

## **Christopher Hughes Conaway**

*Geochemist with U.S. Geological Survey*

*Water Resources Division, National Research Program*

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### **Education:**

Ph.D. Environmental Toxicology & Chemistry, University of California, Santa Cruz, 2005

M.S. Geology, Ohio State University, 1999

B.A. English, Ohio State University, 1993

### **Academic Honors:**

Mendenhall Fellowship, US Geological Survey, 2008–2010

Regents Fellowship, University of California at Santa Cruz, 2000

Phi Kappa Phi, Ohio State University, 1999

Sigma Gamma Epsilon, Ohio State University, 1997

USGS/NAGT Summer Internship, 1996

### **Experience:**

2012–Present	Chemist, U.S. Geological Survey Water Resources National Research Program, Menlo Park, CA
2011	Associate Project Scientist, U.S. Geological Survey Pacific Coastal and Marine Science Center/UC-Santa Cruz Institute of Marine Sciences
2008–2010	Mendenhall Postdoctoral Scholar, United States Geological Survey, Pacific Science Center, Santa Cruz (Advisor Curt Storlazzi)
2005–2008	Postdoctoral Scholar, Environmental Toxicology & Chemistry, University of California, Santa Cruz (Advisor A.R. Flegal)
1998–2006	Freelance writer, editor, fact checker working for Glencoe/McGraw-Hill
2000–2005	Graduate Student, Environmental Toxicology & Chemistry, University of California, Santa Cruz (Advisor A.R. Flegal)
1999–2000	Graduate Student, Earth Sciences, University of California, Santa Cruz
1999	Post Graduate Researcher, Earth Sciences, University of California, Santa Cruz (Supervisor A.R. Flegal)
1997–1999	Graduate Teaching Associate, Geological Sciences, Ohio State University
1997	Graduate Research Associate, Byrd Polar Research Center, Ohio State University (Supervisor D.H. Elliot)
1996	USGS/NAGT Intern, Earthquake Hazards Team, U.S. Geological Survey, Menlo Park (Supervisors T. Holzer, M. Bennett, and J. Tinsley)
1994–1996	Student Research Assistant in XRD laboratory, Department of Geological Sciences, Ohio State University (Supervisor R. Tettenhorst)

**Principal Research Interests:**

Environmental geochemistry; Surface water and groundwater quality; Transport, fate, and biogeochemistry of heavy metals in the environment; Environmental mercury chemistry and mercury contamination from mining activity; Chemical oceanography (coastal and estuarine), wetland biogeochemistry, watershed contaminant transport; Environmental applications of cavity ring-down spectroscopy; Meteoric  $^7\text{Be}$  as an environmental tracer; Geochemistry and environmental issues related to geologic  $\text{CO}_2$  sequestration.

**Research Funding:**

2009 Santa Cruz Harbor dredge disposal demonstration project (Storlazzi and Conaway), US Army Corps of Engineers and the Port of Santa Cruz, \$130,000

2008–2010 Mendenhall Postdoctoral Fellowship “Brown to Blue” Sediment, nutrients, and contaminants from a small fluvial system to the nearshore environment, Monterey Bay, CA, (Conaway) US Geological Survey, Full salary plus \$40,285 in research funding

2007–2008 Special studies on methyl mercury and reactive mercury in San Francisco Bay (Flegal and Conaway), San Francisco Estuary Institute, \$191,000

2007–2008 Trace element concentrations, speciation and phase distributions in the San Francisco Bay estuary (Flegal and Conaway), San Francisco Estuary Institute, \$283,375

2006–2007 Trace element concentrations, speciation, and phase distribution in the San Francisco Bay estuary (Flegal and Conaway), San Francisco Estuary Institute, \$207,999.

2005–2008 Wetland design and management options for control of mercury in San Francisco Bay (Flegal and Conaway), Association of Bay Area Governments, \$214,500

2005–2006 Upwelling of dimethylmercury in Monterey bay as a potential source of monomethylmercury to the atmosphere (Flegal, Gault, Conaway et al.), Packard Foundation Endowment for Ocean Science and Technology. \$20,000.

