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Sustainable futures in a changing climate: an open education resource.
[Teaching Resource]

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Sustainable Futures in a Changing Climate

An Open Education Resource

ABSTRACT

This Open Education Resource Syllabus focuses on climate change using different disciplinary perspectives to explore the topic. We have endeavoured to make this syllabus accessible and adaptable for a range of potential users – including schoolteachers, university faculty not ordinarily engaged in the themes and wanting to integrate climate change into their usual courses, and facilitators of staff workshops on climate change. We hope it all who explore its resources will find something of use for their own practices.

Dr D. Mineshima-Lowe & Dr A. Foley

Sustainable Futures in a Changing Climate

An Open Education Resource

This Open Education Resource Syllabus was created by D. Mineshima-Lowe and A. Foley with the assistance of Resource Associate to the project, S. Rodrigues, (Birkbeck, University of London, UK).

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Sustainable Futures in a Changing Climate

Produced by: D. Mineshima-Lowe and A. Foley, with assistance of the project's Resource Associate - S. Rodrigues

Intended Users

We have endeavoured to make this syllabus accessible and adaptable for a range of potential users – including schoolteachers, university faculty not ordinarily engaged in the themes and wanting to integrate climate change into their usual courses, and facilitators of staff workshops on climate change.

How the syllabus is organized

With this range of potential users in mind, we have selected a variety of resources and under each topic we have listed them from *easy* (not requiring previous knowledge) to *advance* (requires a level of previous knowledge to understand concepts and ideas presented).

In addition to the resources and suggested activities under each of the five topics, we have created a table (found at the end of the syllabus) as an example of how to use the resources, and a Padlet Map Board (with QR code to access and instructions on how to use) - to encourage knowledge exchange from users. You may know of or use a resource related to a topic area from another part of the world or about a specific place / space. We would greatly encourage you to consider adding your resource (this could be a photo, a link to a website, upload of a policy paper, poem, government document, academic article, etc. in a language other than English, or that has multiple translations).

Overview

The syllabus can be used in two ways:

1. In its entirety, as the basis for a **one-week long foundational course** on climate change and sustainable futures, delivered as 2-hour sessions twice each day (an example on how the resources could be used, can be found on page 28 at the end of the syllabus); or
2. Modularly, as the **basis for individual lesson plans** on climate change and sustainable futures, potentially in the context of a class that does not ordinarily engage with such themes.

With this in mind, the resources are curated with **accessibility** at the centre, including open academic texts but also relevant websites, infographics and videos.

Learning Outcomes

- Develop an awareness of climate change from different perspectives to better understand the complexity and actors involved in building sustainable futures
- Mini group project that enables participants to use knowledge to further explore a topic of interest and produce an output (one-page brief, presentation, poster) that can be shared as part of the course conclusion
- Skills demonstrated: Knowledge, writing, presentation, research, teamwork

Topics

The syllabus includes five topics that provide connections between the topic/issue of climate change to different academic disciplines (e.g., social sciences, natural sciences, arts & humanities, sociology & psychology, business). Each topic includes a list of resources (those considered ‘core’ for developing background and understanding, and those for ‘further’ consideration and could be listed as optional), along with suggested activities to direct discussions within sessions that demonstrate knowledge acquired and application through analysis / practical elements.

Jump to:

[Topic 1: Climate change through deep time](#)

[Topic 2: Climate emotions and motivations](#)

[Topic 3: Climate change policy and politics](#)

[Topic 4: Climate solutions and seeds of change](#)

[Topic 5: Tools to engage and catalyse change](#)

Topic 1: Climate change through deep time

Understanding the science of climate change is an essential first step in determining how we can address it effectively, and in identifying misinformation. This topic explores environmental processes giving rise to climate change in the (geological) past and present, and how our climate has changed and continues to change due to human actions.

Introductory Questions for Student Engagement

How is climate different from weather?

This can help students to distinguish between short-term weather patterns and long-term shifts in global climate.

What are some natural factors that can affect climate?

This encourages student discussion about natural phenomena like volcanic eruptions, solar radiation, and ocean currents.

What are some human activities that contribute to climate change?

This introduces students to the concept of anthropogenic (human-caused) climate change, including things like burning fossil fuels, deforestation, and industrial activities.

Core Readings

What is Climate Change

United Nations (2024) *What is Climate Change*. Geneva, Switzerland: United Nations Climate Action. Geneva, Switzerland: United Nations. Available at: <https://www.un.org/en/climatechange/what-is-climate-change> [Accessed: November 08, 2024]

What the geological record tells us about our present and future climate

Lear, C.H., Anand, P., Blenkinsop, T., Foster, G.L., Gagen, M., Hoogakker, B., Larter, R.D., Lunt, D. J., McCave, I. N., McClymong, E., Pancost, R.D., Rickaby, R.E.M., Schultz, D.M., Summerhayes, C., Williams, C.J.R., and Zalasiewicz, J. (2021) 'Geological Society of London Scientific Statement: what the geological record tells us about our present and future climate', *Journal of the Geological Society*, 178(1), pp. jgs2020-239. Available at: <https://www.lyellcollection.org/doi/full/10.1144/jgs2020-239> [Accessed: November 08, 2024]

The Science Behind Climate Change

Met Office (2024) *The Science Behind Climate Change*. UK: Met Office. Available at: <https://www.metoffice.gov.uk/weather/climate/science/the-science-behind-climate-change> [Accessed: November 08, 2024]

Climate Change Buster: Your Guide to the Key Terms

Royal Society for the Protection of Birds (2024) *Climate Change Buster: Your Guide to the Key Terms*. UK: RSPB. Available at: <https://www.rspb.org.uk/helping-nature/what-we-do/influence-government-and-business/nature-and-climate-emergency/climate-change-key-words-explained> [Accessed: November 08, 2024]

Climate Change 2023: Synthesis Report

Intergovernmental Panel on Climate Change (IPCC) (2023) *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II, and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC. Available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf [Accessed: November 08, 2024]

Further Readings

Three Pillars of Sustainability: In Search of Conceptual Origins

Purvis, B., Mao, Y. and Robinson, D. (2019) 'Three pillars of sustainability: in search of conceptual origins', *Sustainability Science* 14, pp.681–695. Available at: <https://doi.org/10.1007/s11625-018-0627-5> [Accessed: November 08, 2024]

Vital Signs

National Aeronautics and Space Administration (2024) *Vital Signs*. USA: NASA. Available at: <https://climate.nasa.gov/vital-signs> [Accessed: November 08, 2024]

Key Indicators of Arctic Climate Change: 1971-2017

Box, J.E., Colgan, W.T., Christensen, T.R., Schmidt, N.M., Lund, M., Parmentier, F.W., Brown, R., Bhatt, U.S., Euskirchen, E.S., Romanovsky, V.E., Walsh, J.E., Overland, J.E., Wang, M., Corell, R.W., Meier, W.N., Wouters, B., Mernild, S. Mard, J., Pawlak, J. and Olsen, M.S. (2019) 'Key Indicators of Arctic Climate Change: 1971-2017', *Environmental Research Letters*, 14, pp. 1-18. Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/aafc1b> [Accessed: November 08, 2024]

IPCC Sixth Assessment Report: Fact Sheets

Intergovernmental Panel on Climate Change (2021) *IPCC Sixth Assessment Report: Fact Sheets*. Geneva, Switzerland: IPCC. Available at: <https://www.ipcc.ch/report/ar6/wg1/resources/factsheets/> [Accessed: November 08, 2024]

Visual resources (graphs / video / photo resources)

Show Your Stripes: Global Temperature Change

Hawkins, E. (2023) *Show Your Stripes: Global Temperature Change*. Reading, UK: University of Reading - Institute for Environmental Analytics. Available at: <https://showyourstripes.info> [Accessed: November 08, 2024]

