POL31009 Water, Climate, Energy 2021-22

Level: L3
Credit Value: 20
Semester Taught: Two

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Seminar time: Tuesday 13.00-15.00
Seminar location: Elmfield 113

Description

This module explores the place of water, climate and energy in global politics. Human-induced global climate change is one of the central challenges – perhaps the single greatest challenge – of our age. It is a consequence, above all, of our insatiable appetite for fossil fuel energy resources. And many of its most serious consequences are projected to relate to water, from increased floods and droughts to rising seas. Moreover, water, climate and energy issues are deeply political, in both their causes, and their current and anticipated future consequences. Adopting a political ecology approach, this module introduces and investigates this politics.

Objectives

This module aims to equip students with a comprehensive understanding of the place of water, climate and energy in global politics. It will draw on a range of political ecology and related perspectives, and global, national and local case studies, to provide a comprehensive understanding of the place of water, climate and energy in

global politics. The module is intended to help students develop the critical analytical skills to effectively analyse the politics of water, climate and energy at various sites and scales, and to critically evaluate strategies for addressing contemporary water, climate and energy challenges. By the end of the module, students should be able to:

- Demonstrate a good understanding of the place of water, climate and energy in global politics;
- Draw comparatively on case studies and evidence at a range of sites and scales;
- Critically interrogate a range of strategies and policies for mitigating and adapting to climate change, and for ameliorating water and energy insecurities; and
- Demonstrate appropriate transferable skills by showing evidence of critical analytical and evaluative skills.

Organisation
The module will involve ten x 2 hour seminars, held each **Tuesday from 13.00 to 15.00** in **Elmfield 113**, starting on 8 February with the final seminar on 3 May. The structure of the module is detailed below, with dates given for each seminar.

Teaching and learning methods
This module takes a student-centred approach to learning. For seminars, this means that, while the convenor will help structure discussions and activities, you should be prepared to contribute fully to them, and should feel free to suggest different directions and issues for consideration. For seminars, the preparation required will vary by topic: guidance is provided below for each of them. In general terms, though, for each topic you will be expected a) to read the core readings; b) read and if necessary find and select any further readings; c) reflect on the questions provided for each topic; and d) come prepared with your own notes on the pieces you have read, as well as answers to at least some of the above questions.

Prior to and in preparation for each seminar, please refer to the detailed week-by-week guidance below. Please note that most of the core readings will be available through Leganto. Some however will not: for those, you will just need to follow the link given in the handbook. Further readings have not been uploaded onto Leganto, but should all be available through the library (or in case of open access reports, on the web).

Requirements
- Attendance at all seminars and active participation in seminar discussions
- Completion of required reading in advance of the seminars
- Completion and submission of one short essay (1500 words maximum)
- Completion and submission of one long essay (2500 words maximum)

Assessment

- Short essay, 1500 words (30%). Submission deadline: 12:00 noon on 21 March 2022
- Long essay, 2500 words (70%): Submission deadline: 12:00 noon on 30 May 2022

Short essay

For the short essay you should undertake either:

- A review and critical analysis of the current national climate action plan of a country of your choosing; or
- A critical analysis of a media story (or stories) relating to water, energy or climate change.

Full guidance will be provided in the first few weeks of the module on requirements for the short essay.

Long essay

For the long essay you should answer one of the following questions:

1. How should 'the water-energy-climate nexus' be understood?
2. Are 'emergency' framings of climate change scientifically accurate? Are they helpful?
3. Given that climate change is a consequence of capitalist development, does this not also suggest that capitalism can't be part of the answer?
4. 'A post-colonial perspective is crucial for understanding contemporary environmental and natural resource crises'. Do you agree?
5. What role has water played in modern state-building?
6. How has neoliberalism structured responses to the world's climate and water crises?
7. What is environmental 'vulnerability'?
8. Do natural resources cause conflict? Discuss in relation to one or more cases.
9. What are the implications of climate change for migration?
10. Was James Hansen right that the Paris agreement is a 'fraud'?
11. Was COP26 a success?
12. What explains climate denialism?
13. 'Reduced resource consumption is both possible and necessary'. Do you agree?
14. Are pricing and tax reform the keys to climate mitigation?
15. What are the implications of ecological footprint analyses? Discuss in relation to both carbon and water.
16. How are fossil fuels going to be kept in the ground?
17. Are renewables more peaceful than oil?
18. What is 'maladaptation', and how significant a problem is it?
19. Are we on the cusp of a new era of 'green grabbing'?
20. Is geoengineering a sensible 'Plan B' for addressing climate change?