2002 Mercury deep core sampling and analysis. Funded by the San Francisco Bay Regional Water Control Board, \$28,174

2000 Passive mercury vaporization from contaminated soils at the McLaughlin Natural Reserve, California. Funded by Investigator Initiated Grant from University of California Toxic Substances Research and Teaching Program, \$28,621

1998 Geochemical investigation of water and sediment in the Snake River Arm of the Dillon Reservoir, Summit County, Colorado. Funded by the Friends of Orton Hall, \$800

**Field Experience:**

2013 Groundwater geochemical survey and drive point piezometer installation at the Bonanza Creek Long Term Ecological Research Site, Fairbanks, Alaska.

2013 Well head oil and produced water sample collection and field chemistry from Cranfield Oil Field, Roxie, Mississippi.

2013, 2012 Well-head water sample collection and field water quality analysis using different sampling methods from the Paluxy Formation, Citronelle Oil Field, Alabama.

2013, 2012 Diel water sampling study for mercury speciation on *R/V Leaf Bud*, Alviso Slough, San Francisco Bay.

2010 Submarine groundwater discharge investigation installing piezometers, shoreline DC resistivity, and surface water collection from small boat, Hood Canal, Washington.

2010, 2009 Submarine groundwater discharge investigation installing piezometers, shoreline DC resistivity, and surface water collection. Younger Lagoon, Santa Cruz, California.

2010, 2009, 2008 Storm event surface water sampling using a bridge box mounted US-D95 cable and reel sampler for suspended sediment, trace element, and trace organic sampling, San Lorenzo River, California

2009, 2008 Photographic survey of nearshore benthic sediment on *R/V Frontier*, Monterey Bay.

2009, 2008 Mooring deployment and sediment trap recovery on *R/V Frontier*, *R/V Parke Snavelly*, Monterey Bay.

2008, 2007, 2006, 2003 MBARI cruise on *R/V Point Lobos* to sample waters for dimethylmercury analysis, Monterey Bay.

2006, 2005, 2004 Regional Monitoring Program water sampling on the *R/V Endeavor*, San Francisco Bay.

2005 Regional Monitoring Program special box coring monomethylmercury in sediment sampling on the *R/V Endeavor*, San Francisco Bay.

2004, 2002, 1999 Regional Monitoring Program water sampling on the *R/V David Johnston*, San Francisco Bay.

2003 Water and atmospheric mercury sampling on the *R/V Polaris*, South San Francisco Bay.

2002 IOC IV Biogeochemical science cruise on the *R/V Melville*, North Pacific Ocean.

2001 Gravity coring on the *R/V David Johnston*, San Francisco Bay.

1997 Lake reservoir sediment coring, Dillon Reservoir, Colorado.

1997 Mapping Kirkpatrick Basalt and collection of secondary minerals, Deep field geologic expedition, Prince Albert Mountains, Antarctica.

1996 Geotechnical drilling with USGS Menlo Park Earthquake Hazards Team, Northridge, CA.

### **Research articles in peer-reviewed journals:**

Conaway, C.H., Thordsen, J.J., Manning, M.A., Cook, P.J., Trautz, R.C., Thomas, R.B., Kharaka, Y.K. (*In Preparation*) Pre-injection comparison of methods for sampling formation water and associated gas from a characterization well at a carbon dioxide injection site, Citronelle Oil Field, Alabama.

Conaway, C.H., Thomas, R.B., Kharaka, Y.K., Saad, N. (*In Preparation*) Carbon isotope analysis of dissolved organic carbon in fresh and salt (NaCl) water via continuous flow cavity ring-down spectroscopy following wet chemical oxidation and combustion (WCO-C-CRDS).

Conaway, C.H., Draut, A.E., Echols, K.R., Storlazzi, C.D., and Ritchie, A. (2013) Episodic suspended sediment transport and elevated polycyclic aromatic hydrocarbon concentrations in a small, mountainous river, coastal California. *River Research and Applications* 29: 919–932.

