

**Rodney A. Chimner, Ph.D.**

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**Professional Preparation**

***Education***

Institute of Pacific Islands Forestry, USDA Post-Doctoral Ecologist, 2001-2002.  
Colorado State University, PhD in Ecology, December 2000.  
Michigan State University, MS in Forest Hydrology, August 1994.  
Northern Michigan University, BS in Earth Science, May 1990.  
Kellogg Community College, AA in Philosophy, May 1988.

***Professional Experience***

Professor, 2017 - Current. School of Forest Resources and Environmental Sciences, Michigan Technological University.  
Affiliate Faculty, 2016 - Current. Department of Forest and Rangeland Stewardship, Colorado State University.  
Associate Professor, 2012 - 2017. School of Forest Resources and Environmental Sciences, Michigan Technological University.  
Assistant Professor, 2008 - 2012. School of Forest Resources and Environmental Sciences, Michigan Technological University.  
Visiting Assistant Professor, 2005 - 2008. School of Forest Resources and Environmental Sciences, Michigan Technological University.  
Affiliated Research Scientist, 2005 - 2008. Natural Resources Ecology Laboratory, Colorado State University.  
Research Scientist I, 2003 - 2005. Natural Resources Ecology Laboratory, Colorado State University.  
Research Associate IV, 2003. Natural Resources Ecology Laboratory, Colorado State University.  
Research Associate, 1994 - 2002. Research scientist on wetland projects through Dr. David Cooper, Colorado State University and independent consultant.  
Research Assistant, 1992 - 1994. Dept. of Forestry, Michigan State University.  
Research Technician, 1993. Michigan Department of Natural Resources.  
Hydrological Technician, 1991 - 1992. Intermountain Research Station, U.S.D.A. Forest Service.  
Wilderness Instructor, 1991 - 1992. School of Urban and Wilderness Survival. Shoshone, Idaho.  
Wilderness Patrol Specialist, 1990. Student Conservation Association. Coronado National Forest, Arizona.

### ***Professional memberships***

- Society of Wetland Scientists
- The Society of Ecological Restoration
- International Peat Society
- International Mire Conservation Group

### **Administrative Experience and Service**

#### ***University Wide***

- Associate Provost and Dean of Graduate School search committee (2019-2020)
- Member of Tech Forward Initiative (Natural Resources, Water and Energy) (2018-2019)
- Dean search co-chair (2017-2018)
- Official Mentor in SFRES (2017-2018)
- SFRES curriculum committee (2016-2018)
- Forest hydrology search chair (2016)
- School advisory committee (2015)
- Interschool promotion and tenure committee (2013-2015)
- Forest hydrology search committee (2013).
- Forest soils search committee (2011-2012).
- SFHI water committee (2011-2013).
- Leading scholar faculty host (Fall of 2009).
- School Director of International Studies for SFRES (2008-2014).
- Tree Physiology search committee (2009).
- Advisor of the Michigan Tech Society of Wetland Scientists (2006-current). This is both a campus club and an official section of the International Society of Wetland Scientists. We are the second student chapter formed.

#### ***Professional***

- NSF LTER site reviewer. 2019.
- President of Peatland Section of Society of Wetland Scientists. 2018.
- Field trip organizer at Society of Wetland Scientists Annual Meeting, May 29<sup>th</sup>-June 3<sup>rd</sup>, 2018. Denver Colorado. Field trip led to Rocky Mountain National Park to show mountain wetlands.
- Session organizer at Society of Wetland Scientists Annual Meeting, May 29<sup>th</sup>-June 3<sup>rd</sup>, 2018. Denver Colorado. "Mountain Peatlands-Perspectives from Across the Globe". I had 15 speakers coming from Canada, US, Peru, Colombia, Ecuador, Argentina, and Spain to give talks about mountain peatlands.
- Peatland Section Chair, Society of Wetland Scientists, 2017-2018
- Field trip organizer at Society of Wetland Scientists 2013 Annual Meeting. June 2-6<sup>th</sup>. Duluth, MN. Field trip led to areas around Duluth showing bog and cedar swamp restoration sites.
- President of Rocky Mountain Chapter of the Society of Wetland Scientists, 2004-2006

- Past-President of Rocky Mountain Chapter of the Society of Wetland Scientists, 2006-2009

### ***Outreach and Training***

1. **Chimner, R.A.** Presented a talk to the annual meeting of the Gratiot Lake Conservancy annual meeting “A primer on wetland restoration with local examples”. July 23<sup>rd</sup>, 2019.
2. **Chimner, R.A. Conducted a 3-day workshop entitled** “Principles of peatland restoration techniques in the Northern Andes”. Quito, Ecuador. May 8<sup>th</sup>-10<sup>th</sup>, 2017. Funded by the SWAMP Program, Fundación Jocotoco, and the Fund for the Protection of Quito Water Sources (FONAG).
3. **Chimner, R.A.** Presented a talk to the local Science Museum for their citizen science series “The fascinating world of wetlands”. February 16<sup>th</sup>, 2016.
4. **Chimner, R.A.** Co-instructed a 5-day training and field workshop entitled “Ecosystem Restoration and Integrated Fire Management” in Sampit, Indonesia. February 1-5, 2016. Workshop organized and funded by PUTER Indonesia, RMU Indonesia, US Forest Service International Programs, and USAID.
5. **Chimner, R.A.** Presented at Minnesota Board of Soil and Water Resources (BWSR) annual training workshop. An overview of peatland restoration. Breezy Point, MN, 10/29/2015.
6. Scientific content consultant for a children’s book on wetlands. “Wetland Ecosystems, by Nicole Brooks Bethea, Core Library, Abdo Publishing, 2015.”
7. **Chimner, R.A.** Guest Lecture for Ft. Lewis College. Led a half-day trip on fen ecology to undergraduates. September 16, 2014, 9 am-4 pm. Mountain Studies Institute.
8. **Chimner, R.A.** and R. Schwartz. Workshop of restoring Northern-White cedar. Northeast White Cedar Plant Community Restoration Project Workshops. Meadowlands and Big Bog State Park, Minnesota, June 24 & 25, 2014. Also led one-day field trip.
9. **Chimner, R.A.** Fen Training III: A workshop on fen restoration methods. September 11-12, 2014, 9 am-4 pm. Mountain Studies Institute.
10. **Chimner, R.A.** Tropical Wetlands. Guest Lecture in Houghton High School Science class. November 2013.
11. **Chimner, R.A.**, Sustainable Wetland Adaptation and Mitigation Program (SWAMP)-Peatland Restoration Workshop. Lima, Peru. February 28, 2013. Developed entire workshop to train NGO, university and government scientists from Peru, Ecuador, Columbia and Brazil on how to set up a restoration. Conducted whole workshop.
12. **Chimner, R.A.**, Sustainable Wetland Adaptation and Mitigation Program (SWAMP) South America Workshop. Lima, Peru. February 26-27, 2013. Help develop a workshop to train NGO, university and government scientists from Peru, Ecuador, Columbia and Brazil carbon sampling protocol. Gave three 1 hour long talks.
13. **Chimner, R.A.**, Earth Week, "*Introduction to Wetlands*" Cheboygan City, Cheboygan, MI. (April 17, 2011).
14. **Chimner, R.A.**, Earth Week, "*Wetland Restoration in Michigan and Colorado*" Cheboygan City, Cheboygan, MI. (April 17, 2011).
15. **Chimner, R.A.**, Instructor – Fen Restoration. A workshop on fen restoration methods. July 13, 2010, 9 am-4 pm. Mountain Studies Institute.
16. **Chimner, R.A.**, Leader – Cedar walk for KLT at Marsin Center. November 11, 2009. Three-hour talk and hike.

17. **Chimner, R.A.**, Instructor – Western UP Math/Science Center Teacher Institute, Not All Wetlands Are the Same. Oct. 10, 2008. Three-hour field instruction to middle school teachers.
18. **Chimner, R.A.** Fen Training II: A workshop on fen assessment and restoration methods. July 17, 2008, 9 am-4 pm. Mountain Studies Institute.
19. **Chimner, R.A.**, Instructor – Great Lakes Watershed Investigations Summer Teacher Institute, Wetland Hydrology. June 23-27, 2008. Six-hour lecture and field trip to high school teachers.
20. **Chimner, R.A.** Fen Training I. A workshop on fen wetland hydro-ecology, common disturbances, and assessment methods. Learn about a collaborative program to monitor, assess, and restore fens in the San Juan Mountains. July 9, 2007, 9 am-4 pm. Mountain Studies Institute.
21. **Chimner, R.A.** Fen Wetlands: Training for Land Managers. July 10-11, 2006, 9 am-4 pm. Telluride and Silverton, CO. Mountain Studies Institute.