Assessment Criteria

Work of a distinction standard (69.5+) can be described as excellent. It shows:

- A high degree of analytical skill in answering the question
- An excellent critical understanding of the relevant literature
- Evidence of wide reading around the question
- The ability to develop a clear, well structured and logical answer to the question
- The ability to write according to the rules of standard English

Work of a merit standard (60-69.5) can be described as very good. It shows to differing degrees:

- Very good degree of analytical skill in answering a particular question
- Very good critical understanding of the relevant literature
- Evidence of varied reading beyond the question
- The ability to develop a well-structured and logical answer to the question
- The ability to write according to the rules of standard English

Work of a pass standard (50-59.5) can be described as competent or good. It shows to differing degrees:

- A substantial degree of analytical skill in answering a particular question
- A clear knowledge and understanding of the relevant literature
- Evidence of reading beyond the core literature
- The ability to write according to the rules of standard English
- The ability to develop a clear, well-structured and logical answer to the question

Work of a fail standard (1-49) shows weaknesses such as:

- A poor understanding of the relevant subject
- A poor knowledge and understanding of the relevant literature
- Poor organisation of the argument in terms of structure and logic
- An inability to write according to the rules of standard English

General Regulations

Students should refer to the Politics Student Handbook for guidance on essay writing and other academic skills, for details of the marking criteria, and rules governing the submission of assessed work and attendance. Please note that students are required to perform satisfactorily in all components of assessment before credits can be awarded for a module.

Feedback, advice and module evaluation

You can receive feedback and advice on your assessed work throughout the module. All essays are returned with detailed comments. Tutors have dedicated office hours each week, and can provide support and information concerning the preparation of assessed work and feedback on completed coursework. Specifically, the module tutor can read and offer feedback on a one-page plan of your long essay. Please note that we cannot read or comment on draft essays.

Office hours

Jan Selby's office hour is 12-1pm each Wednesday. Meetings will take place through Google Meet. Appointments can be booked through this link:

https://calendar.google.com/calendar/u/0/selfsched?sstoken=UUVRSk5GdG5OR19ufGRlZmF1bHR8M2E3YzkyOTU4MzVmMTNkZWFlMGYxZTdjOTBiY2EwNmY

Books, Journals, and Websites

Books:

The following textbooks and general interest books include lots of useful stuff relevant to this module. These may be useful for background reading, but students are not expected to purchase any of them.

Michelle Betsill et al, eds. (2014), *Advances in International Environmental Politics*, 2nd edn. (London: Palgrave).

Harriet Bulkeley and Peter Newell (2015), *Governing Climate Change*, 2nd edn. (London: Routledge).

Simon Dalby (2009), *Security and Environmental Change* (Cambridge: Polity).

Simon Dalby (2020), *Anthropocene Geopolitics: Globalization, Security, Sustainability* (Ottawa: University of Ottawa Press).

Carl Death (2014), *Critical Environmental Politics* (London: Routledge).

Andrew Dessler and Edward Parson (2019), *The Science and Politics of Climate Change*, 3rd edn. (Cambridge: Cambridge University Press).

John Bellamy Foster et al (2010), *The Ecological Rift: Capitalism's War on the Earth* (New York: Monthly Review Press).

Anthony Giddens (2011), *The Politics of Climate Change*, 2nd edn. (Cambridge; Polity).

David Harvey (1996), *Justice, Nature and the Geography of Difference* (Oxford: Blackwell).

Mike Hulme (2009), *Why We Disagree About Climate Change* (Cambridge: Cambridge University Press).

Mike Hulme (2017), *Weathered: Cultures of Climate* (London: Sage).

Mike Hulme, ed. (2020), *Contemporary Climate Change Debates: A Student Primer* (London: Routledge).

Bruce Lankford et al, eds. (2013), *Water Security: Principles, Perspectives and Practices* (London: Earthscan).

