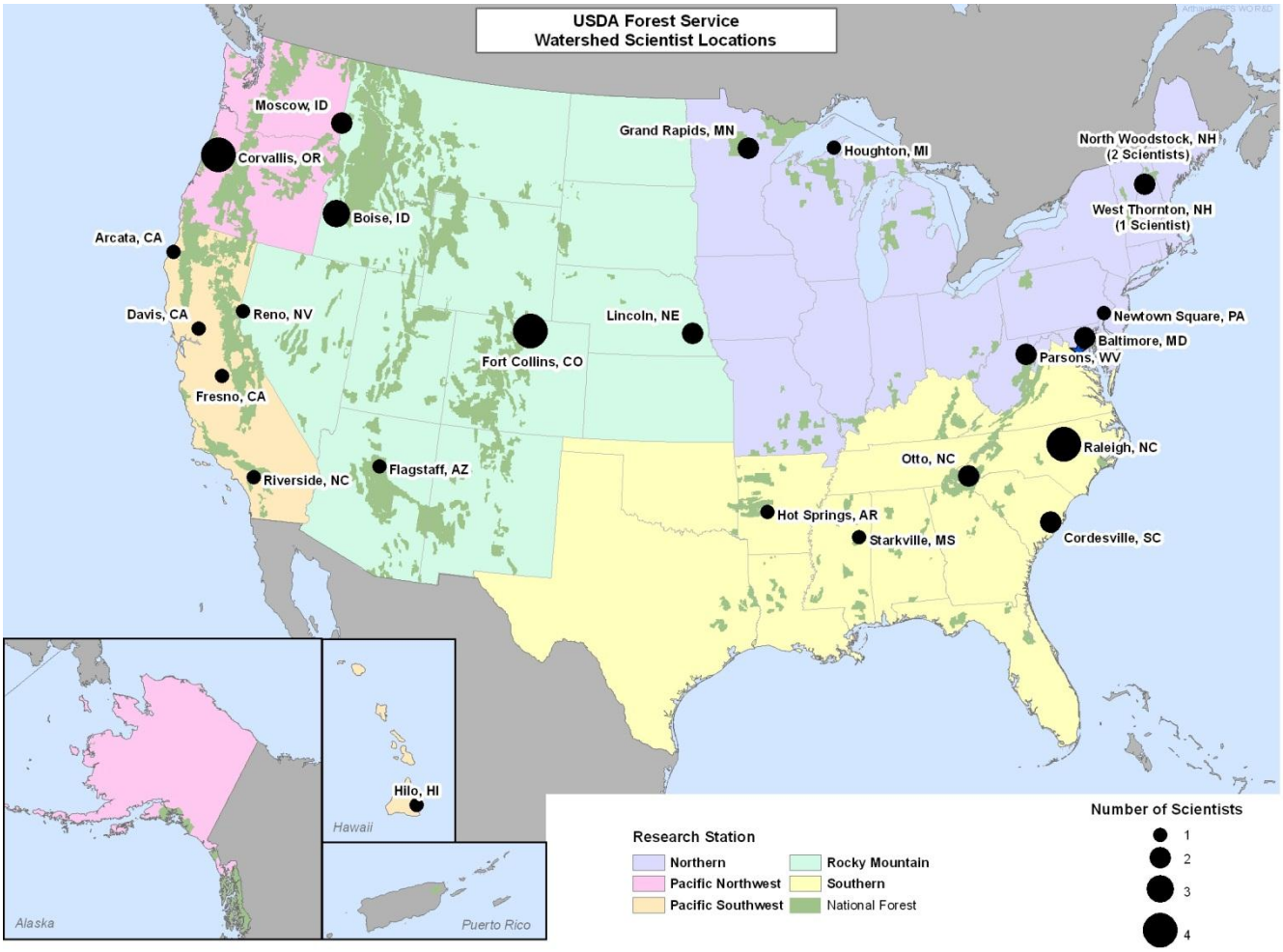
USDA Forest Service
Watershed Research Staff
Contacts, Interests, and Current Projects