Kharaka Y.K., Thordsen, J.J., Conaway, C.H., and Thomas R.B. (2013) The energy-water nexus: Potential groundwater-quality degradation associated with production of shale gas. *Procedia Earth and Planetary Science*. 7: 417–422.

Conaway, C.H., Draut, A.E., Storlazzi, C.D., Swarzenski, P.W. (2013) Short-term variability of <sup>7</sup>Be atmospheric deposition and watershed response in a Pacific coastal stream, Monterey Bay, California, USA. *Journal of Environmental Radioactivity* 120: 94–103.

Ganguli, P.M., Conaway, C.H., Swarzenski, P.W., Izbicki, J., and Flegal, A.R. (2012) Mercury speciation and transport in a California coastal lagoon system: The role of submarine groundwater discharge and monomethylmercury production. *Environmental Science & Technology* 46(3): 1480–1488.

Conaway, C.H., Swarzenski, P.W., and Cohen, A.C. (2012) Recent paleorecords document rising mercury contamination in Lake Tanganyika. *Applied Geochemistry* 27(1): 352–359.

- Gallon, C, Ranville, M.A., Conaway, C.H., Landing, W., Buck, C., Morton, P., and Flegal, A.R. (2011) Asian industrial lead inputs to the North Pacific evidenced by lead concentrations and isotopic compositions in surface waters and aerosols. *Environmental Science & Technology*. 45(23):9874–82.
- Conaway, C.H., Black, F.J., Weiss-Penzias, P., Gault-Ringold, M., and Flegal, A.R. (2010) Mercury speciation in Pacific coastal rainwater, Monterey Bay, California. *Atmospheric Environment* 44(14), 1788–1797.
- David, N., McKee, L.J., Black, F.J., Flegal, A.R., Conaway, C.H., Schoellhamer, D.H., and Ganju, N.K. (2009) Mercury concentrations and loads in a large river system tributary to San Francisco Bay, California, USA. *Environmental Toxicology and Chemistry* 28(10) 2091–2100.
- Black, F.J., Conaway, C.H., and Flegal, A.R. (2009) Stability of dimethyl mercury in seawater and its conversion to monomethyl mercury. *Environmental Science & Technology* 43(11), 4056–4062.
- Conaway, C.H., Black, F.J., Gault-Ringold, M., Pennington, J.T., Chavez, F.P., and Flegal, A.R. (2009) Dimethylmercury in coastal upwelling waters, Monterey Bay, California. *Environmental Science & Technology* 43(5), 1305–1309.
- Conaway, C.H., Ross, J.R.M., Looker, R., Mason, R.P., and Flegal, A.R. (2007) Decadal mercury trends in San Francisco Estuary sediments. *Environmental Research* 105(1), 53–66.
- Conaway, C.H., Pride D.E., Faure, G., and Tettenhorst, R.T. (2005) Mineralogical and geochemical investigation of sediment in the Snake River arm of the Dillon Reservoir, Summit County, Colorado. *Lakes and Reservoirs: Research and Management* 10, 235–242.
- Conaway, C.H., Mason, R.P., Steding, D.J., and Flegal, A.R. (2005) Estimate of mercury emission from gasoline and diesel fuel consumption, San Francisco Bay area, California. *Atmospheric Environment* 39(1), 101–105.
- Flegal, A.R., Conaway, C.H., Scelfo, G.M., Hibdon, S., Sañudo-Wilhelmy, S.A. (2005) Factors influencing measurements of decadal variations in metal contamination in San Francisco Bay, California. *Ecotoxicology* 14(6), 645–660.
- Conaway, C.H., Watson, E. Flanders, J.R., and Flegal, A.R. (2004) Mercury deposition in a tidal marsh of south San Francisco Bay downstream of the historic New Almaden mining district, California. *Marine Chemistry* 90(1–4), 175–184.
- Conaway, C.H., Squire, S., Mason, R.P., and Flegal, A.R. (2003) Mercury speciation in the San Francisco Bay estuary, *Marine Chemistry* 80, 199–225.

Thomas, M.A., Conaway, C.H., et al. (2002) Mercury contamination from historic mining in water and sediment, Guadalupe River and San Francisco Bay, California. *Geochemistry: Exploration, Environment, Analysis*, 2(3), 211–217.

