzielanek, J. Cermak, N. J. Fonteyne, C. Bernhofer, A. Pitacco, P. Klein, 2016: The METCRAX II field experiment. A study of downslope windstorm-type flows in Arizona's Meteor Crater. *Bull. Amer. Meteor. Soc.,* **97**, 2, 217-235. doi: 10.1175/BAMS-D-14-00238.1

Arthur, R. S., Lundquist, K. A., Mirocha, J. D., Hoch, S. W., & Chow, F. K. 7.6 High-resolution simulations of downslope flows over complex terrain using WRF-IBM. *17th Conference on Mountain Meteorology*, American Meteorological Society, 18 pages.

Jeglum, M. E. and S. W. Hoch, 2016: Multiscale Characteristics of Surface Winds in an Area of Complex Terrain in Northwest Utah. *J. Appl. Meteor. Climatol.,* 55, 1549-1563, doi: 10.1175/JAMC-D-15-0313.1.

Pu, Z, C. N. Chachere, S. W. Hoch, E. Pardyjak and I. Gultepe, 2016: Numerical Prediction of Cold Season Fog Events Over Complex Terrain: The Performance of the WRF Model During MATERHORN-Fog and Early Evaluation, *Pure and Applied Geophysics*, pp 1-22, doi:10.1007/s00024-016-1375-z

Gultepe, I., Fernando, H.J.S., Pardyjak, E., Hoch, S.W., Silver, Z., Creegan, E., Leo, L.S., Pu, Z., de Wekker, S., Hang, C., 2016: An Overview of the MATERHORN Fog Project: Observations and Predictability. *Pure Appl. Geophys.* 173: 2983–3010. doi:10.1007/s00024-016-1374-0

Hang, C., Nadeau, D.F., Gultepe, I., Hoch, S.W., Roman-Cascon, C, Pryor, K., Fernando, H.J.S., Creegan, E., Leo, L., Silver, Z. and Pardyjak, E., 2016: A Case Study of the Mechanisms Modulating the Evolution of Valley Fog. *Pure Appl. Geophys.,* 173: 3011. doi:10.1007/s00024-016-1370-4

Wang, Y., E. Creegan, M. Felton, G. Huynh, C. Hocut, H. J. S. Fernando, S. W. Hoch and C. D. Whiteman, 2015: Triple Doppler wind lidar observations during the MATERHORN field project. J. Appl. Remote Sensing*10 (2), 026015, 2016. doi: 10.1117/1.JRS.10.026015.*

2015:

Fernando, H. J. S., and co-authors, 2015: The MATERHORN – Unraveling the intricacies of mountain weather. *Bull. Amer. Meteor. Soc.,* 96, 11, 1945-1967, doi: 10.1175/BAMS-D-13-00131.1.

Jensen, D., D. F. Nadeau, S. W. Hoch, E. R. Pardyjak, 2015: Observations of Near-Surface Heat-Flux and Temperature Profiles Through the Early Evening Transition over Contrasting Surfaces. *Boundary Layer Meteorol.,* 1-21.

Hang, C., D. F. Nadeau, D. D. Jensen, S. W. Hoch, E. R. Pardyjak, 2015: Playa Soil Moisture and Evaporation Dynamics During the MATERHORN Field Program. *Boundary Layer Meteorol.,* 1-18.

Cherukuru, N., R. Calhoun, M. Lehner, S. W. Hoch, and C. D. Whiteman, 2015: Instrument configuration for dual Doppler lidar co-planar scans. *J. Appl. Remote Sensing*, **9**, 1, 096090

Lehner, M., C. D. Whiteman, S. W. Hoch, D. Jensen, E. R. Pardyjak, L. S. Leo, S. Di Sabatino, and H. J. S. Fernando, 2015: A case study of the nocturnal boundary-layer evolution on a slope at the foot of a desert mountain. *J. Appl. Meteor. Climatol.,* **54**, 732-751.

Blay-Carreras, E., E. R. Pardyjak, D. Pino, S. W. Hoch, J. Cuxart, D. Martínez, and J. Reuder, 2015: Lifted Temperature Minimum During the Atmospheric Evening Transition. *Atmos. Chem. Phys.,* **15***,* 6981–6991.

2014:

Whiteman, C. D. and S. W. Hoch, 2014: Pseudo-vertical temperature profiles in a broad valley from lines of temperature sensors on sidewalls. *J. Appl. Meteor. Climatol.*, **53**, 2430–2437.

Hall, S. J., G. Maurer, S. W. Hoch, R. Taylor, D. R. Bowling, 2014: Impacts of anthropogenic emissions and cold air pools on urban to montane gradients of snowpack ion concentrations in the Wasatch Mountains, Utah. *Atmos. Environ.*, **98**, 231-241

Whiteman, C. D., S. W. Hoch, J. D. Horel, A. Charland, 2014: Relationship between particulate air pollution and meteorological variables in Utah's Salt Lake Valley. *Atmos. Environ*., **94**, 742-753.

