USGS Mercury Activities

Sources of Mercury: Contributions from Natural and Anthropogenic Sources

Mining contributions: volatilization, leaching, erosion and other loss mechanisms

name	Contact info/	subject	location	website	status/reference	support
Jim Rytuba	jrytuba@usgs.gov 650·329·5418	distribution, speciation, bioavailability and transport of mercury and arsenic in mined and undisturbed mineral deposits in low·sulfide gold quartz deposits, mercury deposits, and placers:	(1)Sierra Nevada foothills, east central Alaska, and SE US (VA, NC, GA and AL , (2) mercury deposits in Calif. Coast range and SW Alaska	http://minerals.usgs.gov/west/projects/hgas.html	underway, 2001 is the last year	MRP
Elizabeth Bailey (with Jim Rytuba)	eabailey@usgs.gov 907·786·7442	fate and transport of Hg at abandonned mercury mines in SW AK, speciation microbial, transformations, methylation, uptake into plants,	SW AK	.	complete in 2001	MRP, and BLM (Clean Water Action Plan)
Robert Seal (with Jim Rytuba)	rseal@usgs.gov 703·648·6290	Hg in abandonned gold mines used in amalgamation; Hg in soil, water, and biota; Speciation including methyl mercury, total Hg filtered and unfiltered, in Prince William Forest	Virginia	.	complete in 2000·2001	MRP and NPS
John Gray and Rick Sanzalone	jgray@usgs.gov, 303·236·2446;	environmental geochemical studies of metallic mineral deposits in AK, including massive sulfide	Alaska	http://greenwood.cr.usgs.gov/pub/bulletins/b2156/b2156.htm	Environmental Studies of Mineral deposits in Alaska USGS Bulletin 2156	MRP
William Cannon and James Bennett	wcannon@usgs.gov 703·648·6345	Concentrations in soils, sediment, lichen (Isle Royale and Voyageurs NP), relation to fire history, carbon in soil	Isle Royale and N. Wisconsin	http://minerals.usgs.gov/east/baselines/isrohg1.html	.	MRP, BRD
Mark Marvin·DiPasquale et al	mmarvin@usgs.gov 650·329·4442	MeHg degradation in Acid mine drainage associated with the New Idria Hg mine	central CA	.		
Robin Bouse, Sam Luoma, Bruce Jaffe, Mark Marvin·DiPasquale	rmbouse@usgs.gov 650·329·4448, bjaffe@usgs.gov 831·459·3389, snluoma@usgs.gov 650·329·4481, mmarvin@usgs.gov 650·329·4442	accumulation and loss of sediment, develop geochemical technique for identifying mercury·enriched goldmining debris, MeHg production and degradation associated with goldmining debris layers in San Francisco Bay,	San Francisco Bay	http://sfbay.wr.usgs.gov/access/Bruce/home.html http://sfbay.wr.usgs.gov/access/suisunbay/bathy/mining.html/home.html	.	Ecosystems, Marine and Coastal Geology
James Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	Wildrice in Crandon mine N Wisconsin	N Wisconsin	.		GLIFWIC
Charlie Alpers, Mike Hunerlach, Mark Marvin·DiPasquale, Mark Olson, Howard Taylor	cnalpers@usgs.gov 916·278·3134 hunerlac@usgs.gov 916·278·3133 mmarvin@usgs.gov 650·329·4442 mlolson@usgs.gov 608·821·3878 hetaylor@usgs.gov 303·541·3007	Hg and MeHg concentrations in water, sediment, and biota from historic placer·gold mines in the Bear·Yuba and Trininty River watersheds, Hg and MeHg loads exported from the Bear River watershed, MeHg production and degradation associated with hydraulic mining wastes	Bear·Yuba and Trinity River watersheds, California	http://ca.water.usgs.gov/valley/dutch/ http://ca.water.usgs.gov/mercury/ http://ca.water.usgs.gov/projects00/ca553.html	underway, through 2002	USGS Fed·State Coop, USDA·Forest Service, BLM, Calif. State Water Resources Control Board, Nevada County RCD

Michael S Lico, Ray J Hoffman	Mike Lico mlico@usgs.gov 775·887·7626	THg and MeHg along the mainstem, downstream reservoirs and wetlands of the Carson River, contaminated from mid·1800 mining and milling activities	Nevada	http://water.usgs.gov/pubs/circ/circ1170/index.html	The District has recently produced several USGS technical reports on mercury·contamination issue in the Carson River Basin.	wRRI grant
Joe Domagalski, Charlie Alpers, D. Slotton (UC Davis), C. Foe (RWQCB)	joed@usgs.gov 916·278·3077 cnalpers@usgs.gov 916·278·3134	Hg Loads to the Sacramento·San Joaquin Delta from the Cache Creek Watershed and the Yolo Bypass; distinguishing mining and anthropogenic sources from natural background (hot springs)	Sacramento River Basin, California	http://ca.water.usgs.gov/projects00/ca543.html	1999 · 2001	USGS Fed·State Coop, CSUSJ Foundation (CalFed)
Materials Flow Studies:						
John Sznopek and Tom Goonan	Contact info/	The Materials Flow of Mercury in the Economies of the United States and the World	nationwide		Web publication pending	MRP
Commercial production, storage						
Robert Reese	703·648·4981 rreese@usgs.gov	production, trade and consumption from raw material through refinishing to finished products	nationwide	http://minerals.usgs.gov/minerals/pubs/commodity/mercury/430300.pdf	continuing	MRP
Distinguishing natural and anthropogenic sources						
Barbara Mahler	bjmahler@usgs.gov 512·927·3506	Transport of mercury, other trace elements and hydrophobic organics in urban runoff and urban·impacted karst springs. Isolation of suspended sediment for chemical analysis in urban runoff and spring flow.	Austin, Texas		underway	USGS coop
Peter VanMetre, Barbara Mahler	pcvanmet@usgs.gov 512·927·3506; bjmahler@usgs.gov 512·927·3506	Transport of mercury, other trace elements and hydrophobic organics in suspended sediments in urban runoff. Accumulation rates and trends in hydrophobic contaminants in urban reservoirs (including Hg). Suspended·sediment chemistry in runoff and sediment coring (paleolimnology) in downstream reservoirs.	Fort Worth, Texas		underway	USGS coop/TMDL study
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton	hetaylor@usgs.gov 303 541 3007	Occurence and distribution of Hg in the Upper Rio Grande from above Creede, CO to below Taos, NM, and in Grand Canyon NP. Measurement of total Hg in water and suspended sediment at fixed station locations on mainstem and tributaries.	Arizona, Colorado and New Mexico	.	USGS Open·File Report, No. 96·614; Completed	NAWQA
Mark Brigham	mbrigham@usgs.gov 763·783·3274	Monitoring of Trace Metals Associated with Urban Runoff to the St. Croix National Scenic Riverway	Minnesota	http://mn.water.usgs.gov/active_projects/172t.html	Beginning in 2000	
Contribution from energy generation: combustion of coal, oil and gas						
Robert Finkelman	rbf@usgs.gov 703·648·6412	coal quality database	nationwide	http://energy.er.usgs.gov/products/openfile/OFR98·0772/		ERP
R.B. Finkelman, C. A. Palmer, S.Mroczkowski, A. Kolker	rbf@usgs.gov 703·648·6412	Quantifying the modes of occurrence of mercury in coal	Worldwide (also tied into Goldhaber's work in Alabama)	.	Ongoing	ERP
M.B. Goldhaber, R.C. Bigelow, J.R. Hatch, and J.C. Pashin	mgold@usgs.gov 303·236·1521	Distribution of a Suite of Elements Including Arsenic and Mercury in Alabama Coal	Alabama	http://greenwood.cr.usgs.gov/pub/mf·maps/mf·2333/	U.S. Geological Survey Miscellaneous Field Studies Map MF·2333	.