**Other publications, review articles, and reports:**

Conaway, C.H., and others (In Preparation) Report for groundwater quality survey in a peatland setting in interior Alaska, Bonanza Creek Long Term Ecological Research Site, Fairbanks, Alaska.

Kent, D.B., Stoliker, D.L., Smith, R.L., Repert, D.A., Song, B.K., LeBlanc, D.R., Conaway, C.H., Thomas, R.B., McCobb, T.M., and Böhlke, J.K. (2013) Processes influencing nitrogen speciation and concentrations at the groundwater/surface-water interface: Results from 2013. Report to the Korean Institute of Geoscience and Mineral Resources (KIGAM), Daejeon, Republic of Korea.

Flegal, A.R., Gallon, C., Ganguli, P.M., and Conaway, C.H. (2013) All the Lead in China. *Critical Reviews in Environmental Science and Technology* 43, 1869–1944.

Black, F.J., Conaway, C.H., and Flegal, A.R. (2012) Mercury in the Marine Environment. *In* Bank, M.S. (editor) *Mercury in the Environment: Pattern and Process*. University of California Press, Berkeley, CA.

Conaway, C.H. (2011) Mercury Concentration in Italian Red Wine from a Mining Contaminated Region, Tuscany [Rejected]. *Journal of Universal Rejection*. Rejection letter “Read, Read, Wine” published 7 June 2011 at <http://reprobatiocerta.blogspot.com/2011/06/red-wine.html>

Draut, A.E., Conaway, C.H., Echols, K.R., Storlazzi, C.D., and Ritchie, A. (2011) Suspended sediment and organic contaminants in the San Lorenzo River, California, water years 2009–2010: U.S. Geological Survey Open-File Report 2011-1120, 24 p.

Storlazzi, C.D., Conaway, C.H., Presto, M.K., Logan, J.B., Cronin, Katherine, van Ormondt, Maarten, Lescinski, Jamie, Harden, E.L., Lacy, J.R., and Tonnon, P.K. (2011) The dynamics of fine-grain sediment dredged from Santa Cruz Harbor: U.S. Geological Survey Open-File Report 2011-1045, 110 p.

Conaway, C.H. (2008) Mercury in small order streams in areas contaminated by mercury mining: Site characterization and remediation. Report to the San Francisco Bay Regional Water Quality Control Board, Oakland, CA.

Conaway, C.H., Black, F.J., Grieb, T.M., Roy, S., and Flegal, A.R. (2008) Mercury in the San Francisco Estuary. *Reviews of Environmental Contamination and Toxicology* 194, 29-54.

Flegal, A.R., Davis, J.A., Connor, M.S., Conaway, C.H. (2007) Sources, transport, fate, and toxicity of pollutants in the San Francisco Bay estuary. Introduction to the Special Issue on Pollutants in the San Francisco Bay Estuary. *Environmental Research* 105(1), 1–4.

Conaway, C.H. (2005) Sources, Transport, and Fate of Mercury in San Francisco Estuary and Tributaries. Ph.D. Dissertation. Department of Environmental Toxicology, University of California at Santa Cruz. 134 p.

Conaway, C.H. Fleming, T.H., and Elliot, D.H. (2005) Preliminary investigation of the secondary minerals in the Kirkpatrick Basalt, Prince Albert Mountains. *Antarctic Journal of the United States* 33, 344–347.

Conaway, C.H., Watson, E. Flanders, J.R., and Flegal, A.R. (2003) Assessing historic mercury concentrations in sediments, San Francisco Bay estuary. Report to the San Francisco Bay Regional Water Quality Control Board, Oakland, CA.

Conaway, C.H. and Flegal, A.R. (2003) Toxicology. *In*: Stapleton, R. M. (editor) *Pollution A to Z*. Macmillan Reference USA, New York, p. 250–252.

Conaway, C.H. (1999) Geochemical investigation of water and sediment in the Snake River Arm of the Dillon Reservoir, Summit County, Colorado. Master's thesis, Ohio State University, Columbus.