Simon Lewis and Mark Maslin (2018), *The Human Planet: How We Created the Anthropocene* (London: Penguin).

Andreas Malm (2018), *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso).

Mark Maslin (2014), *Climate Change: A Very Short Introduction*, 3rd edn. (Oxford: Oxford University Press).

Jason Moore (2015), *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso).

Rob Nixon (2011), *Slow Violence and the Environmentalism of the Poor* (Harvard: Harvard University Press).

Roderick Neumann (2005), *Making Political Ecology* (London: Hodder).

Peter Newell (2020), *Global Green Politics* (Cambridge: Cambridge University Press).

Shannon O'Lear (2018), *Environmental Geopolitics* (Lanhan: Rowman and Littlefield).

Richard Peet et al, eds. (2011), *Global Political Ecology* (London: Routledge).

Nancy Lee Peluso and Michael Watts, eds. (2001), *Violent Environments* (Ithaca: Cornell University Press).

Paul Robbins (2019), *Political Ecology: A Critical Introduction*, 3rd edn. (Oxford: Blackwell).

Ian Scoones et al, eds. (2015), *The Politics of Green Transformations* (London: Routledge).

Hayley Stevenson (2017), *Global Environmental Politics: Problems, Policy and Practice* (Cambridge: Cambridge University Press).

Journals:

Academic journals which may be particularly useful for you include:

Climate and Development
Climate Policy
Climatic Change
Energy Policy
Energy Research and Social Science

Environmental Politics
Geoforum
Geopolitics
Global Environmental Change
Global Environmental Politics
Journal of Political Ecology
Nature
Nature Climate Change
Political Geography
Water Alternatives
Water International
WIREs Climate Change

Please note that when doing independent research, you will typically have to look well beyond the Politics and IR journals that you may be used to.

Websites:

There are numerous websites and organisations specializing on resource security and politics issues. Here are some on climate change specifically:

Carbon Brief: https://www.carbonbrief.org/
Climate Action Tracker: https://climateactiontracker.org/
Climate Home News: https://www.climatechangenews.com/
Climate Watch: https://www.climatewatchdata.org/
Inside Climate News: https://insideclimatenews.org/
IPCC: https://www.ipcc.ch/
UK Committee on Climate Change: https://www.theccc.org.uk/

… Plus general mainstream media sources, international organisations, and environmental media and campaigning groups are all valuable sources of information and interpretations.

Podcasts:

Climate Diplomacy: https://climate-diplomacy.org/magazine/cooperation/climate-diplomacy-podcast
The Sweaty Penguin: https://thesweatypenguin.com/
BBC Green Thinking: https://www.bbc.co.uk/programmes/p07zg0r2

Module Structure

Week	Date	Seminar Topic
1	08/02/22	Introduction
2	15/02/22	Degradation, depletion and transformation
3	22/02/22	The political ecology of vulnerability
4	01/03/22	Resources, development and state-building
5	08/03/22	The international political ecology of water, energy and carbon
6	15/03/22	The international climate regime
7	22/03/22	Preventing dangerous climate change: revolution or reform?
8	29/03/22	Instruments of transition or green windfalls? Efficiency, pricing, trading
9	26/04/22	Environmental scarcity, migration and conflict
10	03/05/22	Adaptation, mitigation and the coming world order

Module schedule and reading list

Week 1: Introduction

This first seminar will serve as a broad introduction to studying environmental politics and water, climate and energy issues specifically, and will also explain the structure of the module and introduce the political ecology approach which informs it. We will start by overviewing the module's objectives, organisation, teaching and learning methods, and assessment requirements. And then, with this done, we will turn to three main issues:

Questions

- Water, climate, energy: Why study these three things together? What are the connections between them? What does it mean to study their 'politics'? What are the differences between their politics (or political economies/political ecologies)?

- Significance: How much do environmental and energy politics matter? Is the environment (still) on the periphery of politics and its study, as Smith argued almost 30 years ago? Why does climate change matter specifically? Does climate change matter more than other environmental issues? Who does it matter for? On what ethical or political grounds do water, climate and energy issues matter?

