

Karessa L. Manning

Environmental Risk Analyst

Summary Statement

Karessa has a B.S. in Geology and Environmental Studies from the University of Tennessee and is currently pursuing an M.S. in Geographic Information Science. She is an environmental risk analyst at the University of Tennessee in collaboration with Oak Ridge National Laboratory (ORNL). Her primary work consists of environmental model development, application, and quality assurance. Karessa manages and executes quality assurance protocols and model development for online tools funded by the Environmental Protection Agency (EPA). These tools measure exposure risk in diverse scenarios, including resident, recreator, farmer, and worker exposure to radionuclide and chemical contaminants.

Experience

UNIVERSITY OF TENNESSEE, KNOXVILLE, TN

Environmental Risk Analyst at ORNL, April 2016 – Present

STREET LEGAL INDUSTRIES, OAK RIDGE, TN

Risk Analyst at ORNL, May 2015 – March 2016

OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TN

Risk Assessment Intern, June 2013 – May 2015

- Manage and improve efficiency of quality assurance protocols for 13 web tools.
- Research and implement radiation and chemical exposure guidelines, presented by EPA, DOE, IAEA, NRC etc. into risk models.
- Develop, maintain, and control risk and dose equations used in risk models.
- Write guidance language for risk assessment tools with EPA project sponsors.
- Collaborate and uphold good working relationships with EPA project sponsors.
- Update Ecological Benchmarks used by Spatial Analysis and Decision Assistance (SADA) software and the Risk Assessment Information System (RAIS).

UNIVERSITY OF TENNESSEE KNOXVILLE, BESS, KNOXVILLE, TN

Soil Science Laboratory Graduate Assistant November 2013 – May 2014

- Measured vapor pressure of micro-aggregate soil samples to determine transport efficiency of contaminants, water content, and water retention ability.
- Utilized CO₂ measuring software to perform and quantify respirations for soil.
- Assisted in preparation of field equipment and sampling equipment.
- Collected general measurements of soil samples and performed chemical dilutions.

CVS/CAREMARK, KNOXVILLE, TN

Customer Care Representative, November 2011 - January 2013

- Helped members with questions about plan design and ordering prescriptions.
- Upheld HIPAA security practices and maintained customer files.

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION, CARSON CITY, NV

Laboratory Certification Intern, October 2008 - May 2011

- Maintained sensitive files for laboratory certification in the SDWA, CWA, and RCRA to allow laboratory operation within the State of Nevada.

UNITED STATES FOREST SERVICE, CARSON CITY, NV

Volunteer Archaeological Technician, Intermittently

- Operated GIS field instruments and edited ARCGIS maps for project reports.
- Researched and identified artifacts in the field and in pictures for official reports.

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION, CARSON CITY, NV

Volunteer Snapshot Day Team Leader, Bi-Annually October 2008 – May 2011

- Led teams of citizen volunteers in taking water samples and cataloging sites.
- Educated volunteers about water quality and point and non-point source pollution.
- Calibrated field equipment including pH, DO, turbidity, and conductivity meters.
- Cataloged and profiled all sampling sites from each watershed.
- Presented at elementary age summer camps about the creation of water pollution and taught them daily activities, at home, that can mitigate the impact to their watershed.

Personal Information

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865-712-5224

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Lenoir City, TN 37772

Education

UNIVERSITY OF TENNESSEE
KNOXVILLE, TN

*M.S. Candidate – Geography,
Minor in Computational Sciences
May 2020; GPA: 3.83*

*BS – Geology & Environmental
Studies, Minor in Geography
May 2015; GPA: 3.21*

WESTERN NEVADA COLLEGE,
CARSON CITY, NV

*AS – Geoscience
Dec 2010; GPA: 3.22*

Skills & Abilities

- Quality Assurance
- Microsoft Office
- Precise Data Entry
- Surface Water Sampling
- Soil Sampling
- ESRI Software
- Python
- RStudio

Achievements

- Lead author of ORNL technical memo (ORNL/TM-2016/328). Available upon request and online.
- Poster presentation about biota modeling in EPA calculators at Society for Risk Analysis (SRA) – 2016 conference.
- Presented GIS research at American Association of Geographers (AAG) annual conference in 2017 and 2018.