Bennett M.J., Ponti D.J., Tinsley J.C.I., Holzer T.L., and Conaway C.H. (1998) Subsurface Geotechnical Investigations Near Sites of Ground Deformation Caused by the January 17, 1994, Northridge, California, Earthquake. US Geological Survey Open File Report 98-373, 145 pp.

Elliot D.H., Fleming T.H., Conaway C, and Braddock P. (1998) Geologic studies in the Prince Albert Mountains. *Antarctic Journal of the United States* 32(5), 14–15.

### **Presentations:**

Yousif K. Kharaka, Y.K., Gans, K.D., Conaway, C.H., Thordsen, J.J., Thomas, R.B. (2013) The energy-water nexus: Potential groundwater-quality degradation associated with petroleum production from shale and tight reservoirs. Presentation at the American Geophysical Union 2013 Fall Meeting, San Francisco, California.

Hyun, S.P., Koh, D.C., Moon, H.S., Ha, K., Böhlke, J.K., Conaway, C.H., LeBlanc, D.R., McCobb, T.D., Repert, D.A., Smith, R.L., Song, B.K., Stoliker, D., Thomas, R.B., Kent, D.B. (2013) Variability in Nitrate and Ammonium Distributions and Associated Processes at the Groundwater/Surface-water Interface in a Groundwater Flow-through Pond. Poster presentation at the American Geophysical Union 2013 Fall Meeting, San Francisco, California.

Thomas, R.B., Kharaka, Y.K., Cole, D.R., Thordsen, J.J., Conaway, C.H., Gans, K.D. (2013) Geochemical Monitoring for Potential Environmental Impacts of Geologic Sequestration of CO<sub>2</sub>. Poster presentation at the American Geophysical Union 2013 Fall Meeting, San Francisco, California.

Conaway, C.H., Morkner, P., Thomas, R.B., Saad, N. (2013) Modification of Carrier Gas Stream to Improve <sup>13</sup>C/<sup>12</sup>C Isotopic Accuracy in Cavity Ring-Down Spectroscopy-Based Measurements of Low-Concentration Dissolved Carbon Samples. Poster presentation at the American Geophysical Union 2013 Fall Meeting, San Francisco, California.

Conaway, C.H., Thordsen, J.J., Manning, M.A., Cook, P.J., Abedini, A.A., Trautz, R.C., Thomas, R.B., Kharaka, Y.K. (2012) Pre-injection Comparison of Methods for Sampling Formation Water and Associated Gas from a Monitoring Well at a Carbon Dioxide Injection Site, Citronelle Oil Field, Alabama. Poster presentation at the American Geophysical Union 2012 Fall Meeting, San Francisco, California.

Thomas, R.B., Conaway, C.H., Kharaka, Y.K., Saad, N. (2012) Carbon isotopic analysis of dissolved organic carbon in produced water brines by wet chemical oxidation and cavity ring-down spectroscopy. Poster presentation at the American Geophysical Union 2012 Fall Meeting, San Francisco, California.

Thordsen, J.J., Kharaka, Y.K., Thomas, R.B., Abedini, A.A., Conaway, C.H., Manning, M.A., Lu, J. (2012) Natural heterogeneity and evolving geochemistry of Lower Tuscaloosa Formation brine in response to continuing CO<sub>2</sub> injection at Cranfield EOR site, Mississippi, USA. Poster presentation at the American Geophysical Union 2012 Fall Meeting, San Francisco, California.

Kharaka, Y.K., Conaway, C.H., James Thordsen J., Thomas, R.B. (2012) Composition of fluids obtained using different sampling procedures from the Paluxy Formation at the Citronelle Oil Field, Alabama. Oral presentation (co presented with Kharaka) at the SECARB Joint Review Meeting, June 14, Palo Alto, CA.

Conaway, C.H. (2011) Sources of Methylmercury to the Coastal Zone. Invited oral presentation for the University of Alaska Fairbanks School of Fisheries & Ocean Sciences Institute of Marine Sciences Seminar Series, May 20, Fairbanks, AK.