Massey, J. D., W. J. Steenburgh, S W. Hoch, and J. C. Knievel, 2014: Sensitivity of Near-Surface Temperature Forecasts to Soil Properties over a Sparsely Vegetated Dryland Region. *J. Appl. Meteor. Climatol*., **53**, 1976-1995.

2013:

Martinez-Villagrassa, D., M. Lehner, C. D. Whiteman, S. W. Hoch, and J. C. Cuxart-Rodamilans, 2013: The upslope-downslope flow transition on a basin sidewall. *J. Appl. Meteor. Climatol*., **52** (12), 2715-2734.

Chrust, M. F., C. D. Whiteman and S. W. Hoch, 2013: Observations of thermally driven wind jets at the exit of Weber Canyon, Utah. *J. Appl. Meteor. Climatol.*, **52**, 1187-1200.

Lareau, N., E. Crosman, C. D. Whiteman, J. D. Horel, S. W. Hoch, W. O. J. Brown, and T. W. Horst, 2013: The Persistent Cold-Air Pool Study. *Bull. Amer. Meteor Soc.*, **94**, 51-63.

2012:

Adler, B., C. D. Whiteman, S. W. Hoch, M. Lehner, and N. Kalthoff, 2012: Warm-Air Intrusions in Arizona's Meteor Crater. *J. Appl. Meteor. Climatol.*, **51**, 1010-1025.

2011:

Hoch, S. W., C. D. Whiteman, and B. Mayer, 2011: A systematic study of radiative heating and cooling within valleys and basins using a three-dimensional radiative transfer model. *J. Appl. Meteor. Climatol.*, **50**, 2473-2489.

Lehner, M., C. D. Whiteman, and S. W. Hoch, 2011: Diurnal cycle of thermally driven cross-basin winds in Arizona's Meteor Crater. *J. Appl. Meteor. Climatol.*, **50**, 729-744.

Haiden, T., C. D. Whiteman, S. W. Hoch, and M. Lehner, 2011: Nocturnal cold air intrusions into Arizona's Meteor Crater: Simulations. *J. Appl. Meteor. Climatol.* **50**, 933-943.

2010:

Mayer, B., S. W. Hoch, and C. D. Whiteman, 2010: Validating the MYSTIC three-dimensional radiative transfer model with observations from the complex topography of Arizona's Meteor Crater. *Atmos. Chem. Phys.*, **10**, 8685-8696. doi:10.5194/acp-10-8685-2010.

Whiteman, C. D., S. W. Hoch, M. Lehner, and T. Haiden, 2010: Nocturnal cold air intrusions into Arizona's Meteor Crater: Observational evidence and conceptual model. J. Appl. Meteor. Climatol. *J. Appl. Meteor. Climatol.*, **49**, 1894-1905. DOI: 10.1175/2010JAMC2470.1

Hoch, S. W., and C. D. Whiteman, 2010: Topographic effects on the surface radiation balance in and around Arizona's Meteor Crater. *J. Appl. Meteor. Climatol.* **49**, 1114–1128.

2009:

Whiteman, C. D., S. Hoch, and G. Poulos, 2009: Evening temperature rises on valley floors and slopes: Their causes and their relationship to the thermally driven wind systems. *J. Appl. Meteor. Climatol.*, **48**, 776-788.

2008:

Whiteman, C. D., A. Muschinski, S. Zhong, D. Fritts, S. W. Hoch, M. Hahnenberger, W. Yao, V. Hohreiter, M. Behn, Y. Cheon, C. B. Clements, T. W. Horst, W. O. J. Brown, and S. P. Oncley, 2008: METCRAX 2006 – Meteorological experiments in Arizona's Meteor Crater. *Bull. Amer. Meteor. Soc*., **89**, 1665-1680.

2007:

Hoch, S. W., P. Calanca, R. Philipona and A. Ohmura, 2007: Year-round Observations of Longwave Radiative Flux Divergence in Greenland, 2007. *J. Appl. Meteor. Climatol.*, **46**, 9, 1469-1479, DOI: 10.1175/JAM2542.1

2006:

Stohl, A., E. Andrews, J. F. Burkhart, C. Forster, A. Herber, S. W. Hoch, D. Kowal, C. Lunder, T. Mefford, J. A. Ogren, S. Sharma, N. Spichtinger, K. Stebel, R Stone, J. Ström, K. Tørseth, C. Wehrli, K. E. Yttri, 2006: Pan-Arctic enhancements of light absorbing aerosol concentrations due to North American boreal forest fires during summer. *J. Geophys. Res.,* **111**, D22214, doi:10.1029/2006JD007216

Dissertation / PhD thesis

Hoch, S. W., 2006: Radiative flux divergence in the surface boundary layer. A study based on observations at Summit, Greenland. ETH Dissertation 16194. Available at: https://www.research-collection.ethz.ch/handle/20.500.11850/149174

PhD advisor: Prof. Atsumu Ohmura

Teaching / Didactic Experience

- Mountain Weather and Climate (Atmos 3200). Full semester course. University of Utah, Spring Semesters 2014, 2016, 2018, 2019, 2020.