**Teaching and Advising**

***Teaching Experience: (all at Michigan Tech)***

- FW4220 – Wetlands (every fall since 2005)
- FW5115 – Restoration Ecology (every other spring since 2006)
- FW5510 – Global Peatland Ecology (every other spring since 2006)
- FW5510 – Northern White Cedar Ecology, Management, and Restoration (occasionally)
- FW5000 – Distinguished Ecology Symposium (Fall 2010, Fall 2013)
- FW4810 – Capstone section (Fall 2012-2020)

***Current Graduate Students***

<b><i>Students</i></b>	<b><i>Position</i></b>	<b><i>Topic</i></b>
Michelle Cisz	PhD, 2013-	Co-advising with Sigrid Resh. Biofuels and soil sustainability in North and South America.
Dominic Uhelski	PhD, 2018-	Co-advising with Evan Kane. Quantifying fire frequencies in peatlands in the UP of Michigan.
Sean Westley	PhD, 2018-	Developing techniques to restore forested wetlands on clay settling areas

***Graduated Students***

<b><i>Student</i></b>	<b><i>Completed</i></b>	<b><i>Topic</i></b>
Katy Marlor	MS, 2007-2009	Examining the invasion of <i>Phalaris arundinacea</i> L. in different wetland types and anthropogenic disturbances using a landscape-based perspective
Drew Ballantyne	MS, 2009-2010	The effects of long-term water table manipulations on carbon cycling in a Great Lakes peatland
Arvo Aljaste	MS, 2010-2011	Co-advised with Harri Vasander. Influence of warming on peatland plant photosynthesis.
Chris Johnson	MS, 2009-2011	Co-advised with Tom Pypker. Investigated the influence of different warming methods on peatland carbon cycling.

Rocio Vazquez	MS, 2010-2012	Co-advised with Linda Nagel. Investigating sustainability of forests in Southern Mexico.
Laura Kangas	MS, 2010-2012	Co-advised with Eeva-Stiina Tuittila. Effects of microtopography on peatland and forested wetland restoration.
John Hribljan	PhD, 2008-2012	Investigating the effect of plant species, organic matter quality, and microbial activity on peatland ecosystem function and resilience to climate change.
Cassandra Ott	MS, 2011-2013	Carbon in the peatlands of the Great Lakes region of North America.
Laura Matkala	MS, 2011-2013	Co-advised with Harri Vasander. Influence of vegetation removal and altering water levels on CO <sub>2</sub> flux rates of a northern bog.
Vaula Lukkarinen	MS, 2012-2014	Co-advised with Harri Vasander. Using bryophytes to assess conditions in Northern white-cedar swamps
Jim Bess	PhD, 2009-2015	Developing restoration techniques for coastal wetlands and peatlands.
Andrea Enriquez	PhD, 2008-2015	Centro Regional Universitario Bariloche, Argentina. Co-advising with Grissele Bonvissuto at from National Institute for Agriculture Research (INTA). Investigating grazing influence on wetland carbon cycling and sustainability
Anwar Guswami	PhD, 2011-2016	Co-advised with Erik Lilleskov (USFS). Studying the influence of mycorrhizal communities on Northern white-cedar restoration.
Rose Schwartz	MS, 2013-2016	Success of Northern white-cedar cedar restoration in Minnesota.
Maria Elisa Sanchez	MS, 2015-2016	Co-advised with Erik Lilleskov (USFS). Grazing impacts to carbon cycling in Ecuadorian mountain peatlands.
Jhon Del Aguila Pasqual	MS, 2015-2017	Co-advised with Erik Lilleskov (USFS). Methane emissions in Amazonian peatlands
Ana Maria Planas Clark	MS, 2015-2018	Co-advised with Erik Lilleskov (USFS). The effect of water table levels and short-term ditch restoration on mountain peatland carbon cycling in the Cordillera Blanca, Peru

### ***Member of Graduate Student Committees***

1. Megan Shaw, MS CFRES. 2006-2008. Advised by M Jurgensen.
2. Nicole Ricci, MS CFRES. 2005-2007. Advised by M Jurgensen.
3. Andrew Kozich, MS Student with Kathy Halverson (2008-2009).
4. Elizabeth Boisvert, MS CFRES with Tom Pyker (2008-2009).
5. Calie Bertsch, MS CFRES with Blair Peace Corp Student in Bulgaria (2008-2011).
6. Shawna Walsh, MS CFRES with Tom Pyker (2008-2011).
7. Stephane Ogren, PhD student with Casey Huckins (2009-2014).
8. Timothy Duval, External PhD committee member for McMasters University (2010).  
Mike Waddington student.
9. Margus Paesalu, MS CFRES student with Tom Pypker (2009-2011).
10. Ted M. Champagne, MS Civil Engineering with Brian Barkdoll (2009-2011)
11. Karl Romanowicz IV, MS CFRES student with Erik Lilleskov (2011-2012).
12. Aleta Daniels, MS CFRES student with Evan Kane (2011-2012).
13. Brenda Bergman, PhD CFRES student with Joe Bump (2010-2015).
14. Patrick Spensor, MS Piece Corps with Brian Barkdol (2011-2014)
15. Tyler Patterson, Environmental and Energy Policy with Adam Wellstead (2014-2015)
16. Nick Boltan, PhD CFRES student with Joe Wagenbrenner (2015-2017)
17. Chris Walkons, Environmental Engineering, MS Student of Alex Mayer (2014-2016)
18. Dana Flett, Graduate Degree Program of Ecology, MS Student of David Cooper,  
Colorado State University (2016-2018).
19. Robin Clarke, PhD CFRES student with Yvette Dickerson (2018-).

20. Liam Krause, MS CFRES student with Erik Lilleskov (2019-).

### ***Undergraduate Research Advising***

1. Rachael Huempfer (undergrad 2012-2013). “carbon flux from a cedar swamp”
2. Kate Waring (SURF student-2011). “Native recolonization of stamp sands”.
3. Elsa Jenson (SURF student-2008). “Ecohydrological conditions of a coastal peatland”.
4. Jamie Burgo (SFRES- Independent Study- Spring 2010). “Plant species interactions on gas flux rates in peatlands”.
5. I advised a summer intern (undergraduate student) on our Colorado EPA project for two summers (2008 and 2009) through the Mountain Studies Institute (MSI). “Fen restoration research”.
6. I advised a native Hawaiian summer intern through the University of Hawaii Hawaiian Internship Program (UH-HIP) in 2002. “Mangrove invasion in Hawaii”. She became an author on a paper.

### **Research Publications, News Articles and Grants**

#### ***News Articles***

1. “*Hiawatha National Forest honored*”. Write up on the interagency team was recognized with an honorable mention for the teams work to more effectively manage fire to sustain forested wetlands. Escanaba Daily Press, February 9<sup>th</sup>, 2020.
2. “*3 percent for the planet*”. Article in Michigan Technological University Research Magazine (2019).
3. The Associated Press (AP) picked up the Daily Mining Gazette story of the contribution of Michigan Tech's Rodney Chimner (SFRES) and Evan Kane (SFRES) to the Second State of the Carbon Cycle Report. The AP story was distributed to media outlets nationwide, including U.S. News and World Report, The Argus Press, the Traverse City Record Eagle and the Ludington Daily News. December 2018.
4. “*As Lake Superior Rises, alder trees die in wetlands*”. September 10<sup>th</sup>, 2018. First published in Mining Gazette. Among the other outlets reporting the story are The Eagle, Huron Daily Tribune, the Argus-Press, NPR and the San Francisco Chronicle among others.
5. “*Wetlands are natural flood tools*”. Mining Gazette. July 16, 2018. Story about how wetlands can be beneficial for flood control.
6. “*Soggy bottom*”. Mining Gazette. February 20, 2016. Another news story about benefits of wetlands.
7. “*UP wetlands keep natural areas healthy*”. Mining Gazette. February 20, 2016. General news story about benefits of wetlands.
8. “*U.P. water study boosts conservation efforts*”. Great Lakes Echo. October 19, 2015. Story on our vernal pool study in Pictured Rocks National Lakeshore.

#### ***Book Chapters and Reports***

1. **Chimner, R.A.** *Sidebar 7.2: Cedar Swamp Restoration in Northern White-Cedar, The Tree of Life*, by Gerald L. Storm and Laura S. Kenefic. In Press.