Atmospheric deposition patterns - Improved understanding of the "natural/man-related" source emissions ratio.						
Byard W. Mosher and Robert W. Talbot		An Assessment of Historical and Contemporary Atmospheric Deposition of Mercury to a New Hampshire Watershed and Lake	New Hampshire	http://water.usgs.gov/wrri/96grants/ner2nh.htm	wrri	
Gene Shinn and Chuck Holmes	eshinn@usgs.gov 727·803·8747x3030	Dust·borne mercury in crusts overlying Pleistocene limestone in Fla Keys; Mercury in African Dust deposted in south Florida	Caribbean			Toxics
Terry A. Haines (with C. Roman, S. Kahl, I. Fernandez, S. Norton, B. Wiersma, G. Jacobson, D. Manski, L. Rustad, R. Fontaine)	haines@usgs.gov 207·581·2578 Kahl@maine.maine.edu 207·581·3286	regional atmospheric deposition patterns and responses in N and Hg biogeochemistry using two sets of gauged paired·watersheds at Acadia National Park, bioavailiability and speciation	Maine			BRD
Mark Nilles	maniles@usgs.gov	Mercury deposition monitoring network · Database of weekly concentrations of total Hg in precipitation; seasonal and annual flux of total mercury in wet deposition (40 stations)	nationwide	http://nadp.sws.uiuc.edu/mdn/	continuing	National Acid Deposition Monitoring Program
Colleen Caldwell	ccaldwel@nmsu.edu 505·646·8126	Operate Mercury Deposition Network site monitoring mercury in an arid environment	southcentral New Mexico		A report on mercury in and dry deposition near completion	Frontier Geosciences, Inc. , Carlsbad Environmental Monitoring and Research Center
Martin R. Risch	317·290·3333 x163 FAX (317) 290·3313 mrrisch@usgs.gov	statewide atmospheric deposition network for mercury, TMDL development in NW Indiana	Indiana			
David Krabbenhoft, Paul Schuster, David Naftz, and DeWayne Cecil	dpkrabbe@usgs.gov (608·821·3843) pschuste@usgs.gov 303·541·3052 dlnaftz@usgs.gov 801·908·5053 ldcecil@usgs.gov 208·528·2611	Historical changes Hg use and deposition from ice cores and surface snow	Wind River Range, Wyoming, Freemont Glacier; Inilchek Glacier in Kyrghyzstan, Central Asia	http://wwwbrr.cr.usgs.gov/projects/SW_corrosion/idahoice/frames.html	In process	Toxic Substances Hydrology; National Research Program

Contributions from waste disposal, production or incineration							
James Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	deposition on lichens downwind of a pulp mill complex in International Falls MN	Minnesota		Env. And Expimental Botany 37:173·185 1997	.
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton, G.P. Ingersoll	hetaylor@usgs.gov 303 541 3007; gpingers@usgs.gov 303 236 4882	Impact of trace elements including Hg from coal fired power plants in Four Corners area on atomospheric deposition.	Colorado		in process	EPA
M. Reddy, P. Schuster, H.E. Taylor, D.A. Roth, D.B. Peart, G. Aiken	mmreddy@usgs.gov 303 541 3012; hetaylor@usgs.gov 303 541 3007; graiken@usgs.gov 303 541 3036	Study of processes involving distribution of Hg in natural ecological systems using enriched isotope tracers.	Loch Vale, CO		Ongoing	NRP
M. Reddy, P. Schuster, J. Shanley, H.E. Taylor, D.A. Roth, D.B. Peart	mmreddy@usgs.gov 303 541 3012; hetaylor@usgs.gov 303 541 3007; pschuste@usgs.gov 303·541·3052	Study of Hg deposition in Sleepers River watershed	Vermont		Ongoing	
David Susong, David Krabbenhoft, M. Abbott (Bechtel), DeWayne Cecil	ddsusong (801·908·5062), dpkrabbe@usgs.gov (608·821·3843) ldcecil@usgs.gov 208·528·2611	Atmospheric Deposition of Mercury near a mercury emission source (incinerator) at the INEEL DOE facility in Idaho; ice cores from mid·latitude glaciers in Inilchek Glacier in Kyrghyzstan near a major Hg production facility; a glacial coring site in Tibet is planned; Wyoming ice cores	Idaho Falls, ID; Inilchek Glacier in Kyrghyzstan, Central Asia; Southern Tibet; Wyoming	.	journal paper in review	DOE
Fluxes from soils						
Emissions from volcanoes and geothermal sources						
James P. Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	Concentrations of Hg in lichens in geothermal areas in Italy and Yellowstone, pathways of uptake: gaseous vs particulate	Italy and Yellowstone NP	.	Environmental and Experimental Botany 42:191·200 1999	BRD
Oceanic emissions						