- KMA/CMA/COMET Olympic Forecaster Training Course. Lectures on thermally driven and terrain forced flows. 2014, 2015, 2016, 2018, 2019.
- Teaching lectures and laboratory courses on radiation measurements and sodar. Instrumentation Class (Atmos 5910), University of Utah, Spring 2010.
- Teaching a lecture on clouds and fog, Mountain Meteorology Class (Atmos 3000), University of Utah, Fall 2007
- Teaching during the 5-day Climatological and Hydrological Field Course, Department of Earth Science, ETH Zurich, Rietholzbach catchment, Gähwil, Switzerland: Summer Semester 2004
- Teaching during the 5-day Climatological and Hydrological Field Course, Department of Earth Science, ETH Zurich, Fideriser Heuberge, Fideris, Switzerland: Winter Semester 99/00

Graduate Students

Matthew Jeglum, PhD candidate, University of Utah

Internships

NOAA Climate Monitoring and Diagnostics Laboratory (CMDL), Boulder, Colorado, USA. Aug. - Sep. 1997. *Supervised by Dr. E. G. Dutton*.

Awards

Willi Studer Award: best final diploma exams, Department of Earth Science, ETH Zürich, 1999.

Professional Services and Activities

- Member of the AMS Mountain Meteorology Committee (2015 - present)
- Journal article reviewer for AMS Journals, International Journal of Remote Sensing, International Journal of Climatology, Water Resources Research, Atmospheric Chemistry and Physics, etc.
- COMET/ KMA & CMA workshop participation (2014, 2015, 2016, 2018, 2019)

Programming and computational environments

- IDL (main software for data analysis and visualization, similar to MATLAB)
- Fortran
- Unix/Linux, MacOSX, and MS-Windows environments

Invited Talks

Hoch, S. W., 2018: Persistent Wintertime Cold-Air Pools and Particulate Air Pollution in Topographic Basins of Northern Utah. Environmental Engineering Seminar Series – EESS, EPFL, 2 Oct 2018, Lausanne, Switzerland

Hoch, S. W., and Coauthors, 2012: Atmospheric phenomena in an impact crater and a deep open pit mine - An overview over selected research activities of the Mountain Meteorology

Group at the University of Utah. Visit to EPFL Lausanne, 23 Feb. 2012, Lausanne, Switzerland.

Hoch, S. W., 2009: Radiative flux divergence in the surface boundary layer from observational and model perspectives. 9th European Conference on Applied Climatology, 9th Annual Meeting of the European Meteorological Society, 28 Sep. - 2. Oct. 2009, Toulouse, France.

Hoch, S. W., 2006. The ETH Greenland Summit Experiment and observations of cooling and heating due to Longwave Radiative Flux Divergence in the Arctic atmospheric surface layer. Graduate Seminar, Department of Meteorology, University of Utah, Salt Lake City, Utah, 8. Nov. 2006

Conference and other scientific presentations

2022:

Gultepe, I., H. J.S. Fernando, E. Pardyjak, C. Dorman, Q. Wang, S. W. Hoch, S. Gabersek, E. Creegan, L. Lenain, M. W. Gallagher, I. Crawford, 2022: Marine fog microphysics and associated weather systems during Fatima Campaign, AGU 2022 Fall Meeting 12-16 Dec. 2022.

Hoch, S. W., E. R. Pardyjak, A. Perelet, S. P. Oncley, and E. D. Creegan, 2022: Balloon-borne Observation of Radiative Heating and Cooling in an Alpine Valley Basin during Clear Sky and Fog Conditions. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.

Pu, Z., E. R. Pardyjak, S. W. Hoch, A. G. Hallar, I. Gultepe, J. Anderson, W. O. J. Brown, and S. Oncley, 2022: Cold Fog Amongst Complex Terrain (CFACT): The Project and Science Overview. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.

Hoch, S. W., 2022: PM2.5 and Ozone Transport through a Salt Lake Basin Tributary Canyon. Science for Solutions Conference, Provo, Utah, 7 April 2022.

Beal, R., J. Stoddard, Z. Pu, I. Gultepe, D. Church, D. Van Cleave, S. W. Hoch, E. R. Pardyjak, M. DeMaria, and J. Anderson, 2022: Prediction of Fog over Complex Terrain: Lessons Learned from the CFACT Field Program. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.

