

## ETHN 113A Decolonizing Geology

11-1220pm Tuesdays/Thursdays || Warren Lecture Hall 2113  
Owing to the circumstances, this is going to be a chill course

### Instructor

bt werner

Professor of Environmental Physics and Complex Systems  
Scripps Institution of Oceanography  
Affiliate in Critical Gender Studies and Ethnic Studies  
bwerner@ucsd.edu

### Office Hours (tentative – check web site for changes)

Mondays 2-4PM || Thursdays 8-9PM online  
Tuesdays 1230-150PM Mandeville Cafe

*ETHN 113A will be conducted on stolen, colonized, occupied, unceded Kumeyaay Land. Discussions about Regeneration - return of the Land and restoration of its Relationality - will occur throughout the quarter.*

**Course Web Site:** <https://courses.complex-systems-laboratory.org/ethn113a>

### Synopsis

The origins, development and practice of the Earth sciences have been closely tied to colonization, but these ties rarely are acknowledged, discussed, critiqued or used as a basis for rethinking present day practices and trends. In this course, we will deconstruct the historical relationship between colonialism and the Earth Sciences, discuss how this relationship has developed over time and explore practical methods for how the connections between the Earth Sciences (and, by extension, other fields of western science) and colonialism might be unwound.

### Learning Objectives

- Learn about and explore methods for deconstructing the knowledge system of the Earth sciences, revealing its historical path dependences and underlying assumptions
- Describe the interconnections between colonialism and the Earth sciences
- Using cases studies, focus on the role of the Earth sciences in 'exploration,' resource extraction, hetero-patriarchal violence and resistance movements
- Investigate ways in which research, measurements, models, knowledge and education in the Earth sciences can be transformed to be part of a larger project of decolonization, and explore methods for empowering activists to push for these changes

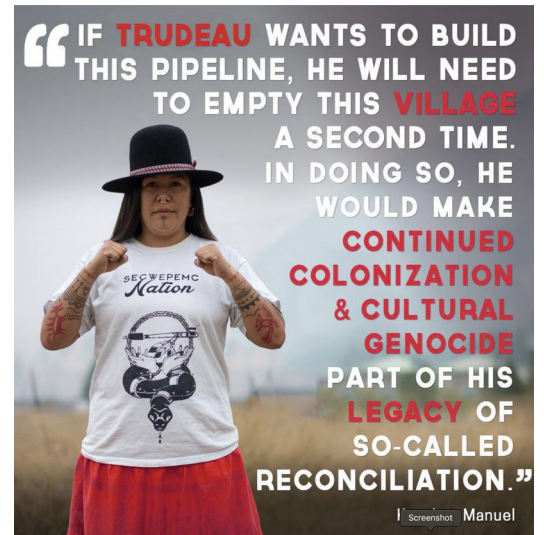
### Unlearning Objectives

- Challenge the common assumption that the Earth Sciences are 'neutral.'
- Question Earth Science's alliances with struggles concerning Climate Change, Extractivism, etc.
- Critique Earth Science's 'moves towards innocence' wrt Anti-Blackness and Anti-Indigeneity

### Beyond Brave Spaces

The instructor of this course is dedicated to creating a learning environment of critical thinking and practice, where we collectively share, learn and produce knowledge. Drawing from Black Feminist Thinker bell hooks, I am committed to facilitating a collective space that includes:

- 'transgressing' to disrupt and dismantle the status quo;
- honoring and acknowledging the ways that people with different abilities learn, communicate, participate and interact;
- recognizing students' varying mobilities and lived experiences as sources of knowledge;
- working towards an accessible collective learning environment;
- supporting students through difficult conversations and creating an environment in which everyone might grapple with these topics and potentially move towards action;
- explicitly prioritizing nonlinear ways of learning and building relationships with each other.



## **Accountability**

“In order to have accountability you must be in a relationship with that person.” – Mia Mingus

In this sense, part of the work of this course will be to develop relationships that go beyond the transactionalism of taking a course/receiving a grade and teaching a course/assigning grades.