Biogeochemical cycling to predict what ecosystems will have high biaccumulation and net mercury methylation rate

name	Contact info/	subject	location	website	status/reference	support

Detailed interdisciplinary process-level studies and modeling in ecosytem settings to determine processes and factors (e.g., geology, climate, hydrology, vegetative factors, water quality) that control loading, cycling, methylation, bioaccumulation, food-web transfer, exposure, and toxic effects

name	Contact info/	subject	location	website	status/reference	support
Everglades ecosystem						
D. Krabbenhoft, G. Aiken , William Orem, M. Marvin DiPasquale, C. Kendall, C. Gilmour	DPKrabbe@usgs.gov graiken@usgs.gov 303·541·3036 borem@usgs.gov 703·648·6273 mmarvin@usgs.gov 650·329·4442 ckendall@usgs.gov 650·329·4576	integrated study of Everglades mercury geochemistry, food, chain transfer, interactions with sulfur and DOC	Florida Everglades	DPKrabbe@usgs.gov http://orcddwimdn.er.usgs.gov /doc/mercury/home.html	ongoing, see website http://orcddwimdn.er.usgs.gov/doc/mercury/home.html http://sflwww.er.usgs.gov /publications/fs/166·96/foodchain.html	USGS, Placed Based Studies Program
Mark Marvin· Dipasquale	mmarvin@usgs.gov (650·329·4442)	factors mediating the simultaneous production and degradation of MeHg in a series of controlled lab experiments	Florida Everglades			
Urban environment (urban runoff, atmos inputs)						
James G. Wiener	james_wiener@usgs.gov 608/781·6224	Bioavailability of sediment·associated mercury to Hexagenia mayflies in a contaminated River	Sudbury River, MA	http://www.umesc.usgs.gov/environmental_contaminants/contamsoils/biosedimerc.html	.	USEPA (Region I), USFWS (Region 5), NOAA, USACE
Heavily impacted mining environment						
Jim Rytuba	jrytuba@usgs.gov 650·329·5418	distribution, speciation, bioavailability and transport of mercury and arsenic in mined and undisturbed mineral deposits in low·sulfide gold quartz deposits, mercury deposits, and placers:	(1)Sierra Nevada foothills, SE US (VA, NC, GA and AL , and E. central AK, (2) mercury deposits in CA. Coast range and SW AK	http://minerals.usgs.gov/west/projects/hgas.html	underway, 2001 is the last year	MRP
S.E. Church, B.A. Kimball, D.L. Fey, D.A. Ferderer,T.J. Yager, and R.B. Vaughn	schurch@usgs.gov, 303·236·1900	Source, Transport, and Partitioning of Metals between Water, Colloids, and Bed Sediments of the Animas River, Colorado	Colorado	http://greenwood.cr.usgs.gov/pub/open·file·reports/ofr·97·0151/index.shtml#contents http://amli.usgs.gov/amli/	U.S. Geological Survey Open-File Report 97·0151	.
Charlie Alpers, Mike Hunerlach, Mark Marvin·DiPasquale, Mark Olson, Howard Taylor	cnalpers@usgs.gov 916·278·3134 hunerlac@usgs.gov 916·278·3133 mmarvin@usgs.gov 650·329·4442 mlolson@usgs.gov 608·821·3878 hetaylor@usgs.gov 303·541·3007	Hg and MeHg concentrations in water, sediment, and biota from historic placer·gold mines in the Bear·Yuba and Trininty River watersheds, Hg and MeHg loads in the Bear River, MeHg production and degradation associated with hydraulic mining wastes	Bear·Yuba and Trinity River watersheds, California	http://ca.water.usgs.gov/valley/dutch/ http://ca.water.usgs.gov/mercury/ http://ca.water.usgs.gov/projects00/ca553.html	underway, through 2002	USGS Fed·State Coop, USDA·Forest Service, BLM, Calif. State Water Resources Control Board, Nevada County RCD
Charles J. Henny	hennyc@fsl.orst.edu 541 757·4840	Effects of Hg on fish·eating birds nesting along the Carson River contaminated with gold·mining tailings. Total and methylmercury in liver, blood, brain, eggs; histopathology. Hepatic demethylation	Nevada	http://fresc.fsl.orst.edu/research/podescrip.html#70·70	complete in FY 2001	EPA, BRD
Mark Marvin· DiPasquale	mmarvin@usgs.gov (650·329·4442)	Hg methylation and demethylation processes in point·source contaminated systems: Carson River, NV and San Carlos Creek, CA	Carson, NV and San Carlos, CA	.	Journal Article submitted to ES&T	USEPA

Louisiana Lakes							
W. H. Patrick, R. D. DeLaune and R. P. Gambrell		Hg in Louisiana Freshwater Lakes: Effect of anaerobic conditions on methylation and demethylation of Hg	Louisiana lakes	http://water.usgs.gov/wrri/99projects/state/Louisiana.html	March 1, 1999 through February 28, 2000	.
Western Riverine system							
Charlie Alpers, Howard Taylor, Joe Domagalski, Dan Cain	cnalpers@usgs.gov 916·278·3134 hetaylor@usgs.gov 303·541·3007 joed@usgs.gov 916·278·3077 djcain@usgs.gov 650·329·4478	Metal Transport in the Sacramento River, California; Exposure to a Benthic Invertebrate, *Hydropsyche californica*; Distribution of Inorganic Mercury in Sacramento River Water and Sediments	Sacramento River, CA	http://ca.water.usgs.gov/projects99/ca522.html	June 1996 through December 1998	USGS State·Fed. Coop, Sacramento Reg. County Sanitation Distr., CA State Water Res. Control Bd, NMFS, USEPA
Joe Domagalski, Charlie Alpers, Darell Slotton (UC Davis), Chris Foe (RWQCB)	joed@usgs.gov 916·278·3077 cnalpers@usgs.gov 916·278·3134	Mercury Loads to the Sacramento·San Joaquin Delta from the Cache Creek Watershed and the Yolo Bypass; speciation of mercury in suspended sediments and streambed sediments and relationship to net methylation rates and bioaccumulation	Sacramento River Basin, California	http://ca.water.usgs.gov/projects00/ca543.html	1999 · 2001	USGS Fed·State Coop, CSUSJ Foundation (CalFed)
Joe Domagalski	joed@usgs.gov	Hg and MeHg concentations and loads in surface waters in the Sacramento River Basin	Sacramento River, CA	http://water.wr.usgs.gov/sac_nawqa/	ongoing	Fairfield·Suisun Sanitation Distr. NAWQA,
NE wetland							
Terry A. Haines	haines@usgs.gov 207·581·2578	Association of Methylmercury with Dissolved Organic Carbon: Implications for Bioaccumulation in Maine Freshwater Fish. Inferring regional patterns and responses in N and Hg biogeochemistry using two sets of gauged paired·watersheds at Acadia National Park	Maine	http://water.usgs.gov/wrri/98grants/MaineAsso.htm	.	
Western Reservoir (recently established)							
Mark Brigham and David Krabbenhoft	dpkrabbe@usgs.gov 608·821·3843, mbrigham@usgs.gov 763·783·3274	Methylmercury production has been observed in response to creation of Canadian Reservoirs. Impoundments for water fowl habitat and wild rice production are common in Minnesota, but what effect does this have on methylmercury production	northern Minnesota	http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	USGS Open File Report	Fed St. Coop. , Red River Watershed Distr. Red Lake Indian Res.