2. Kolka, R., C. Trettin, W. Tang, K. Krauss, S. Bansal, J. Drexler, K. Wickland, **R. Chimner**, D. Hogan, E. J. Pindilli, B. Benscoter, B. Tangen, E. Kane, S. Bridgham, and C. Richardson, 2018: Chapter 13: *Terrestrial wetlands*. In *Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report* [Cavallaro, N., G. Shrestha, R. Birdsey, M. A. Mayes, R. G. Najjar, S. C. Reed, P. Romero-Lankao, and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 507-567, <https://doi.org/10.7930/SOCCR2>. 2018. Ch13.
3. Bourgeau-Chavez, L.L., Endres, S.L., Graham, J.A., Hribljan, J.A., **Chimner, R.A.**, Lilleskov, E.A., Battaglia, M.J. 2017. Mapping peatlands in boreal and tropical ecoregions. Chapter in: *Comprehensive Remote Sensing*, Elsevier.
4. Hribljan, J.A. and **Chimner, R.A.** Mountain peatland formation and carbon cycling in the tropical Andes. Chapter in: *Bofedales Alto-Andino de Bolivia, The Nature Conservancy*, in press.
5. Wickland K.P. Krusche A.V. (Coordinating Lead Authors), Kolka R.K., Kishimoto-Mo A.W., **Chimner R.A.** and Serengil Y. (Lead-authors), Ogle S. and Srivastava N. (Contributing Authors) of the IPCC Chapter 5 “Inland Wetland Mineral Soils” for the IPCC 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. Hiraishi, T., Krug, T., Tanabe, K., Srivastava, N., Baasansuren, J., Fukuda, M., and Troxler, T.G. (eds). 2014. Published: IPCC, Switzerland. 354 pp.
6. Cooper D.J., **R.A. Chimner**, and D.M. Merritt. 2012. Western Mountain Wetlands. In: *Wetland Habitats of North America: Ecology and Conservation Concerns* (eds: Batzer D. and Baldwin A.). University of California Press.
7. **Chimner, R.A.** and D.J. Cooper. 2011. Fens of the San Juan Mountains. In *the Eastern San Juan Mountains, Colorado: Geology, Ecology, and Human History*. Edited by Rob Blair.

***Submitted Publications (\* denotes student)***

1. Schwartz, R. R. Dahlman, R. Kolka, D. Krystosek, J. Stensing, **R.A. Chimner**. Feasibility of enrichment planting in northern white-cedar (*Thuja occidentalis* L.) peatlands. Submitted to **Ecological Restoration**.
2. Griffis, T.J., T. Roman, J.D. Wood, J. Deventer, L. F. Malaverri, M. Rengifo, J. Del Castillo Torres, E. Lilleskov, R. Kolka, R. Chimner, C. Wayson, Hergoualc'h, Kristell, J. M. Baker, D.M. Ricciuto, and H. Cadillo-Quiroz. Hydrometeorological sensitivities of net ecosystem carbon dioxide and methane exchange of an Amazonian palm swamp peatland. Submitted to **Agricultural and Forest Meteorology**.

***Peer Reviewed Publications (\*denotes students)***

1. Planas-Clarke, A.M\*, **R.A. Chimner**, J.A. Hribljan, E.A. Lilleskov, B. Fuentealba. 2020. The effect of water table levels and short-term ditch restoration on mountain peatland carbon cycling in the Cordillera Blanca, Peru. **Wetland Ecology and Management** 28: 51-69.
2. Anwar, G.\*, E.A. Lilleskov, **R.A. Chimner**. 2020. Arbuscular mycorrhizal inoculation has similar benefits to fertilization for *Thuja occidentalis* L. seedling nutrition and growth on peat soil over a range of pH: implications for restoration. **New Forests** 51: 297–311. DOI: 10.1007/s11056-019-09732-x

3. Kane, E.S., T.J. Veverica, M.M. Tffaily, E.A. Lilleskov, K.M. Meingast, R.K. Kolka, Daniels, A.L., **R.A. Chimner**. 2019. Reduction-oxidation potential and dissolved organic matter composition in northern peat soil: Interactive controls of water table position and plant functional groups. **Journal of Geophysical Research: Biogeosciences**, 124. <https://doi.org/10.1029/2019JG005339>
4. **Chimner, R.A.**, L.L. Bourgeau-Chavez, S. Grelik, J.A. Hribljan, A. Maria Planas Clarke\*, M.H. Polk, E.A. Lilleskov, B. Fuentealba. 2019. Mapping extent and types of wetlands in the Cordillera Blanca, Peru. **Wetlands** 39(5) 1057-1067. DOI: 10.1007/s13157-019-01134-1
5. **Chimner, R.A.**, D.J. Cooper, M. Bidwell, A. Culpepper, Kay Zillich, Koren Nydick. 2019. A new method for restoring ditches in peatlands: ditch filling with fiber bales. **Restoration Ecology** 27:63-69.
6. Gallego-Sala, A., Charman, D.J., Brewer, S., Page, S.E., Prentice, I.C., Friedlingstein, P., Moreton, S., Amesbury, M.J., Beilman, D.W., Björck, S., Blyakharchuk, T., Bochicchio, C., Booth, R.K., Bunbury, J., Camill, P., Carless, D., **Chimner, R.A.**, Clifford, M., Cressey, E., Courtney-Mustaphi, C., De Vleeschouwer, F., de Jong, R., ialkiewicz-Koziel, B., Finkelstein, S.A., Garneau, M., Githumbi, E., Hribljan, J., Holmquist, J., Hughes, P.D.M., Jones, C., Jones, M.C., Karofeld, E., Klein, E.S., Kokfelt, U., Korhola, A., Lacourse, T., Le Roux, G., Lamentowicz, M., Large, D., Lavoie, M., Loisel, J., Mackay, H., MacDonald, G.M., Makila, M., Magnan, G., Marchant, R., Marcisz, K., Martínez Cortizas, A., Massa, C., Mathijssen, P., Mauquoy, D., Mighall, T., Mitchell, F.J.G., Moss, P., Nichols, J., Oksanen, P.O., Orme, L., Packalen, M.S., Robinson, S., Roland, T.P., Sanderson, N.K., Sannei, A.B.K., Silva-Sánchez, N., Steinberg, N., Swindles, G.T., Turner, T.E., Uglow, J., Väliranta, M., van Bellen, S., van der Linden, M., van Geel, B., Wang, G., Yu, Z., Zaragoza-Castells, J. and Zhao, Y. 2018. Latitudinal limits to the predicted increase of the peatland carbon sink with warming. **Nature Climate Change** 8(10): 907-913. DOI:/10.1038/s41558-018-0271-1.
7. Lilleskov, E., McCullough K., Hergoualc'h, K., Castillo Torres, D., **Chimner R.A.**, Murdiyarto, D., Kolka, R., Bourgeau-Chavez, L., Hribljan, J., Aguila Pasquel, J., Wayson, C., Warren, M. 2018. Is Indonesian peatland loss a cautionary tale for Peru? A two-country comparison of the magnitude and causes of tropical peatland degradation. **Mitigation and Adaptation Strategies for Global Change**. DOI:10.1007/s11027-018-9790-3
8. Sánchez, M.E.\*, **R.A. Chimner**, J.A. Hribljan, E.A. Lilleskov, E. Suárez. 2017. Carbon dioxide and methane fluxes in grazed and ungrazed mountain peatlands in the Ecuadorian Andes. **Mires and Peat**. 19(20), 1-18; 10.19189/MaP.2017.OMB.277
9. Hribljan, J.A., E Suarez, L. Bourgeau-Chavez, S. Endres, E.A. Lilleskov, S. Chimbolema, C. Wayson, E. Serocki, **R.A. Chimner**. 2017. Multi-date, multi-sensor remote sensing reveals high density of carbon-rich mountain peatlands in the páramo of Ecuador. **Global Change Biology**. 23: 5412–5425. DOI:10.1111/gcb.13807.
10. Hribljan\*, J.A., E.S. Kane, and **R.A. Chimner**. 2017. Implications of altered hydrology for substrate quality and trace gas production in a poor fen peatland. **Soil Science Society of America Journal**. DOI:10.2136/sssaj2016.10.0322.
11. Comas X, N. Terry, J.A. Hribljan, E.A. Lilleskov, E. Suarez, **R.A. Chimner**, and R.K. Kolka. 2017. Estimating belowground carbon stocks in peatlands of the Ecuadorian páramo using ground penetrating radar (GPR). **Journal of Geophysical Research – Biogeosciences**. DOI: 10.1002/2016JG003550.