Instructor: I welcome constructive comments and suggestions about the class to better make it a space for productively working, learning and growing together. I will provide class time to receive those suggestions. I will provide timely feedback to the best of my ability.

Students: Active engagement, doing the reading and completing assignments on time to the best of their ability. Contributing to class discussions, accepting responsibility for the learning of your classmates and of yourself. The transactional part is outlined below.

### *Grading:*

– Engagement – includes participation during class verbally or in writing, posting comments to forums before or after class or/and actively assisting other students with their learning/providing learning mutual aid. **20%**

– Answer Questions About the Assigned Reading – summarize briefly the content and briefly answer several questions about reading assignments for Weeks 2-9. I will provide a reading assignment template for each week (download it from the assigned reading link) **20%**

– Critical Analysis Essay – research a contemporary or historical topic or endeavor involving the Earth sciences, and critically analyze it to reveal its colonial connections. Due at the end of week 6. An instruction sheet will be provided. **15%**

– Summarize/report on an article or book chapter to the class – A list of articles you can choose from will be provided. This will be a 5 minute presentation. An instruction sheet will be provided. Presentations during weeks 4-7 **10%**

– Research and report to the class on an indigenous activist working on issues related to Earth science and colonialism. This will be a 5 minute presentation. An instruction sheet will be provided. Presentations during weeks 8-9. **10%**

– Final Group Project – group presentation (Week 10). Research, critically analyze a topic that combines the Earth sciences, colonization and resistance, and propose specific steps that can be taken in support of unwinding Earth science-colonization connections. Presentations are 15 minutes. An instruction sheet will be provided **25%**

A step-by-step instruction sheet for each of the assignments will be provided.

## Attendance and Participation

Learning in this class depends heavily on class discussions and working with and talking in groups, and attendance is strongly encouraged. Please actively participate verbally or with written comments during class. If illness, employment, childcare or caregiving responsibilities do not permit you to attend class in-person, please attend online synchronously and contact bt so we can work out a plan for you to fully participate in class discussions.



Here are some principles for participation in ETHN 113A:

- Be physically and mentally present for yourself, for us, and for your classmates.
- Respect is key. Respect yourself, your classmates, and the academic goals of the course. Please do not interrupt others while they are speaking.
- Participation is not just speaking/typing but also active listening/reading – we are coming from different perspectives, backgrounds, and positionalities and we all have something to contribute to how we understand the readings and concepts.
- Step Up, Step Back: if you are participating more than others, step back and let others contribute; if you are participating less than others and have something to contribute, step up and participate more.
- Commit yourself to critically engage the material. Be an active participant in your education.
- Take initiative in your learning. Act with integrity.
- Commit yourself to arriving on time and coming prepared to learn.
- Support your arguments by engaging the texts (academic settings necessitate scholarly claims).
- Although electronic devices make it easy for us to multi-task, if at all possible, please don't.
- The number one ground rule which we will all follow is to engage in respectful critical analysis and discussion in the classroom. Abusive and harsh language will not be tolerated.

## Come Prepared

Students are expected to keep up with the weekly readings as they are assigned in the course syllabus. Assigned readings must be read prior to class and you are expected to identify key themes, concepts, and terms in the readings. Please have readings, notes, your completed reading template and other materials handy when you arrive at class.

## Academic Integrity

Plagiarism is not acceptable. Please refer to the "UCSD Policy on Integrity of Scholarship."



## Communications with Instructor

Please let me know if you go by a different name than what is on your UCSD record. If you would like, I am happy to adjust your login to your preferred name.



## **Sexual Violence and Sexual Harassment**

In this class, we might discuss issues that many find difficult, painful and triggering. I invite you to relate your personal experiences where relevant to the academic discussion. However, I want you to be aware that UCSD requires instructors to file a report with the University's Title IX Officer if any students relate experiences with sexual harassment or sexual violence in class discussions (chatroom discussion), e-mail or written assignments, whether or not that occurred on campus. This could result in an investigation without that student's participation or consent.