Natural Climate Change – teacher’s notes and diagrams

National Oceanic and Atmospheric Administration (USA) (NOAA) *Teacher Background: Natural Climate Change*. USA: NOAA. Available at: https://gml.noaa.gov/infodata/info_activities/pdfs/TBI_natural_climate_change.pdf [Accessed: November 08, 2024]

Biodiversity Stripes

Richardson, M. (2022) 'Biodiversity Stripes.' Institute for Environmental Analytics. Derby, UK: University of Derby. Available at: <https://biodiversitystripes.info/global/birds/> [Accessed: November 08, 2024]

Trends in Global Atmospheric Methane

Kostis, H-N. and Ott, L. (2022) *Trends in Global Atmospheric Methane*. USA: NASA. Available at: <https://svs.gsfc.nasa.gov/5007/> [Accessed: November 08, 2024]

Amazon Deforestation

Jentoft-Nilsen, M., Malanoski, M., and Moran, A. (2013) *Amazon Deforestation*. USA: NASA/Goddard Space Flight Center. Available at: <https://svs.gsfc.nasa.gov/30166/> [Accessed: November 08, 2024]

The Carbon Majors Database: Launch Report

Influence Map (2024) *The Carbon Majors Database: Launch Report Executive Summary*. UK: InfluenceMap.Org. Available at: <https://carbonmajors.org/briefing/The-Carbon-Majors-Database-26913> [Accessed: November 08, 2024]

Suggested activities

Climate data image matching game

Suitable for groups with limited science background. Before the class, print out a series of graphs or visual representations of data evidencing our changing climate from the latest IPCC report, each about the size of a postcard. Create a matching series of cards with written descriptions of what the graph depicts – the language can be tailored to the group’s understanding of scientific terminology. Task students with matching the visualisation to the written description.

Climate processes jigsaw

Suitable for groups with some science background. A jigsaw activity in which each group of students first researches a specific type of geological change that impacts the Earth’s climate (e.g., volcanic eruptions, tectonic shifts, fluctuations in solar radiation, the planet’s orbit). Then, the groups are reformed so that the new groups each have one ‘expert’ on each geological change. Together, they are asked to assess whether any of these geological changes could be responsible for the patterns being observed in our changing climate today, summarising their findings in a PowerPoint presentation of no more than 4x slides for a 10-minute group presentation.

Other resources for teaching & activities:

Teaching a Social Science Course on Climate Change: Suggestions for Active Learning

Duram, L.A. (2021) *Teaching a Social Science Course on Climate Change: Suggestions for Active Learning*. *Bulletin of the American Meteorological Society*, 102(8), pp. E1494-E1498. Available at: <https://journals.ametsoc.org/view/journals/bams/102/8/BAMS-D-21-0035.1.xml> [Accessed: November 08, 2024]

A very simple climate model

UCAR Center for Science Education. (2024) *A very simple climate model*. Boulder, Colorado, USA: UCAR Center for Science Education. Available at: <https://scied.ucar.edu/activity/very-simple-climate-model-activity> [Accessed: November 08, 2024]

Topic 2: Climate emotions and motivations

Addressing climate change necessitates a transformation in daily behaviours, alongside the cultivation of support for environmentally sustainable policies. The effectiveness of these efforts largely relies on understanding people's feelings and emotions regarding the issue, as they significantly influence behaviour and action. This topic explores tools and techniques that help us process our thoughts and feelings in relation to climate change and foster a capacity for 'active hope'.

Introductory Questions for Student Engagement

What emotions do you experience when you think about climate change?

This question helps students to explore personal feelings, such as fear, hope, anger, or anxiety.

Do you think your emotions (like fear, guilt, or hope) influence your decisions about the environment? How?

This question helps students to explore the connection between emotions and behavior.

What emotional or motivational barriers do you think prevent people from taking action on climate change?

This question allows students to look at internal and external obstacles, such as fear, denial, or complacency.

Core Readings

Ecological Grief and Anxiety: The Start of a Healthy Response to Climate Change?

Cunsolo, A., Harper, S.L., Minor, K., Hayes, K., Williams, K.G. and Howard, C. (2020) 'Ecological Grief and Anxiety: The Start of a Healthy Response to Climate Change?', *The Lancet*, 4, pp. e261-2263. Available at: [https://www.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196\(20\)30144-3.pdf](https://www.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196(20)30144-3.pdf) [Accessed: November 08, 2024]

Obligations 2 (poem)

Long Soldier, L. (2018) *Obligations 2*. Chicago, Illinois, USA: Poetry Foundation. Available at: <https://www.poetryfoundation.org/poems/149976/obligations-2> [Accessed: November 08, 2024]

Song of Myself, 51 (poem)

Whitman, W. (1959) *Leaves of Grass*. Viking Penguin: New York. Available at: <https://poets.org/poem/song-myself-51> [Accessed: November 08, 2024]

Climate Changed (visual poem)

Adams, M. (2024) *Climate Changed*. Available at: <https://www.mayaadamsart.com/climate-changed> [Accessed: November 08, 2024]

Boredom and the Politics of Climate Change

Anderson, B. (2023) 'Boredom and the Politics of Climate Change', *Scottish Geographical*

Journal, 139(1-2), pp. 133-141. Available at: <https://doi.org/10.1080.14702541.2023.2197869>
[Accessed: November 08, 2024]

Further Readings

Embracing the emotions behind climate science.

Hansen, J. (2023) Embracing the emotions behind climate science. *Stanford Center for Innovation in Global Health*. Stanford, California: Stanford University.
Available at: <https://globalhealth.stanford.edu/planetary-health/embracing-the-emotions-behind-climate-science.html/> [Accessed: November 08, 2024]

Toward a Taxonomy of Climate Emotions.

Pihkala, P. (2022) Toward a Taxonomy of Climate Emotions. *Frontiers in Climate*. 3(2021), pp.1-21. Available at: <https://doi.org/10.3389/fclim.2021.738154> [Accessed: November 08, 2024]

Human Response to Climate Change: From Neurons to Collective Action.

Van-der-Linden, S. and Weber, E. (Eds.) (2021) 'Human Response to Climate Change: From Neurons to Collective Action', *Current Opinion in Behavioral Sciences. Special Issue*. 42, pp.1-158. Available at: <https://www.sciencedirect.com/journal/current-opinion-in-behavioral-sciences/vol/42/suppl/C> [Accessed: November 08, 2024]

Poetry Foundation. Collection – Poetry and the Environment.

The Editors (2024) *Collection. Poetry and the Environment. Recent poetic approaches to the natural world and ecology*. Chicago, Illinois, USA: Poetry Foundation. Available at: <https://www.poetryfoundation.org/collections/146462/poetry-and-the-environment>
[Accessed: November 08, 2024]

The role of emotion in global warming policy support and opposition.

Smith, N., & Leiserowitz, A. (2014) 'The role of emotion in global warming policy support and opposition', *Risk Analysis*, 34(5), pp. 937-948. Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/risa.12140> [Accessed: November 08, 2024]

Visual resources (graphs / video / photo resources)

Rise: From One Island to Another

Jetñil-Kijiner, K., Niviâna, A., Lin, D., Stone, N., Lau, R., and Go, O. (2018) *Rise: From One Island to Another*. USA: 350.org. Available at: <https://350.org/rise-from-one-island-to-another/>
[Accessed: November 08, 2024]

Suggested activities

Climate emotions playlist

Suitable for groups in-person or online. Students will curate a class 'climate emotions playlist'. Individually, students will need to spend some time considering and then selecting something to add to the playlist, that depicts *how climate change makes them feel* (this part of the activity

could be assigned as homework). A wide range of audio media could be used. Students could share a song, a podcast, a sound, part of speech, etc. However, a maximum length for each item should be advised, based on the number of students and the estimated time available to listen to the playlist. Encourage students to be mindful of accessibility and share lyrics/transcripts if that is an option.

