**Patrick Chandler**

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**Goal:** To catalyze community and policy action on environmental and social justice issues to support a sustainable future.

**Experience:** Fifteen years working in and developing environmental education, art, stewardship, and science programs.

* **Cooperative Institute for Research in Environmental Sciences (CIRES)**, Education and Outreach Associate- At CIRES, I focus on climate change education by designing and curating resources for educators teaching climate change across the curriculum, in both science and non-science classrooms, and establishing the connection between climate change and human rights. 2022-present
* **University of Colorado, Boulder,** PhD earned in Environmental Studies, Co-teacher in Creative Climate Communication, Teaching Assistant in Environmental Studies and Environmental Design – My research focuses on innovative teaching techniques including art/science partnerships, comedy, and embodied teaching and learning as well as learning sciences, including the role of hope when facing environmental issues, and educational research design. Advisors: Max Boykoff and Beth Osnes. 2017-2022 Successful dissertation defense: 12/16/21
* **Climate Literacy and Energy Awareness Network (CLEAN),** Coordinator, past fellow- CLEAN’s primary focus is to steward a collection of climate and energy science educational resources and to support a community of professionals committed to improving climate and energy literacy. As coordinator, I contacted national science and communication experts and worked with them to present and partner with CLEAN. Fellow 2017-2019, Coordinator 2019-2021
* **Inland Ocean Coalition (IOC)**, Board Member, Researcher- In my role with the IOC, I work to ensure that the organization is fulfilling its goal to create an inland movement that builds land-to-sea stewardship by working as an education consultant, grant writer, and advisor with a special focus on plastic pollution and its effects. In 2018, I took the lead on a research project focused on samplings methods for microplastics in Colorado streams. 2017-present
* **The Washed Ashore Project,** Education Director**-** I was responsible for researching, planning, and designing all education programming, writing grants, and training education staff for our organization and at zoos, aquariums, and museums around the country. 2015 - 2017
* **University of Alaska,** Adjunct Instructor- Taught both in-person and online introductory biology lecture-based courses and an in-person biology lab. 2014 - 2015
* **Center for Alaskan Coastal Studies**, Special Programs Coordinator**-** In addition to being an educator for CACS and training incoming staff, as special programs coordinator I ran CoastWalk, a multi-decade marine debris education, art, and cleanup program. I expanded the program over the course of four seasons to be year-round and connected to partners throughout the state. 2010 - 2013
  + - * + **International Coastal Cleanup (ICC),** State Coordinator for Alaska- In this position with the Ocean Conservancy, I worked to ensure all ICC data for the state of Alaska was compiled, provided support for cleanups, and acted as a representative for Alaskan marine debris issues both nationally and internationally. 2010 - 2014
        + **Wolf Ridge Environmental Learning Center (ELC),** Naturalist- Taught students of all ages in 30 different subjects including forest ecology, Great Lakes ecosystems, earthworks, and climate change. Participated in self, peer, and staff evaluations to improve teaching and learning. 2008 - 2009

**Education and Training**

* + PhD in Environmental Studies from the University of Colorado, Boulder. Dissertation title: *Creating Art and Science Partnerships to Catalyze Community Action on Environmental and Social Justice Issues*, 12/2021
  + Graduate Certificate in Science and Technology Policy from the University of Colorado, Boulder, 2020
  + BA in Liberal Arts from St. John’s College, Santa Fe, 5/2007
  + Master’s level elementary education classes taken from the University of Alaska Southeast 2014-2015
  + Field trained as a biologist from an expert staff at Center for Alaskan Coastal Studies and scientists with the Kachemak Bay Research Reserve in Homer, Alaska 2010-2013
  + Master’s level classes in environmental education taken at Wolf Ridge Environmental Learning Center through University of Minnesota, 2009