Campus Advocacy, Resources, and Education at the Sexual Assault Resource Center (CARE at SARC) -- CARE at SARC is an independent confidential campus resource for individuals impacted by sexual assault, relationship violence, and stalking. CARE at SARC also provides comprehensive prevention education and trainings for UC San Diego students, staff, faculty, organizations, and departments. CARE at SARC provides free and confidential services for students, staff and faculty who are survivors, or those supporting survivors. CARE at SARC serves as the primary point of contact for victims and survivors who need advocacy, support services and/or assistance with reporting options. CARE at SARC is on-call 24 hours a day and on weekends throughout the year. If you are in need of urgent support during non-business hours, weekends, or holidays, please call them at (858) 534-5793. <https://care.ucsd.edu/>

## **Office Hours**

If you have any questions regarding the readings and or assignments please connect with me during office hours. If you cannot attend the scheduled office hours I also am available to connect by appointment. Please email me with your availability to request an appointment.

## **Email Policy**

Please do not hesitate to e-mail me with any questions and or concerns. I check email during normal university hours and will respond within 24 hours, however, I might not respond to emails over weekends.

Email is a good way for you to ask short, logistical questions and general inquiries about assignments. If you have questions that require an in-depth answer or conversation, please connect with me during office hours. Finally, I strongly encourage you to ask syllabus and assignment related questions in class. If you have a question it is likely that others also have the same question. When emailing include ETHN 113A as part of the subject line or header.



## **Grade Disputes**

If you have questions regarding the grades or written comments you receive, I would be happy to address them during office hours or by appointment at least 24 hours after you have received your feedback. Make sure to see me no later than one-week after the assignment has been returned. A re-grade means re-grading the entire assignment and could result in an overall lower grade for that assignment.

## **Resources**

This is a particularly difficult, stressful time. In my view, taking care of ourselves and supporting those around us, our friends and our family and our classmates and colleagues is more important than anything else. To that end, we will spend time in class checking in and endeavor to form a supportive community, despite the alienation of our separation and isolation. If you need assistance in locating additional resources for disability accommodations, health, food, stress, transitional support, well-being, mental health, financial aid, job preparation, and community building do not hesitate to consult your instructor.

## Accommodations

If you need any accommodations for disability, illness, or any other reason please contact me so I can create an accommodation plan for your success. If you have a disability or other condition that compromises your ability to complete the requirements of this course, please inform me asap of your needs. I will make all reasonable efforts to accommodate you.

## Writing Support

Some students will need to utilize office hours in order to get extra background and direction on the material. ELL students are highly encouraged to consult the resources at the OASIS center (858-534-3760).



## Email Exchange

If you ever miss a class, contact your peers for support! Collaboration with your peers is a part of learning--this is **NOT** a competition! You can also check out the shared documents and forums on the course web site.

new friend: \_\_\_\_\_ new friend's e-mail: \_\_\_\_\_

new friend: \_\_\_\_\_ new friend's e-mail: \_\_\_\_\_

new friend: \_\_\_\_\_ new friend's e-mail: \_\_\_\_\_

## Tech Stuff

To download course materials or upload assignments, you must be logged in to the course web site:

<https://courses.complex-systems-laboratory.org/ethn113a>

Click on the login link at the top/left and fill in the login name and password that bt sent you. If it doesn't work, e-mail bt to reset the login/password or diagnose the problem. Note the automatic e-mail link for forgetting your password does not work. You must have cookies enabled, All web site features have been tested with Safari and Firefox.

## Reading/Viewing

Links for all reading/viewing will be provided on the course web site. Please check the the posted links as there are different editions/versions for some of the reading. Be certain to download the reading template from the web site for each week!

The ETHN 113A Decolonizing Geology syllabus is subject to change as needed. Office hours' location and times might vary throughout the quarter to best meet the needs of all students. :) Check the course web site for updates!

## Assigned Reading

Assigned Reading might change – if you are going to read ahead, please consult bt!