Conaway, C.H., Swarzenski, P.W., and Cohen, A.C. (2011) Recent paleorecords document rising mercury contamination in Lake Tanganyika. Poster presentation at the 10<sup>th</sup> International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia.

Ganguli, P.M., Conaway, C.H., Swarzenski, P.W., Izbicki, J.A., Kehrlein, N.C., Flegal, A.R. (2011) Mercury speciation and transport in California coastal lagoons. Poster presentation at the 10<sup>th</sup> International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia.

Conaway, C.H., Storlazzi, C.D., Swarzenski, P.W., and Draut, A.E. (2011) The importance of episodic events on small, mountainous river sediment discharge to the coastal ocean and the efficacy of  $^7\text{Be}$  as a tracer of recent floods. Poster presentation at the AGU Chapman Conference on Source to Sink Systems Around the World and Through Time, Oxnard, CA.

Conaway, C.H., Storlazzi, C.D., et al. (2010) Brown to Blue: Sediment and contaminant transport from a Pacific coastal stream to Monterey Bay. Invited oral presentation for the UCSC/USGS Coastal Marine Group Research Seminar Series, Santa Cruz, CA.

Conaway, C.H., Storlazzi, C.D., et al. (2010) Brown to Blue: Sediment and contaminant transport from a Pacific coastal stream to Monterey Bay. Invited oral presentation for the USGS Mendenhall Research Seminar Series, Reston, VA.

Paytan, A; Black, F; Ganguli, P; Knee, K; Desieyes, N; Gray, E; Conaway, C; Flegal, R; Swarzenski, P (2010) Submarine groundwater discharge of total mercury and monomethylmercury to coastal waters. Presentation at the Radium and Radon Isotopes as Environmental Tracers conference, March 14–19, 2010, Jerusalem, Israel.

Conaway, C.H. (2009) Mercury in Monterey Bay. Invited oral presentation for the USGS Water Resources Division Research Seminar Series, Menlo Park, CA.

Conaway, C.H., Black, F.J., Gault-Ringold, M., Pennington, J.T., Chavez, F.P., and Flegal, A.R. (2009). Sources of methylmercury to the coastal zone. Invited oral presentation for the UCSC/USGS Coastal Marine Group Research Seminar Series, Santa Cruz, CA.

Conaway, C.H., Ross, J.R.M, Looker, R., and Flegal, A.R. (2007) Decadal mercury trends in San Francisco Estuary sediments. Poster presentation at the 8<sup>th</sup> Biennial State of the Estuary Conference, Oakland, CA.

Conaway, C.H., Black, F.J., Gault-Ringold, M., Pennington, J.T., and Flegal, A.R. (2006) Upwelling of dimethylmercury in Monterey Bay as a potential source of monomethylmercury to the atmosphere. Poster presentation at the 8<sup>th</sup> International Conference on Mercury as a Global Pollutant, Madison, WI.

Conaway, C.H., Ross, J.R.M, Looker, R., and Flegal, A.R. (2006) Decadal mercury trends in San Francisco Estuary sediments. Invited poster presentation at the 2006 National Monitoring Conference, San Jose, CA.

Conaway, C.H., Mason, R.P., Steding, D.J., and Flegal, A.R. (2005) Estimate of mercury emission from gasoline and diesel fuel consumption, San Francisco Bay area, California. Poster presentation at the 7<sup>th</sup> Biennial State of the Estuary Conference, Oakland, CA.

Conaway, C.H., Mason, R.P., Steding, D.J., and Flegal, A.R. (2005) Estimate of mercury emission from gasoline and diesel fuel consumption, San Francisco Bay area, California. Invited oral presentation 101<sup>st</sup> Geological Society of America Cordilleran Meeting, San Jose, CA.

Yee, D., Lowe, S., Ross, J., Scelfo, G., and Conaway, C. (2005) Methylmercury in San Francisco Bay surface sediments. Poster presentation at the 7<sup>th</sup> Biennial State of the Estuary Conference, Oakland, CA.

Conaway, C.H., Watson, E.B., Flanders, J.R., and Flegal, A.R. (2004) Mercury deposition in a San Francisco estuary tidal marsh. Poster presentation at the 7<sup>th</sup> International Conference on Mercury as a Global Pollutant, Ljubljana, Slovenia.