Carrillo-Cardenas, G., S. W. Hoch, A. G. Hallar, E. R. Pardyjak, and Z. Pu, 2022: Elucidating New Particle Formation in Complex Terrain During the Winter 2022 CFACT Campaign. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.

Pardyjak, E. R., S. W. Hoch, A. G. Hallar, Z. Pu, I. Gultepe, A. Perelet, M. A. G. Garcia, A. Miller, B. Baterdene, R. Beal, G. Carrillo-Cardenas, G. Liu, H. Scott, J. Stoddard, M. Ostlie, M. Worthen, P. Kneller, P. M. Gombert V, S. Wolvin, Z. Claerhout, T. Morrison, Z. Ruble, B. Silberman, and A. Yousuf, 2022: Overview of the CFACT field campaign. 20th Conference on Mountain Meteorology, Park City, Utah, 27 June - 1 July, 2022.

Creegan, E. D and S. W. Hoch, 2022: Balloon-borne Light-Weight Stabilizing Sensor Platform for Up- and Downfacing Hemispheric Radiative Flux Measurements. 102nd American Meteorological Society Annual Meeting, Houston, TX, 23–27 Jan. 2022

Pu, Z, E. R. Pardyjak, I. Gultepe, S. W. Hoch, A. G. Hallar, J. Anderson, W. O. J. Brown, and S. Oncley, 2022: Cold Fog Amongst Complex Terrain (CFACT): A Field Campaign and Science on Cold Fog Observations, Data Assimilation, and Predictability. 102nd American Meteorological Society Annual Meeting, Houston, TX, 23–27 Jan. 2022

2021:

Hahnenberger, M., T. W. Roberts, S. C. Schmidt and S. W Hoch, 2021: Near to Far: Analysis of Dust Transport Across Spatial Scales in the Great Basin, USA. AGU 2021 Fall Meeting, New Orleans, LA, 13-17 Dec. 2021

Pu, Z, E. R. Pardyjak, I. Gultepe, S. W. Hoch, A. G. Hallar, J. Anderson, 2021: Cold Fog Amongst Complex Terrain (CFACT): A Field Campaign and Science on Cold Fog, Low-Level Clouds, and Aerosols. AGU 2021 Fall Meeting, New Orleans, LA, 13-17 Dec. 2021

2020:

Wagh, S. D. , S. Wang R. Krishnamurthy, Fernando, I. Gultepe, S. W. Hoch, 2020: Boundary Layer and Microphysical Characteristics of Marine Fog- Mist Transitions. AGU 2020 Fall Meeting 1-17 Dec. 2020.

Fernando H. J. S., I. Gultepe, C. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S. W. Hoch, S. Gabersek, T. Bullock, R. Chang, W. Perrie, 2020: The C-FOG Project: Salient Outcomes. AGU 2020 Fall Meeting 1-17 Dec. 2020.

Perelet, A. O., I. Gultepe, S. W. Hoch and E. Pardyjak, 2020: Using Large-Aperture Scintillometry to Observe Path Integrated Fog Intensity During the C-FOG Campaign. AGU 2020 Fall Meeting 1-17 Dec. 2020.

Dorman, C., I. Gultepe, S. W. Hoch, 2020: Synoptic Scale and Fog Occurrence along Atlantic Canada in September 2018. Canadian Meteorological and Oceanographical Society meeting in Ottawa, 24-28 May 2020.

Iungo, G. V., M. Puccioni, S. W. Hoch, M. Calaf, S. Drake S., C. Higgins, M. Hultmark, E. Pardyjak, 2020: LiDAR Measurements of the Turbulent/Non-Turbulent Interface in the Atmospheric Surface Layer. BLT….

Hoch, S. W., E. T. Crosman, R. S Martin, 2020: Results from the Jordan Narrows Gap Ammonia Transport Study: Inter-basin Airmass and Pollutant Exchange Estimates using Doppler Wind LiDAR. Science for Solutions, Provo, UT

Morrison T. et al., 2020: An atmospheric surface layer study: The Idealized horizontal Planar Array experiment for Quantifying Surface Heterogeneity (IPAQS). EGU General Assembly 2020, EGU2020-12081, 3-8 May 2020, Vienna, Austria

Fernando, H. J. S., I. Gultepe, C. E. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S. W. Hoch, S. Gabersek, T. Bullock, and R. Chang, 2020: C-FOG Observations: Mechanisms of Coastal Fog Genesis. 100th American Meteorological Society Annual Meeting, Boston, MA, 12–16 Jan. 2020

Gultepe, I., H. J. S. Fernando, E. Pardyjak, S. W. Hoch, and A. J. Heymsfield, 2020:Hurricane Impact on Visibility. 100th American Meteorological Society Annual Meeting, Boston, MA, 12–16 Jan. 2020