12. **Chimner, R.A.**, T.G. Pypker, J.A. Hribljan\*, P.A. Moore and J.M. Waddington. 2017. Multi-decadal changes in water table levels alter peatland carbon cycling. **Ecosystems** 20:1042–1057. DOI:10.1007/s10021-016-0092-x.
13. **Chimner, R.A.**, D.J. Cooper, F.C. Wurster, L. Rochefort. 2017. An overview of peatland restoration in North America, where are we after 25 years. **Restoration Ecology** 25:283-292. DOI: 10.1111/rec.12434.
14. Ott\*, C.A. and **R.A. Chimner**. Long Term Peat Accumulation in Temperate Forested Peatlands (*Thuja occidentalis* Swamps) in the Great Lakes Region. 2016. **Mires and Peat** 18: Art. 01.; 10.19189/MaP.2015.OMB.182.
15. Hribljan, J.A., E. Suarez, K. Heckman, E.A. Lilleskov, and **R.A. Chimner**. 2016. Peatland Carbon Stocks and Accumulation Rates in the Ecuadorian Páramo. **Wetland Ecology and Management** 24: 113-127.
16. Kangas, L.C.\*, R. Schwartz\*, M.R. Pennington, C.R. Webster and **R.A. Chimner**. 2016. Artificial microtopography and herbivory protection facilitates wetland tree (*Thuja occidentalis* L.) survival and growth in created wetlands. **New Forests** 47: 73-86. DOI: 10.1007/s11056-015-9483-7.
17. Hribljan, J.A., D.J. Cooper, J. Sueltenfuss, E. Wolf, K. Heckman, E.A. Lilleskov, and **R.A. Chimner**. 2015. Carbon storage and long-term rate of accumulation in high altitude Andean peatlands of Bolivia. **Mires and Peat** 15: Art. 12. (Online: <http://www.mires-and-peat.net/pages/volumes/map15/map1512.php>).
18. Gollany, H.T., B.D. Titus, D.A. Scott, H. Asbjornsen, S.C. Resh, **R.A. Chimner**, D.J. Kaczmarek, L.F.C. Leite, A.C.C. Ferreira, K. Rod, J. Hilbert, M.V. Galdos, M. Cisz\*. 2015. Biogeochemical Research Priorities for Sustainable Biofuel and Bioenergy Feedstock Production in Pan-America. **Environmental Management**. 56:1330–1355. DOI: 10.1007/s00267-015-0536-7.
19. Schrank, A.J., S.C. Resh, W.J. Previante, and **R.A. Chimner**. 2015. Characterization and Classification of Vernal Pool Vegetation, Soil, and Amphibians of Pictured Rocks National Lakeshore. **The American Midland Naturalist** 174: 161–179.
20. Enriquez, A.S. \*, **R.A. Chimner**, P. Diehl, M.V. Cremona and G.L. Bonvissuto. 2015. Grazing intensity and precipitation levels influence C reservoirs in Northern Patagonia wet and mesic meadows. **Wetland Ecology and Management** 23:439-451.
21. Potvin, L., E.S. Kane, **R.A. Chimner**, R.K. Kolka, and E.A. Lilleskov. 2014. Effects of water table position and plant functional group on plant community, aboveground production, and peat properties in a peatland mesocosm experiment (PEATcosm). **Plant and Soil** 387:277-294. DOI: 10.1007/s11104-014-2301-8.
22. **Chimner, R.A.**, C.A. Ott\*, C.H. Perry and R.K. Kolka. 2014. Developing and Evaluating Rapid Field Methods to Estimate Peat Carbon. **Wetlands** 34:1241-1246. DOI: 10.1007/s13157-014-0574-6.
23. Enriquez, A.S.\*, **R.A. Chimner**, and M.V. Cremona. 2014. Long term grazing negatively affects nitrogen dynamics in Northern Patagonian wet meadows. **Journal of Arid Environments** 109:1-5.
24. Bess, J.A.\* and **R.A. Chimner**. 2014. Ditch Restoration in a Large Northern Michigan Fen. **Ecological Restoration** 32:260-274.

25. Hribljan, J.A.\*, E.S. Kane, T.G. Pypker, and **R.A. Chimner**. 2014. The effect of long-term water table manipulations on dissolved organic carbon dynamics in a poor fen peatland. **Journal of Geophysical Research: Biogeosciences**. DOI: 10.1002/2013JG002527.
26. Kane, E.S., L.R. Mazzoleni, C.J. Kratz, J.A. Hribljan\*, C.P. Johnson\*, T.G. Pypker, and **R.A. Chimner**. 2014. Peat porewater dissolved organic carbon concentration and lability increase with warming: a field temperature manipulation experiment in a poor-fen. **Biogeochemistry**. DOI: 10.1007/s10533-014-9955-4.
27. Kangas, L.C.\*, L. Maanavilja, T. Hájek, E. Juurola, **R.A. Chimner**, L. Mehtätalo and E. Tuittila. 2014. Photosynthetic traits of *Sphagnum* and feather moss species in undrained, drained and rewetted boreal spruce swamp forests. **Ecology and Evolution** 4: 381-396. DOI: 10.1002/ece3.939.
28. **Chimner, R.A.** and S.C. Resh. 2014. Water Sources of Riparian Bur Oak Using Stable Water Isotopes in Homestead National Monument, Nebraska. **Natural Areas Journal** 34: 56–64. DOI: <http://dx.doi.org/10.3375/043.034.0107>.
29. Marlor, K.M.\*, C.R. Webster and **R.A. Chimner**. 2014. Disturbance and Wetland Type Alter Reed Canary Grass Cover in Northern Michigan. **Invasive Plant Science and Management** 7:121-131. DOI: 10.1614/IPSM-D-13-00039.1.
30. Schimelpfenig, D.W.\*, D.J. Cooper and **R.A. Chimner**. 2014. Effectiveness of ditch blockage for restoring hydrologic and soil processes in mountain peatlands. **Restoration Ecology** 22: 257-265. DOI: 10.1111/rec.12053. 34.
31. Ballantyne, D.M.\*, J.A. Hribljan\*, Pypker, T. and **R.A. Chimner**. 2014. Long-Term Water Table Manipulations on Great Lakes Peatland Carbon Fluxes. **Wetland Ecology and Management** 22: 35-47. DOI: 10.1007/s11273-013-9320-8.
32. Pypker, T.G., P.A. Moore, J.M. Waddington, J.A. Hribljan\*, **R.A. Chimner**. 2013. Shifting environmental controls on CH<sub>4</sub> fluxes in a sub-boreal peatland. **Biogeosciences** 10, 7971–7981. DOI:10.5194/bg-10-7971-2013.
33. Johnson, C.P.\*, T.G. Pypker, J.A. Hribljan\*, and **R.A. Chimner**. 2013. Open Top Chambers and Infrared Lamps: A Comparison of Heating Efficacy and CO<sub>2</sub>/CH<sub>4</sub> Dynamics in a Northern Michigan Peatland. **Ecosystems** 16: 736-748.
34. Bork\*, S.P., T.G. Pypker R.G. Corace, **R.A. Chimner**, A.L. Maclean, J.A. Hribljan\*. 2013. A case study in large-scale wetland restoration at Seney National Wildlife Refuge, Upper Michigan, USA. **The American Midland Naturalist** 169:286-302.
35. **Chimner, R.A.** 2011. Restoring sedges and mosses into frost heaving iron fens, San Juan Mountains, Colorado. **Mires and Peat** 8: Art. 7. (Online: [http://www.mires-and-peat.net/map08/map\\_08\\_07.htm](http://www.mires-and-peat.net/map08/map_08_07.htm)).
36. **Chimner, R.A.**, G.L. Bonvissuto, M.V. Cremona, J.J. Gaitan, C.R. Lopez. 2011. Ecohydrological conditions of wetlands along a precipitation gradient in Patagonia, Argentina. **Ecologia Austral** 21:329-337.
37. **Chimner, R.A.** and J.M. Welker. 2011. Influence of Grazing and Precipitation on Ecosystem Carbon Cycling in a Mixedgrass Prairie. **Pastoralism: Research, Policy and Practice** 1:20. doi:10.1186/2041-7136-1-20.
38. **Chimner, R.A.**, J.M. Welker, J. Morgan, D. LeCain and J. Reader. 2010. Experimental manipulations of winter snow and summer rain influence ecosystem carbon cycling in a Mixed-grass Prairie, Wyoming, USA. **Ecohydrology** 3:284-293.

39. **Chimner, R.A.**, D.J. Cooper and J.M. Lemly. 2010. Mountain fen distribution, types and restoration priorities, San Juan Mountains, Colorado, USA. **Wetlands** 30:763-771. DOI: 10.1007/s13157-010-0039-5.
40. Steltzer, H., R. A. Hufbauer, J. M. Welker, M. Casalis, P. F. Sullivan, and **R.A. Chimner**. 2008. Frequent sexual reproduction and high intraspecific variation in *Salix arctica*: Implications for a terrestrial feedback to climate change in the High Arctic, **J. Geophys. Res.**, 113, G03S10, doi:10.1029/2007JG000503.
41. Blumenthal, D., **R.A. Chimner**, J. M. Welker, J. Morgan. 2008. Increased snow facilitates plant invasion in mixedgrass prairie. **New Phytologist** 179:440-448.
42. **Chimner, R.A.**, J.M. Karberg\*. 2008. Long-term carbon accumulation in tropical mountain peatlands, Andes Mountains, Ecuador. **Mires and Peat** 3: Art. 4. (Online: [http://www.mires-and-peat.net/map03/map\\_03\\_04.htm](http://www.mires-and-peat.net/map03/map_03_04.htm)).
43. Sullivan, P.F., S.J.T. Arens, **R.A. Chimner** and J.M. Welker. 2008. Temperature and microtopography interact to control carbon cycling in a high arctic fen. **Ecosystems** 11:61-76.
44. **Chimner, R.A.**, B. Fry, M.Y. Kaneshiro\* and N. Cormier. 2006. Current extent and historical expansion of introduced mangroves on O`ahu, Hawai`i. **Pacific Science** 60(3):377-383.
45. **Chimner, R.A.** and K.C. Ewel. 2005. A Tropical Freshwater Wetland: II. Production, decomposition, and peat formation. **Wetland Ecology and Management** 13:671-684.
46. **Chimner, R.A.**, and J.M. Welker. 2005. Ecosystem respiration responses to experimental manipulations of winter and summer precipitation in a Mixedgrass Prairie, WY, USA. **Biogeochemistry** 73:257-270.
47. Welker, J. M., J.T. Fahnestock, P.F. Sullivan and **R.A. Chimner**. 2005. Leaf Mineral Nutrition of Arctic Plants in Response to Warming and Deeper Snow in northern Alaska. **Oikos** 109:167-177.
48. **Chimner, R.A.** and K.C. Ewel. 2004. Differences in carbon fluxes between forested and cultivated Micronesian tropical peatlands. **Wetland Ecology and Management** 12:419-427.
49. Welker, J. M., J.T. Fahnestock, G.H.R. Henry, K.W. O'Dea, and **R.A. Chimner**. 2004. CO<sub>2</sub> exchange in the Canadian High Arctic: Response to long-term experimental warming. **Global Change Biology** 10:1981-1995.
50. **Chimner, R.A.** and D.J. Cooper. 2004. Using stable oxygen isotopes to determine the source of water used for transpiration by native shrubs in the San Luis Valley, Colorado U.S.A. **Plant and Soil** 260:225-236.
51. **Chimner, R.A.** 2004. Soil respiration rates in tropical peatlands of Micronesia and Hawaii. **Wetlands** 24(1):51-56.
52. **Chimner, R.A.** and D.J. Cooper. 2003. Carbon Dynamics of Pristine and Hydrologically Modified Fens in the Southern Rocky Mountains. **Canadian Journal of Botany** 81(5) 477-491.
53. Cooper, D.J., D.C. Anderson, and **R.A. Chimner**. 2003 Multiple pathways for woody plant establishment on floodplains. **Journal of Ecology** 91:182-196.
54. **Chimner, R.A.** and D.J. Cooper. 2003. Influence of water table position on CO<sub>2</sub> emissions in a Colorado subalpine fen: An *in situ* microcosm study. **Soil Biology and Biogeochemistry** 35(3): 345-351.
55. **Chimner, R.A.**, D.J. Cooper, and W.J. Parton. 2002. Modeling carbon accumulation in Rocky Mountain fens. **Wetlands** 22(1):100-110.

