

MAIANA NATANIA HANSHAW

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EDUCATION

University of California, Santa Barbara – Geography (M.A.) **2010 – 2013**

Honors: Jack Estes Memorial Award

- Master's Thesis: Glacial areas, lake areas, and snowlines from 1975-2012: Status of the Cordillera Vilcanota, including the Quelccaya Ice Cap, northern central Andes, Peru (*Adv.: Bodo Bookhagen*)
- Funding: NASA Earth and Space Sciences Fellowship (NESSF)

Duke University – Earth & Ocean Sciences (B.S.) **2002 – 2006**

Minors: German and History

Honors: Graduation with Distinction, cum Laude

Thomas V. Laska Award in Earth & Ocean Sciences

Dean's List with Distinction – Spring 2004, Fall 2004, Spring 2005, Fall 2005

- Honors Thesis: Impact of Tropical Cyclones on Sea-surface Chlorophyll in the North Atlantic (*Adv.: M. Susan Lozier*)
- Major (*Cumulative*) GPA: 3.87 (3.71)/4.00

RESEARCH & WORK EXPERIENCE

Center for Severe Weather Research – Boulder, CO **Jan. 2018 – present**

Associate Scientist

~40 hrs/wk

- Perform various analyses, modeling, and data processing tasks in support of meteorological research efforts, using a combination of ArcGIS (as CSWR's GIS specialist), MatLab, and Solo
- Support the maintenance and deployment of CSWR instrumentation (predominantly the Doppler on Wheels radar trucks, of which I am an independent operator) on short- and long-term field projects, both domestic and international, often in collaboration with other research groups
- Perform scientific and educational outreach deployments, both single day events and multi-week deployments, at universities, schools, public events and conferences nationwide (including ESRI's annual User Conference)

Bundesamt für Landestopografie swisstopo – Wabern, Switzerland **Oct. 2015 – Dec. 2017**

(Swiss Federal Center for Geoinformation)

3D Topographer/ArcGIS Specialist

~41.5 hrs/wk

- Stereoscopically collected and edited 3D vector data of swisstopo's topographic landscape model (TLM) based on digital aerial photography, using specialized ArcGIS and photogrammetry tools to map out land cover in different regions throughout Switzerland, predominantly glaciers, rock, forests, and rivers
- Involved significant air photo interpretation of land cover, both of the natural world (eg. glaciers, forests, rivers, rock) and human altered areas (eg. within urban areas and distinguishing between different agricultural practices)

Swiss Re – Zurich, Switzerland **Aug. 2014 – Apr. 2015, July 2015 – Sept. 2015**

Casualty R&D Support

~20 hrs/wk

- Quality assurance/testing: supported the team in ensuring quality of new modelling and tool features in the area of costing reinsurance deals. Prepared test sets and scripts, executed tests, performed analysis and logging of results
- Encoding of industrial activities: reconciled/consolidated different codes and maps

University of California, Santa Barbara **Sept. 2010 – March 2013**

Research Assistant

~40 hrs/wk

- Enrolled at UCSB while working on Master's degree – see Education section above for more information

United States Geological Survey – Menlo Park, CA **Nov. 2006 – July 2010**

Research Geologist

~40 hrs/wk

Honors: STAR Award (Special Thanks for Achieving Results)

- Provided field, laboratory, and office support on a variety of projects conducted by the USGS Western Earth Surface Processes Team. Primary project involvement investigated the erosional response of steepplands to wildfires in southern California as part of a NOAA-USGS Demonstration Flash-Flood and Debris-Flow Early-Warning System
- *Fieldwork:*
 - Installed and maintained various field monitoring equipment in recent southern California wildfires including satellite-telemetered rain gages, soil moisture probes, overland flow sensors, sediment traps, anemometers, and erosion pins
 - Assisted with fieldwork on other USGS projects, including erosion studies on Molokai, HI, and Quaternary fault mapping in the Mojave Desert

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- *Office and Laboratory:*
 - Research in support of hazard and hydrologic investigations primarily included Excel and ArcGIS analysis, incorporating high-resolution radar reflectivity from a mobile Doppler radar truck, lidar-derived digital elevation models, geologic maps, and analysis of field collected data and soil samples
 - Diverse duties included processing lidar, digitizing geological maps, georeferencing aerial photographs, and performing laboratory analyses to determine grain size, soil moisture, and bulk density of sediment
 - Spatial analyses of data from other sites included landslides along the Ventura anticline, geology and rock strength properties for landslides along the Big Sur coast, CA, and fault mapping along the Denali fault, AK