Gabersek, S., D. D. Flagg, J. D. Doyle, I. Gultepe, H. J. S. Fernando, E. Pardyjak, C. E. Dorman, Q. Wang, S. W. Hoch, T. Bullock, R. Y. W. Chang, 2020: Fog Prediction by COAMPS during the C-FOG Field Experiment. 100th American Meteorological Society Annual Meeting, Boston, MA, 12–16 Jan. 2020

2019:

Gultepe, I., H. J. S. Fernando, E. Pardyjak, Q. Wang, C. M. Hocut, E. Creegan, D. D. Flagg, S. W. Hoch, C. E. Dorman, R. Chang, N. Scanland, S. Desjardins, T. Bullock, R. Yamaguchi, M. J. Pavolonis, R. Krishnamurthy, A. J. Heymsfield, S. Gabersek, W. Perrie, and P. Jinadasa, 2019: C-FOG Field Campaign for Coastal Fog Observations. 99th American Meteorological Society Annual Meeting, Phenix, AZ, 6–10 Jan. 2019

Fernando, H. J. S., I. Gultepe, C. E. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S. Hoch, E. Creegan, S. Gabersek, R. Y. W. Chang, and T. Bullock, 2019: The C-Fog Project: Toward Improving Coastal Fog Prediction. 99th American Meteorological Society Annual Meeting, Phenix, AZ, 6–10 Jan. 2019

Gultepe, I, H. J. S. Fernando, E. Pardyjak, Q. Wang, C. Hocut, E. Creegan, S. W. Hoch, D. Flagg, N. Scanland, S. Desjardins, R. Yamaguchi, S. Wang, M. Pilon, T. Bullock, M. Pavolonis, P. William, A. Heymsfield, R. Krishnamurthy, C. Wainwright , S. Gabersek, 2019: C-FOG Field Campaign for Coastal Fog: Emphases on Microphysics versus Dynamics. EGU General Assembly 2019, EGU2019-3795, 7-12 Apr. 2019, Vienna, Austria.

Gultepe , I, H. J. S. Fernando, E. Pardyjak, Q. Wang, C. Hocut, E. Creegan, S. W. Hoch, D. Flagg, N. Scanland, S. Desjardins, M. Pilon, M. Pavolonis, A. J. Heymsfield , S. Gabersek , S. Wagh, D. P. Alappattu, 2019: C-FOG Project for Marine Fog. 8th International Conference on Fog, Fog Collection and Dew. 14-19 July 2019 Taipeh, Taiwan

Hoch, S. W., Crosman, E. T., Martin, R. S., 2019: Inter-basin Airmass Exchange Estimates for Air Quality Applications using Doppler Wind LiDAR. 35th International Conference on Alpine Meteorology, Riva Del Garda, Italy, 2-6 Sep. 2019.

Hoch, S. W., Burgess, E. W., 2019: Atmospheric Rotors in Owens Valley observed with a Doppler Wind LiDAR. 35th International Conference on Alpine Meteorology, Riva Del Garda, Italy, 2-6 Sep. 2019.

Dorman, C. E., S. W. Hoch, I. Gultepe, 2019: Synoptic Scale and Fog Occurrence at Ferryland, Newfoundland during C-Fog 2018 Field Program. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Hoch, S. W., F. Margairaz, E. Pardyjak, 2019: Near-surface radiative and turbulent heat exchange processes observed during coastal fog events. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Gabersek, S., D. D. Flagg, J. D. Doyle, H. J. Fernando, I. Gultepe, C. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S. W Hoch, T. Bullock, R. Chang, 2019: Fog prediction by COAMPS during C-FOG field experiment. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Singh D. K. Sr, S. W. Hoch, I. Gultepe, E. Pardyjak, 2019: A case study of the formation, evolution and dissipation of a coastal fog event. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Fernando, H. J, I. Gultepe, C. Dorman, E. Pardyjak, D. H. Richter, Q. Wang, S. W. Hoch, S. Gabersek, T. Bullock, R. Chang, 2019:The C-FOG Project: Toward Improving Coastal Fog Prediction. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Gultepe, I, H. J. Fernando, B. Zhou, E. Pardyjak, S. W. Hoch, A. Heymsfield, S. Gabersek, D. D. Flagg, 2019: Visibility Observations and Predictions during the C-FOG Project. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019

Pardyjak, E., M. Calaf, M.Hultmark, C. W. Higgins, G. Iungo, S. A. Drake, S. W. Hoch, D. Zajic, A. O. Perelet, T. Morrison, A. Bingham, C. Brunner, T. C. DeBell, N. Gunawardena, Y.-C. Huang, S. Letizia, G. Mogollon, B. Najafi, Y. Pandya, M. Puccioni, C. Schwartz, D. K. Singh Sr , L. Zhan, 2019:The Idealized Planar-Array Study for Quantifying Surface heterogeneity (IPAQS) in the atmospheric surface layer. AGU 2019 Fall Meeting, San Francisco, CA, 9-13 Dec. 2019.