56. Kaye, J.P., S.C. Resh. M.W. Kaye and **R.A Chimner**. 2000. Nutrient and carbon dynamics in a replacement series of *Eucalyptus* and *Albizia* trees. **Ecology** 81:3267-3273.
57. Cooper, D.J., D.M. Merritt, D.C. Anderson and **R.A. Chimner**. 1999. Factors controlling the establishment of Fremont cottonwood seedlings on the upper Green River, USA. **Regulated Rivers: Research and Management** 15:419-440.
58. **Chimner, R.A.** and J.B. Hart. 1996. Hydrology and microtopography effects on northern white-cedar regeneration in Michigan's Upper Peninsula. **Canadian Journal of Forest Research** 26:389-393.

### *Awarded Grants*

1. Cooper D.J., **R.A. Chimner**, C. Westbrook, K. Kaczynski, S. Wenger, J. Sueltenfuss, E. Gage, K. Haynes, E. Cubley, B. Schweiger. 2020-2021. Long term changes in wetland and riparian areas in Rocky Mountain National Park, Colorado. Rocky Mountain National Park. \$15,000.
2. **Chimner, R.A.**, S.C. Resh. 1/1/2020- 12/31/2021. Replanting the Pilgrim River wetlands to enhance ecosystem function. USDA-FS and Great Lakes Restoration Initiative. \$125,330.
3. **Chimner R.A.**, E.A. Lilliskov, R. Kolka. 1/2020-1/2022. Colombian Páramo Peatland Mapping, Carbon, and Restoration Project. **US-AID**, \$975,000.
4. Bourgeau-Chavez, Laura (PI), **R.A. Chimner**. 2019-2021. Mapping Potential Vernal Pools for National Parks of the Great Lakes. National Park Service. \$324,203.
5. Griffis, T., Lilleskov E., Kolka, R., Roman, D., **Chimner R.A.**, Wood J., Del Castillo Torres D. Malaverri, L.F., Cadillo-Quiroz, H., Riciutto, D. 2019-2022. Biophysical processes and feedback mechanisms controlling the methane budget of an Amazonian peatland. Department of Energy, Terrestrial Ecosystem Science Program. \$999,998 (\$163,329 to MTU).
6. Resh, S.C. (PI), T. Ball, **R.A. Chimner**, J. Schmierer, A. Storer, C.R. Webster. 2018-2020. Tree Planting for EAB mitigation on community trails. USDA-FS and Great Lakes Restoration Initiative. \$100,000.
7. **Chimner, R.A.** 2018-2021. Cedar Reclamation on CSA's in Northern Michigan. Carmeuse Lime and Stone. \$249,159.
8. Dewi. S. (Kolka R. and **Chimner R.A.** USG Sponsors) 2017-2020. Partner Cooperation Supplement to support: Developing Biodiverse Agroforests on Rewetted Peatlands in Indonesia. Partnerships for Enhanced Engagement in Research (PEER). \$8,000. Travel to Indonesia.
9. Dewi. S. (Kolka R. and **Chimner R.A.** USG Sponsors) 2017-2020. Developing Biodiverse Agroforests on Rewetted Peatlands in Indonesia. Partnerships for Enhanced Engagement in Research (PEER). \$300,000 to CiFOR Indonesia.
10. **Chimner, R.A.** Collaboration for Research and Capacity Building in Wetland Carbon Cycling in Tropical Ecosystems. 2017-2021. US Department of Agriculture, Forest Service. \$207,008.
11. Kane E.S. and **R.A. Chimner**. 2017-2021. Peat Accumulation Rates in Lake States Forested Wetlands. USDA Forest Service Hiawatha National Forest. \$55,027.
12. Bowser, G., A.B. Taber, K.R. Young, R.B. Boone, and **R.A. Chimner**. 2016-2021. CNH-S: Andes Bofedales and Cattle: The Impacts of Changing Hydrology and Glacial Retreat

- on Community Livelihoods in Peru's Cordillera Blanca (Award # 1617429). \$499,992 (\$65,921 to MTU).
13. **Chimner, R.A.**, J. Bess, C. Webster, P. Toczydlowski, E. McDonald. 2016-2017. Developing a restoration plan for Point Abbaye Wetland, Baraga County, Michigan. Fish and Wildlife Service Region 3, Coastal Program. \$45,000.
  14. Burton A., R. Frose, C. Webster, **R.A. Chimner**, J.W. Wagenbrenner, C.J. Huckins. 2016. Precise and efficient position data acquisition for forest and streams and wetlands. MTU-REF-IE. \$8,000.
  15. **Chimner, R.A.** 2015-2017. Restoration and carbon cycling of Northern white-cedar forested peatlands. \$21,000. McIntire-Stennis.
  16. Krystosek, D., **Chimner, R.A.**, Stensing J., Dahlman R., Johnson K. 2015-2016. Northeast Minnesota White Cedar Plant Community Restoration – PHASE 2. Environment and Natural Resources Trust Fund (ENRTF). \$305,000 (\$37,097 to MTU).
  17. Mayer A., **Chimner R.A.**, Datta R, Wusirika R and Sarkar, D. 2014-2015. Reducing Copper Loads from Stamp Sand Deposits in the Keweenaw Peninsula with Permeable Reactive Barriers - Phase 1. MDNR Nonpoint Source Program. \$296,658.
  18. **Chimner R.A.**, Hribljan, J.A., Bidwell, M.D. 2014-2015. Monitoring Water Table and Carbon Storage to Assess Mountain Fen Restoration Potential. Colorado Water Center. \$23,332 (\$52,057 including match).
  19. **Chimner, R.A.** Northeast Minnesota White Cedar Plant Community Restoration. 2014. State of Minnesota, South St. Louis Soil and Water Conservation District. \$19,000.
  20. Huckins, C., Meadows, G., Marcarelli, A., **Chimner, R.A.**, Brooks, C., Xue, X. Grimm. Arresting the Spread of Eurasian Watermilfoil in Lake Superior. 2014-2016. Great Lakes Restoration Initiative. \$499,877.
  21. **Chimner, R.A.** Hurricane River Road Crossing Restoration. Pictured Rocks National Lakeshore, Michigan. 2013-2015. National Park Service. \$24,000.
  22. **Chimner, R.A.** Collaboration for Research and Capacity Building in Wetland Carbon Cycling in Tropical Ecosystems. 2013-2021. US Department of Agriculture, Forest Service. \$649,292.
  23. Halvorsen, K, PI, Co-Pi's: H. Asbjornsen, **R. Chimner**, C. Moseley, D. Shonnard. OISE-PIRE: Sustainability, Ecosystem Services, and Bioenergy Development across the Americas. 2012-2017. NSF PIRE, \$4,841,735. Award# 1243444.
  24. Kane E.S, **Chimner, R.A.**, Kolka R.K., Lilleskov E.A, Pypker T., Lennon J.T. 2012-2015. Collaborative Research: PEATcosm: Understanding the interactions of climate, plant functional groups and carbon cycling in peatland ecosystems. NSF DEB - Ecosystem Science Cluster. \$707,326.
  25. **Chimner, R.A.** and C. Huckins. 2012. Pilgrim River Watershed Plan. US Dept of Commerce, DNR. \$11,000.
  26. **Chimner, R.A.** 2012-2014. Carbon cycling and greenhouse gas emissions of Northern-white cedar forested peatlands. \$21,000. McIntire-Stennis.
  27. Bidwell, M., **Chimner, R.A.**, Zillich, K. Restoration of a rare wetland fen to eliminate sediments inputs to N. Fork Mineral Creek, San Juan Mountains. Amount Requested: \$50,000. Submitted through Mountain Studies Institute to the Colorado Healthy Rivers Fund, August 2011.
  28. **Chimner, R.A.** 2011-2013. Northeast Minnesota White Cedar Plant Community Restoration. \$22,849 to MTU from a total budget of \$250,000 awarded to Minnesota

Board of Water and Soil Resources from the Environment and Natural Resources Trust Fund.