Center for Severe Weather Research – Boulder, CO

May/June 2007, 2006, 2005, 2004

Project ROTATE (Radar Observations of Tornadoes And Thunderstorms Experiment)

Driver of the SCOUT support vehicle (2004, 2005); General Team Support Member (2006, 2007)

~60 hrs/wk

- Traveled extensively throughout the plains to obtain data on tornadoes and their formation, focusing on getting as close as possible to active tornadoes to collect research data, often collaborating with other academic research teams
- Performed multiple roles, including setting up the SCOUT vehicle's meteorological instruments to collect data, scouting out suitable deployment sites, and serving as a radio communicator between radar trucks
- Participated during filming of National Geographic's "Tornado Intercept" and assisted during filming of The Discovery Channel's "Storm Chasers"

Duke University – Department of Earth & Ocean Sciences

Sept. 2006 – Nov. 2006

Research Assistant – Professor M. Susan Lozier's Lab

~40 hrs/wk

- Collaborated on a research project under the supervision of Dr. M. Susan Lozier, in preparation for journal publication

Woods Hole Oceanographic Institution/United States Geological Survey

June – Sept. 2006

WHOI Summer Student Fellow – Fellowship conducted at the USGS, Woods Hole, MA

~40 hrs/wk

- Collaborated on a research project under the supervision of Dr. E. Rob Thieler, USGS
- *Topic:* Morphologic response of the North Carolina inner continental shelf to hurricanes, 1994-2005
- Participated in a 10-day research cruise collecting sidescan-sonar and bathymetric data off the Massachusetts coast

PUBLICATIONS

Journal Publications:

- **Hanshaw, M. N.**, and B. Bookhagen (2014), Glacial areas, lake areas, and snow lines from 1975 to 2012: status of the Cordillera Vilcanota, including the Quelccaya Ice Cap, northern central Andes, Peru, *The Cryosphere*, 8, 359-376, doi: 10.5194/tc-8-359-2014
- Nokleberg, W. J., J. H. Aleinikoff, T. K. Bundtzen, and **M. N. Hanshaw** (2013), Geologic strip map along the Hines Creek Fault showing evidence for Cenozoic displacement in the western Mount Hayes and northeastern Healy quadrangles, eastern Alaska Range, Alaska, *U. S. Geological Survey Scientific Investigations Map 3238*, pamphlet 31 p., scale 1:63,360, and GIS data, <http://pubs.usgs.gov/sim/3238/>
- Jorgensen, D. P., **M. N. Hanshaw**, K. M. Schmidt, J. L. Laber, D. M. Staley, J. W. Kean, and P. J. Restrepo (2011), Value of a dual-polarized gap-filling radar in support of southern California post-fire debris-flow warnings, *Journal of Hydrometeorology*, 1581-1595, doi: 10.1175/JHM-D-11-05.1
- Schmidt, K. M., **M. N. Hanshaw**, J. F. Howle, J. W. Kean, D. M. Staley, J. D. Stock, and G. W. Bawden (2011), Hydrologic conditions and terrestrial laser scanning of post-fire debris flows in the San Gabriel Mountains, CA, U.S.A., *Debris-flow Hazards Mitigation, Mechanics, Prediction, and Assessment*, R. Genevois, D. L. Hamilton, A. Prestininzi, eds., Casa Editrice Universita La Sapienza, Rome, 583-593, doi:10.4408/IJEGE.2011-03.B-064
- **Hanshaw, M. N.**, M. S. Lozier, and J. B. Palter (2008), Integrated impact of tropical cyclones on sea surface chlorophyll in the North Atlantic, *Geophys. Res. Lett.*, 35, L01601, doi: 10.1029/2007GL031862

Additionally, 5 presentations as first author at professional meetings including AGU (3) and GSA (1), and co-author on 14 presentations including AGU (8), GSA (4) and the 7th ICG (2)

SKILLS AND INTERESTS

Computer: ESRI ArcGIS, MatLab, Adobe Illustrator, ENVI, Microsoft Office (Word, Excel, PowerPoint), Python (basic), Microsoft Access (basic), SAP (basic), Solo, Windows XP and Macintosh OS

Certifications: FEMA NIMS Courses: ICS-100, ICS-200, and IS-700

Interests: Dancing, cycling, skiing, hiking, camping/outdoor activities, traveling, and Don Bellisario TV shows!