N. central US and Canada							
Patrick Brezonik and Paul Bloom	Univ. of Minnesota, Depts. Of Civil engrg.and Soil, Water & Climate	Mercury binding by soil and aquatic humic matter and photochemical processes affting Hg cycling in lakes and wetlands	Minnesota	http://wrc.coafes.umn.edu/	9/98-12/00	WRRI grant
David Krabbenhoft, Jim Hurley (U. of Wisc.), John Rudd (U of Manitoba), George Aiken (DOC), Cindy Gilmour (geochemistry) et al	DPKrabbe@usgs.gov graiken@usgs.gov 303-541-3036	The Mercury Experiment To Assess Atmospheric Loading in Canada and the United States (METAALICUS) project: Different isotopes of mercury (e.g., Hg-198, Hg-200, Hg-202) will be added to major landscape types of an entire watershed (upland forests, wetlands, and the lake). Identify transport pathways in ecosystems, separate new versus old mercury and determine which mercury is bioaccumulating in food webs, to predict effect of reduction strategies on bioaccumulation of mercury in food webs and response to loading.	The Experimental Lakes Area (ELA) of northwestern Ontario.	http://www.biology.ualberta.ca/metaalicus/metaalicus.htm, http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	New project. Pilot scale studies on Hg isotope applications FY 99 and FY00; whole ecosystem study to start in FY01	Toxic Substances (USGS), USEPA, DOE, Canada Dept. of Fisheries and Oceans.
E.A. Nater and D.F. Grigal; Dept of Soil, Water, and Climate; Univ. of Minn.		Particulate Transport of Mercury through Forested Watersheds	northern Minnesota	http://water.usgs.gov/wrri/96grants/ncr3mn.htm	1 September 1996 to 31 August 1998	.
James Wiener, Brent Knights (with Jim Cannon, Laurel Woodruff, Bob Goldstein, Mark Brigham, et al)	james_wiener@usgs.gov	An analysis of factors affecting methylmercury contamination of food webs in semi-remote lakes of the Voyageurs National Park, northcentral Minnesota	Northern Minnesota	No web site information for this project at present	Starts 5/00 collaboration with WRD (MN & WI), GD (MN), and BRD (UMESC & CERC), as well as NPS and the state of Minnesota	USGS and Minnesota Pollution Control Agency
Coastal Blackwater stream						

National/Regional-scale assessments: concentrations in sediment, biota and water in a wide range of environments representing different gradients - climatic, geologic, land use and land cover, soils, salinity, nutrient and wetland density, Hg loading rate, pH, organic carbon, sulfate, temperature

name	Contact info/	subject	location	website	status/reference	support
What are the national-to regional scale trends in mercury and methlymercury contamination of aquatic ecosystems across the US						
H.E. Taylor, D.A. Roth, H.C. R.C. Antweiler, D.B. Peart, T.I. Brinton, J.R. Garbarino,	hetaylor@usgs.gov 303 541 3007; jrgarb@usgs.gov 303 236 3945	Assessment of Hg occurrence in Mississippi River and tributaries.	Mississippi River Basin	.	completed USGS Circular 1133	NRP
David Krabbenhoft, James Wiener, Willaim Brumbaugh, Herb Buxton, and Dennis Helsel	dpkrabbe@usgs.gov 608-821-3843, james_wiener@usgs.gov, 608-783-7550 x 44, dhelsel@usgs.gov 303-236-2101x227	Assessment study of mercury and methylmercury in stream water, sediments, and fish tissue, with relations to land use, water quality and mercury loading.	nationwide	http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	In process	NAWQA Toxics
Methymercury production in varied environments						
Mark Brigham and David Krabbenhoft	dpkrabbe@usgs.gov 608-821-3843, mbrigham@usgs.gov 763-783-3274	Methylmercury production in flood-control impoundments of Minnesota.	northern Minnesota	http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	USGS Open File Report	Fed State Coop., Red River Watershed Distr. Red Lake Indian Res.
Goldstein, R.M., and Brigham, M.E	goldstei@usgs.gov 763-783-3275 mbrigham@usgs.gov 763-783-3274	Comparison of Mercury Concentrations in Liver, Fillet Tissue, and Whole Bodies of Fish from the Red River of the North	Upper Great Lakes Region	http://wwwmn.cr.usgs.gov/redn/abs/bmg2.html	NAWQA	
Michelle R. Bartsch	michelle_bartsch@usgs.gov 608/781-6285	spatial variation in concentrations of Cd, Hg, PCBs, and other OCs in zebra mussels from the upper Mississippi River	Upper Mississippi River	http://www.umesc.usgs.gov/environmental_contaminants/assessment/bioassesszeb.html	Initiated 1995; field work completed	.
Nelson Beyer, Dan Day, Anna Morton	Nelson_Beyer@usgs.gov, 301-497-5703 Dan_Day@usgs.gov 301-497-5708	Mercury concentrations in Florida sandhill cranes, anhingas, and other wildlife/wading birds from Florida refuges	Florida	http://www.pwrc.usgs.gov/beyer2s.htm	.	
William Cannon and James Bennett	wcannon@usgs.gov 703-648-6345	Concentrations in soils, sediment, lichen (Isle Royale and Voyageurs NP), relation to fire history, carbon	Isle Royale and N. Wisconsin	http://minerals.usgs.gov/east/baselines/isrohg1.html	.	MRP, BRD
Wang, Bronwen	bwang@usgs.gov 907-786-7110	Spatial Distribution of Chemical Constituents in the Kuskokwim River, Alaska bed sediments	Alaska	http://ak.water.usgs.gov/Publications/Abstracts/1999.Abstracts/kuskokwim_abs.htm	Wang, Bronwen, 1999, Spatial distribution of chemical constituents in the Kuskokwim River, Alaska: U.S. Geological Survey Water-Resources Investigations Report 99-4177, 33 p.	.
Jim Crock	jcrock@usgs.gov 303-236-2452	Hg analytical techniques, Hg in soils, seds, and rocks in the West and AK	.			