### **Week 1: Course and People Introductions///Relationality, Critical Reading and Critical Analysis** (No Assigned Reading)

### **Week Two: Colonialism: History, Function and Dynamics**

- Roxanne Dunbar-Ortiz (2014) *An Indigenous Peoples History of the United States*, Beacon Press, Chapters 2-3, p 32-55.
- Ward Churchill and Winona LaDuke (1986) *Native America: The political economy of radioactive colonialism*, *Insurgent Sociologist*, 13(3), 51-78.
- Zoé Samudzi and William C. Anderson (2018) *As Black as Resistance: Finding the Conditions for Liberation*, AK Press, Chapter 2: What Lands on Us, 21-50.

### **Week Three: Geology and Colonialism**

- Wallace Stegner (1984) *Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West*, Penguin Books: Plateau Province, Sections 1-7 (24 pages).
- Robert Frodeman (1995) *Geological reasoning: Geology as an interpretive and historical science*, *Geological Society of America Bulletin*, 107, 960-968.
- Carol E. Cleland (2001) *Historical science, experimental science, and the scientific method*, *Geology*, 29(11), 987–990.

### **Week Four: Indigenous and Scientific Forms of Knowledge**

- Kyle Whyte (2018) *Critical investigations of resilience: a brief introduction to indigenous environmental studies & sciences*, *Daedalus*, 147(2), 136-147.
- Linda Tuhiwai Smith (1999) *Decolonizing Methodologies: Research and Indigenous Peoples*, Zed Books, Chapter 3, *Colonizing Knowledges*, 58-77.
- Kathryn Yusoff (2018) *A billion black Anthropocenes or none*, University of Minnesota Press, Chapter 1 *Geology, Race and Matter*, 1-14.
- Jonathan Rigg & Lisa Reyes Mason (2018) *Five dimensions of climate science reductionism*, *Nature Climate Change*, 8, 1030–1032.

### **Week Five: Extractivism, Water and Violence – Part One**

- Leanne Simpson and Naomi Klein (2013) *Dancing the World into Being: A Conversation with Idle No More's Leanne Simpson*, *Yes! Magazine*, March 6.
- Project Underground and the International Indian Treaty Council (1999) *Gold, Greed and Genocide*, 22 Minute Video.  
[https://www.youtube.com/watch?v=FeksO\\_rGepw](https://www.youtube.com/watch?v=FeksO_rGepw)
- International Indian Treaty Council (2019) *Gold, Greed and Genocide, 20 Years Later: The Struggle for Truth in History and Healing in California Continues*, 12 Minute Video.  
[https://www.youtube.com/watch?v=HNP\\_-OmkNkE](https://www.youtube.com/watch?v=HNP_-OmkNkE)
- B Madley (2018) *An American Genocide: The United States and the California Indian Catastrophe*, Yale University Press: *Gold, Immigrants and Killers from Oregon: March 1848 – May 1850*, 67-102.

### **Week Six: Extractivism, Water and Violence – Part Two**

- Nick Estes (2018) *Our History is the Future: Standing Rock versus the Dakota Access Pipeline, and the Long Tradition of Indigenous Resistance*, Verso, Chapter 4, *Flood*, 133-167.
- A Goodman and K Mossett (2015) *We are Sacrifice Zones: Native Leader Says Toxic North Dakota Fracking Fuels Violence Against Women*, *Democracy Now*, December 11. \
- Toni Jensen (2017) *Women in the Fracklands: On Water, Land, Bodies, and Standing Rock*, *Catapult Magazine*, January 3  
<https://catapult.co/stories/women-in-the-fracklands-on-water-land-bodies-and-standing-rock>
- Castriela Esther Hernández Reyes (2019) *Black women's struggles against extractivism, land dispossession, and marginalization in Colombia*, *Latin American Perspectives*, 46(2), 217-234.