- Approaches: How should we approach the study of environmental and energy politics? Which disciplines do we need to use or engage with to understand their politics? What methods should we use? What approaches are available? What is Malthusianism? What is environmental determinism? What is political ecology? How might various approaches to world politics (realism, liberalism, Marxism, feminism, constructivism, post-structuralism, post-colonialism) be relevant to investigating water, climate and energy politics?

Preparation

For the seminar please read and come prepared to discuss the three core readings below. The first of these is about the environment within International Relations generally, the second an illustrative case study of the 'nexus' relations between water, climate and energy, and the last an introduction to political ecology. You should come prepared with your own notes on the core readings, as well as answers to at least some of the above questions.

Core readings

Steve Smith (1993), 'Environment on the periphery of International Relations: an explanation', *Environmental Politics*, Vol. 2, No. 4, pp. 28-45.

Conflict and Environment Observatory, *Groundwater Depletion Clouds Yemen's Solar Revolution* (2021), **not available through Leganto** but at: https://ceobs.org/groundwater-depletion-clouds-yemens-solar-energy-revolution/

Paul Robbins (2012), *Political Ecology: A Critical Introduction*, 2nd edn. (Oxford: Blackwell), ch. 1. The 3rd edn. (2019) is worth consulting too, and is on order for the library.

Week 2: Degradation, depletion and transformation

This second seminar on the module will consider how we should understand the relations between humanity (or 'society') and 'nature' (or 'the environment', or 'resources'). We will not particularly consider the social make-up of these relations – we will get to this from week 3. Instead, our focus will be on nature-society relations, on several levels.

Questions

- Empirically first: to what extent is humankind degrading and depleting the Earth's environment and its resources? Are global water resources being degraded and depleted, and how seriously? Are forests being depleted (as indicated by the term 'deforestation')? What about energy resources? Are any of these becoming 'scarce'? Is humankind in danger of breaching 'natural limits' or what are often now called 'planetary boundaries'? Is the global climate being degraded, depleted and destroyed – or something else?
- Conceptually, should we think of nature as an external and prior reality that is being 'destroyed', or as something that is instead being 'transformed' or maybe even 'produced'?
- Historically, when did humankind's degradation (or transformation) of the Earth begin? If we now inhabit an 'Anthropocene planet', when did this begin?
- What are natural 'resources'? Do they exist prior to society, or are they products of it? What are 'water resources'? What are 'energy resources'? And what is 'the environment'?
- What if anything is wrong with 'degradation narratives'?
- What, last, is the significance of these questions?

Preparation

For the seminar please read and come prepared to discuss any three of the six core readings below. These all touch in different ways on the questions above. You can read more than three if you wish, but this is not expected. You should come prepared with your own notes on the pieces you have read, as well as answers to at least some of the above questions. The further readings list just some of the very many works relevant to this topic, which you may want to dip into at some point.

Core readings

Ugo Bardi (2019), 'Peak oil, 20 years later: failed prediction or useful insight?' *Energy Research and Social Science*, Vol. 48, pp. 257-61.

Chi Chen et al (2019), 'China and India lead in greening of the world through land-use management', *Nature Sustainability*, Vol. 2, pp. 122-29.

J.S. Famiglietti (2014), 'The global groundwater crisis', *Nature Climate Change*, Vol. 4, No. 11, pp. 945-8.

Simon Lewis and Mark Maslin (2015), 'Defining the Anthropocene', *Nature*, Vol. 519, pp. 171-80.

Jamie Linton and Jessica Budds (2014), 'The hydrosocial cycle: defining and mobilizing a relational-dialectical approach to water', *Geoforum*, Vol. 57, pp. 170-80.

James McCann (1997), 'The plow and the forest: narratives of deforestation in Ethiopia, 1840-1992', *Environmental History*, Vol. 2, No. 2, pp. 138-59.

Further readings

Mikael Bergius et al (2020), 'Green economy, degradation narratives, and land-use conflicts in Tanzania', *World Development*, Vol. 129.

Giovanni Bettini and Lazaros Karaliotas (2013), 'Exploring the limits of peak oil: naturalising the political, de-politicising energy', *The Geographical Journal*, Vol. 179, No. 4, pp. 331-41.

Piers Blaikie and Harold Brookfield, eds. (1987), *Land Degradation and Society* (London: Routledge).