	http://grid2.cr.usgs.gov/geo2000/english/i184.htm	mercury in Beluga Whales	Arctic	http://grid2.cr.usgs.gov/geo2000/english/i184.htm	.	
James Hein	jhein@usgs.gov; 650-329-5287	Environmental geochemical studies; geologic baselines and backgrounds; natural and anthropogenic sources of toxic metals (including Hg) in the Southern California Borderland	Southern California Continental Borderland	.	Pilot project FY00; full project begins FY01	CMGP
H.E. Taylor, D.A. Roth	hetaylor@usgs.gov 303 541 3007	Measurement of trace Hg concentrations by isotope dilution inductively coupled plasma mass spectrometry	Colorado		Completed in 1998 Abstract · Rocky Mnt. Conference on Analytical Chemistry · Denver, CO	NRP
H.E. Taylor, D.B. Peart, R.C. Antweiler, D.A. Roth	hetaylor@usgs.gov 303 541 3007	Reevaluation of standard reference water samples for total trace Hg	Colorado		Completed in 1998 Published in The Analyst, v. 3, 1998 , 455-476	NRP
David Krabbenhoft, James Wiener, David Clow, Rob Striegl, Peter Van Meter, and Herb Buxton	dpkrabbe@usgs.gov 608-821-3843, james_wiener@usgs.gov, 608-783-7550 x 44, rstriegl@usgs.gov 303-236-4993; dclow@usgs.gov , 303-236-4882x294	Mercury and methylmercury in low pH, dilute high alpine lakes.	High alpine lakes in six national parks in Montana, Wyoming, Colorado, and California.	http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	Sampling and analysis completed 1999, interpreting data and publishing journal paper in fall of 2000.	Toxic Substances, NRP, NAWQA, and NPS grant to Colorado District.
Mark Munn	mdmunn@usgs.gov 253-428-3600x2686	Walleye in FDR Lake Washington	Washington State	http://wa.water.usgs.gov/wadmin/Projects/summary.392.html http://wa.water.usgs.gov/Lake Roosevelt.html	1993-4	NAWQA, EPA
John Gray	jgray@usgs.gov (303) 236-2446	Mercury in stream sediments, fish and water	SW Alaska	http://greenwood.cr.usgs.gov/pub/fact-sheets/fs-0072-94/	see web site for reference	MRP
Core studies of history of deposition (ice, sediment, or other durable record)						
S.A. Norton, D.L. Courtemanch, and J.S. Kahl		Differentiating local contributions of mercury from regional inputs (using sediment cores)	Maine	http://water.usgs.gov/wrri/98grants/MaineDiff.htm	9/98 to 8/00	WRRI?
Sam Luoma and Bruce Jaffe and Michele Hornberger	snluoma@usgs.gov 650-329-4481 bjaffe@usgs.gov 831-459-3389,	Historical bathymetric change in San Francisco Bay and history of mercury deposition from sediment cores	California	http://sfbay.wr.usgs.gov/access/suisunbay/bathy/mining.html	.	
D. Eisemann, W. N. Beyer, R. E. Bennetts, and A. Morton	nelson_beyer@usgs.gov 301-497-5703	Mercury residues in south Florida apple snails (Pomacea paludosa)	south Florida	http://www.pwrc.usgs.gov/prodabs/abs4928.htm	.	
James J. Rytuba	jrytuba@usgs.gov 650-329-5418	Mercury and methylmercury concentration in sediment cores and surface water from Medicine Lake, California	volcanic lake, California	http://geopubs.wr.usgs.gov/open-file/of00-043/Hg/mercury.html http://geopubs.wr.usgs.gov/open-file/of00-043/of00-043.html	.	
David Krabbenhoft, Paul Schuster, David Naftz, and DeWayne Cecil	dpkrabbe@usgs.gov (608-821-3843) pschuste@usgs.gov 303-541-3052 dlnaftz@usgs.gov	Historical changes in ice cores and surface snow related to Hg use and deposition in Wyoming, ice cores from mid-latitude glaciers in Inilchek Glacier in Kyrghyzstan near a major Hg production facility; a glacial coring site in Tibet is	Wind River Range, Wyoming, Freemont Glacier; Inilchek Glacier in Kyrghyzstan, Central Asia; Southern	http://wwwbrr.cr.usgs.gov/projects/SW_corrosion/idahoice/frames.html	In process	Toxic Substances Hydrology; National Research
Byard W. Mosher and Robert W. Talbot		An Assessment of Historical and Contemporary Atmospheric Deposition of Mercury to a New Hampshire Watershed and Lake	New Hampshire	http://water.usgs.gov/wrri/96grants/ner2nh.htm	wrri	
Peter Van Metre, Ted Callender, Barbara Mahler, Jennifer Wilson	pcvanmet@usgs.gov 512-927-3506; eccallen@usgs.gov 703-648-5826; bjmahler@usgs.gov 512-927-3506; jenwilso@usge.gov 512-927-3527	NAWQA Reconstructed Trends study. Trends in hydrophobic contaminants in response to urbanization. Paleolimnology in ~60 reservoirs and lakes nationally in 15 major urban areas to identify trends in hydrophobic contaminants (metals and organics). Rates of deposition as a function of type and rates of human urban development. Urban and near-urban atmospheric reference lakes being sampled.	nationwide	http://tx.usgs.gov/coring/	underway since 1992; publications listed on website	NAWQA Program
Peter Van Metre, Dave Krabbenhoft, Ted Callender, Barbara Mahler, Jennifer Wilson	pcvanmet@usgs.gov 512-927-3506; dpkrabbe@usgs.gov 608-821-3843; eccallen@usgs.gov 703-648-5826; bjmahler@usgs.gov 512-927-3506; jenwilso@usge.gov 512-927-3527	Regional trends in atmospheric fallout of mercury, other heavy metals, and PAHs. Sediment cores are being collected from remote lakes across the U.S. to estimate fallout rates and trends. This study is related to the NAWQA Reconstructed Trends study.	nationwide	.	begun in 1999 with 5 lakes in the Rocky Mtns.	NAWQA and Toxics Programs
Terry Edgar	tedgar@usgs.gov 727-803-8747 ext3008	Relation between climate and mercury deposition in Lake Tulane, central Florida, last 70,000 years, cooperative study with University of Maine, George Jacobson	central Florida	.	complete by end of fy 2000	Toxics