Conaway, C.H. and Flegal, A.R. (2004) Investigation of air-water exchange of mercury in San Francisco Estuary. Invited oral presentation for the USGS Water Resources Division Research Seminar Series, Menlo Park, CA.

Conaway, C.H. and Flegal, A.R. (2004) Investigation of air-water exchange of mercury in San Francisco Estuary. Invited poster presentation at the American Society of Limnology and Oceanography 2004 Ocean Research Conference, Honolulu, HI.

Flegal, A.R., C.H. Conaway, C.H., Kerin, E.J., Luengen, A.C., Black, F.J., Gilmore, M.M. (2004) Mercury in San Francisco Bay: Two centuries of contaminant fluxes. Poster presentation at the 7<sup>th</sup> International Conference on Mercury as a Global Pollutant, Ljubljana, Slovenia.

Kerin, E.J., Conaway, C.H., and Flegal, A.R. (2004) Distribution and chemical availability of mercury in sediments of the San Francisco Bay Estuary. Poster presentation at the 7<sup>th</sup> International Conference on Mercury as a Global Pollutant, Ljubljana, Slovenia.

Conaway, C.H., Watson, E. Flanders, J.R., and Flegal, A.R. (2003) Mercury deposition in a San Francisco estuary tidal marsh. Poster presentation at the Geological Society of America Annual Meeting and Symposium, Seattle, WA.

Conaway, C.H., Watson, E. Flanders, J.R., and Flegal, A.R. (2003) Mercury deposition in a tidal marsh downstream of the historic New Almaden mining district, California. Invited poster presentation at the 6<sup>th</sup> Biennial State of the Estuary Conference, Oakland, CA.

Conaway, C.H., Watson, E. Flanders, J. R., and Flegal, A.R. (2003) Mercury deposition in a tidal marsh downstream of the historic New Almaden mining district, CA. *Journal de Physique IV* 107, 1421.

Conaway, C.H., Watson, E. Flanders, J.R., and Flegal, A.R. (2003) Mercury deposition in a San Francisco estuary tidal marsh. Invited oral presentation at the 13<sup>th</sup> annual Northern California Society of Environmental Toxicology and Chemistry meeting, Berkeley, CA (Awarded best student presentation).

Kerin, E., Conaway, C.H., and Flegal, A. R. (2003) Sequential extraction of mercury from sediments in San Francisco Bay estuary. Poster presentation at 13<sup>th</sup> annual Northern California Society of Environmental Toxicology and Chemistry meeting, Berkeley, CA.

Watson, E.B., and Conaway, C.H. (2003) From cinnabar to subsidence: historic environmental change in Santa Clara Valley tidal marshes. Oral presentation at the 57th Annual Conference of the California Geographical Society, Sacramento, CA.

Kerin, E., Conaway, C.H., and Flegal, A.R. (2002) Sequential extraction of mercury from sediments in San Francisco Bay estuary. Poster presentation at the American Geophysical Union 2002 Fall Meeting, San Francisco, California.

Ranville, M.A., Conaway, C.H., and Flegal, A.R. (2002) Silver in the North Pacific. Poster presentation at the American Geophysical Union 2002 Fall Meeting, San Francisco, California.

Conaway, C.H., Squire, S., Mason, R.P., and Flegal, A.R. (2001) Mercury in the San Francisco Bay estuary. Poster presentation at the 6<sup>th</sup> International Conference on Mercury as a Global Pollutant, Minamata, Japan.

Steding, D.J., Conaway, C.H., Mason, R.P., Kelly, W.R., Long, S.E., Flegal, A.R. (2001) Estimate of potential mercury emissions to the atmosphere from crude oil processing. Poster presentation at the 6<sup>th</sup> International Conference on Mercury as a Global Pollutant, Minamata, Japan.

Thomas, M.A., Conaway C.H., Marvin-DiPasquale M., and Flegal A.R. (2000) Mercury contamination in river sediments from historic mining at New Idria and New Almaden, California. Poster presentation at the 25<sup>th</sup> Annual Conference on Heavy Metals in the Environment, Ann Arbor, Michigan.