2018:

Iungo, G, B. Najafi, M. Puccini, S. Hoch, M. Calaf, E. Pardyjak, 2018: Detection and characterization of very-large-scale motions in the atmospheric surface layer through wind LiDAR measurements. American Geophysical Union Fall 2018 Meeting, 10-14 Dec 2018, Washington, D. C.

Pardyjak, E., M. Calaf, M. Hultmark, C. W. Higgins, G. Iumgo, D. Zajic, A. O. Perelet, T, J. Morrison, N. Gunawardena, C. Brunner, Y.-C. Huang, S. A. Drake, T. C. DeBell, C. Schwartz, B. Najafi, M. Puccioni, S. Hoch, S. Letizia, K, Kokmanian, 2018: An overview of the Idealized Planar Array experiment for Quantifying Surface heterogeneity (IPAQS) in the atmospheric surface layer experiment. American Geophysical Union Fall 2018 Meeting, 10-14 Dec 2018, Washington, D. C.

Hoch, S. W., 2018: LiDAR and ceilometer measurements and their potential for dust emission studies. Visit to Air Sciences, Portland, OR, 9 Feb. 2018.

Hoch, S. W., E. T. Crosman, M. Baasandorj, 2018: Mixing and Air Mass Exchange Processes within Salt Lake Valley Persistent Cold-Air Pools and their Effect on Particulate Pollution Concentrations. 18th Conference on Mountain Meteorology, 25 – 29 June 2018, Santa Fe, NM.

2017:

Whiteman, C. D., M. Lehner, S. W. Hoch, B. Adler, N. Kalthoff, R. Vogt, I. Feigenwinter, T. Haiden, R. Rotunno, and M. O. G. Hills, 2017: Interactions of a mesoscale katabatic flow with a small crater basin to produce cold and warm air intrusions, flow bifurcations and a hydraulic jump. 34th International Conference on Alpine Meteorology, Reykjavik, Iceland, 18-23 June 2017.

Lehner, M., C. D. Whiteman, and S. W. Hoch, 2017: Temperature and wind speed oscillations at Arizona's Meteor Crater. 34th International Conference on Alpine Meteorology, Reykjavik, Iceland, 18-23 June 2017.

Hoch, S.W., E. T. Crosman, M. Baasandorj, A. Jacques, 2017: Cold-air Pool Exchange Processes and their impact on Air Quality in the Salt Lake City Basin. Air Quality - Science for Solutions Conference, 30 March 2017, Salt Lake City, UT

Gultepe, I., A. J. Heymsfield, H. J. S. Fernando, S. W. Hoch, E. R. Pardyjak, F. Boudala, and R. Ware, 2016: UAV Applications for Thermodynamic Profiling: Emphasis on Ice Fog Visibility. EGU General Assembly 2017, Vienna, Austria, 23-18 April 2017

2016:

Anderson-Connolly, A., F. K. Chow, and S. W. Hoch, 2016: Simulations of Large Temperature Fluctuations on the Lee Side of a Mountain due to Interactions between an Orographic Wake and a Cold Air Pool. American Geophysical Union Fall 2016 Meeting, San Francisco, CA.

Mendoza, D. L., J. C. Lin, L. Michell, K. R. Gurney, R. Patarasuk, D. V. Mallia, B. Fasoli, R. Bares, D. Catharine, D. O'Keeffe, Y. Song, J. Huang, J. Horel, E. Crosman, S. W. Hoch, J. R. Ehleringer, 2016: Testing a high resolution CO2 and CO emission inventory against atmospheric observations in Salt Lake City, Utah for policy applications. American Geophysical Union Fall 2016 Meeting, San Francisco, CA.

Gerber, F., R. Mott, S. W. Hoch and M. Lehning, 2016: A lee-side eddy and its influence on snow accumulation. EGU General Assembly 2016, 17-22 April 2016, Vienna, Austria.

Grudzielanek, A. M., R. Vogt, J. Cermak, M. Maric, I. Feigenwinter, C. D. Whiteman, M. Lehner, S. W. Hoch, M. G. Krauss, C. Bernhofer, and A Pitacco, 2016: Airflow analyses using thermal imaging in Arizona's Meteor Crater as part of METCRAX II. EGU General Assembly 2016.

Gultepe, I., A. J. Heymsfield, H. J. S. Fernando, S. W. Hoch and R. Ware, 2016: UAV applications for thermodynamic profiling: Emphasis on ice fog research. Poster. EGU General Assembly 2016.