Gene Shinn and Chuck Holmes	eshinn@usgs.gov 727·803·8747x3030	Dust·borne mercury in crusts overlying Pleistocene limestone in Fla Keys; Mercury content in cores taken from a deep carbonate hole in continental shelf off Belize, Mercury in African Dust deposted in south Florida	Caribbean			Toxics
M. Brigham, R. Goldstein, J.Wiener, J.Bennett, L. Kallemeyn, D. Krabbenhoft, J. Jeremiason, J. Schaberl, M. Olson, M. Sandheinrich , R. Andrascik,	mbrigham@usgs.gov 763·783·3274	Assessing mercury levels in small lakes in Voyageurs National Park, northern Minnesota, volatile aqueous mercury cycling, Mercury in soils, lichens, and age·1 yellow perch	Voyageurs National Park, northern Minnesota	http://mn.water.usgs.gov/active_projects/00330t.html http://mn.water.usgs.gov/active_projects/172t.html	2000	Minnesota Pollution Control Agency, USGS Federal·State Coop Water Program, MRP, BRD, NPS
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton, B. Hart, J. Rihs, K. Berghoff	hetaylor@usgs.gov 303 541 3007; bhart@usgs.gov 520 556 7137	Water quality of springs and seeps in Grand Canyon National Park and Glen Canyon National Recreation Area	Utah, Arizona		Grand Canyon in progress; Glen Canyon completed 1997, NPS Technical Report NPS/NRWRD/NRTR·97/128, 1997	NPS, WAQAM
William Cannon	wcannon@usgs.gov 703·648·6345	concentrations in soils and sediment	Isle Royale and N. Wisconsin	http://minerals.usgs.gov/east/baselines/isrohg1.html		MRP
Databases or studies of mercury in tissues or other matrices						
Barnett Rattner	Barnett_Rattner@usgs.gov 301·497·5671	Bioassessment and Monitoring for Public Lands and Trust Resources, Contaminant Exposure and Effects··Terrestrial Vertebrates	Atlantic coast	http://www.pwrc.usgs.gov/research/sis98/rattnr2s.htm	ongoing	
Jeffrey Grossman and others	jgrossman@usgs.gov 703·648·6184	geologic baselines and backgrounds· NURE enhancement· concentrations in sediment	nation·wide	http://greenwood.cr.usgs.gov/pub/open-file·reports/ofr·97·0492/	ofr 97·492	MRP
Roger L. Hothem	roger_hothem@usgs.gov 530·752·4605	Applying a bioassessment and monitoring framework for public lands and trust resources in coastal and estuarine habitats: Pacific Coast, Hawaii, and Alaska	Pacific Coast, Alaska and Hawaii	.	Beginning in Spring 2000	BEST Program and BRD
Christopher Schmitt	christopher_schmitt@usgs.gov 573·875·5399x1846	National Contaminant Biomonitoring Program historic database of contaminants in fish and birds,	nationwide			
Christopher Schmitt, Tim Bartish	christopher_schmitt@usgs.gov 573·875·5399x1846	Fish samples from Mississippi River Basin, chemical concentrations and biomarkers · Biomonitoring of Environmental Status and Trends Program (BEST)	Mississippi River Basin	.		BEST
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton, J. Thullen, J. Sartoris	hetaylor@usgs.gov 303 541 3007; jthullen@usgs.gov	Distribution of trace elements, including Hg, in vegetation from constructed wetlands associated with water treatment plants	Hemet, CA		ongoing	
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton, L. Barber	hetaylor@usgs.gov 303 541 3007; lbbarber@usgs.gov 303 541 3039	Distribution of trace elements, including Hg, in vegetation and fish tissue from a constructed wetland associated with Tres Rios, AZ water treatment plant	Phoenix, AZ		ongoing	
Franson, J.C., J.A. Schmutz, L.H. Creekmore, and A.C. Fowler.	chris_franson@usgs.gov 608·270·2444	Concentrations of selenium, mercury, and lead in blood of emperor geese	western Alaska		Environmental Toxicology and Chemistry 18(5):965·969 (1999)	BRD
James P. Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	Database and statistical analysis of concentrations of trace elements (including Hg) in a lichen species with worldwide range · baseline for monitoring purposes	Worldwide		Chapter 19 in Environmental Pollution and Plant Responses, Lewis, 2000	BRD
James P. Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	Hg in lichens in geothermal areas in Italy and Yellowstone, pathways of uptake gaseous vs particulate	Italy and Yellowstone NP	.	Environmental and Experimental Botany 42:191·200 1999	BRD
Jim Wiener, Michelle R. Bartsch	michelle_bartsch@usgs.gov 608/781·6285 james_wiener@usgs.gov 608/781·6224	Sediment·Contaminant Database	Upper Mississippi River, Illinois River, and selected tributaries	http://www.umesc.usgs.gov/data_library/sediment_contaminants/sediment_contaminant_page.html	see website	.
Exposure of Humans						
James Bennett	jpbennet@facstaff.wisc.edu 608·262·5489	Hg Concentrations in Wild rice, a Native American food, in Crandon mine N Wisconsin and a chloralkali plant, central Wisconsin	Wisconsin		Sci. Total Environ 246:261·269 2000 Water Air and Soil Pollution 102:427·436 1999	.

Toxic Effects, and associated bioaccumulation studies

name	Contact info/	subject	location	website	status/reference	support
Field Exposure, Bioaccumulation and Effects in animals: reproduction, behavior, community ecology, demography:						
Tom and Christine Custer	carl_korschgen@usgs.gov 608-783-7550, ext. 15	Tree swallows as indicators of mercury bioaccumulation in the North Fork of the Holston River, VA	North Fork of the Holston River, VA	.		
Colleen Caldwell	ccaldwel@nmsu.edu 505-646-8126	in aquatic food webs (plankton through piscivorous birds) in arid-lands reservoirs. Influence of fire, wetland, and limnology on methylation(Proposed)	southcentral New Mexico	http://www.usbr.gov/research/Level_3_folder/Completed_98_Folder/Water_Completed_98_Folder/WR9809.htm		BRD, New Mexico
Terry Haines, Jerry Longcore,	Jerry_Longcore@usgs.gov, 207 581-2874 haines@usgs.gov 207-581-2578	Mercury accumulation in tree swallows at Acadia NP.	Acadia National Park, Maine	.	Data analysis and writeup phase	BRD
Terry Haines, Jerry Longcore,	Jerry_Longcore@usgs.gov, 207 581-2874 haines@usgs.gov 207-581-2578	Bioavailability and potential effects of mercury and other trace metals on biota (tree swallows) in Plow Shop and Grove Pond, Fort Devens, MA	Massachusetts		in progress/chemical analyses being completed	USFWS
Roger L. Hothem, Davis, CA), Steven E. Schwarzbach (USFWS), and Mark R. Jennings	roger_hothem@usgs.gov 530-752-4605	Mercury in the Cache Creek Ecosystem: Bioaccumulation and Effects on Biota (fish, amphibians and birds)	Cache Creek, Coast Range, California	http://ca.water.usgs.gov/mine/sum/cache.html	Field Work complete winter 2000, samples analyzed for contaminants, report in progress	FWS Off-refuge funding and BRD
Roger L. Hothem, Jason May, Mark Jennings, and Charles Alpers	roger_hothem@usgs.gov 530-752-4605	Contamination associated with abandoned mine lands, Bear River and South Fork Yuba River Watersheds: Mercury Contamination of Biota	Sierra Nevada, CA	http://ca.water.usgs.gov/mercury/Bear-Yuba/ http://ca.water.usgs.gov/projects00/ca553.html	In progress	BLM, USFS
Terry Haines	haines@usgs.gov 207-581-2578	Bioavailability and potential effects of mercury and selected other trace metals on biota in Plow Shop and Grove ponds, Fort Devens, MA	Massachusetts pond	.		
Terry Haines	haines@usgs.gov 207-581-2578	Sources, Fate, and Effects of Mercury in Aquatic Systems at Acadia National Park, Maine, and Cape Cod National Seashore, MA	Coastal Massachusettes and Maine	.		
Charles J. Henny	hennyc@fsl.orst.edu 541 757-4840	Evaluation of Ospreys as an indicator of sentinel species for long-term monitoring of contaminant loading and the general health of rivers; residues in eggs, concentrations of Ocs and Hg in diet,	Oregon - Columbia and Willamette Rivers	http://fresc.fsl.orst.edu/research/podescrip.html#70-71	report in fall 2000	EPA, BEST
Charles J. Henny	hennyc@fsl.orst.edu 541 757-4840	Effects of Hg on fish-eating birds nesting along the Carson River contaminated with gold-mining tailings. Total and methylmercury in liver, blood, brain, eggs; histopathology. Hepatic demethylation	Nevada	http://fresc.fsl.orst.edu/research/podescrip.html#70-70	complete in FY 2001	EPA, BRD
Beverly Arnold (with Timothy S. Gross, Charles Jagoe, Jon Wiebe, Carla Wieser Elizabeth Howerth, and Robert Reinert	Tim_s_gross@usgs.gov	An evaluation of methyl mercury as an endocrine disruptor in Nile tilapia	South Carolina (SREL)		SETAC abstract 1998, proceedings of 6th Int. Symp. Metal Ions in Biology and Medicine 2000	EPA/NIEHS
Timothy S. Gross (with B. Johnson, C. Wieser, and J. Wiebe)	Tim_s_gross@usgs.gov	An assessment of potential contaminant effects for wildlife in the south Florida ecosystem:mercury exposures and potential effects	South Florida (Everglades)	.		PBS
Jill Jenkins, with Paul Conzelmann and David Walther (FWS)	jill_jenkins@usgs.gov 318-226-8607	Assessment of bass and carp health and mercury levels in largemouth bass and common carp from the Atchafalaya National Wildlife Refuge, Louisiana. Biomarkers	Louisiana	http://www.nwrc.usgs.gov/meeting/abstct17.html		
Timothy S. Gross (with N. Kernaghan, C. Miles, and S. Ruessler	Tim_s_gross@usgs.gov	Bioaccumulation of methyl mercury and endocrine disrupting effects in the freshwater mussel, Elliptio buckleyi.	Gainesville FL		SETAC abstract 1999, proceedings of 6th Int. Symp. Metal Ions in Biology and Medicine 2000	EPA and FCSC