Vinciguerra M., Conaway C.H., Pride D.E., Faure G., and Robinson C.S. (1999) Load calculations for zinc, cadmium, and lead in the Blue River, Dillon Reservoir system, Colorado. Poster presentation at the Geological Society of America annual meeting 31(7), Denver, Colorado.

Conaway C.H., Fleming T.H., Nicoll J.S., and Elliot D.H. (1998) Preliminary investigation of the secondary minerals in the Kirkpatrick Basalt, Prince Albert Mountains, Antarctica. Invited oral presentation at the North Central Geological Society of America 32nd annual meeting, Columbus, OH.

Elliot D.H. and Conaway C.H. (1998) Pyroclastic rocks of the Mawson Formation, Prince Albert Mountains, Antarctica. Oral presentation at the North Central Geological Society of America 32nd annual meeting, Columbus, OH.

**Teaching Experience:**

*Courses at UC-Santa Cruz:*

2008 Guest Instructor Earth Science 20 (Environmental Geology Laboratory)

2003, 2002, 2001, 2000 Teaching Assistant, Earth Sciences 110M (Earth as a Chemical System Laboratory)

2002 Lead Instructor for California State Summer School for Mathematics and Science (Environmental Toxicology & Chemistry Cluster)

2000 Teaching Assistant for California State Summer School for Mathematics and Science (Environmental Toxicology & Chemistry Cluster)

1999 Teaching Assistant, Earth Science 80E (Aquatic Toxicology)

*Courses at Ohio State University*

1998, 1997, 1996 Teaching Assistant for Geological Science 121 (Physical Geology Laboratory)

1998, 1997 Teaching Assistant for Geological Science 221 (Elementary Mineralogy Laboratory)

*Undergraduate projects and student theses supervised at UC-Santa Cruz:*

Kevin Tharp (2009) Bioaccumulation and Translocation of Total Mercury in Pickleweed (*Salicornia virginica*) Sustaining Salt Marsh Dodder (*Cuscuta salina*). Undergraduate Senior Thesis (*with Honors*), Biochemistry and Molecular Biology Department.

Norman Forsberg (2008) Concentration of Acetate in Rainwater. California Alliance for Minority Participation internship, Flegal Laboratory.

Melanie Gault (2005) Coastal Upwelling of Dimethylmercury as a Source of Methylmercury to the Atmosphere. Undergraduate Senior Thesis (*with Honors*), Department of Chemistry. Results presented at the 8<sup>th</sup> International Conference on Mercury as a Global Pollutant, Madison, Wisconsin, and published in *Environmental Science & Technology*.

Mari Gilmore (2003) Time Series Analysis of Mercury Concentrations in San Francisco Bay, CA. Undergraduate Senior Thesis, Department of Earth Science.

Elizabeth Kerin (2002) Mercury in Stream Sediments in San Mateo and Santa Cruz Counties, California. Undergraduate Senior Thesis, Department of Earth Science (*with Honors*). Results presented at the 7<sup>th</sup> International Conference on Mercury as a Global Pollutant, Ljubljana, Slovenia

Martha Thomas (1999) Mercury Contamination in River Sediments from Historic Mining at New Idria and New Almaden, California. Undergraduate Senior Thesis, Department of Biology (*with Honors*). Results published in the Journal *Geochemistry: Exploration, Environment, Analysis*.

*Other Teaching or Student related experience or awards:*

2007 Student Poster Judge at the 8<sup>th</sup> Biennial State of the Estuary Conference, Oakland, California

2002, 2001 Student Choice Teaching Assistant of the Year Award (runner-up), for Earth Sciences 110M (Earth as a Chemical System Laboratory)

2001 Guest Lecturer, California Alliance for Minority Participation Program "How to Give a Public Presentation Using PowerPoint"

1998 Guest Lecturer Presentation to Columbus Rock and Mineral Society "How to Identify Rocks and Minerals"

1997 Event Supervisor Assistant, Ohio Science Olympiad Regional Tournament