Gultepe, I., Pardyjak, E.R., Hoch, S.W., Silver, S.W., Burrows, W., Fernando, H.J.S., Creegan, E., Leo, L.S., Heymsfield, A.J., Pavolonis, M., Ware, R., Kuhn, T., Rabin, R., Zhou, B., and Pu, Z., 2016: Ice Fog as high impact weather: Measurement and Prediction issues, FFCD conference, Poland, July 2016.

Gultepe, I., L. S. Leo, E. R. Pardyjak, S. Hoch, E. Creegan, Z. Silver, S. DeWekker, and H. J. S. Fernando, 2016: Ice Fog Microphysical Properties at High Elevations: MATERHORN Observations and Parameterizations. 96th American Meteorological Society Annual Meeting, New Orleans, LA, 10–14 January 2016

Creegan, E., D., C. M. Hocut, Y. Wang, Z. Silver, S. Hoch, L. S. Leo, S. Di Sabatino, H. J. S. Fernando, and E. Pardyjak, 2016: Synoptic Flow Interactions with an Isolated Mountain in Complex Terrain. 96th American Meteorological Society Annual Meeting, New Orleans, LA, 10–14 January 2016.

Di Sabatino, Silvana, L. S. Leo, H. J. S. Fernando, E. R. Pardyjak, M. Lehner, C. D. Whiteman, and S. Hoch, 2016: Observations of evening and morning transition in valleys and slopes, 2016: 96th American Meteorological Society Annual Meeting, New Orleans, LA, 10–14 January 2016.

Hoch, S. W., E. T. Crosman, M. Baasandorj, J. C. Lin, R. Bares, R. S. Martin, J. Sohl, J. D. Horel, and C. D. Whiteman, 2016: Case Study of the 6-16 February 2016 Salt Lake Valley Persistent Cold-Air Pool. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

Hills, M. O. G., C. D. Whiteman, S. W. Hoch, and M. Lehner, 2016: High-Resolution WRF Simulations of the METCRAX 2 Mesoscale Environment. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

De Wekker, S. F. J., C. D. Whiteman, S. W. Hoch, and M. E. Jeglum, 2016: Thermally Driven Winds Across Gaps in a Linear Mountain Chain. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

Arthur, R. S., K. A. Lundquist, J. D. Mirocha, S. W. Hoch, and F. K. Chow, 2016: High-resolution Simulations of Downslope Flows Over Complex Terrain Using WRF-IBM. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

Whiteman, C. D., M. Lehner, S. W. Hoch, B. Adler, N. Kalthoff, and M. O. G. Hills, 2016: Lifting of Stable Layers Over a Circularly Symmetrical Terrain Obstacle. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

Lehner, M., C. D. Whiteman and S. W. Hoch, 2016: Oscillations in the Inversion and Drainage Flows in and around Arizona's Meteor Crater. 17th Conference on Mountain Meteorology, 27 June – 1 July 2016 Burlington, VT.

Hang, C., D. Nadeau, I. Gultepe, S. Hoch, H. J. S. Fernando, E. Creegan, L. Leo, Z. Silver, and E. Pardyjak, 2016: A Case Study of the Formation, Evolution and Dissipation of Ice Radiation Fog in a Mountain Valley. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT

Feigenwinter, I., R. Vogt, M. Müller, E. Parlow, M. Grudzielanek, M. Lehner, S. Hoch, and C. D. Whiteman, 2016: Analysis of Flow Structures in the Barringer Meteor Crater using Thermal Infrared Data collected during the METCRAX II Field Experiment. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

Lehner, M., C. D. Whiteman, S. W. Hoch, M. O. G. Hills, N. Kalthoff, B. Adler, and T. Haiden, 2016: Bluff-Body Flow Separation in Arizona's Meteor Crater. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

Hoch, S. W., and E. R. Pardyjak, 2016: Observations of Radiative Flux Divergence under Clear Sky and Fog Conditions. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

Hang, C., D. Nadeau, D. Jensen, S. W. Hoch, and E. R. Pardyjak, 2016: Evaporation from a Desert Playa Following Rainfall. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

Grudzielanek, A. M., M. Maric, R. Vogt, J. Cermak, I. Feigenwinter, C. D. Whiteman, M. Lehner, and S. W. Hoch, 2016: Cold-Air Pool Analysis using Thermal Imaging in Arizona's Meteor Crater during METCRAX II. 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

Whiteman, C. D., M. Lehner, S. W. Hoch, M. O. G. Hills, T. Haiden, N. Kalthoff, and B. Adler, 2016: Cold Air Intrusions into Basins and Valleys . 22nd Symposium on Boundary Layers and Turbulence, 20 – 24 June 2016, Salt Lake City, UT.