29. **Chimner, R.A.**, C. Huckins, M. Abbott and J. Bess. 2011-2013. Enhancing aquatic and wetland habitat along the Portage Waterway. Michigan Coastal Management Program. \$82,787.
30. Burton A., **R.A. Chimner**, T. Pypker, Cavalari, M. 2011. Improving Michigan Tech's Ability to Quantify Stable Isotopes of Water. MTU-REF-IE. \$18,000.
31. **Chimner, R.A.**, R. Kolka and C.H. Perry. 2010-2013. Development of New Organic Soil Survey Methods for Determining Carbon Storage in Northern Great Lakes Peatlands. USFS. \$105,022.
32. **Chimner, R.A.** and J. Bess. 2010-2012. Restoring peatlands from large scale ditching. EPA Great Lakes Restoration Initiative. \$148,650.
33. **Chimner, R.A.**, Kane, E.S. 2010-2014. Initiating Peatland Research at the Houghton Mesocosm Facility: Graduate Student Funding. Sponsored by US Dept of Agriculture, Amount Awarded: \$48,500.
34. **Chimner, R.A.**, T. Pypker, P. Dosky and E. Kane. 2010-2011. Predicting how CH<sub>4</sub> formation, transport pathways and flux rates in peatlands will respond to climate change. DOE-NICCR. \$112,000.
35. Burton A., R. Froese, J. Bump, **R.A. Chimner**. 2010. Enhancing Michigan Tech's Ability to Assess Ecosystem Nutrient Sustainability and Trace Metal Movement in Upland, Wetland and Aquatic Ecosystems. MTU-REF-IE. \$50,000.
36. **Chimner, R.A.** Peatlands and environmental change. 2009-2014. USFS. \$249,452
37. **Chimner, R.A.** and S.C. Resh. 2009-2011. Assessing vernal pools of Pictured Rocks National Lakeshore by determining distribution, abundance, and ecological significance. National Park Service. \$38,615.
38. **Chimner, R.A.** 2009-2011. Restoration of Sleeper Lake Peatlands. The Nature Conservancy. \$20,481.
39. **Chimner, R.A.** and C. Huckins. 2009-2010. Developing Restoration Techniques for Coastal Wetlands. Michigan Tech-REF grant. \$29,000.
40. **Chimner, R.A.** 2007-2010. Developing methods for Restoring Fens in the San Juan National Forest. San Juan National Forest. \$29,000.
41. **Chimner, R.A.** 2009-2010. ESC International Grant for International Exchange with my PhD student in Argentina. \$5,000.
42. Pypker T., **R.A. Chimner** and A. Burton, 2009-2014. Carbon, Water and Soils Research Support. USDA, Forest Service \$286,550.
43. **Chimner, R.A.** 2009-2011. Development of a long-term ecohydrological study of Northern-white cedar forested peatlands. \$21,000. McIntire-Stennis.
44. Karnosky D., A. Burton, **R.A. Chimner** and T.G. Pypker. 2008. Enhancing MTU's Ability to Assess Dissolved Organic Matter Transfers among Upland, Wetland and Aquatic Ecosystems. MTU-REF-IE. \$12,000.
45. Cooper D.J., **R.A. Chimner** and K. Nydick. 2007-2010. Development of a Regional Restoration and Protection Program for Mountain Fens. EPA Region 8. \$196,000.
46. Bolli J.M., **R.A. Chimner** and G. Eckart. 2007-2009. Analyzing water isotopes to determine impacts of burning in a mesic burr oak forest. National Park Service. \$18,000.

47. **Chimner, R.A.** and M. Turetsky. 2007-2010. Collaborative Research: Effects of plant species, organic matter quality, and microbial activity on ecosystem function and resilience to climate change. DOE-NICCR. \$392,000.
48. Pregitzer, K., A. Burton, E. Lilleskov, C. Swanston, **R.A. Chimner**, J. Eikenberry, T. Pypker. 2007. Expanding the capability of the isotope facility of the Ecosystem Science Center. MTU-REF. \$39,000.
49. Marr, J. and **R.A. Chimner**. 2007-2009. Wetland identification, inventory and assessment of KBIC wetlands. Keweenaw Bay Indian Community. \$35,000.
50. **Chimner, R.A.** 2007-2010. Developing methods for restoring vegetation in disturbed iron fens in the San Juan National Forest, Colorado. Awarded through San Juan National Forest. \$13,000.
51. **Chimner, R.A.** 2007-2010. Developing methods for restoring gullied fens in the San Juan National Forest, Colorado. Awarded through San Juan National Forest. \$10,000.
52. Cooper D.J., **R.A. Chimner** and K. Nydick. 2005-2008. Regional assessment of fen distribution, condition, and restoration needs, San Juan Mountains. Awarded through EPA Region 8. \$101,000.
53. Cooper, D.J. and **R.A. Chimner**. 2005. Analysis of mine drainage impacts on fens in the Chattanooga and Burro Bridge areas, and the potential for restoration. Awarded from USFS. \$12,800.
54. **Chimner, R.A.** 2005-2007. Exploring the hydro-ecological conditions of high elevation wetlands in the Andes Mountains. Awarded from the National Geographic Society. \$19,000.
55. **Chimner, R.A.** 2004. C, N, & H<sub>2</sub>O dynamics in mixed-grass prairie following coupled changes in winter & summer precipitation. Awarded through Department of Energy, NIGEC. \$120,000.
56. Cooper D.J. and **R.A. Chimner**. 2004-2006. Fen Monitoring, assessment and protection, San Juan Mountains. Awarded through EPA Region 8. \$65,000.
57. **Chimner, R.A.** 2000. Society of Wetlands student travel award, \$500.
58. **Chimner, R.A.** 1999. Experimentally testing the effects of lowering water levels on plant production and gaseous carbon efflux in a peatland in Rocky Mountain National Park. Society of Wetland Scientists Student Research Grant. \$2,000.

***Participant on Awarded Grants (Senior Personnel, ect.)***

1. Houghton Keweenaw Conservation District and others. Pilgrim River Watershed Plan. 2011-2012. State of Michigan Coastal Management Program, \$102,000.
2. Shonnard D., B. Solomon, K. Halvorsen, R. Donovan, S. Sweitz. 2011-2015. CN-SEES: A Research Coordination Network on Pan American Biofuels and Bioenergy Sustainability. NSF, \$749,996.
3. Mayer, A., Wallace, C., R. Pastel, S. Oppliger, R. Donovan. 2011-2013. CI-TEAM Demo: Environmental CyberCitizens: Engaging Citizen Scientists in Global Environmental Change through Crowdsensing and Visualization. NSF \$249,840.
4. Bourgeau-Chavez L.L., M. Turetsky with collaborators: E. Kasischke, J. M. Waddington, M. Flannigan, W. J. de Groot, **R.A. Chimner**. 2009-2013. Vulnerability of North American Boreal Peatlands to Interactions between Climate, Hydrology, and Wildland Fires. NASA. \$1,100,000.

5. Mayer, A.S. (PI), K. Halvorsen (Co-PI), H. Asbjornsen, A. Mayer, **R.A. Chimner**, B. Orr and L. Nagel (Collaborators/Senior Personnel). 2009-2011. Enhancing the Capacity for Sustainable Forest Management and Ecosystem Service Provisioning in Chiapas and Oaxaca. USAID, Higher Education for Development TIES Program \$250,000, MTU contribution \$399,599 (Total = \$649,000).

### ***Grants Pending***

1. **Chimner, R.A.** G. Bowser, K.R. Young, C. Turin, R. Boone. Senior Personnel, M. H. Polk, L. Bourgeau-Chavez, S. Resh, J.A. Ñaupari. CNH2-L: Ecosystem services and pastoralism in changing Andean landscapes. **NSF-CNH2**. \$1,576,354. 7/1/2020 – 6/30/2025.
2. Lynn and others Collaborative Research: AccelNet: People, Pollinators and Place (P3): A global convergence network of networks spanning conservation boundaries across a changing world. **NSF-ACCELNET**. \$750,000. 2021 - 2024.
3. Resh, S.C. (PI), L. Dolinski, R.A. Chimner, C. Edson. 2019. Purple Loosestrife Control in the Keweenaw Invasive Species Management Area (KISMA). **USDA-FS GLRI CWMA**. \$40,000 (\$50,002 with match).
4. Kane, E. Lilleskov E.A, and **Chimner R.A.** Collaborative Research: Does tree encroachment in peatlands accelerate or suppress decomposition with altered hydrology? **NSF-DEB**. \$627,713.