In class, students listen to each contribution and reflect on their responses to them. Once all the contributions have been heard, the order for the contributions to the playlist should be negotiated by the group to enable them to create a 'journey' towards 'active hope' as the listener progresses through the playlist. Students could be asked to reflect again on their response to the playlist as a whole.

Climate emotions 'gallery' walk

Suitable for groups in-person or online. For this activity, students select or create an image that visualizes how climate change makes them feel. This could include photography, cartoons, art, etc. or creating the image from drawing or other materials. The objective is for the visualizations to depict the emotions climate change brings forth for students.

Before class, set-up a [Padlet board](#) or [Canva](#) or an online whiteboard. This will be the 'gallery' space where students will submit their visualizations for sharing. If the 'gallery' walk is being done in-person, the students' submissions could be done in advance and then printed out and displayed on the walls of the classroom for everyone to walk around and explore the visualizations in the space together.

Before the gallery walk – students could reflect on how they felt in completing the activity? What was their process of selecting / creating their visualization?

During the gallery walk – students could start to consider what they are 'noticing' and 'wondering' about, as they view their own work alongside the work of others.

Following the exploration during the gallery walk, some reflections – written or verbal – could form the basis for student assessment. Some prompts for reflection, could include:

- What did you notice or wonder about in viewing your own/others' visualizations in the 'gallery'? What questions did it create for you?
- How does what you saw in the gallery connect to what you notice about behaviours and attitudes towards climate change you see around you daily?

Other resources for teaching & activities:

The Museum of Tomorrow

The Long Time Project. (2020) 'The Long Time Tools: Tools to Cultivate Long-Termism in Institutions', Brussels, Belgium: Climate-KIC. Available at:
<https://static1.squarespace.com/static/5eb2e536e7ddf65e8cb25952/t/5f3e5375754fa93c1a097e6b/1597920137599/Long+Time+Project+Long+Time+Tools.pdf>
[Accessed: November 08, 2024]

How to Practice Tonglen Meditation

Chödrön, P. (2022) *How to Practice Tonglen Meditation*. USA: Lion's Roar.com. Available at:
<https://www.lionsroar.com/how-to-practice-tonglen-meditation/>
[Accessed: November 08, 2024]

Starting a Book Group.

Macy, J. and Johnstone, C. (2024) *Study Guide & Resources for Active Hope Book Groups*. UK: Active Hope Training CIC. Available at: <https://www.activehope.info/book-groups> [Accessed: November 08, 2024]

Introduction to the Existential Toolkit for Climate Justice Educators: How to Teach in a Burning World

Ray, S.J. and Atkinson, J. (2023) *Introduction to the Existential Toolkit for Climate Justice Educators: How to Teach in a Burning World*. USA: Climate Psychology Alliance North America. Available at: <https://www.climatepsychology.us/blog/introduction-to-the-existential-toolkit-for-climate-justice-educators-how-to-teach-in-a-burning-world> [Accessed: November 08, 2024]

Bessel van der Kolk: Trauma and Resilience Land in Our Bodies

van der Kolk, B. and On Being Studios. (2016) *Becoming Wise. Trauma and Resilience Land in Our Bodies*. Dakota land, Minneapolis, Minnesota: The On Being Project. Available at: <https://onbeing.org/programs/trauma-resilience-land-bodies-bessel-van-der-kolk-2/> [Accessed: November 08, 2024]

Climate Psychology Alliance: Find Support

Climate Psychology Alliance. (2024) *Find Support*. USA: Climate Psychology Alliance. Available at: <https://www.climatepsychologyalliance.org/index.php/find-support> [Accessed: November 08, 2024]

Topic 3: Climate change policy and politics

Coordinated efforts are necessary for both mitigation (reducing the sources of greenhouse gases and enhancing the sinks) and adaptation (helping communities adapt to the changes already underway). This topic develops understanding of the geopolitical contexts that have created and sustain the climate change challenge, and the mechanisms, including legal approaches, through which it can be addressed. We include here resources linked to the Sustainable Development Goals, as climate change is not a challenge that can be tackled in isolation; It needs to be connected to efforts that enhance health and education, eliminate poverty, and lessen inequality.

Introductory Questions for Student Engagement

Why is it important to study and understand climate change?

This question can help students to reflect on the urgency of the issue and the need for action at multiple levels.

What are some common policy approaches to addressing climate change (e.g., carbon taxes, renewable energy subsidies, emissions trading)?

This question encourages students to explore policies and climate action at regional or global levels.

What roles do international agreements, like the Paris Agreement, play in combating climate change?

This question can help students to explore and discuss the role of international agreements on country-level decisions and policymaking.

How do questions of climate justice and equity come into play when discussing climate change policies?

This question can be used to open conversation about the interconnected issues that underline policy choices and how they are / are not addressed.

Core Readings

A Short History of the Successes and Failures of the International Climate Change Negotiations

Maslin, M.A., Lang, J. and Harvey, F. (2023) 'A short history of the successes and failures of the international climate change negotiations, *UCL Open Environment*, 5. Available at: <https://doi.org/10.14324/111.444/ucloe.000059> [Accessed: November 08, 2024]

From Confusion to Clarity: My Experience at the Climate Change Negotiations

Honorine, I. (2023) 'From Confusion to Clarity: My Experience at the Climate Change Negotiations', *The Loss & Damage Collaboration*. Available at: <https://www.lossanddamagcollaboration.org/pages/from-confusion-to-clarity-my-experience-at-the-climate-change-negotiations> [Accessed: November 08, 2024]

Evolution of the International Climate Change Policy and Processes: UNFCCC to Paris Agreement

Naser, M.M. and Pearce, P. (2022) 'Evolution of the International Climate Change Policy and Processes: UNFCCC to Paris Agreement', *Oxford Research Encyclopedia of Environmental Science*. Available at:

<https://oxfordre.com/environmentalscience/display/10.1093/acrefore/9780199389414.001.0001/acrefore-9780199389414-e-422> [Accessed: November 08, 2024]

Three Models of Global Climate Governance: From Kyoto to Paris and Beyond

Held, D. and Roger, C. (2018) Three Models of Global Climate Governance: From Kyoto to Paris and Beyond. *Global Policy* 9(4), pp. 527-537. Available at: <https://doi.org/10.1111/1758-5899.12617> [Accessed: November 08, 2024]

Further Readings

Green Economy Tracker

Green Economy Coalition. (2024) *Green Economy Tracker*. Green Economy Coalition. Available at: <https://greeneconomytracker.org/policies/participatory-policymaking> [Accessed: November 08, 2024]

Status of the Transition to Green & Fair Economies: Executive Summary

Benson, E. (2024) *Status of the Transition to Green & Fair Economies: Executive Summary*. Green Economy Coalition. Available at: <https://www.greeneconomycoalition.org/news-and-resources/status-of-the-transition-to-green-fair-economies-executive-summary> [Accessed: November 08, 2024]

SDGs: The 17 Goals

Project Everyone. (2024) *Sustainable Development Goals: The 17 Goals*. Available at: <https://www.globalgoals.org/goals/> [Accessed: November 08, 2024]

SDGs: Take Action Today

Project Everyone. (2023) *SDGs: Take Action Today. Create Your Worlds To Do List - Quiz*. Available at: <https://www.globalgoals.org/quiz/> [Accessed: November 08, 2024]

A Review of Successful Climate Change Mitigation Policies in Major Emitting Economies and the Potential of Global Replication