## **Week Seven: Indigenous Resistance**

- Klee Benally (2016) *Accomplices Not Allies*, Indigenous Action Media.  
<http://www.indigenouaction.org/accomplices-not-allies-abolishing-the-ally-industrial-complex/>
- Indigenous Action Media (2019) *Uprooting Colonialism: The Limitations of Indigenous Peoples' Day* (v1.0).  
<http://www.indigenouaction.org/wp-content/uploads/uprooting-colonialism-zine-readable.pdf>
- Kanahus Manuel (2016) *Indigenous Resistance to the Mount Polley Mining Disaster*, Video.
- Nick Estes (2019) *Indigenous Resistance*, Democracy Now!  
<https://www.youtube.com/watch?v=BGgoXknPI8I>
- Indigenous Action Media Podcast. Bonn, edxi betts, Mahlikah Awe:ri & Shanese Steele (2020) *Stolen Kinship: Confronting Anti-Blackness in Indigenous Communities*  
<https://www.indigenouaction.org/indigenous-action-podcast-ep-5-stolen-kinship-confronting-anti-blackness-in-indigenous-communities/>

## **Week Eight: Decolonization**

- Eve Tuck and K. Wayne Yang (2012) *Decolonization is Not a Metaphor*, *Decolonization: Indigeneity, Education and Society*, 1(1), 1-40.

## **Week Nine: Decolonizing the Earth Sciences**

- Max Liboiron (2021) *Decolonizing Geoscience Requires more than Equity and Inclusion*, *Nature Geoscience*, 14, 876–87.

## **Week Ten: Final Project Presentations and Course Summary**

(No Assigned Reading)

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### **Additional Reading to Report On During Class**

Send your top three choices to bt by Monday of Week 4 at NOON

*As with the assigned reading, these selections are meant to introduce you to key authors and key analysis and research threads.*

Instruction sheet will be provided.

- Adam Bledsoe and Willie Jamaal Wright (2019) *The anti-Blackness of global capital*, *Environment and Planning D: Society and Space*, 37(1) 8–26.
- Jodi A.Byrd (2011) *The Transit of Empire*, Chapter 4: *Been to the Nation, Lord, But Couldn't Stay There: Cherokee Freedman, Internal Colonialism and the Racialization of Citizenship*, 117-146, University of Minnesota Press. [Discusses internal colonialism in the context of the decision by the Cherokee Nation of Oklahoma to disenfranchise the descendents of people that the Cherokee enslaved]
- Jodi A.Byrd (2011) *The Transit of Empire*, Chapter 5: *Satisfied with Stones: Native Hawaiian Government Reorganization and Discourses of Resistance*, 147-183, University of Minnesota Press. [Explores the relationship between US colonialism on the continent and in Hawai'i]
- Janet Brown (1992) *A science of empire: British biogeography before Darwin*, *Revue d'histoire des sciences*, 45(4), 453-475. [science and colonialism connections that led up to Darwin]
- Glen Coulthard and Leanne Betasamosake Simpson (2016) *Grounded normativity/place-based solidarity*, *American Quarterly*, 68(2), 249-255.
- Tapji Garba and Sara- Maria Sorentino (2020) *Slavery is a metaphor: A critical commentary on Eve Tuck and K. Wayne Yang's "decolonization is not a metaphor"*, *Antipode*, 52(3), 764-782.
- Mishuana Goeman (2017) *Ongoing storms and struggles: Gendered violence and resource exploitation*, in *Critically sovereign: Indigenous gender, sexuality, and feminist studie*, 69-98. [Goeman's essay relates to the violence of flooding we will discuss in Week Five]
- Melanie L. Harris (2016) *Ecowomanism: Black women, religion, and the environment*, *The Black Scholar*, 46(3), 27-39. [ecowomanism combines a kind of black feminism, womanism, with eco-feminism, that is based on the experiences of African American women]