Forest Service Research & Development supports a large and diverse team of watershed scientists. These scientists have a long history of science-management partnerships, providing natural resource managers and landowners the knowledge and tools to make management decisions that sustain the health and function of the Nation's watersheds and associated ecosystem services. With our strong multidisciplinary foundation and long-term data sets, Forest Service Research & Development continues to build on 100 years of basic and applied research to better understand the interactions of changing land uses, weather patterns, invasive species, fire, and pollution levels on our Nation's forests and rangelands and associated watersheds.

For more information, contact our scientists, Deb Hayes – Water, Air, and Soil Research Lead (deborahhayes@fs.fed.us), or Katherine Smith – Fisheries and Aquatic Ecology Research Lead (klsmith@fs.fed.us).

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Southern Research Station

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Interests:

- Hydrologic processes, water balance, and runoff on low-gradient forested landscapes
- Monitoring, estimating and modeling forest evapotranspiration due to water and vegetation management
- Hydrologic and water quality impacts due to land use change, climate variability and change
- Eco-hydrologic models for new hypothesis testing and assessing hydrologic and water quality impacts

Current projects:

- Assessing long-term hydrology including effects of Hurricane Hugo followed by forest regeneration on 1st order paired and 2nd and 3rd order watersheds at Santee Experimental Forest, SC using long-term hydro-meteorologic monitoring and modeling approaches
- Evaluating the effects of cultivating loblolly pine (Pinus taeda), switchgrass (Panicum virgatum), and interplantings of switchgrass and loblolly pine on hydrology (surface and groundwater), water quality, and the site water and nutrient balance on drained forest lands
- Estimating reference evapotranspiration (REF-ET) and ET with Penman-Monteith method for various types of reference vegetation e.g. pine, switchgrass, and pine and swichgrass intercropping using remotely sensed data by various available satellite imageries in combination with climatic data
- Developing and applying DRAINMOD based model to assess hydrology, nitrogen fate, and productivity of drained forest lands

Peter V. Caldwell

SRS, Eastern Forest Environmental Threat Assessment Center (Raleigh, NC)
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http://www.forestthreats.org/tools/WaSSI

Interests:

- Regional and continental scale watershed water balance modeling
- Land cover and climate change impacts on streamflow
- Diversion and flow regulation impacts on flow and aquatic ecosystems

Current projects:

- Climate Mitigation and Earth System Management from Local to Global Scale: Modeling Technology-Driven Futures
- Migration of Agriculture Back to the Southeast as an Adaptation to Climate Change
- Impacts of impervious cover, water withdrawals, and climate change on river flows in the conterminous US
- Water Stress Projections for the Northeastern and Midwestern United States: Anthropogenic and Ecological Consequences
- Hydrological modeling for flow-ecology science in the Southeastern U.S.

Katherine J. Elliott

SRS, Coweeta Hydrologic Laboratory (Otto, NC)
828-524-2128
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Interests:

- Ecosystem science
- Restoration ecology
- Forest processes
- Community ecology

Current projects:

- Long-term vegetation change in southern Appalachian forests
- Role of prescribed fire in restoring shortleaf pine ecosystems
- Functional role of a diverse herbaceous layer
- Liming to improve nutrient depleted soils

Chelcy R. Ford

SRS, Coweeta Hydrologic Lab (Otto, NC)
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Interests:

- Tree ecophysiology and evapotranspiration
- Forest-stream interactions
- Long-term changes in climate on streamflow
- Management effects on streamflow

Current projects:

- Impact of eastern hemlock loss from southern Appalachian forests on ecosystem processes
- Measuring and modeling transpiration, scaling from trees to forested catchments
- Assessing the impact of tree species identity on evapotranspiration
- Measuring the effect of tree hydraulics, age and structure on evapotranspiration