### ***Conference Presentations (\*=invited)***

1. **\*Chimner, R.A.** Tropical Peatlands of South America: Results from the SWAMP Initiative. Northern Michigan University invited talk sponsored by the Earth, Environmental & Geographical Sciences Department, Gamma Theta Upsilon, Sustainability Advisory Council, and the Northern Climate Network. April 18<sup>th</sup>, 2019, Marquette, MI.
2. **\*Chimner, R.A.** Storage and cycling of carbon in Andean peatlands. National symposium on the sustainable management of Peruvian peatlands: scientific context and institutional framework. April 9<sup>th</sup>, 2019. Lima Peru.
3. **\*Chimner, R.A., Planas, A.M.** Methods for restoring peatlands for their potential of reduction of greenhouse gasses. National symposium on the sustainable management of Peruvian peatlands: scientific context and institutional framework. April 9<sup>th</sup>, 2019. Lima Peru.
4. **\*Chimner, R.A.** Remote sensing for bofedales identification and monitoring. Congress of High Andean Puna Ecosystems in Protected Natural Areas. March 18<sup>th</sup>-22<sup>nd</sup>, 2019. Lima Peru.
5. **Chimner, R.A.** Comparison of mountain peatlands carbon cycling from the Rockies and Andes. Society of Wetland Scientists Annual Meeting, May 29<sup>th</sup>-June 3<sup>rd</sup>, 2018. Denver Colorado.
6. Hribljan, J.A., Lilleskov, E.A. and **Chimner, R.A.** Carbon Stocks, Accumulation Rates, and Mapping Techniques across Tropical Mountain Wetlands of South America. Society of Wetland Scientists Annual Meeting, May 29<sup>th</sup>-June 3<sup>rd</sup>, 2018. Denver Colorado.



7. **\*Chimner, R.A.** When does a peatland need to be restored? Using carbon and hydrology as metrics. “Bringing science closer to policy in restoring peat ecosystems”. CIFOR-ICRAF, Bogor, Indonesia, May 3<sup>rd</sup>, 2018.
8. Pasquel, J.d.A., Hribljan, J.A., Lilleskov, E.A. and **Chimner, R.A.**, 2017. Soil methane and carbon dioxide emission in ombrotrophic and minerotrophic peatland complexes in the Pastaza-Maranon Basin of the Peruvian Amazon. Society of Wetland Scientists Annual Meeting, June 5-8, 2017.
9. Clarke, A.M.P., Hribljan, J.A., Lilleskov, E.A. and **Chimner, R.A.**, 2017. Peruvian Andean mountain peatlands: What do we know about them? Society of Wetland Scientists Annual Meeting, June 5-8, 2017.
10. **\*Chimner, R.A.** An Overview of Cedar Swamp Research in the Great Lakes Region. “Cedar Club” annual meeting. University of Laval, Quebec, Canada. February 17<sup>th</sup>, 2016.
11. Hribljan, J.A., Suarez, E., Bourgeau-Chavez, L., Endres, S., Lilleskov, E.A., Chimbolema, S., Wayson, C., Serocki, E. and **Chimner, R.A.**, 2017. Multi-date, multi-sensor remote sensing approach and ground trothing reveals extensive carbon-dense mountain peatlands in the páramo of Ecuador. Society of Wetland Scientists Annual Meeting, June 5-8, 2017.
12. Pasquel, J.d.A., Hribljan, J.A., Lilleskov, E.A. and **Chimner, R.A.** 2016. Soil methane emission from peatlands of the Pastaza-Marañón basin, with a focus on vegetation type. The XII Forestry National Congress (CONAFOR), Universidad Nacional Agraria La Molina, Lima, Peru.
13. Clarke, A.M.P., Hribljan, J.A., **Chimner, R.A.**, Lilleskov, E.A. 2016. High mountain peatlands in Peru: what do we know about them? The XII Forestry National Congress (CONAFOR), Universidad Nacional Agraria La Molina, Lima, Peru.
14. Clarke, A.M.P., **Chimner, R.A.**, Hribljan, J.A., Lilleskov, E.A. 2016. SWAMP: Sustainable Wetlands Adaptation and Mitigation Program. Poster presented at The International Glacier and Mountain Ecosystems Forum, Huaraz, Peru.
15. **Chimner, R.A.**, D.J. Cooper, and L. Rochfort: An Overview of Peatland Restoration in North America: where have we come from and where are we going. Presented at the Society of Ecological Restoration, Manchester UK, August 23<sup>rd</sup> - 27<sup>th</sup>, 2015.
16. **\*Chimner, R.A.** Carbon cycling and restoration of peatlands. Presented at the Society of Wetland Scientists, Rocky Mountain Chapter Speaker series. Denver, CO. 12/17/2014.
17. Juneau, Kevyn, J., C. Huckins, A. Marcarelli, **R.A. Chimner**, C. Brooks, P. Xue, G. Meadows (16 October 2014) Arresting the spread of Eurasian watermilfoil (*Myriophyllum spicatum*) in the Keweenaw Waterway. Oral Presentation. Science in the Northwoods, Boulder Junction, WI.
18. Hribljan J.A., **Rodney A. Chimner**, Erik A. Lilleskov, Esteban Suarez, & Ana María Planas. Carbon stocks and accumulation rates in mountain peatlands of South America. International Union of Forest Research Organizations (IUFRO) 24<sup>th</sup> World Conference, Oct. 5-11, 2014, Salt Lake City.
19. **Chimner, R.A.**, Hribljan, J.A., Lilleskov, E.A. Carbon storage and accumulation rates of tropical mountain peatlands of South America. Joint Aquatic Sciences Meeting. May 18-23, 2014. Portland, Oregon.
20. Dwire, K.A., Cooper, D.J., Aldous, A., **Chimner, R.A.**, D'Amore, D., Haynes, K., Johnston, B., Lemly, J., Millar, D., Weixelman, D. Distinguishing fens from other wetlands

- in mountainous terrain: the role and ecological meaning of peat thickness. Joint Aquatic Sciences Meeting. May 18-23, 2014. Portland, Oregon.
21. \***Chimner, R.A.** Restoring Northern White Cedar in the Great Lakes Region. Michigan Society of Forestry Michigan Chapter Meeting. "Challenges in Forest Regeneration". March 20<sup>th</sup>, 2014. Escanaba, MI.
  22. **Chimner, R.A.** Kane E.S., Lilleskov, E.A., Potvin, L., Kolka, R. and T Pypker, PEATCOSM: A new experiment to isolate the role of hydrology and vegetation on peatland carbon cycling. Society of Wetland Scientists 2013 Annual Meeting. June 2-6<sup>th</sup>. Duluth, MN.
  23. **Chimner, R.A.** How to restore steep sloping fens: a case study from Colorado. Society of Wetland Scientists 2013 Annual Meeting. June 2-6<sup>th</sup>. Duluth, MN.
  24. \***Chimner, R.A.** Northern white cedar restoration. 2013. Northeast White Cedar Plant Community Restoration Project Technical Advisory Meeting. February 6<sup>th</sup>, Grand Rapids Minnesota.
  25. **Chimner, R.A.** Global Wetlands and Peatlands. SWAMP South America Workshop. Feb 26-27<sup>th</sup>, 2013. Lima, Peru.
  26. **Chimner, R.A.** Alpine Peatlands—Threats, Carbon Stocks, Sampling, Policy Issues. SWAMP South America Workshop. Feb 26-27<sup>th</sup>, 2013. Lima, Peru.
  27. **Chimner, R.A.** Stock Change Estimation, Greenhouse Gas Fluxes. SWAMP South America Workshop. Feb 26-27<sup>th</sup>, 2013. Lima, Peru.
  28. **Chimner, R.A.** Restoration of Peatland Ecosystems. SWAMP South America Workshop. Feb 28<sup>th</sup>, 2013. Lima, Peru. Half day workshop on peatland restoration.
  29. **Chimner, R.A.**, JA Hribljan, T Pypker, and E Kane. 2012. Effects of short term warming and long-term water table alterations on vegetation and carbon cycling in a great lakes peatland. The 14<sup>th</sup> International Peat Conference, Stockholm, Sweden, June 3 – 8, 2012.
  30. Kane E.S., Hribljan, J.A., Turetsky, M.R., and **Chimner, R.A.** Invited, 2012. Effects of peatland drainage on dissolved organic carbon quality and quantity. International Wetland Conference, INTECOL 9. Orlando, Florida.
  31. **Chimner R.A** and D.J. Cooper. 2012. Mountain Fen Restoration in Colorado: An Overview. The 14<sup>th</sup> International Peat Conference, Stockholm, Sweden, June 3 – 8, 2012.
  32. \***Chimner, R.A.** 2011. Restoration of Northern White Cedar Wetlands. Presented at Michigan Wetlands Association annual conference. Traverse City, August 30-September 2.
  33. \***Chimner, R.A.**, D.J. Cooper and D. Schimelpfenig. 2010. Mountain Fen Restoration: Developing Methods for Ditch Restoration. International Symposium on Responsible Peatland Management and Growing Media Production. Quebec City, June 13-17, 2011.
  34. Bess, J.A., **Chimner, R.A.** 2010. Restoration of Ditched Patterned Peatlands in Michigan: First Year Vegetation Response and Porewater Chemistry. International Symposium on Responsible Peatland Management and Growing Media Production. Quebec City, June 13-17, 2011.
  35. **Chimner, R.A.** 2010. Assessment and Restoration of Fens, San Juan Mountains, Colorado. University of Helsinki, November 22, 2010.
  36. Kane, E.S., Mazzoleni L.R., Kratz C.J., Hribljan J.A., Johnson C.J., Pypker T.G., **Chimner R.A.**, American Geophysical Union Fall Meeting, "Dissolved Organic Carbon in Peat Porewater Increases with Warming: A Field Manipulation Experiment in a Northern Temperate Bog" American Geophysical Union, San Francisco, CA. (December 15, 2010).