Fekete, H., Kuramochi, T., Roelfsema, M., den Elzen, M., Forsell, N., Hohne, N., Luna, L., Hans, F., Sterl, S., Olivier, J., van Soest, H., Frank, S. and Gusti, M. (2021) 'A Review of Successful Climate Change Mitigation Policies in Major Emitting Economies and the Potential of Global Replication', *Renewable and Sustainable Energy Reviews*, 137(110602), pp. 1-18. Available at: <https://www.sciencedirect.com/science/article/pii/S1364032120308868> [Accessed: November 08, 2024]

The Evolution of Corporate Accountability for Climate Change

Heede, R. (2022) 'The Evolution of Corporate Accountability for Climate Change' in C. Rodríguez-Garavito (ed) *Litigating the Climate Emergency: How Human Rights, Courts, and Legal Mobilization Can Bolster Climate Action*, Cambridge: Cambridge University Press, pp. 239-254 Available at: https://www.cambridge.org/core/services/aop-cambridge-core/content/view/00302994B38B7DFB4A77842210882E04/9781009098779c12_239-

[254.pdf/evolution_of_corporate_accountability_for_climate_change.pdf](#)

[Accessed: November 08, 2024]

Is Populism a Challenge to European Energy and Climate Policy? Empirical Evidence Across Varieties of Populism

Huber, R.A., Maltby, T., Szulecki, K. and Cetkovic, S. (2021) 'Is Populism a Challenge to European Energy and Climate Policy? Empirical Evidence Across Varieties of Populism', *Journal of European Public Policy*, 28(7), pp. 998-1017. Available at:

<https://www.tandfonline.com/doi/full/10.1080/13501763.2021.1918214?src=recsys>

[Accessed: November 08, 2024]

Ecologies of Sustainable Development Goals: A Mid-Term Perspective

Mustafa, D., Matson, P., Roberts, E. and Sharpe, J. (2023) 'Ecologies of Sustainable Development Goals: A Mid-Term Perspective', *International Development Planning Review*, 46(2), pp. 107-121. Available at:

<https://www.liverpooluniversitypress.co.uk/doi/10.3828/idpr.2023.12>

[Accessed: November 08, 2024]

Environmental Justice and Indigenous Environmental Justice

Parsons, M., Fisher, K. and Crease, R.P. (2021) Environmental Justice and Indigenous Environmental Justice. in M. Parsons, K. Fisher and R.P. Crease (eds.) *Decolonising Blue Spaces in the Anthropocene*, London: Palgrave Macmillan, Pp. 39-73. Available at:

<https://link.springer.com/book/10.1007/978-3-030-61071-5#overview>

[Accessed: November 08, 2024]

Have Climate Policies Accelerated Energy Transitions? Historical Evolution of Electricity Mix in the G7 and the EU

Suzuki, M., Jewell, J. and Cherp, A. (2023) 'Have Climate Policies Accelerated Energy Transitions? Historical Evolution of Electricity Mix in the G7 and the EU Compared to Net-Zero Targets', *Energy Research & Social Science*, 106(103281), pp. 1-24. Available at:

<https://www.sciencedirect.com/science/article/pii/S2214629623003419>

[Accessed: November 08, 2024]

Visual resources (graphs / video / photo resources)

The Blind Spots of the Green Energy Transition

Lazard, O. (2022) *The Blind Spots of the Green Energy Transition*. Available at:

https://www.ted.com/talks/olivia_lazard_the_blind_spots_of_the_green_energy_transition/transcript [Accessed: November 08, 2024]

Interactive timeline: A guide to climate change negotiations

European Parliament. (ND) *Interactive timeline: A guide to climate change negotiations*.

Brussels, Belgium: European Parliament. Available at:

https://www.europarl.europa.eu/infographic/climate-negotiations-timeline/index_en.html

[Accessed: November 08, 2024]

Suggested activities

Games-based learning for environmental negotiation and policymaking

There are a wide range of games (both physical such as board games and card games, and digital games) that offer players a chance to ‘experience’ climate negotiations or policymaking. Such experiential learning can help students develop an appreciation of the complex trade-offs and balancing of competing interests that environmental policymaking involves. The online games listed here could be adapted for both in-person and online learning. The last option, the World Climate Simulation Game, only requires a device with internet for the facilitator. Printable resources for negotiating teams are provided, and the online tool is only required when the teams come together to assess the effectiveness of their agreement.

The Fiscal Ship

Woodrow Wilson Center, Hutchins Center at Brookings, Digitalmill and 1st Playable Productions. (2016) *The Fiscal Ship*. Available at: <https://fiscalship.org/>
[Accessed: November 08, 2024]

Challenges players to balance the US federal budget while pursuing policy goals, one of which can be climate action. Adaptable for individuals or teams. Debrief discussion after the game is played could focus on comparing choices and outcomes of the different players/teams.

The Climate Game

Financial Times. (2022) *The Climate Game*. Available at: <https://ig.ft.com/climate-game/>
[Accessed: November 08, 2024]

Players must select policies to reach net zero by 2050, budgeting ‘effort’ across high- and low-ambition choices. Adaptable for individuals or teams. Debrief discussion after the game is played could focus on comparing choices and outcomes of the different players/teams.

En-Roads Guided Assignment or World Climate Simulation Game

Climate Interactive. (2024) *The En-Roads Guided Assignment*.
Available at: <https://www.climateinteractive.org/guided-assignment/>
[Accessed: November 08, 2024]

Climate Interactive. (2024) *World Climate Simulation Game*.
Available at: <https://www.climateinteractive.org/world-climate-simulation/>
[Accessed: November 08, 2024]

The En-Roads model can be used to ‘test’ student-developed policy scenarios, while the World Climate Simulation Game embeds this activity in a role-playing game based on a fictional international climate summit.

Prompts for reflection after games

Game-based learning could form the basis for reflective assessment. Some prompts could include:

- What did you notice about your own/others thoughts and choices in the game? What did this experience make you wonder about?

- (Before the game) What do you think the biggest obstacle to finding solutions will be?
(After the game) Reflecting on your earlier thoughts, have they changed? Why or why not? Are there any other interpretations you can think of for what happened in the game?
- What did you learn from playing the game (about yourself, about the topic...)? How does what you learned connect to knowledge and experience you already had? How can you use what you learned in the future, in the 'real world'?

Other resources for teaching & activities:

Tools: Sparking Connections

Doughnut Economics Action Lab. (2023) *Tools: Sparking Connections*. Doughnut Economics Action Lab. Available at: <https://doughnuteconomics.org/tools/sparking-connections>
[Accessed: November 08, 2024]

Topic 4: Climate solutions and seeds of change

Solutions to climate change include innovative technology, nature-based solutions, economic instruments and sustainable business models. It is important to closely examine these different solutions to understand who benefits and who might be left behind when they are put into action.

Introductory Questions for Student Engagement

How can science and technology help in the fight against climate change?

This question can encourage discussion about innovation, such as renewable energy technologies, electric cars, and carbon capture.

What are nature-based solutions to climate change?

This question opens discussions about the uses of nature and natural processes to address climate change.

What are some of the challenges we face in implementing climate solutions?

This question encourages students to consider and identify factors and actors that impact climate solution implementation (at local, national, regional, global levels).

What role does public awareness and education play in promoting climate solutions?

This encourages students towards discussions about the role of citizens in climate change solutions. It may also raise issues of power, agency, (in)equity in solutions identified.

Core readings

Project Drawdown: Table of Solutions

Project Drawdown. (2024) *Table of Solutions*. St. Paul, Minnesota: Project Drawdown.

Available at: <https://drawdown.org/solutions/table-of-solutions> [Accessed: November 08, 2024]

Realistic Ways You Can Fight Climate Change

Milken Institute School of Public Health. (2024) *Realistic Ways You Can Fight Climate Change*. Washington, D.C., USA: The George Washington University.