Toxicity Tests - Interaction of MeHg with other environmental stressors, or species or life stage sensitivity							
	Timothy S. Gross (with K. Aikins, C. Wieser, J. Wiebe and S. Ruessler)	Tim_s_gross@usgs.gov	An evaluation of reproductive toxicity of methyl mercury in largemouth bass,	Gainesville, FL		SETAC abstract 1998, proceedings of 6th Int. Symp. Metal Ions in Biology and Medicine 2000	FWS and FCSC
	Dora Passino	(734) 214-7229, dora_reader@usgs.gov	In vitro Hg toxicity in thymocytes and other immune tissues in lake trout As part of my collaboration on two NAWQA areas (Lake Erie-Lake St. Clair and the Illinois River basin), I have been applying probabilistic ecological risk assessment to the suite of metals, including Hg, in sediments and fish.			Miller et al 2001. Presence of chemical interaction in lake trout (Salvelinus namaycush) immune cells exposed to select combinations of PCB, mercury, cortisol, and bacterial endotoxin. Fish and Shellfish Immunology. Accepted subject to revisions. (03/01).; Biomarkers 4:237-253.	
	Kevin Kenow	carl_korschgen@usgs.gov 608-783-7550, ext. 15 kevin_kenow@usgs.gov, (608-781-6278)	Toxicity testing of wild loons to methylmercury exposure, and assessing the ecological risk of mercury exposure in common loons (Gavia immer)	Wisconsin		underway	EPRI, Wisconsin DNR, USGS-BRD
	Dave Hoffman, Barnett Rattner, John French, Gary Heinz; R. Bennett and J.Nichols (EPA)	john_french@usgs.gov	Pilot study of toxicity of methylmercury to American kestrels; reproduction, absorption and distribution in tissues- EPA will model toxicokinetics	studies at PWRC applicable nationwide	.	underway	EPA Duluth and USGS
	G.H. Heinz and D.J. Hoffman	david_hoffman@usgs.gov 301-497-5712 gary_heinz@usgs.gov 301-497-5711	Methylmercury chloride and selenomethionine interactions on health and reproduction in mallards	studies at PWRC applicable nationwide	http://www.pwrc.usgs.gov/prodabs/ab298898/abs5001.htm	.	
LOELs							
	Gary Heinz and David Hoffman	david_hoffman@usgs.gov 301-497-5712 gary_heinz@usgs.gov 301-497-5711	Determination of the minimum concentration of mercury in mallard eggs that affects reproduction.	studies at PWRC applicable nationwide			
Comparative sensitivity of various species to MeHg.							
	G.H. Heinz and D.J. Hoffman	gary_heinz@usgs.gov 301-497-5711	Relative sensitivities of eggs of various species of fish-eating and other wild birds to methylmercury	California		beginning	USBR (Calfed), USGS
Risk Assessment: Relative risk from major environmental stressors, comparative risk							
	Dora Passino	(734) 214-7229, dora_reader@usgs.gov	probabilistic ecological risk assessment of a suite of metals, including Hg, in sediments and fish.	Lake Erie-Lake St. Clair and the Illinois River basin			BRD NAWQA
Human health							

Identification of management options and areas where management would be effective

name	Contact info/	subject	location	website	status/reference	support
fire						
Terry A. Haines, Aria Amirbahman	haines@usgs.gov 207-581-2578	Cycling and Speciation of Mercury in the Soil of the Acadia National Park: burned and unburned areas	Acadia Park	http://water.usgs.gov/wrri/99projects/state/Maine3.html	1/9/99-31/8/01	WRRI
Dave Krabbenhoft	dpkrabbe@usgs.gov 608-821-3843;	Effect of Everglades wildfire on methylmercury	South Florida			
William Cannon and James Bennett	wcannon@usgs.gov 703-648-6345	Concentrations in soils, sediment, lichen (Isle Royale and Voyageurs NP), relation to fire history, carbon in soil	Isle Royale and N. Wisconsin	http://minerals.usgs.gov/east/baselines/isrohg1.html	.	MRP, BRD
reservoirs and other impoundments						
Duane Chapman, Bill Brumbaugh, Tom May, Jim Petty,	jim_petty@usgs.gov 573-875-5399x1824	Potential effects of water usage and climate on bioavailability of mercury; concentrations in fish and sediment of Elephant Butte Reservoir	reservoir in arid New Mexico	.	FY 2000-2001	BRD
Mark Brigham and David Krabbenhoft	dpkrabbe@usgs.gov 608-821-3843, mbrigham@usgs.gov 763-783-3274	Methylmercury production in flood-control impoundments.	northern Minnesota	http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	USGS Open File Report	Coop w/ Red River Watershed Distr. and Red Lake Indian Reserv.