James Blaut (1999), 'Environmentalism and Eurocentrism', *The Geographical Review*, Vol. 89, No. 3, pp. 391-408.

Dipesh Chakrabarty (2009), 'The climate of history: four theses', *Critical Inquiry*, Vol. 35, No. 2, pp. 197-222.

Paul Crutzen (2006), 'The anthropocene', in E. Ehlers and T. Krafft (eds.), *Earth System Science in the Anthropocene* (Berlin: Springer), pp. 13-18.

Diana Davis (2005), 'Potential forests: degradation narratives, science, and environmental policy in Protectorate Morocco, 1912-1956', *Environmental History*, Vol. 10, No. 2, pp. 211-38.

John Bellamy Foster et al (2010), *The Ecological Rift: Capitalism's War on the Earth* (New York: Monthly Review Press).

Betsy Hartmann (2010), 'Rethinking climate refugees and climate conflict: rhetoric, reality, and the politics of policy discourse', *Journal of International Development*, Vol. 22, No. 2, pp. 233-46.

David Harvey (1996), *Justice, Nature and the Geography of Difference* (Oxford: Blackwell).

Giorgos Kallis (2019), *Limits: Why Malthus was Wrong and Why Environmentalists Should Care* (Stanford: Stanford University Press).

Melissa Leech and Robin Mearns, eds. (1996), *The Lie of the Land: Challenging Received Wisdom on the African Environment* (Oxford: James Currey).

Simon Lewis and Mark Maslin (2018), *The Human Planet: How We Created the Anthropocene* (London: Penguin).

Andreas Malm (2018), *The Progress of This Storm: Nature and Society in a Warming World* (London: Verso).

Jason Moore (2015), *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso).

Ted Nordhaus et al (2012), *The Planetary Boundaries Hypothesis: A Review of the Evidence* (The Breakthrough Institute), available at: https://s3.us-east-2.amazonaws.com/uploads.thebreakthrough.org/legacy/blog/Planetary%20Boundaries%20web.pdf

L. Olsson et al (2005), 'A recent greening of the Sahel: trends, patterns and potential causes', *Journal of Arid Environments*, Vol. 63, No. 3, pp. 556-66.

Johan Rockstrom et al (2009), 'A safe operating space for humanity', *Nature*, Vol. 461, pp. 472-5.

William Ruddiman (2005), *Plows, Plagues and Petroleum: How Humans Took Control of Climate* (Princeton: Princeton University Press).

Julian Simon (1996), *The Ultimate Resource 2* (Princeton: Princeton University Press).

Neil Smith (2008), *Uneven Development: Nature, Capital, and the Production of Space*, 3rd. edn. (Athens GA: University of Georgia Press).

Xiao-Peng Song et al (2018), 'Global land change from 1982 to 2016', *Nature*, Vol. 560, pp. 639-43.

Jeremy Swift (1996), 'Desertification: narratives, winners and losers', in Melissa Leech and Robin Mearns, eds., *The Lie of the Land: Challenging Received Wisdom on the African Environment* (Oxford: James Currey), pp. 73-90.

D.S.G. Thomas and N.J. Middleton (1994), *Desertification: Exploding the Myth* (London: Wiley).

David Wallace-Wells (2017), 'The uninhabitable earth', *New York Magazine* (July).

Paul Warde et al (2018), *The Environment: A History of the Idea* (Baltimore: John Hopkins University Press).

Week 3: The political ecology of vulnerability

Having explored nature-society relations in week 2, in week 3 we start disaggregating the human side of the equation, by examining differential vulnerabilities to environmental (and resource) processes, pressures and changes. Doing this allows us to explore further how arguments 'from nature' are misplaced. Where the discussion in week 2 will have revealed how ostensibly 'natural' resources, limits and states of affairs often constitute very problematic analytical baselines, the present seminar will show and explore how vulnerabilities are not determined by nature and the environment either – but are rather functions of power, inequalities, and patterns of political economy. Exploring these social dimensions of vulnerability will necessarily both bring questions of class, race, gender and so on into our discussion, as well as require us to reflect on issues of adaptation and resilience.