**Recent Conference and Workshop Presentations**

* **Chandler, P.**, Boyd, K., Fiorile, G., Gold, A., Christensen, A., Niepold, F., Fox, S., Bruckner, M., Ochwat, N., & Nacu-Schmidt, A. (June 2023). *The Climate Literacy and Energy Awareness Network (CLEAN)*. World Café presentation at Rising Voices. Virtual & Boulder, CO.
* **Chandler, P.** (2022, December 1-4). *Bringing together Climate Change and Human Rights in the Classroom* [Conference workshop]. Right Here Right Now Global Climate Summit, Boulder, CO
* **Chandler, P.** (2022, December 1-4). *Climate Action through Youth Activism and Women's Rights* [Session organizer]. Right Here Right Now Global Climate Summit, Boulder, CO
* **Chandler, P.** (2022, August 23). *Plastic pollution as a catalyst to art and action.* [Invited speaker]. General Electric Days of Knowledge, Online event.
* **Chandler, P**., Osnes, B. (2022, April 25). *Students and Professional Comedians Co-Creating Climate Comedy* [Conference presentation]. American Educational Research Association Annual Meeting, San Diego, CA
* **Chandler, P**., Boykoff, M., Osnes, B., Church, P. (2021, May 21). *Climate Change and Fast Fashion* [Conference poster and presentation]. Cooperative Institute for Research in Environmental Sciences Rendezvous, Boulder, CO
* **Chandler, P.**, Marras Tate, J., German, J., Cook, M., Dietrich, M., & Matochi, C. (2020, February 22-24). *Agitating the Classroom: A Workshop on Innovative Environmental Communication, Ethics, and Coping with Grief* [Conference workshop]. Western States Communication Association Convention, Denver, CO.
* **Chandler, P.** (2019, December 7-11). *A Co-produced Creative Climate Change Curriculum*. [Conference presentation]. American Geophysical Union Fall Meeting, San Francisco, CA.
* **Chandler, P.** (2019, December 7-11). *Murals in Motion: Sustaining Hope Through Collective Action and the Arts* [Conference workshop]. American Geophysical Union Fall Meeting, San Francisco, CA
* Hayden, T., Abeles, A., Atkin, E., **Chandler, P.**, Trevizo, P. (2019, October 9-12). *Beyond False Balance: Social Scientists and Environmental Journalists Tackle the Manipulation of Environmental Stories*. [Workshop panel] Society for Environmental Journalism Conference, Ft. Collins, CO.
* Hakala, J., Osnes, B., **Chandler, P.**, Goodheart, C. (2019, October 8-9). *Integrating Science and Musical Performance to Create Action-Based Curriculum* [Conference presentation]. Engagement Scholarship Consortium Conference, Denver, CO.
* **Chandler, P.**, Boyd, K., Gold, A., Taylor, J., Lynds, S., Morton, A., Niepold, F., Fox, S., Bruckner, M., Kirk, K., Ledley, T., Manning, C. (2019, July 16-19). *The CLEAN Network: Networking and Capacity-Building for Climate Change since 2008* [Conference poster]. Earth Science Information Partners Summer Meeting, Tucson, Arizona
* **Chandler, P.**, Osnes, B., Hakala, J., Simpson, C. (2019, May 17). *Coproduction of Embodied Climate Curriculum Gains STEAM.* [Conference poster] Cooperative Institute for Research in Environmental Sciences Rendezvous, Boulder, CO
* **Chandler, P.** (2019, January 15-17). *Now Hear This! A FUNding Friday Sonification Project* [Conference poster]. Earth Science Information Partners Winter Meeting, Bethesda, Maryland
* Mosher, E., **Chandler, P**., Kirn, M. (2018, December 10-14). *Everything You’ve Always Wanted to Know about Science-Art-Sustainability Collaborations (but were afraid to ask...).* [Conference workshop]. American Geophysical Union Fall Meeting, Washington, DC.
* **Chandler, P.**, Pozzi, A. (2018, March 12-16). *Washed Ashore’s Integrated Arts Marine Debris Curriculum: Combining Art and Science.* [Conference presentation] The Sixth International Marine Debris Conference, San Diego, CA.
* **Chandler, P.** (2018, February 10-12). Keynote Presentation on The Washed Ashore Project [Conference presentation]. Youth Ocean Conservation Summit, St. Louis, MO.

**Fellowships and Awards**

* + Center for Humanities & the Arts Summer Graduate Fellowship awarded for work on the Creative Climate Change Curriculum Project. (2020)
  + Graduate Fellowship in Community-Based Research with University of Colorado’s Engage program (2019-2020)
  + University of Colorado Nature, Environment, Science & Technology (NEST) Studio for the Arts Graduate Student Summer Fellowship (2019)
  + Earth Science Information Partners Community Fellowship for working with the Climate Literacy and Energy Awareness Network (2018, 2019)
  + Radford Byerly, Jr. Award in Science and Technology from the University of Colorado Center for Science and Technology Policy (2018)
  + Earth Science Information Partners 2018 Summer meeting Funding Friday Award for Now Hear This: A Sonification of the NOAA Annual Greenhouse Gas Index

**Publications**

* + Russell, C., Chandler, P., & Dillon, J. (2023). Editorial: Humour and environmental education. Environmental Education Research, 29(4), 491-499.  <https://www.tandfonline.com/doi/full/10.1080/13504622.2023.2183845>
  + McAllister, L., Daly, M., **Chandler, P**., McNatt, M., Benham, A., Boykoff, M. (2021). Balance as bias, resolute on the retreat? Updates & analyses of newspaper coverage in the United States, United Kingdom, New Zealand, Australia and Canada over the past 15 years. *Environmental Research Letters*. 16. 094008. 10.1088/1748-9326/ac14eb.
  + Boykoff, M., **Chandler, P**., Church, P., & Osnes, B. (2021). Examining climate change and sustainable/fast fashion in the 21st century: ‘Trash the runway’. *Oxford Open Climate Change*, https://doi.org/10.1093/oxfclm/kgab003
  + Pearman, O., Boykoff, M., Osborne-Gowey, J., Aoyagi, M., Ballantyne, A., **Chandler, P**., Daly, M., Doi, K., Fernández-Reyes, R., Jiménez-Gómez, I., Nacu-Schmidt, A., McAllister, L., McNatt, M., Mocatta, G., Kjerulf Petersen, L., Simonsen, A., Ytterstad, A. (2021). COVID-19 media coverage decreasing despite deepening crisis. *The Lancet Planetary Health*. 5. e6-e7. 10.1016/S2542-5196(20)30303-X.
  + **Chandler, P**., Osnes, B., & Boykoff, M. (2020) Creative Climate Communications: Teaching from the heart through the arts. In J. Henderson & A. Drewes (Eds.), *Teaching Climate Change in the United States* (pp. 172-185). Routledge.
  + Osnes, B., Boykoff, M., & **Chandler, P.** (2019). Good-natured comedy to enrich climate communication. *Comedy Studies, 10*(2), 224-236. doi:10.1080/2040610X.2019.1623513