Daniel (Dan) A. Marion

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http://www.srs.fs.usda.gov/cbhr/research/scientistdetails.php?index=371

Interests:

- Understanding the primary processes controlling water, sediment, and nutrient movement through upland forest watersheds
- Assessing how forest management activities affect watershed processes
- Developing tools to improve watershed management
- Assessing watershed system behavior and stability

Current projects:

- Watershed impacts from off-highway vehicle use
- Response of forest water resources in the South to climate change
- Improved drainage network extrapolation using GIS models
- Nutrient response to ecosystem conversion

Steve McNulty

SRS, Eastern Forest Environmental Threat Assessment Center (Raleigh, NC)
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Interests:

- Landscape scale ecosystem modeling
- Integrated ecosystem stress impacts
- Nitrogen saturation/acid rain forest experimentation/monitoring
- Scientific technology transfer

Current projects:

- Template for Assessing Climate Change Impacts and Management Options (TACCIMO) - web-based climate change impacts and management option assessment for National, state and private forests
- Water Supply Stress Index (WaSSI) modeling - conterminous US watershed modeling
- Critical acid load modeling - Modeling climate change and acid rain interactions on forest health across the conterminous US
- Unknown unknowns - exploring better (more predictable) ways to assess environmental stress impacts before they occur

Ying Ouyang

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Interests:

- Sediment, nutrient, and pollutant dynamics in forest watersheds
- Alternative water supply impact study (e.g. minimum flows and levels)
- Real-time monitoring of water quality
- Short rotation woody biomass production in a soil-tree-atmostphere continuum
- Climate change impacts on ecohydrological process

Current projects:

- Investigate impacts of land management and climate change upon surface and groundwater flow, water quantity, and water quality using BASINS (Better Assessment Science Intergrating point & Non-point Sources)-HSPF(Hydrologic Simulation Program-Fortran)and Hydstra models, and develop an approach for low flow selections for water resource supply and management
- Design the Dynamic Data Driven Application Systems for real-time monitoring of surface water quality
- Simulate short-rotation woody biomass production and CO2 flux in the soil-tree-atmosphere continuum using STELLA model
  Identify temporal/space patterns and key parameters of water quantity/quality in forest watersheds using multivariate statistics (e.g., Kringing, PCA, and Wavelet)

Ge Sun

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Interests:

- Modeling water and carbon balances at field, watershed, regional, and continental scale
- Quantifying the effects of climate change, land use change, and human population growth on water supply and demand
- Forest influences on the evapotranspiration process and climate

Current projects:

- Developing the Water Supply Stress Index (WaSSI) model for predicting the future impacts of climate change on US water resources and other ecosystem services
- Water and carbon fluxes of forest ecosystems on the NC Coastal Plain .
- Climate mitigation earth system management from local to global scale;modeling technology-driven futures
- Pine Integrated Network:Education,Mitigation and Adaptation Project (PINEMAP)

Carl C. Trettin
SRS, Center for Forested Wetlands Research (Cordesville, SC)
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Interests:

- Carbon cycle research
- Peatlands
- Wetland ecology
- Soil processes

Current projects:

- Greenhouse gas fluxes from forested wetlands
- Carbon balance of forested wetlands and mangroves
- Wood decompositon

James M. Vose
SRS, Center for Integrated Forest Science and Synthesis (Raleigh, NC)
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Interests:

- Climate change impacts on water resources
- Bioenergy sustainability
- Novel ecosystems and management challenges
- Ecohydrological processes
- Fire ecology

Current projects:

- Impacts of changes in species composition and stand structure on hydrological processes
- Impacts of the loss of Hemlock Woolly Adelgid on ecosystem structure and function, and restoration options
- Managing forests in a rapidly changing environment

Northern Research Station

Mary Beth Adams

NRS (Parsons, WV)
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Interests:

- Nutrient cycling in forested watersheds
- Long-term watershed research and cross-site synthesis
- Linking soil with ecosystem productivity
- Disturbance effects on soil and water

Current projects:

- Long Term Soil Productivity study (LTSP)
- Fernow watershed acidification study -- Fernow Experimental Forest, WV
- NRS Belowground decomposition study
- Synthesizing long-term hydrologic and climate data across experimental forests, LTERs and other research sites to advance understanding at large and small scales

Scott W. Bailey

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http://hydro.vwrrc.vt.edu/Lab/Hydroped.html

Interests:

- Hydropedology
- Geoecology
- Nutrient cycling
- Mineral weathering

Current projects:

- Landform controls on hydrologic flowpaths and pedogenesis explain solute retention and export from pedon to catchment scales
- Determining forest soil calcium supplies: a reconciled chemical and mineralogical approach
- Genetic diversity, mophometrics, and habitat analysis of Dryopteris fragrans, a rare fern in the northern forest: implications for management and long-term survival

Kenneth Belt

NRS, Baltimore Field Station (Baltimore, MD)
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Interests:

- Urban watershed engineered-natural stream system structure and function
- Organic matter breakdown and flux in urban drainage systems
- Stream temperatures and benthic biota in urban riparian systems
- Pathogen transport in urban stream networks

Current projects:

- Stormwater forestry science synthesis: Ecohydrology and a new stormwater management paradigm
- Leaf litter breakdown in urban streams
- Baseflow and stormwater DOC/POM transport in urban streams
- The urban watershed continuum: evolving spatial and temporal dimensions
- Stream temperatures and stormwater in urban drainage systems

Pamela Edwards

NRS, Timber and Watershed Laboratory (Parsons, WV)
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Interests:

- Best management practice effectiveness
- Erosion and sedimentation processes
- Characterization of stormflow
- Effects of oil/gas development on water quality

Current projects:

- Quantifying sediment losses from forest management activities
- Case studies of the effects of natural gas development in Marcellus shale on local well-water chemistry and methane levels
- Development of National best management practices monitoring protocols and forms

John Hom

NRS, Climate, Fire, and Carbon Cycle Sciences Program (Newtown Square, PA)
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Interests:

- Global change research: elevated CO2, O3 , N deposition effects on forested watersheds
- Urban forests
- Carbon flux
- Soil and plant respiration

Current projects:

- Development of modeling tools for predicting smoke dispersion from low-intensity fires
- Growth rings as tools to predict adaptability to climate change
- Interaction of atmospheric deposition and climate change productivities of the Chesapeake Bay watershed.
- Retention of nitrogen by forested watershed under long-term deposition and climate change

Randall Kolka

NRS, Center for Research on Ecosystem Change (Grand Rapids, MN)
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Interests:

- Implications of climate change
- Belowground carbon dynamics
- Land use effects on watershed level of fluxes of carbon, nutrients and sediment
- Mercury cycling

Current projects:

- Spruce-Peatland Responses Under Climatic and Environmental Change (SPRUCE) experiment - testing the effect of elevated soil/air temperature and carbon dioxide on peatland vegetation and carbon processes
- Assessing the influence of fire on mercury cycling and accumulation in fish in the Boundary Waters Canoe Wilderness Area in northern Minnesota, and investigating the controls on mercury methylation, hotspots of methylation in the landscape, and the effects of upland forest harvesting on mercury cycling and methylation at the Marcell Experiment Forest in northern Minnesota
- Understanding how strategically placed perennial vegetation embedded in agricultural landscapes can improve ecosystem services such as water quality, carbon sequestration, and plant and animal diversity
- Understanding how upland forest management, including biomass harvesting, affect belowground carbon stocks and fluxes

Megan Lang

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Interests:

- Mapping and monitoring of wetland extent and hydroperiod
- Quantification of ecosystem service provision at the landscape scale
- Assessment of conservation practice effectiveness
- Impact of climate and land use change on aquatic resources

Current projects:

- Use of time series remotely sensed data to assess impact of climate change on wetland extent and distribution
- Assessment of wetland conservation practice effectiveness in the Mid-Atlantic Region
- LiDAR based wetness indices for improved mapping of wetlands and estimation of wetland function at the landscape scale
- Synthetic Aperture Radar for improved quantification of forested wetland restoration success

Erik Lilleskov

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Interests:

- Ecosystem interactions of soil biota
- Fungal & microbial ecology
- Invasive soil organisms
- Climate change and carbon cycling

Current projects:

- Climate change efffects on peatland carbon cycling
- Climate change effects on temperate forest carbon cycling
- Invasive earthworm impacts on forest biogeochemistry and hydrology
- Temperature controls on soil fungal respiration

Lindsey Rustad

NRS, Hubbard Brook Experimental Forest (West Thornton, NH)
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Interests:

- Watershed hydrology
- Biogeochemistry
- Climate change science
- Forest soils

Current projects:

- Long term hydrological, meterological, and vegetation research and monitoring at the Hubbard Brook Experimental Forest
- Whole watershed calcium addition experiment
- Experimental soil warming and snow manipulation experiment

Stephen Sebestyen

NRS, (Grand Rapids, MN)
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Interests:

- Hydrological and biogeochemical processes interactions in streams that drain forests and peatlands
- Source variation and landscape processes effects on the flow of water and solutes
- Effects of climate variability and change on catchment processes
- Direction, magnitude, and variability of groundwater seepage influences on biogeochemical cycles in lakes and wetlands

Current projects:

- Synthesis of data from catchment studies to investigate stream chemistry responses to climate change, atmospheric deposition, natural disturbance, and forest management practices
- Studies of nitrate sources, DOM dynamics, and effects of biogeochemical cycles on water and solutes yields from catchments in the midwest and northeast US
- A large scale experiment to study effects of ecosystem warming and elevated carbon dioxide concentrations on peatlands
- Quantifying effects of groundwater seepage on lake trophic status

Rocky Mountain Research Station

Tom Black

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http://www.fs.fed.us/rm/boise/research/watershed/bio/black.shtml
http://www.fs.fed.us/GRAIP/index.shtml

Interests:

- Road impacts on geomorphic and hydrologic processes
- Sediment transport rates
- Watershed hydrology
- Soil development

Current projects:

- Effectiveness of road treatments at mitigating negative geomorphic and hydrologic impacts to watersheds
- Influence of roads on sediment production and delivery rates at various scales

Thomas C. Brown

RMRS (Fort Collins, CO)
970-295-5968
tcbrown@colostate.edu
http://www.fs.fed.us/rm/value/brown.html

Interests:

- Water supply
- Water rights
- Watershed condition

Current projects:

- Resources Planning Act Water Assessment - national study of vulnerability of future water supply
- Projected fresh water withdrawals in the United States under a changing climate
- Historic and future extent of wildfires in the Southern Rockies Ecosystem, USA

Jeanne C. Chambers

RMRS, Great Basin Ecology Lab (Reno, NV)
775-784-5329
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http://www.fs.fed.us/rm/reno

Interests:

- Riparian areas
- Arid ecosystems
- Stream incision

Current projects:

- Watershed sensitivity to disturbance

Kelly Elder

RMRS, Fraser Experimental Forest (Fort Collins, CO)
970-498-1233
kelder@fs.fed.us
http://www.fs.fed.us/rm/boise/AWAE/scientists/profiles/AWAElder.shtml

Interests:

- Forest hydrology
- Snow hydrology
- Meteorology
- Climatology

Current projects:

- Long-term hydrologic recovery from clearcuts
- Changes in water balance due to beetle infestation
- Hydrology of subalpine wetlands

Willam Elliot

RMRS, Moscow Foresty Sciences Laboratory
(Moscow, ID)
208-883-2338
welliot@fs.fed.us
http://www.fs.fed.us/rm/boise/AWAE/scientists/profiles/AWAElliot.shtml

Interests:

- Forest soil erosion processes and prediction
- Forest and rangeland hydrologic processes