Questions

- In the cases you have explored, who is particularly vulnerable to environmental and resource pressures and hazards? What accounts for this pattern of vulnerability?
- To what extent are adaptation to, and resilience in the face of, environmental changes and extreme environmental hazards possible?
- Is vulnerability to environmental changes and disasters increasing or decreasing?
- What impact is climate change likely to have on existing patterns of vulnerability?

Preparation

For the seminar please read and come prepared to discuss any three of the six core readings below. These are all case studies of water, climate or energy vulnerability, all emphasising in one way or another the social, political or political-economic causes of vulnerability. You can read more than three if you wish, but this is not expected. You should come prepared with your own notes on the pieces you have read, as well as answers to at least some of the above questions. The further readings include both further case studies, and some of the key broader theoretical and conceptual works on vulnerability, adaptation and resilience.

Core readings

Stefan Bouzarovski and Sergio Tirado Herrero (2017), 'Geographies of injustice: the socio-spatial determinants of energy poverty in Poland, the Czech Republic and Hungary', *Post-Communist Economies*, Vol. 29, No. 1, pp. 27-50.

Alex de Waal (2018), 'The end of famine? Prospects for the elimination of mass starvation by political action', *Political Geography*, Vol. 62 (2018), 184-95.

Farhana Sultana (2009), 'Fluid lives: subjectivities, gender and water in rural Bangladesh', *Gender, Place and Culture*, Vol. 16, No. 4, pp. 427-44.

Henry Giroux (2006), ‘Reading Hurricane Katrina: race, class and the biopolitics of disposability’, *College Literature*, Vol. 33, No. 3, pp. 171-96.

Kian Goh (2019), ‘Urban waterscapes: the hydro-politics of flooding in a sinking city’, *International Journal of Urban and Regional Research*, Vol. 43, No. 2, pp. 250-72.

Elspeth Oppermann et al (2018), 'Beyond threshold approaches to extreme heat: repositioning adaptation as everyday practice', *Weather, Climate and Society*, Vol. 10, No. 4, pp. 885-98.

Further readings

Neil Adger (2006), ‘Vulnerability’, *Global Environmental Change*, Vol. 16, No. 3, pp. 268-81.

Jon Barnett (2020), ‘Global environmental change II: political economies of vulnerability to climate change’, *Progress in Human Geography*, Vol. 44, No. 6, pp. 1172-84.

Richard Black et al (2011), ‘Migration as adaptation’, *Nature*, Vol. 478, pp. 447-9.

Katrina Brown (2015), *Resilience, Development and Global Change* (London: Routledge).

Yolanda Collins (2021), ‘Racing climate change in Guyana and Suriname’, *Politics* (online first).

James Ford et al (2018), ‘Vulnerability and its discontents: the past, present, and future of climate change vulnerability research’, *Climatic Change*, Vol. 151, pp. 189-203.

Giuseppe Formetta and Luc Feyen (2019), ‘Empirical evidence of declining global vulnerability to climate-related hazards’, *Global Environmental Change*, Vol. 57.

Hans-Martin Füssel et al, (2006), ‘Climate change vulnerability assessments: an evolution of conceptual thinking’, *Climatic Change*, Vol. 75, pp. 301-29.

Global Commission on Adaptation, *Adapt Now: A Global Call for Leadership on Climate Resilience* (2019), available at: https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/

Bethany Haalboom and David Natcher (2012), 'The power and peril of "vulnerability": approaching community labels with caution in climate change research', *Arctic*, Vol. 65, No. 3, pp. 319-27.

Leila Harris (2008), 'Water rich, resource poor: intersections of gender, poverty, and vulnerability in newly irrigated areas of southeastern Turkey', *World Development*, Vol. 36, No. 12, pp. 2643-62.

Eun-Soon Im (2017), ‘Deadly heat waves projected in the densely populated agricultural regions of South Asia’, *Science Advances*, Vol. 3, No. 8.

Jeremy S. Pal and Elfatih A. B. Eltahir (2016), ‘Future temperature in southwest Asia projected to exceed a threshold for human adaptability’, *Nature Climate Change*, Vol. 6, pp. 197-200.

Colin Raymond et al (2020), ‘The emergence of heat and humidity too severe for human tolerance’, *Science Advances*, Vol. 6, No. 9.