Available at: <https://onlinepublichealth.gwu.edu/how-to-reduce-climate-change/> [Accessed: November 08, 2024]

Towards Transformative Climate Justice: Key Challenges and Future Directions for Research.

Newell, P., Srivastava, S., Naess, L.O., Torres Contreras, G.A., and Price, R. (2020) 'Towards Transformative Climate Justice: Key Challenges and Future Directions for Research', *IDRC | CRDI Working Paper*, 2020(540), pp. 1-151.

Retrieved from <https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/adc4f3ca-57dd-415d-a76a-7c0f0b316c76/content> [Accessed: November 08, 2024]

Further reading

Resources in this section are themed to a range of solutions.

Jump to:

[Indigenous Knowledge Systems / Indigenous perspectives](#)

[Climate justice](#)

[Nature-based solutions](#)

[Carbon offsetting](#)

[Tech-based solutions / Green energy](#)

[Circular economy](#)

[Post-growth](#)

Indigenous Knowledge Systems / Indigenous perspectives

Indigenous Knowledge Systems

Van Bravel, B., Petraskek MacDonald, J. and Sambo Dorough, D. (2022) 'Indigenous Knowledge Systems' in K. De Pryck and M. Hulme (eds.) *A Critical Assessment of the Intergovernmental Panel on Climate Change*, Cambridge: Cambridge University Press, pp. 116-125.

Available at: <https://www.cambridge.org/core/books/critical-assessment-of-the-intergovernmental-panel-on-climate-change/indigenous-knowledge-systems/62207109E0B270E8169BDB2F738D44DE> [Accessed: November 08, 2024]

17 Principles of Environmental Justice

Alson, D. (1991) 'The Summit: Transforming a Movement', *Race, Poverty and the Environment – Reimagine!*, 2(3/4), pp.14-17. Reprinted in *Race, Poverty and the Environment*, 2010. Available at: <https://www.reimaginerpe.org/files/Alston.20th.17-1.pdf> [Accessed: November 08, 2024]

Climate Justice

Critical Climate Justice

Sultana, F. (2021) 'Critical Climate Justice', *The Geographical Journal*, 188(1), pp. 118-124.

Available at: <https://rgs-ibg.onlinelibrary.wiley.com/doi/abs/10.1111/geoj.12417>

[Accessed: November 08, 2024]

Researching Climate Justice: A Decolonial Approach to Global Climate Governance

Wilkins, J. and Datchoua-Tirvaudey, A.R.C. (2022) 'Researching Climate Justice: A Decolonial Approach to Global Climate Governance', *International Affairs*, 98(1), pp. 125-143. Available at:

<https://academic.oup.com/ia/article/98/1/125/6484828> [Accessed: November 08, 2024]

Nature-Based Solutions

What are Nature-Based Solutions (NBS)? Setting Core Ideas for Concept Clarification

Sowinska-Swierkosz, B. and Garcia, J. (2022) 'What are Nature-Based Solutions (NBS)? Setting Core Ideas for Concept Clarification', *Nature-Based Solutions*, 2(100009), pp.1-9. Available at:

<https://www.sciencedirect.com/science/article/pii/S2772411522000015>

[Accessed: November 08, 2024]

Expert review of the science underlying nature-based climate solutions.

Buma, B., Gordon, D. R., Kleisner, K. M., Bartuska, A., Bidlack, A., DeFries, R., ... & Hamburg, S. P. (2024) 'Expert review of the science underlying nature-based climate solutions', *Nature Climate Change*, 14(4), pp. 402-406. Available at: <https://www.nature.com/articles/s41558-024-01960-0.pdf> [Accessed: November 08, 2024]

Carbon offsetting

10 Myths About Net Zero Targets and Carbon Offsetting, Busted.

Climate Change News. (2020) *10 Myths About Net Zero Targets and Carbon Offsetting, Busted*. Climate Home News. Available at: <https://www.climatechangenews.com/2020/12/11/10-myths-net-zero-targets-carbon-offsetting-busted/> [Accessed: November 08, 2024]

Carbon Offsetting.

Baras, D. (2024) 'Carbon Offsetting', *Ethics, Policy & Environment*, 27(3), pp.281-298. Available at: <https://doi.org/10.1080/21550085.2023.2223805> [Accessed: November 08, 2024]

Tech-based solutions / Green energy

Technology to the Rescue? Techno-scientific Practices in the United Kingdom Net Zero Strategy and their Role in Locking in High Energy Decarbonisation Pathways

Stephenson, S.D. and Allwood, J. (2023) 'Technology to the Rescue? Techno-scientific Practices in the United Kingdom Net Zero Strategy and their Role in Locking in High Energy Decarbonisation Pathways', *Energy Research & Social Science*, 106, pp.1-10. Available from: <https://www.sciencedirect.com/science/article/pii/S2214629623003742> [Accessed: November 08, 2024]

How Much Land Does It Take to Power the World?

LaBracio, L. and Gates, B. (2021) *How Much Land Does It Take to Power the World?* Available at: <https://www.youtube.com/watch?v=DW0jTe80kmM> [Accessed: November 08, 2024]

Can 100% Renewable Energy Power the World?

Rosei, F. and Rosei, R. (2017) *Can 100% Renewable Energy Power the World?* Available at: <https://www.youtube.com/watch?v=RnvCbquYeIM> [Accessed: November 08, 2024]

Mining Our Way Out of the Climate Change Conundrum? The Power of a Social Justice Perspective

Nem Singh, J. (2021) *Mining Our Way Out of the Climate Change Conundrum? The Power of a Social Justice Perspective*. Washington, D.C., USA: Woodrow Wilson International Center for Scholars. Available at: <https://www.wilsoncenter.org/sites/default/files/media/uploads/documents/Mining%20Our%20Way%20Out%20of%20the%20Climate%20Change%20Conundrum%20The%20Power%20of%20a%20Social%20Justice%20Perspective%20by%20Jewellord%20Nem%20Singh%2011.1.pdf> [Accessed: November 08, 2024]

What is Circular Economy and Why Does it Matter?

United Nations Development Program. (2023). *What is circular economy and why does it matter?* Geneva, Switzerland: United Nations. Available at: <https://climatepromise.undp.org/news-and-stories/what-is-circular-economy-and-how-it-helps-fight-climate-change> [Accessed: November 08, 2024]

Towards a Circular Economy: An Emerging Economies Context

Patwa, N., Sivarajah, U., Seetharaman, A., Sarkar, S., Maiti, K. and Hingorani, K. (2021) 'Towards a Circular Economy: An Emerging Economies Context', *Journal of Business Research*, 122, pp. 725-735. Available at: <https://www.sciencedirect.com/science/article/pii/S0148296320303088> [Accessed: November 08, 2024]

Solving Plastic

Story of Stuff. (2024) *Solving Plastic – Episode 1. What if a solution to the plastic crisis is closer than we think?* Berkeley, California, USA: The Story of Stuff Project. Available at: <https://www.storyofstuff.org/movies/movies-sp-series-intro/> [Accessed: November 08, 2024]

Post-growth

A Healthy Economy Should Be Designed to Thrive Not Grow

Raworth, K. (2018) *A Healthy Economy Should Be Designed to Thrive Not Grow*. Available at: https://www.ted.com/talks/kate_raworth_a_healthy_economy_should_be_designed_to_thrive_not_grow/transcript?subtitle=en [Accessed: November 08, 2024]

NOTE: transcription available in 25 languages

How Do We Create a Better Economy?