- Arthur Manuel, editor, *Whose Land Is It Anyway? A Manual for Decolonization* (2017) Four selections: Sheri Pasternak-Blockade: A meeting place of law, 32-35; Kanahus Manuel-Decolonization: The frontline struggle, 42-46; Beverly Jacobs-Decolonizing the violence against Indigenous women, 47-51; Jeffrey McNeil-Seymour-Two-Spirit Resistance, 53-56, Federation of Post-Secondary Educators of BC. [Views on decolonization from the frontlines of grassroots Indigenous struggle in so-called Canada]
- Ron Morton and Carl Gawboy (2000) *Talking Rocks: Geology and 10,000 Years of Native American Tradition in the Lake Superior Region*, Chapter Two: End of an Ice Age, 11-32, University of Minnesota Press; Steven Christian Semken and Frank Morgan (1997) Navajo Pedagogy and Earth Systems, *Journal of Geoscience Education*, 45(2), 109-112. [The book describes an imagined set of public lectures by a geologist and a Native American on the history of the Lake Superior region // The article describes a Diné framework for Earth systems and ways to integrate it into curricula.]
- David F Peat (2012) *Blackfoot Physics: A Journey Into the Native American Universe*, Weiser Books, Chapter 3: 55-84. [Discussion of philosophy of science in a Native context]
- S Popperl (2018). *Geologies of Erasure: Sinkholes, Science and Settler Colonialism at the Dead Sea*, *International Journal of Middle East Studies*, 50(3), 427–448.
- Audra Simpson (2017) The ruse of consent and the anatomy of 'refusal': cases from indigenous North America and Australia, *Postcolonial Studies*, 20(1), 18-33. [Discusses Indigenous refusal as a resistance strategy to oppose assimilation and false reconciliation]
- Shawn Wilson (2008) *Research is Ceremony: Indigenous Research Methods*, Fernwood Publishing, Chapter 5: Relationality, 80-96. [expanding on our classroom discussion of relationality]
- Leanne Betasamosake Simpson, Rinaldo Walcott and Glen Coulthard (2018) *Idle No More and Black Lives Matter: An Exchange (Panel Discussion)*, *Studies in Social Justice*, 12(1), 75-89.
- Kathryn Yusoff (2013) The geoengine: geoengineering and the geopolitics of planetary modification, *Environment and Planning A*, 45, 2799 – 2808. [Geoengineering is metaphorically reconceptualized as a geopolitical interaction between an 'engineer able' Earth and society]

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### **Indigenous Activists to Report On During Class**

Send your top three choices to bt by Monday of Week Five at NOON.  
Instruction sheet will be provided.

- Klee Benally
- Nasako Besingi
- Candi Brings Plenty
- Berta Cáceres
- Ward Churchill
- Winona LaDuke
- Kanahus Manuel
- Ricardo Mayumi
- Nonhle Mbuthuma
- Russell Means
- Leonard Peltier
- Comandanta Ramona
- Vandana Shiva
- Ken Saro-Wiwa
- Chela, Josefa, Susana, Martha, Celmira, and Mabel from Campo Maripe



*Week 2 Additional Viewing:*

- Roxanne Dunbar-Ortiz (2014) An Indigenous People's History of the United States, The American Cultures Center, AC Book Series. 1 Hour 28 Minutes Video.

<https://americancultures.berkeley.edu/archives/past-events/ac-spotlight-series-concepts-classrooms/indigenous-people%E2%80%99s-history-united>

- Ward Churchill (2009) Colonialism as Genocide, Concordia University in Montreal. 1 Hour 15

Minutes Video.

<https://kersplebedeb.com/posts/ward-churchill-on-colonialism-as-genocide-thoughts-about/>

## Additional Reading

### Week 4

Zapatista Women: Gender Transformations and Local Alternatives to Globalization Part 1

<https://www.youtube.com/watch?v=ufM9mMzpffo>

Zapatista Women: Gender Transformations and Local Alternatives to Globalization Part 2

[https://www.youtube.com/watch?v=5P\\_fecB79bA](https://www.youtube.com/watch?v=5P_fecB79bA)

Zapatista Women: Gender Transformations and Local Alternatives to Globalization Part 3

<https://www.youtube.com/watch?v=uVhnCvU1FCo>

### Week 8: Crippling Neoliberalism and Globalization

• Robert McRuer (2018) Crip Times: Disability, Globalization and Resistance, New York University Press [Chapter 2: Crip Resistance].

4. What are Gender and Intersectionality?

5. What is Resistance?/Collective Work

6. Theory

7. Theory

8-18 Case Studies

Femicides in Juarez

Indigenous Womxn Femicides – Neoliberalism Piggybacking on Colonialism

Resistance against free trade

Resistance in Chile (Zibechi?) against mining

gendered impact and resistance against climate change

19. Final Group Project Presentations

20. Course Summary and Potluck