wetland construction and inundation						
H.E. Taylor, D.A. Roth, R.C. Antweiler, D.B. Peart, T.I. Brinton, J. Thullen, J. Sartoris, L. Barber	hetaylor@usgs.gov 303 541 3007; jthullen@usgs.gov	Distribution of trace elements, including Hg, in vegetation from constructed wetlands associated with water treatment plants	Hemet, CA; Phoenix, AZ	.	ongoing	
Predict effect of reduction strategies on bioaccumulation of mercury in food webs and response to loading						
David Krabbenhoft, Jim Hurley (U. of Wisc.), John Rudd (U of Manitoba), George Aiken (DOC), Cindy Gilmour (geochemistry) et al	DPKrabbe@usgs.gov graiken@usgs.gov 303-541-3036	The Mercury Experiment To Assess Atmospheric Loading in Canada and the United States (METAALICUS) project: Different isotopes of mercury (e.g., Hg-198, Hg-200, Hg-202) will be added to major landscape types of an entire watershed (upland forests, wetlands, and the lake). Identify transport pathways in ecosystems, separate new versus old mercury and determine which mercury is bioaccumulating in food webs, to predict effect of reduction strategies on bioaccumulation of mercury in food webs and response to loading.	The Experimental Lakes Area (ELA) of northwestern Ontario.	http://www.biology.ualberta.ca/metaalicus/metaalicus.htm, http://orcddwimdn.er.usgs.gov/doc/mercury/home.html	New project. Pilot scale studies on Hg isotope applications FY 99 and FY00; whole ecosystem study to start in FY01	Toxic Substances (USGS), USEPA, DOE, Canada Dept. of Fisheries and Oceans.
mine containment						
monitoring						
David Schoellhamer	dschoell@usgs.gov (916) 278-3126	Use of suspended solids concentration as a surrogate to estimate total mercury concentration in San Francisco Bay	San Francisco Bay	.	Schoellhamer, D.H., 1997, Time series of SSC, salinity, temperature, and total mercury concentration in San Francisco Bay during water year 1996: 1996 Annual Report of the Regional Monitoring Program for Trace Substances, p. 65-77.	.
Jim Petty, Bill Brumbaugh, Tom May, Jim Huckins	jim_petty@usgs.gov 573-875-5399x1824	Passive Integrative Mercury Sampler, a new technique for measuring vapor phase, neutral mercury species	nationwide		ongoing	BRD
Roger L. Hothem	roger_hothem@usgs.gov 530-752-4605	Applying a bioassessment and monitoring framework for public lands and trust resources in coastal and estuarine habitats: Pacific Coast, Hawaii, and Alaska	Pacific Coast, Alaska and Hawaii	.	Beginning in Spring 2000	BEST Program and BRD
Hotspot identification/prediction						
Joe Domagalski, Charlie Alpers (with J.Rytuba), D.Slotton (UC Davis), C.Foe (RWQCB), R.Churchill (CDMG)	joed@usgs.gov 916-278-3077 cnalpers@usgs.gov 916-278-3134	Mercury Loads to the Sacramento-San Joaquin Delta from the Cache Creek Watershed and the Yolo Bypass; idenitifcation of mine sites with high	Sacramento River Basin, California	http://ca.water.usgs.gov/projects00/ca543.html	1999 - 2001	USGS Fed-State Coop, CSUSJ Foundation (CalFed)
Charlie Alpers, Mike Hunerlach, Mark Marvin-DiPasquale, Mark Olson, Howard Taylor	cnalpers@usgs.gov 916-278-3134 hunerlac@usgs.gov 916-278-3133 mmarvin@usgs.gov 650-329-4442 mlolson@usgs.gov 608-821-3878 hetaylor@usgs.gov 303-541-3007	Hg and MeHg concentrations in water, sediment, and biota from historic placer-gold mines in the Bear-Yuba and Trinity watersheds, MeHg production and degradation associated with hydraulic mining wastes	Bear-Yuba and Trinity River watersheds, California	http://ca.water.usgs.gov/valley/dutch/ http://ca.water.usgs.gov/mercury/Bear-Yuba/ http://ca.water.usgs.gov/projects00/ca553.html	underway, through 2002	USGS Fed-State Coop, USDA-Forest Service, BLM, Calif. State Water Resources Control Board, Nevada County RCD

Analytical Techniques

H.E. Taylor, D.A. Roth	hetaylor@usgs.gov 303 541 3007	Measurement of trace Hg concentrations by isotope dilution inductively coupled plasma mass spectrometry	Colorado		Completed in 1998 Abstract · Rocky Mnt. Conference on Analytical Chemistry · Denver, CO	NRP
H.E. Taylor, D.B. Peart, R.C. Antweiler, D.A. Roth	hetaylor@usgs.gov 303 541 3007	Reevaluation of standard reference water samples for total trace Hg	Colorado		Completed in 1998 Published in The Analyst, v. 3, 1998 , 455-476	NRP
Jim Crock	jcrock@usgs.gov 303-236-2452	Hg analytical techniques, Hg in soils, seds, and rocks in the West and AK				

Related work by WRRI

name	Contact info/	subject	location	website	status/reference	support
Patrick Brezonik and Paul Bloom	Univ. of Minn., Depts. of Civil Eng. and Soil, Water & Climate	Mercury binding by soil and aquatic humic matter and photochemical processes affting Hg cycling in lakes and wetlands	Minnesota	http://wrc.coafes.umn.edu/	9/98-12/00	WRRI grant
Byard W. Mosher and Robert W. Talbot		An Assessment of Historical and Contemporary Atmospheric Deposition of Mercury to a New Hampshire Watershed and Lake	New Hampshire	http://water.usgs.gov/wrri/96grants/ner2nh.htm	.	wrri
S.A. Norton, D.L. Courtemanch, and J.S. Kahl		Differentiating local contributions of mercury from regional inputs (using sediment cores)	Maine	http://water.usgs.gov/wrri/98grants/MaineDiff.htm	9/98 to 8/00	WRRI?

Mae Sexauer Gustin,	University of Nevada-Reno, Department of Environmental and Resource Science, MS 370, Reno, NV 89557 msg@scs.unr.edu, (775)784-4203	Development of a Budget for Mercury in Waters of the Upper Carson River Watershed	Nevada	http://water.usgs.gov/wrri/99projects/state/Nevada2.html	3/99-2/00	NAWQA, WRRI
E.A. Nater and D.F. Grigal; Dept of Soil, Water, and Climate; Univ. of Minn.		Particulate Transport of Mercury through Forested Watersheds	northern Minnesota	http://water.usgs.gov/wrri/96grants/ncr3mn.htm	1 September 1996 to 31 August 1998	wrri