Raworth, K. (2022) *How Do We Create a Better Economy?* Available at: <https://www.youtube.com/watch?v=6MK6tuZ7Rws> [Accessed: November 08, 2024]

Not So Natural Alliance? Degrowth and Environmental Justice Movements in the Global South

Rodriguez-Labajos, B., Yanez, I., Bond, P., Greyl, L., Munguti, S., Uyi Ojo, G. and Overbeek, W. (2019) 'Not So Natural Alliance? Degrowth and Environmental Justice Movements in the Global South', *Ecological Economics*, 157, pp. 175-184. Available at: <https://www.sciencedirect.com/science/article/pii/S0921800918307626> [Accessed: November 08, 2024]

Visual resources (graphs / video / photo resources)

Greta and George: The Best Short Video of 2019

Thunberg, G. and Monbiot, G. (2019) *Greta and George: The Best Short Video of 2019 – Climate Change*. Available at: https://www.youtube.com/watch?v=aUCD_24cygQ&t=205s [Accessed: November 08, 2024]

Awakening of the soil

Uyanisi, T. (2021) *Awakening of the Soil (Toprağın Uyanışı)*. Films for Action. Available at: <https://www.filmsforaction.org/watch/awakening-of-the-soil-topragn-uyans/> [Accessed: November 08, 2024]

Suggested activities

A simple policy analysis (and mini policy brief)

For this activity, select three examples of policy solutions addressing a climate issue relevant to your discipline. It is important that the solutions are different possible solutions to the *same* issue; e.g. to reduce emissions from aviation, governments might a) tax flights according to their duration; b) introduce a tradable flights allowance for citizens or c) mandate the use of sustainable aviation fuels. Students could also brainstorm the solutions to be assessed.

Subsequently, students will collaboratively establish criteria to define what constitutes a desirable solution, such as cost, value for money, political viability, and public acceptance. Following this, students will conduct research and evaluate each solution based on the agreed-upon criteria.

This activity could prepare students to write a policy brief as a form of assessment:

- [Policy Briefs – The Writing Center • University of North Carolina at Chapel Hill \(unc.edu\)](#)
- How to write a policy brief - [How to write a policy brief | IDRC - International Development Research Centre \(idrc-crdi.ca\)](#)

Creating an infographic

This activity can be completed individually or in pairs/small. The objective is to create an infographic that presents a possible solution to address a climate issue/challenge identified.

Students will need to select a specific climate solution to focus on and establish what purpose the infographic will serve (E.g. To educate? To persuade? Alternatively, the educator could stipulate this).

Students will need to collect and visualise data, and create a layout for their infographic. [Canva](#) is a useful source of customisable templates. Student can also self-create their infographic, emphasising a design that provides easy reading and understanding of the key message and idea(s) the infographic is presenting.

Presentations or a gallery walk provide a mechanism for sharing the final product. This forms the basis for deeper understanding and discussion about climate solutions.

Other resources for teaching & activities:

CLIMANIA (free to print board game about retrofitting buildings and urban planning to achieve climate change mitigation and adaptation goals).

Shtebunaev, S. and Carter, C. CLIMANIA. Retrieved from <https://climaniathegame.com/play-climania/>

Topic 5: Tools to engage and catalyse change

Much of the work that needs to happen to move towards sustainable behaviours and adapt to the impacts of climate change will happen at local and community scales. To ensure that lived experiences inform policies, people need to be better informed about how climate policies might affect them. They also need ways to share their opinions and knowledge. This topic explores creative and participatory methodologies to engage communities and promote civic activism, e.g. creative writing, participatory mapping.

Introductory Questions for Student Engagement

What would make you more motivated to take action against climate change?

This engages students in discussions about ways to engage individuals on climate change in different ways.

How can we better engage the public about climate change and the importance of solutions?

This question could develop students' understanding about what ways / methods are in use to engage the public about climate change and solutions and evaluate these towards improving engagement.

How can art (such as murals, installations, or performances) be used to raise awareness about climate change? (extension: to ask for students for examples)

This question allows students to explore through multi-mediums, climate change awareness.

How can personal or community stories make the issue of climate change more relatable?

This question encourages students to consider how people connect to climate change and how personalization of experiences can be used to connect diverse groups.

Core reading

A Craftivist's Manifesto

The Craftivist Collective. (ND) *A Craftivist's Manifesto*. Available at: <https://www.craftivist-collective.com/free-stuff> [Accessed: November 08, 2024]

Community engagement on adaptation: Meeting a growing capacity need

Moser, S. C. and Pike, C. (2015) *Community engagement on adaptation: Meeting a growing capacity need*. Available at: http://susannemoser.com/documents/Moser-Pike_communicationandengagementcapacity_6-4-15_revisedclean.pdf

[Accessed: November 08, 2024]

Contested climate policies and the four Ds of public participation: From normative standards to what people want.

Perlaviciute, G. (2022) 'Contested climate policies and the four Ds of public participation: From normative standards to what people want', *Wiley Interdisciplinary Reviews: Climate Change*, 13(1), e749. Available at: <https://wires.onlinelibrary.wiley.com/doi/10.1002/wcc.749>

[Accessed: November 08, 2024]

Further reading

Climate Narratives with Elizabeth Kolbert, Kim Stanley Robinson and Jeff Biggers

Climate One. (2021) *Climate Narratives with Elizabeth Kolbert, Kim Stanley Robinson and Jeff Biggers*. February 19, 2021 - Climate One Podcast. Available at: <https://www.climateone.org/audio/climate-narratives-elizabeth-kolbert-kim-stanley-robinson-and-jeff-biggers> [Accessed: November 08, 2024]

Naomi Klein and Carolyn Beeler: Covering Big Ideas and Personal Stories

Climate One. (2023) *Naomi Klein and Carolyn Beeler: Covering Big Ideas and Personal Stories*. September 22, 2023 – Climate One Podcast. Available at: <https://www.climateone.org/audio/naomi-klein-and-carolyn-beeler-covering-big-ideas-and-personal-stories> [Accessed: November 08, 2024]

4. Future Personas, 5. Human Layers, 8. Child’s Eye View, 9. Long Time Questioning

The Long Time Project. (2020) *The Long Time Tools: Tools to Cultivate Long-Termism in Institutions*. Brussels, Belgium: Climate-KIC. Available at: <https://static1.squarespace.com/static/5eb2e536e7ddf65e8cb25952/t/5f3e5375754fa93c1a097e6b/1597920137599/Long+Time+Project+Long+Time+Tools.pdf> [Accessed: November 08, 2024]

A community is a garden: Tools for artists, communities and institutions

Anifowoshe, K. and Janower, M. (ND) *A community is a garden: Tools for artists, communities and institutions*. Available at: <https://arena-attachments.s3.amazonaws.com/9400568/b17b697286cc21f202f2f8458bdbc35b.pdf?1604622316> [Accessed: November 08, 2024]

Learning About Climate Change In, With and Through Art.