Current projects:

- Impacts of biomass utilization on watershed processes
- Development of online hillslope and GIS erosion prediction tools
- Effects of forest condition on groundwater resources
- Effects of forest management on snow accumulaiton and melt rates

Robert Hubbard

RMRS (Fort Collins, CO)
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Interests:

- Quantifying the contribution of vegetation to water cycling in subalpine forest ecosystems
- The effects of disturbance on water and carbon cycling in forest ecosystems
- Carbon and water cycling in wetland ecosystems
- Tradeoffs between forest production and water use in tropical forest plantations

Current projects:

- Quantifying changes in ecosystem processes following mountain pine beetle infestation
- Exploring how water availability impacts the water use efficiency of Eucalyptus forests

Charles H. Luce

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http://www.fs.fed.us/rm/boise/AWAE/scientists/profiles/AWALuce.shtml

Interests:

- Climate change effects on hydrology
- Snow hydrology
- Forest road impacts on watersheds
- Interactions between water and vegetation changes

Current projects:

- Climate change effects on precipitation, streamflow, vegetation, and geomorphology
- Effectiveness of road treatments for reducing erosion
- Stream temperature sensitivity ; how much stream temperature changes for a given change in air temperature.
- Hyporheic flow measurement using temperature as a tracer

Jim McKean

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Interests:

- Effects of climate change on aquatic physical habitat
- Hillslope response to changes in climate, channel base level and vegetation
- Controls on the spatial distribution of channel physical habitat
- Interactions of rock/soil properties and boundary conditions in landslides

Current projects:

- Effects of variable low flow conditions on off-channel habitat
- Potential for mid-winter scour of redds in a changing climate
- Automated GIS mapping of stream physical habitat
- Multi-dimensional analyses of shallow landslide hazards

Daniel (Dan) G. Neary

RMRS, Flagstaff Forestry Sciences Lab (Flagstaff, AZ)
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Interests:

- Wildfire and prescribed fire impacts on water and soils
- Environmental impacts of forest bioenergy programs
- Best Management Practices for intensive forestry and forest bioenergy programs

Current projects:

- Cascabel paired watershed study of multiple ecosystem effects of prescribed fire and wildfire in an Oak Savanna of the Coronado National Forest.
- Erosion and hydrologic response of watersheds burned by the 2010 Schultz Fire ad 2011 Wallow Fire, Coconino NF and Apache-Sitgreaves NF
- International Co-operative Program on Assessment and Monitoring of Air Pollution Effects on Forests",
- Wood Decomposition and its Role in the Forest Carbon Cycle Across the Conterminous United States - A Unified Assessment Using the Experimental Forest Network monitoring, Sierra Ancha Experimental Forest
- Water quality in plantation forests - New Zealand and Tasmania, Australia

Chuck Rhoades

RMRS (Fort Collins, CO)
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http://www.fs.fed.us/rm/boise/AWAE/scientists/profiles/AWARhoades.shtml

Interests:

- Biogeochemical processes that regulate water quality and ecosystem productivity
- Watershed responses to forest dynamics, disturbance and management

Current projects:

- Stream water, soil nutrient and forest vegetation responses to bark beetle outbreaks and associated management
- Nutrient and carbon input sources, retention and export from riparian and wetland ecosystems
- Long-term patterns in watershed biogeochemistry and implications for stream nutrient concentrations

Peter Robichaud

RMRS, Forestry Sciences Laboratory (Moscow, ID)
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http://forest.moscowfsl.wsu.edu

Interests:

- Modeling and mitigation techniques of erosion after timber-harvested, prescribed fires and wildfires
- Hydrology, erosion, and mitigation effects to reduce flooding and erosion
- Developing instruments, measurement and monitoring methods for determine erosion rates

Current projects:

- Plot-scale infiltration, interrill and rill erodibility studies, small-catchment paired watershed studies and large-scale remote sensing projects
- International application of our knowledge in postfire hydrology effects and monitoring techniques
- Lead web-based probabilistic Erosion Risk Management Tool (ERMiT) for postfire assessments
- Effects of postfire salvage logging on hilllslope erosion, and the use of remote sensing imagery for postfire burn severity classification, water repellent soil identification and erosion control treatment effectiveness

Pacific Northwest Research Station

Gordon E. Grant

PNW, Forestry Sciences Laboratory (Corvallis, OR)
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Interests:

- Geomorphic response of rivers to changes in water and sediment regimes due to: land use change; climate change; dam construction or removal; mass wasting; and watershed restoration
- Changing streamflow regimes due to land use and climate change
- Interactions between volcanoes, volcanic processes, and fluvial systems
- Hydrologic, geomorphic, and landscape evolution in volcanic terrains

Current projects:

- The Cascadian Debris Flow Project: how changing climate may be increasing the risk of debris flows and associated channel responses from Cascade volcanoes
- Using geohydrology to interpret sensitivity and resilience of streams and streamflows to climate change in the western U.S.
- Geomorphic response of rivers to increasing peaks and decreasing low flows in the Oregon Cascades
- Watering the forest for the trees: changing priorities for water in forest lands

Sherri Johnson

PNW, Corvallis Forestry Sciences Laboratory (Corvallis, OR)
541-758-7771
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Interests:

- Biogeochemical responses to forest dynamics and management
- Forest-stream interactions
- Stream and riparian heat budgets
-

Current projects:

- Evaluating the influeces of phenology and tropic responses in complex terrain
- Examining increasing synchrony of high temperature and low flow in western North American streams
- Water quality variability and responses to watershed change across North America through cross site stream chemistry synthesis and data base development from long-term Forest Service sites.
- Effectiveness of forest management , at a watershed level, on fish and aquatic environments in Trask River Watershed Study.

Deanna H. Olson
PNW (Corvallis, OR)
541-750-7373
dedeolson@fs.fed.us
http://www.fsl.orst.edu/lwm/aem/people/olson

Interests:

- Amphibian, reptile, and fish population and community ecology
- Threats to species: land management, disease, invasive species, climate variation
- Conservation biology

Current projects:

- Effects of forest thinning and alternative riparian buffer widths on headwater resources
- Spatial and taxonomic patterns of the amphibian chytrid fungus and ranaviruses
- Climate variation, water availability, and amphibian ecology and management
- Development of novel biodiversity conservation paradigms: 2011 - Year of the Turtle; 2012 - Year of the Lizard; 2013 - Year of the Snake.

Steve Wondzell
PNW, Corvallis Forestry Sciences Lab (Corvallis OR)
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http://www.fsl.orst.edu/lwm/aem/people/wondzell

Interests:

- Hyporheic zone - influence on stream nutrient cycling and temperature
- Hydrologic & geomorphologic interactions that control stream-groundwater interactions
- Decision support tools for management of aquatic and riparian ecosystems
- Climate change and stream temperature regimes

Current projects:

- Aquatic-riparian stream network state-and-transition decision support models.
- Modeling potential stream-termperature response to climate change and changes in riparian vegetation resulting from land-use in the Blue Mountains of eastern Oregon.
- Spatial heterogeniety in stream temperature regimes and interactions with salmon life history diversity on the Copper River Delta

When you put your hand in a flowing stream, you touch the last that has gone before and the first of what is still to come."

