

# Courtney King

1029 E Weymouth St  
Tucson, AZ 85719  
571-241-8517  
courtcking@gmail.com

Interested in hydrogeology, environmental science, sustainable energy and management practices, waste reduction solutions, geomorphology, and geochemistry.

## EXPERIENCE

**Freeport McMoRan Inc., Oro Valley, AZ — Research Librarian** (Nov 2017 – Jun 2018 & Aug 2018 – PRESENT)

Maintain large database of technical literature; organize and catalog physical archival material; publish quarterly company-wide reports of the latest mining-related literature; work closely with Environmental, Mine Planning and Exploration groups providing access to technical material as needed (including standards). Created a database tracking system in Microsoft Access

**National Park Service, Tucson, AZ — Hydrogeologist** (May-Nov 2017 & May-Aug 2018)

Physical & natural resource mapping study (1<sup>st</sup> term) – classified high elevation springs to identify perched aquifers; collected water samples; interpreted major, minor and stable isotope chemistry data to better understand groundwater flow-paths; surveyed invasive and native plant species. Hydrogeology study of low elevation springs and tinajas (2<sup>nd</sup> term) – mapped bedrock lithologies adjacent to perennial tinajas at low elevation and interpreted their relationship with the detachment and sub-detachment faults. Collected water samples for stable sulfate and water isotopes and major element concentrations

**University of Maine, Orono, ME — Research Assistant** (Sept 2013 – May 2017)

Mapped surficial deposits in New Zealand and Antarctica and collected rocks samples for geomorphic studies. Assisted with stakeholder engagement on a project studying waste reduction solutions.

**ASARCO, LLC, Sahuarita, AZ — Chemistry Technician II** (Apr 2012 – Aug 2013)

Assay lab technician – used an XRF and an atomic absorption unit to measure major and minor element concentrations. Maintained chemistry standards, MSHA certification, and helped create a calibration dataset for the XRF using mine site-specific samples.

**National Park Service, Death Valley, CA — Education & Outreach intern** (Oct 2011 – Dec 2011)

Assisted with the ROCKS program, providing lessons for middle school students on the physical and natural resources of the park (e.g. geology, mining history, hydrology, biology, ecology).

## EDUCATION

**University of Maine, Orono, ME — Ph.D. Earth & Climate Sciences** (Sept 2013 – Aug 2017)

Dissertation on climate history in the mid- and high latitudes of the Southern Hemisphere. Fieldwork conducted in New Zealand and Antarctica collecting rock samples for geomorphic studies. Sample preparation and wet chemistry analyses performed on rock samples collected during fieldwork. Field mapping digitized using ArcGIS

**University of Arizona, Tucson, AZ — B.S. in Geosciences (Geology); minors in Mathematics & Planetary Sciences** (Aug 2007 – Aug 2011)

Geosciences Department intern – created and presented geoscience-education modules for students; conducted field and laboratory work to study the formation history of the Huachuca and Whetstone mountain ranges. Planetary Sciences Department intern – studied the formation history of carbonaceous chondrites by conducting partial melting studies and mapping major elements concentrations in the Renazzo CR2 meteorite

**Victoria University in Wellington, Wellington, New Zealand – Study abroad** (Jul 2010 – Oct 2010)

## SKILLS & PROGRAMS

- *ArcGIS 10.2* – digitized geomorphic maps; familiar with hydrology spatial analyst tools
- *MATLAB* – generated probability distribution functions for statistical analyses
- Adobe creative suite, Microsoft office suite, SharePoint, MARCEdit, EndNoteX8, SQL
- Trimble differential GPS, infiltrometer, *p*XRF
- Disc mill, rock crushers, multi-anvil & piston cylinder apparatuses, induction furnace
- Atomic absorption spectroscopy, XRF, LA-ICP-MS, Electron Microprobe, Arizona Helium line

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## PUBLICATIONS

- King, C., Hillebrand, T., Hall, B., Stone, J. Delayed maximum and recession of an East Antarctic outlet glacier  
DOI: 10.1130/G47297.1
- Pearl, J., King, C., Swann, D., Filappone, C., Davis, G., Eastoe, C. Structural Controls on Low Elevation Water Sources in the Sonoran Desert - *in preparation*
- Hillebrand, T., Stone, J., King, C., Koutnik, M., Conway, H., Hall, B., Goehring, B., Nichols, K., Gillespie, M. K., Pollard, D., Holocene thinning and grounding-line retreat of Darwin and Hatherton Glaciers, Antarctica - *in preparation*
- Righter, K., King, C., Danielson, L., Pando, K., Lee, C.T., 2011. Experimental determination of the metal/silicate partition coefficient of Germanium: Implications for core and mantle differentiation. *Earth Planet. Sci. Lett.* 304, 379–388.
- Impey, C., Buxner, S., Antonellis, J., Johnson, E., King, C., 2011. A Twenty-Year Survey of Science Literacy Among College Undergraduates. *J. Coll. Sci. Teach.* 40, 31-38

## SELECTED CONFERENCE PRESENTATIONS

- American Geophysical Union Fall Meeting** (Washington, D.C., December 10-14, 2018), Determining source water of critical springs and tinajas in Saguaro National Park
- Geological Society of America Annual Meeting** (Seattle, WA, Oct 22-25, 2017), Identifying high elevation reliable water sources in the Rincon Mountain District of Saguaro National Park through systematic mapping
- Maine Water and Sustainability Conference** (Augusta, ME, March 30, 2017), Understanding best-practice solutions for waste reduction in Maine through community stakeholder engagement
- Geological Society of America Annual Meeting** (Denver, CO, September 25-28, 2016), Timing of the last glacial maximum and subsequent recession alongside Hatherton Glacier, Antarctica (poster entered in the Best Student Mapping competition)
- American Geophysical Union Fall Meeting** (San Francisco, CA, December 5-9, 2011), Thermochronologic evidence for mid-crustal exhumation of the Huachuca Mountains, southeast Arizona

## LEADERSHIP & COMMUNITY ENGAGEMENT

- Coach, University of Arizona Women's Club Ultimate Frisbee program (2017-present)**, head coach of Scorch (A team); spend ~five hours/week teaching concepts and systems through drills for a program of ~50 women; travel approximately once a month to out-of-state tournaments
- Co-op workshop participant, Watershed Management Group (Sept 2018-present)**, attend co-op workshops approximately once a month to help install rainwater tanks, greywater systems, and sculpt landscapes for passive and active water harvesting.
- Farmhand, Tanque Verde Farm (May 2017- Dec 2018)**, spend ~5-20 hours/week helping weed, till, plant, pick and mulch at a vegetable and flower farm