Bentz, J. (2020) ‘Learning About Climate Change In, With and Through Art’, *Climatic Change*, 162, pp. 1595-1612. Available at: <https://link.springer.com/content/pdf/10.1007/s10584-020-02804-4.pdf> [Accessed: November 08, 2024]

Putting Climate Resilience in Its Place: Developing Spatially Literate Adaptation Initiatives

Garry, F., O’Hare, P., Scannell, C., Ashton, J., Davies, M., Freeborough, K.A., Kennedy-Asser, A., Macdonald, N., Scott-Bottoms, S. and Sharp, L. (2024) ‘Putting Climate Resilience in Its Place: Developing Spatially Literate Adaptation Initiatives’ in S. Dessai, K. Lonsdale, J. Lowe and R. Harcourt (eds.) *Quantifying Climate Risk and Building Resilience in the UK*, London: Palgrave, pp. 63-74. Available at: https://link.springer.com/chapter/10.1007/978-3-031-39729-5_5 [Accessed: November 08, 2024]

Climate Resilience: Interpretations of the Term and Implications for Practice

Lonsdale, K., Arnell, N., Coles, T., Lock, K., O’Connell, E., O’Hare, P. and Tompkins, E. (2024) ‘Climate Resilience: Interpretations of the Term and Implications for Practice’ S. Dessai, K. Lonsdale, J. Lowe and R. Harcourt (eds.) in *Quantifying Climate Risk and Building Resilience in the UK*, London: Palgrave, pp. 15-23. Available at: https://link.springer.com/chapter/10.1007/978-3-031-39729-5_2 [Accessed: November 08, 2024]

Movements Shaping Climate Futures: A Systematic Mapping of Protests Against Fossil Fuel and Low-Carbon Energy

Temper, L., Avila, S., Del Bene, D., Gobby, J., Kosoy, N., Le Billon, P., Martinez-Alier, J., Perkins, P., Roy, B., Scheidel, A. and Walter, M. (2020) ‘Movements Shaping Climate Futures: A Systematic Mapping of Protests Against Fossil Fuel and Low-Carbon Energy’, *Environmental Research*

Letters, 15(123004), pp. 1-23. Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/abc197/pdf> [Accessed: November 08, 2024]

Visual resources (graphs / video / photo resources)

How to find joy in climate action

Johnson, A. E. (2022) *How to find joy in climate action*. Available at: https://www.ted.com/talks/ayana_elizabeth_johnson_how_to_find_joy_in_climate_action?subtle=en&trigger=0s [Accessed: November 08, 2024]

Suggested activities

Create your own manifesto

A manifesto is a declaration of the goals and beliefs of its issuer, which could be an individual or a group/community. Students could be tasked with developing their own individual manifesto for climate action, or a class could collaborate on a shared vision. Though usually written (see A Craftivist's Manifesto) the manifesto could also be articulated with art, song, dance or performance, enabling students to bring their individual talents and creativity to the task. It could be rooted in the genres and language of a particular discipline, e.g. written as a recipe, or a series of equations. The manifesto could be revisited at various points throughout a term or semester, for students to discuss any changes or additions they would like to make in light of new learning.

Participatory mapping

Participatory mapping is a means of recording and representing a community's knowledge about their local area. It can be accomplished using a range of techniques, from ephemeral maps drawn in sand or earth, to material maps created with paper and pens, to digital maps generated using GIS (geographic information systems). The latter provides a helpful option for online educators wishing to experiment with this methodology (Padlet is a free online collaborative tool that includes the functionality for users to add geolocated 'posts' to a map and see other additions in real-time).

Whether implemented online or in-person, on paper, the key question is what participants are being asked to map. An environmental science or food systems class might map what is growing where. A class on health might consider what makes students feel health or unhealthy in their local community. Here, there is plentiful scope to relate the activity to disciplinary inquiry while facilitating students to represent their perspectives spatially.

Other resources for teaching & activities:

Action Playbook: Activate Your Network

Climate Changemakers. (2020) *Action Playbook: Activate Your Network*. Climate Changemakers. Available at: <https://www.climatechangemakers.org/activate-all-access> [Accessed: November 08, 2024]

Heartwood: Voices from Environmental Education: Academic Research Meets Head, Heart, and Hands

Glakin, M., Hine, S. and Perry, S. (eds.) (2023) *Heartwood: Voices from Environmental Education: Academic Research Meets Head, Heart, and Hands*. London: School of Education, Communication & Society. King's College London. Available at: <https://www.kcl.ac.uk/ecs/assets/kings-stem-education-heartwood.pdf> [Accessed: November 08, 2024]

For Additional Shared Resources

As mentioned in our introduction about this syllabus, you'll find here [Padlet Map Board](#) we have created a Padlet Map Board to share resources from our local contexts. We invite you to add any resources that you feel would be of use and interest to others.

This board will remain 'open' for additions for the first 12-months after the release of the OER syllabus. After this period, it will be available but as an 'archived' board and not one that is 'live' to add to.

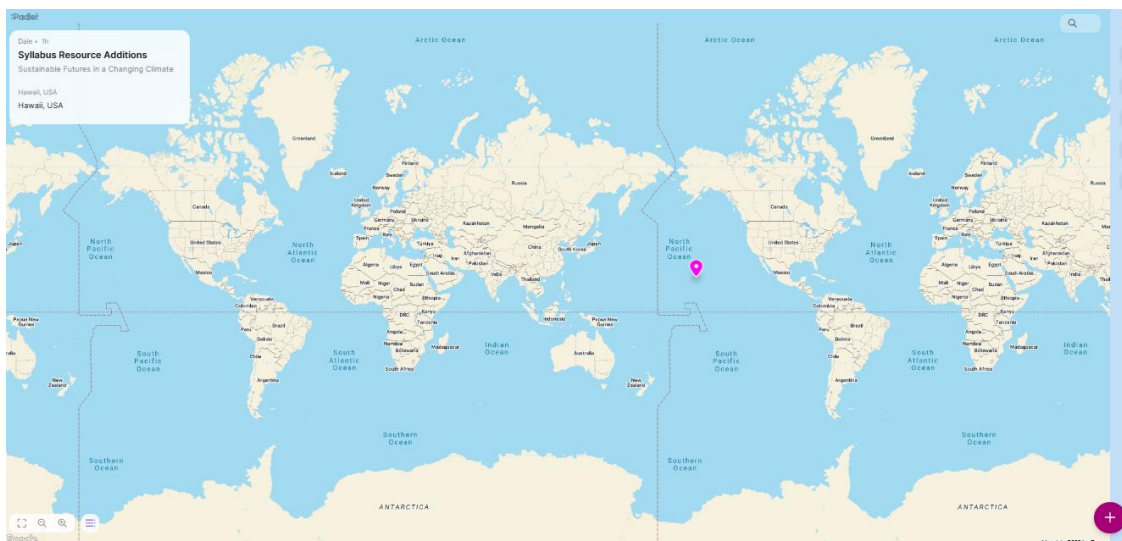
The resources can be in any language and need not be restricted to English, but if you do provide a resource not in English, please add a note to let other users know what language the resource is in please.



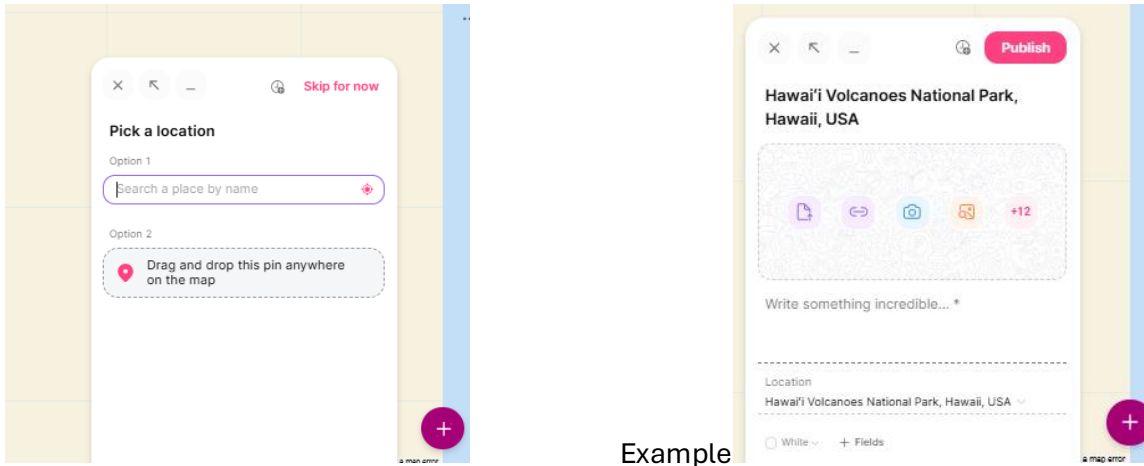
This is the QR code will take you to the Padlet Map Board.