2015:

Jeglum, M. and S. W. Hoch, 2015: Nocturnal Valley Cold Air Pool Displacement on a Desert Mountain Slope. American Geophysical Union Fall 2015 Meeting, San Francisco, CA, 14-18 December 2015.

Whiteman, C. D., M. Lehner, S. W. Hoch, M. O. G. Hills, B. Adler, N. Kalthoff, T. Haiden, R. Vogt, M. Grudzielanek, I. Feigenwinter, M. Maric, J. Cermak, R. Rotunno, R. Calhoun, N. Cherukuru, 2015: Katabatically Driven Downslope Windstorm-Type Flows over the Inner Sidewall of Arizona's Barringer Meteorite Crater. American Geophysical Union Fall 2015 Meeting, San Francisco, CA, 14-18 December 2015.

Hoch, S. W. and C. David Whiteman, 2015: Estimating the ventilation of particle pollutants from the Bingham Canyon Mine during wintertime conditions. Trace Gas Interest Group Meeting, University of Utah, 17. November 2015

Hoch, S. W., N. W. Cherukuru, R. Calhoun, C. D. Whiteman, M. Lehner, B. Adler, N. Kalthoff, and W. O. J. Brown, 2015: LiDAR observations during METCRAX-II. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Whiteman, C. D, M. Lehner, S. W. Hoch, M. O. G. Hills, N. Kalthoff, B Adler, R. Rotunno, R. Vogt, I. Feigenwinter, M. Grudzielanek, J. Cermak, T. Haiden, N. W. Cherukuru, R. Calhoun, 2015: The second Meteor Crater Experiment (METCRAX II): Introduction and overview of recent results. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Lehner, M., C. D. Whiteman, S. W. Hoch, B. Adler, N Kalthoff, R. Rotunno, 2015: Downslope-windstorm-type flows and seiches in the Meteor Crater - responses of the nocturnal crater atmosphere to an impinging katabatic flow. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Adler, B., N. Kalthoff, C. D. Whiteman, S. W. Hoch, M. Lehner, 2015: Upstream conditions controlling downslope-windstorm-type flows in Arizona’s Meteor Crater. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Hoch, S. W., E. R. Pardyjak, 2015: Observations of radiative cooling and heating under clear sky and fog conditions. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Kalthoff, N., Bianca Adler, M. Lehner, C. D. Whiteman, S. W. Hoch, 2015: Katabatic drainage flow characteristics on a low-angle slope around Arizona’s Meteor Crater. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Feigenwinter, I., Roland Vogt, M. Müller, E Parlow, M. Grudzielanek, M. Maric, C. D. Whiteman, M. Lehner, S. W. Hoch, 2015: Visualization of high-resolution surface

temperature data collected in the Barringer Meteor Crater during METCRAX II. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Grudzielanek, A. M., R. Vogt, J. Cermak, I. Feigenwinter, M. Maric, C. D. Whiteman, M. Lehner, S. W. Hoch, M. G. Krausz, C. Bernhofer, A. Pitacco, 2015: Infrared imaging for air flow analyses in the Barringer Meteor Crater, Arizona, as part of METCRAX II. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Maric, M., A. M. Grudzielanek, R. Vogt, J. Cermak, I. Feigenwinter, C. D. Whiteman, M. Lehner, S. W. Hoch, 2015: Evaluation of infrared imaging for measuring near-ground flow dynamics at the Barringer Meteor Crater as part of METCRAX II. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Hills, M., C. D. Whiteman, S. W. Hoch, M. Lehner, 2015: A parameter based approach to idealised numerical simulations of Meteor Crater downslope-windstorm-type flows. 33rd International Conference on Alpine Meteorology, Innsbruck, Austria, 31 Aug. - 4 Sep. 2015.

Chachere, C. N., Z. Pu, S. Hoch, E. R. Pardyjak, 2015: Evaluation of WRF forecasts of fog events against observations during MATERHORN Fog-X. 16th Conference on Mesoscale Processes, Boston, MA, 2 - 6 Aug. 2015.

2014:

Pardyjak, E.R., S. Hoch, D. Jensen, N. Gunawardena, C. D. Whiteman, S. Di Sabatino, C. Higgins, L. Leo, and H.J.S. Fernando, Observations of the evening transition processes on opposing slopes of a north-south oriented mountain, presented at the 2014 Fall Meeting, AGU, San Francisco, Calif., 15 - 19 Dec. 2014. Abstract A51D-3078.

Fernando, H. J. S., C. Hocut, Q. Zhong, S. W. Hoch, L. Leo, S. DiSabatino, E. Pardyjak, and C. D. Whiteman, 2014: Mixing induced by slope and valley flow collisions in complex terrain. AGU Fall Meeting 2014, San Francisco, CA, 15 - 19 Dec. 2014.

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