37. **Chimner, R.A.** 2010. Northern white-cedar swamps-ecology, restoration and management. Presented at: Considerations and Innovations for Managing Michigan's Lowland Forests. The Michigan Society of American Foresters, Grayling, MI, November 4-5, 2010.
38. **Chimner, R.A.** 2010. Wetland Ecology and Restoration Lab. Presentation at the 2<sup>nd</sup> Northwoods Conference. September 29-October 1, Boulder Junction, WI.
39. **Chimner, R.A.** Carbon emissions and cycling in tropical peatlands. Society of Wetland Scientist 31<sup>st</sup> Annual Conference, Salt Lake City, Utah. June 30<sup>th</sup>, 2010.
40. Ballantyne D, **Chimner R.A.** and Hribljan J. 2010. The effects of long term water table manipulations on carbon fluxes at the Seney National Wildlife Refuge. Society of Wetland Scientists 2010 Annual Meeting. June 28-31<sup>st</sup>. Salt Lake City.
41. **Chimner R.A.** 2010. Mountain fen restoration. Mountain Studies Institute. July 12, 2010. Silverton Colorado.
42. \***Chimner R.A.** Fen restoration in Colorado. 16<sup>th</sup> meeting of the Peatland Ecology Research Group (PERG). February 16<sup>th</sup>, 2010, Quebec City, Canada.
43. **Chimner R.A.** 2009. Hribljan JA, Johnson C, Ballentyne D, Turetsky MM, Pypker TG, Waddington, MJ. Effects of Experimental Warming and Long-term Water Manipulation on Peatland Carbon Fluxes. The 2nd International Symposium: Peatlands in the Global Carbon Cycle, Prague, Czech Republic, 25-30 September, 2009.
44. \***Chimner R.A.** USFS Rocky Mountain Region Fen Workshop. March 24-26, 2009. Fort Collins, Colorado. Gave 2 talks, Climate Change and Fens (1/2 hour), and Colorado Fen Restoration Project (1 hr).
45. **Chimner R.A.** SEEn talk at MTU. Restoration of peatlands. Feb 2009.
46. **Chimner R.A.**, J. Hribljan, D. Ballentyne and C. Johnson. 2009. Peatland Carbon Pools in Michigan's UP and their Response to Climate Change. Carbon in Northern Forests: Integrating Research and Management. June 10-11, 2009, Traverse City, Michigan.
47. **Chimner R.A.**, John Hribljan, Drew Ballentyne and Chris Johnson. Peatland Carbon Pools in Michigan's UP and their Response to Climate Change. Great Lakes Biology Network Forest Ecology and Management Meeting. Seney National Wildlife Refuge. September 15-17, 2009.
48. \***Chimner R.A. Restoration Ecology.** MCAST (Malta College of Arts, Science and Technology) on restoration ecology. 2008.
49. **Chimner R.A.** Peatlands and Climate Change. NIACS Climate Change conference to Ottawa National Forest. 2008
50. **Chimner R.A.**, D.J. Cooper and J. Lemly. 2008. Fen Wetland Assessment Results & Restoration Preview. Mountain Studies Institute.
51. Hribljan, J.A., **R.A. Chimner**, M.M. Turetsky, T.G. Pypker, M.J. Waddington. Effects of plant species, organic matter quality, and microbial activity on peatland ecosystem function and resilience to climate change. EOS Transactions, AGU 89 (52) Fall Meeting Supplement, Abstract B13A-0429.
52. Hribljan J.A. and **R.A. Chimner**. Comparison of warming treatments in an Upper Michigan peatland. Poster presented at Ecology and Identification of Sphagnum. August 2008, Alaska.
53. Hribljan J.A. and **R.A. Chimner**. 2008. Comparison of warming treatments in an Upper Michigan peatland. Poster presented at Ecology and Identification of Sphagnum. August 2008, Alaska.

54. **Chimner R.A.**, D.J. Cooper and J. Lemly. 2007. Regional Assessment of Fen Distribution, Condition, and Restoration Needs, San Juan Mountains, Colorado. Society of Wetland Scientist 29<sup>th</sup> Annual Conference, Sacramento, California.
55. **Chimner R.A.** 2006. Using the Carbon Cycle to Study Peatland Management and Sustainability. Applying Scientific, Legal, and Management Tools for the Great Lakes and Beyond. Association of State Wetland Managers. Traverse City, MI.
56. **Chimner R.A.** and D.J. Cooper. 2006. Using the Carbon Cycle to Study Mountain Fen Management and Sustainability. Western Water Conference, Denver CO.
57. **Chimner R.A.**, D.J. Cooper and K. Ewel. 2005. Using the Carbon Cycle to Study Fen Management and Sustainability. Society of Wetland Scientist 26<sup>th</sup> Annual Conference, Charleston, South Carolina.
58. **Chimner R.A.**, J.M. Welker, J. Morgan, J. Reeder and D. LeCain. Carbon cycling dynamics in mixed-grass prairie following coupled changes in winter snow and summer precipitation. American Geophysical Union 2004 Meeting, San Francisco, California.
59. **Chimner R.A.** and D.J. Cooper. Ecosystem Carbon Cycling in San Juan Fens. State of the San Juans Meeting, Silverton, Colorado. September 24-26, 2004.
60. **Chimner R.A.** and J.M. Welker. CO<sub>2</sub> Flux Responses in Mixedgrass Prairies to Changes in Climate and Grazing History. Ameriflux 2004 Meeting, Boulder, Colorado.
61. **Chimner R.A.** and J.M. Welker. C, N, and H<sub>2</sub>O Dynamics in a Mixed Grass Prairie Following Coupled Changes in Winter Snow and Summer Precipitation. NIGEC Central Plains Regional Meeting. Lincoln, NE, August 18, 2003.
62. **Chimner R.A.**, M. Kaneshiro and B. Fry. Extent and Expansion of Mangroves on Oahu, Hawaii. Wetland Management in the Hawaiian Islands Workshop. Kailua, HI, October 31 - November 1, 2002.
63. **Chimner R.A.** and K.C. Ewel. Mechanisms of Carbon Accumulation in Micronesian Tropical Forested peatlands. Society of Wetland Scientist 23<sup>rd</sup> Annual Conference, Lake Placid, NY, June 2 - 7, 2002.
64. \***Chimner R.A.**, D.J. Cooper and W.J. Parton. Modelling Carbon Accumulation in Rocky Mountain Fens Using the CENTURY Ecosystem Model. International Workshop on Carbon Dynamics of Forested Peatlands: Knowledge Gaps, Uncertainty and Modelling Approaches. Edmonton, Alberta 23-24 March 2001.
65. **Chimner R.A.** and D.J. Cooper. Using CENTURY model to simulate long-term carbon accumulation in fens. Society of Wetland Scientist 21<sup>st</sup> Annual Conference with the International Congress of Ecology, Quebec City, August 6 – 12, 2000.
66. **Chimner R.A.** 2000. Carbon Dynamics of Southern Rocky Mountain Peatlands. Ecological Society of Australia, Tasmania Chapter.
67. **Chimner R.A.** and D.J. Cooper 1999. The Effects of a Water Diversion Project on Peatland Carbon Balances, Rocky Mountain National Park, Colorado. Front Range Student Ecology Symposium, Colorado State University.
68. **Chimner R.A.** and D.J. Cooper. The effects of a water diversion project on peatland carbon balances, Rocky Mountain National Park, CO. Paper presented at Society of Wetland Scientists, 20th Annual Conference. Norfolk, Virginia, June 6-12, 1999.
69. **Chimner R.A.** and D.J. Cooper. Carbon Export Functions Performed by Four Colorado Wetlands. Colorado Geological Survey, 1998.
70. **Chimner R.A.** and D.J. Cooper. 1997. Water Table Level Effects on Evapotranspiration Rates in the San Luis Valley, Colorado. Student Water Symposium, Colorado State University.