Once you have reached the Padlet Map Board – here are a few short instructions on how to add your resource with a 'pin' to where the resource is about or from.

Step 1: click on the '+' sign in the bottom-right corner to create a posting

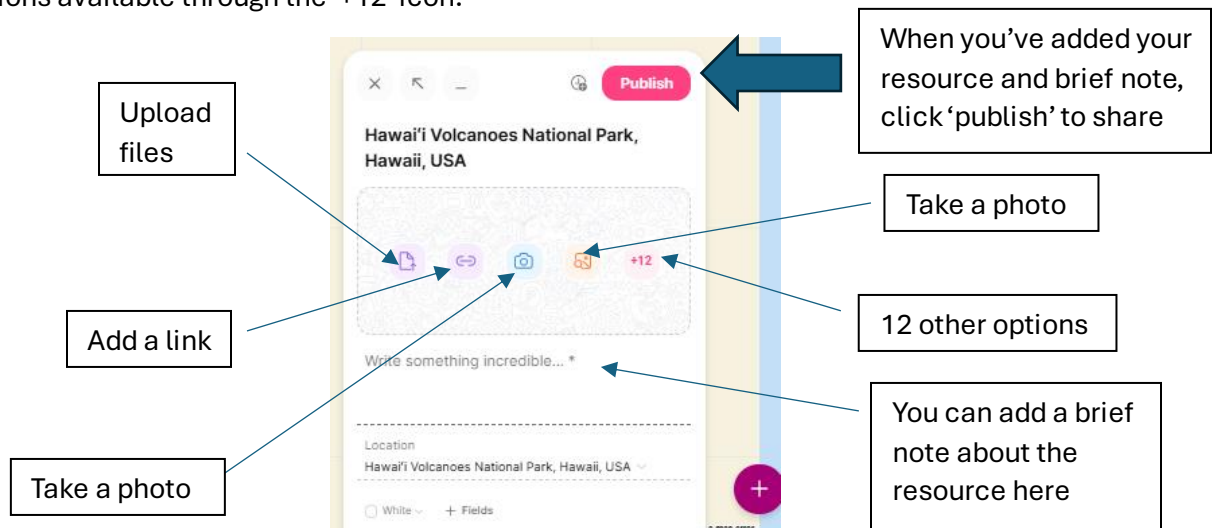


Step 2: A box will pop-up. Please type in the name of the location of the resource – by country, city, town, etc.



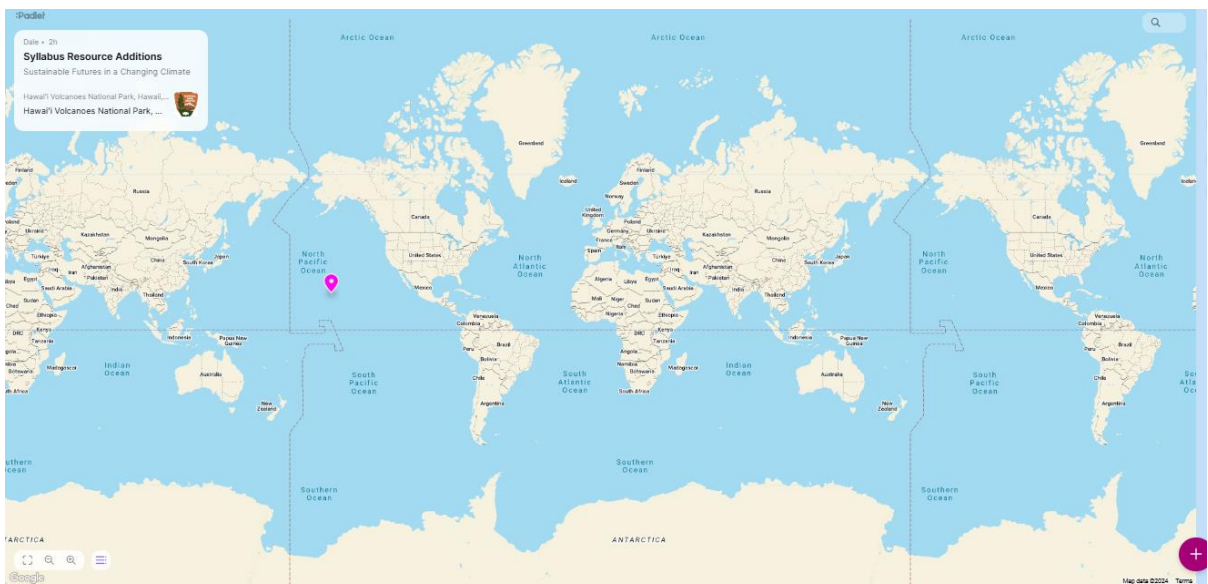
Example

Step 3: You can upload a file, add a link, take a photo, search for an image, and there are other options available through the '+12' icon.



Example:

Up-close to where pin is located (Top image) / Worldview of where pin is located (bottom image)



Example: How to use the resources in teaching	<i>Less than 30 mins</i>	<i>30 – 60 minutes</i>	<i>More than 60 minutes</i>
<p>We encourage you to think of the resources and activities as resources you can combine in different ways to suit your class.</p> <p>Here, we provide some suggestions of how they could be utilised, depending on the time available, based on the example of Topic 2: Climate Emotions and Motivations.</p> <p>Indicative times have been included for how long the activities would approximately take. However, these will also depend on the size of the group of students, how many ‘groups’ you find useful for your context, and if you feel your students need more time for reading / writing.</p>	<p>As a class, watch and listen to the visual poem - Rise: From One Island to Another (Video clip: 6:31 minutes in length)/</p> <p>Follow with a brief discussion. Prompts could include:</p> <ul style="list-style-type: none"> ▪ What emotions do they sense in the poem? ▪ What emotions did they experience while reading, watching and listening to the poem? 	<p>Homework Students will need to complete the core reading by Cunsolo et al (2020): Ecological Grief and Anxiety: The Start of a Healthy Response to Climate Change? (3 pages long).</p> <p>In class, students write to a series of timed prompts:</p> <p><i>Prompt 1:</i> (3-minutes of writing) What things did you notice in the reading? What were your own immediate thoughts on the article?</p> <p><i>Prompt 2:</i> (3-minutes of writing) How is ecological grief and anxiety defined within the work? What is some of the ‘evidence’ used to contextualise this definition?</p> <p><i>Prompt 3:</i> (3-minutes of writing) What are your thoughts about the steps recommended for reducing ecological grief and anxiety?</p> <p>Next, students move into pairs/small groups to share parts of their writing, and select something to share with the larger class group (10-15 mins)</p> <p>The class discussion comprises 10-15 mins hearing from groups, and 15-20 mins open discussion on emotions related to climate change.</p>	<p>Homework Individually, students will need to spend some time considering and then selecting something to add to the playlist, that depicts <i>how climate change makes them feel</i>.</p> <p>A longer class could include <i>both</i> of the previous activities, <i>plus</i> the climate emotions playlist as a conclusion.</p> <p>In class, students bring their selected contributions for the playlist and begin as a group to curate these into a playlist together. This could be an opportunity to return to earlier prompts:</p> <ul style="list-style-type: none"> ▪ What emotions do they sense in the contribution? ▪ What emotions did they experience while listening to it? <p>Encourage students to consider placement within the playlist of each item, starting perhaps with ‘grouping’ contributions in some way. (30 mins)</p> <p>Listen to the playlist as a group, or add it to the VLE (virtual learning environment) that the course uses or somewhere like Spotify, where students are all able to listen later.</p>