**Datasets**

* + Boykoff, M., Aoyagi, M., Ballantyne, A.G., Benham, A., **Chandler, P.**, Daly, M., Doi, K., Fernández-Reyes, R., Hawley, E., McAllister, L., McNatt, M., Mocatta, G., Nacu-Schmidt, A., Oonk, D., Osborne-Gowey, J., Pearman, O., Petersen, L.K., Simonsen, A.H., and Ytterstad, A. (2021). World Newspaper Coverage of Climate Change or Global Warming, 2004-2022. Media and Climate Change Observatory Data Sets. Cooperative Institute for Research in Environmental Sciences, University of Colorado. [doi.org/10.25810/4c3b-b819](http://doi.org/10.25810/4c3b-b819).
  + Boykoff, M., **Chandler, P.**, Nacu-Schmidt, A., and Oonk, D. (2021). World Radio Coverage of Climate Change or Global Warming, 2000-2022. Media and Climate Change Observatory Data Sets. Cooperative Institute for Research in Environmental Sciences, University of Colorado, doi.org/10.25810/k55w-7a04
  + Boykoff, M., **Chandler, P.**, Daly, M., McAllister, L., McNatt, M., Nacu-Schmidt, A., Oonk, D., and Pearman, O. (2021) United Kingdom Newspaper Coverage of Climate Change or Global Warming, 2004-2022. Media and Climate Change Observatory Data Sets. Cooperative Institute for Research in Environmental Sciences, University of Colorado, doi.org/10.25810/8196-e820

**Products and Exhibits**

* + The United Nation’s Right Here Right Now Global Climate Summit (RHRN) took place from December 1st-4th at CU Boulder, with a focus on the interconnections between human rights and climate change. I was contracted by the summit leadership team to support K-12 educator engagement and designed an [Educator’s Guide](https://cires.colorado.edu/outreach/programs/right-here-right-now-global-climate-summit) to provide resources for teachers and students.
  + The [Co-produced Creative Climate Communication Curriculum](https://enactingclimate.org/)- This interdisciplinary project made possible through a partnership between the University of Colorado, and Jefferson County Public schools created a 12-lesson curriculum for the embodied exploration of fossils, energy, and climate for 4th /5th grade students in Colorado and beyond. I was the lead author and co-creator of this work which includes NGSS standards, 2022
  + [Life in the Plasticene](https://arborinstitute.org/exhibitions/) - This exhibit, created in partnership with the Arbor Institute, integrates art, ecological science and storytelling to explore the merging streams of life and plastic worldwide. It features photography, films, artifacts, and interviews to consider both the problem of plastic pollution and possible solutions. In addition to creating an exhibit component, I also brought the exhibit partners together and acted as guest curator. July 29th-October 3rd, 2021
  + The [Art and Science Partnership Guidelines](https://www.researchgate.net/publication/352414195_Guidelines_for_Art_and_Science_Partnership)- The guidelines provide a 12-stage process for facilitators working to bring scientists, artists, and community representatives together to address environmental and social

justice issues in the context of community. Research and creation took place in 2020 and guidelines were piloted in partnership with the University of Colorado Office of Outreach and Engagement and the Boulder County Arts Alliance in 2021.

* + The Action for Climate Empowerment National Strategy Framework for the United States- As a representative for the CLEAN Network and the Inside the Greenhouse project at CU, Boulder, I worked as a meeting facilitator and editor to help create this framework in 2020/2021. <https://aceframework.us/>
  + The [Integrated Art Marine Debris Curriculum](https://www.washedashore.org/curriculum/)- The curriculum is a twelve-lesson unit, created with sponsorship from NOAA, designed for fourth through sixth grade students. It provides a unique approach to teaching about science through the arts and offers innovative ways to discuss the issues of marine debris and plastic pollution. I co-designed and wrote this curriculum which engages the following standards for middles school students: NGSS, National Core Art, National Curriculum Standards for Social Studies, Common Core Language Arts Standards, 2017
  + Oregon Marine Debris Action Plan- In 2015 and 2016 I worked with stakeholders in Oregon to create an action plan for marine debris cleanup, prevention, and education in the state. <https://marinedebris.noaa.gov/sites/default/files/publications-files/2017_Oregon_Marine_Debris_Action_Plan_0.pdf>
  + International Coastal Cleanup yearly reports from 2011-2013- In these years, I represented Alaska as the State Coordinator. Full reports can be found here: <https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/annual-data-release/>