- **Leonardo da Vinci**

Pacific Southwest Research Station

Matt Busse

PSW (Davis, CA)
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mbusse@fs.fed.us

Interests:

- Global forestry and soil management
- Fire effects on soils
- Microbial community responses to disturbance
- Long-term soil productivity

Current projects:

- Developing resilient ponderosa pine forests with mechanical thinning and prescribed fire in central Oregon.
- Effects of pile burning on soil chemical, physical, and biological properties in the Lake Tahoe Basin.
- North American Long-term Soil Productivity study on the effects of soil compaction and organic matter removal on forest function

Christian Giardina

PSW, Institute of Pacific Islands Forestry (Hilo, HI)
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Interests:

- Ecosystem ecology
- Tropical restoration ecology
- Climate change

Current projects:

- Evaluating how climate change and invasive species are impacting watersheds of windward Hawaii Island.
- Partitioning hydrologic contributions to an 'old-growth' riparian area in the Huron Mountains of Michigan, USA
- The magnitude and variability of soil-surface CO2 efflux increase with mean annual temperature in Hawaiian tropical montane wet forests.
- Using output from the parameterized DHSVM model and data from our stream monitoring network to develop a decision support tool for tropical island watershed management.

Carolyn T. Hunsaker

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Interests:

- Terrestrial-aquatic linkages in western headwater streams
- Forest restoration effects (thinning and fire) on stream ecosystems
- Climate change in the Sierra Nevada
- Air pollution effects on Sierra Nevada watersheds

Current projects:

- Kings River Experimental Watersheds - integrated ecosystem project for headwater streams to monitor ecosystem changes from forest restoration activities (tree thinning and prescribed fire)
- Southern Sierra Critical Zone Observatory - research includes water budget, watershed modeling, soil carbon and nitrogen, geomorphology and soil development
- Sierra Nevada Science Synthesis- summarizing 10 years of new research that is relevant to forest land management planning

Richard A. MacKenzie

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Interests:

- Impacts of climate change, invasive species, and land use on Pacific Island streams, wetlands, and mangroves
- Habitat value of streams, wetlands, and mangroves
- Fish, shrimp, crab, and other invertebrate assemblages in streams, wetlands, and mangroves

Current projects:

- Impacts of climate change and invasive species on forest productivity, water availability, sediment runoff, and ecological function of tropical island watersheds
- Impacts of increased nitrogen loading to coastal ecosystems
- Increasing resiliency of mangroves to sea level rise
- Determining effective strategies to eradicate or control exotic fish in tropical wetlands
- Developing a decision support tool for more effective watershed management in the face of global change
- Sustainable wetland adaptation and mitigation program (SWAMP)

Leslie M. Reid

PSW (Arcata, CA)
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Interests:

- Cumulative watershed effects
- Sediment budgeting
- Rainfall interception influence on flow
- Hydrologic/geomorphic interactions

Current projects:

- The Caspar Creek watershed studies: long-term research in a temperate, rain-dominated forest
- Evaluating cumulative effects of logging and potential climate change on dry-season flow in a coast redwood forest
- The incidence and role of gullies after logging in a coastal redwood forest

Peter Wohlgemuth

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Interests:

- Post-fire watershed response (water and erosion)
- Burned Area Emergency Response (BAER) treatment effectiveness and consequences
- Watershed Sediment cycling
- Watershed sediment cycling
- Watershed sediment cycling
- Experimental Forests and long-term datasets

Current projects:

- Evaluation of aerial hydromulch as a BAER erosion control treatment
- The effects of fire on soil hydrologic properties and sediment fluxes in chaparral steeplands, southern California
- Rainfall and peak streamflow following the Station Fire, southern California: A benchmark for predictive model validation

National Agroforestry Center

Michael G. Dosskey

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Interests:

- Riparian and stream restoration in agricultural watersheds
- Land use–water quality relationships
- Biogeochemical processes and spatial patterns in watersheds

Current projects:

- Techniques for riparian management to improve runoff water quality in agricultural watersheds
- Targeting vegetative buffers within watersheds to enhance water quality performance.
- Performance-based design tools for vegetative buffer practices.
- Water supply impacts of riparian buffer establishment in the agricultural Great Plains.

Michele Schoeneberger

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Interests:

- Agroforestry as a private lands, tree-based tool to link lands, functions and people

Current projects:

- Innovative, diversified conservation plantings for biofeedstock & beyond
- Development of climate-change integrated agrofoestry strategies to assist agricultural productiona and create more resilient landscapes