Daniela Schofield and Femke Gubbels (2019), 'Informing notions of climate change adaptation: a case study of everyday gendered realities of climate change adaptation in an informal settlement in Dar es Salaam', *Environment and Urbanization*, Vol. 31, No. 1, pp. 93-114.

Farhana Sultana (2011), ‘Suffering for water, suffering from water: emotional geographies of resource access, control and conflict’, *Geoforum*, Vol. 42, No. 2, pp. 163-72.

Chi Xu et al (2020), ‘Future of the human climate niche’, *Proceedings of the National Academy of Sciences*, Vol. 117, No. 21, pp. 11350-55.

Week 4: Resources, development and state-building

In seminar 3, we extend our focus on the political and political-economic causes of environmental change and vulnerability still further, by considering the roles of water and energy resources within state-building and development. In doing this we explore several key themes: the specificity of different national political and developmental contexts, and how these have shaped patterns of resource mobilisation, transformation, control and consumption; the extent to which different resource types and 'non-human actors' have themselves had determining impacts on patterns of politics and political economy; and the ways in which patterns of state-building and development always simultaneously involve various forms of environmental destruction, dispossession and marginalisation.

Questions

- Why, according to Malm, did British capitalism turn to coal during the mid-nineteenth century? What, in his view, were the advantages of coal? And even if he is right on this, are his insights transferable to other and more recent contexts?
- What role, according to Mitchell, have mosquitoes, fertilizers and the River Nile and its damming played in the development of modern Egypt? How have these 'non-human actors' intersected with human social processes? What role has scientific knowledge played in all this? What. For Mitchell, is 'development'?
- Are Karl and others right that oil hinders democracy? If it does, then why? Are 'rentier state' and 'resource curse' theory convincing? If so, is this because of the internal properties of particular resources, or their functions and embeddedness within the global economy?
- What does the modern history of dam-building and its consequences reveal about the relations between development and destruction, and between state-building and marginalisation?
- What new light does consideration of water and energy resources cast on processes of state-building and development?
- What are the relations between water and energy within processes of state-building and development?

Preparation

For the seminar please read and come prepared to discuss all four core readings below. Use the questions above to guide your reading (the first four questions each relate directly to one of the texts). You should come prepared with your own notes on the readings, as well as answers to at least some of the above questions. No further reading is necessary for this seminar (indeed I recognise this may be difficult given the volume and density of these core readings) but in case you find time I provide just a few starters for possible further readings below.

Core readings

Andreas Malm (2013), 'The origins of fossil capital: from water to steam in the British cotton industry', *Historical Materialism*, Vol. 21, No. 1, pp. 15-68.

Timothy Mitchell (2002), *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press), ch. 1.

Terry Karl (1999), 'The perils of the petro-state: reflections on the paradox of plenty', *Journal of International Affairs*, Vol. 53, No. 1, pp. 31-48.

Brian Richter et al (2010), 'Lost in development's shadow: the downstream consequences of dams', *Water Alternatives*, Vol. 3, No. 2, pp. 14-42.

Further readings

Jessica Barnes (2009), 'Managing the waters of Ba'ath country: the politics of water scarcity in Syria', *Geopolitics*, Vol. 14, No. 3, pp. 510-30.

Jessica Barnes (2014), *Cultivating the Nile: The Everyday Politics of Water in Egypt* (Durham: Duke University Press).

Hazem Beblawi and Giacomo Luciani, eds. (1987), *The Rentier State* (London: Routledge).

Carl Death (2016), *The Green State in Africa* (New Haven: Yale University Press).

Jennifer Derr (2019), *The Lived Nile: Environment, Disease and Material Colonial Economy in Egypt* (Stanford: Stanford University Press).

Matthew Evenden (2015), *Allied Power: Mobilizing Hydro-Electricity During Canada's Second World War* (Toronto: Toronto University Press).

Toby Craig Jones (2010), *Desert Kingdom: How Oil and Water Forged Modern Saudi Arabia* (Harvard: Harvard University Press).

Philippe Le Billon (2001), 'The political ecology of war: natural resources and armed conflicts', *Political Geography*, Vol. 20, pp. 561-84.

Andreas Malm (2016), *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (London: Verso).

Patrick McCully (2001), *Silenced Rivers: The Ecology and Politics of Large Dams*, 2nd edn. (London: Zed).

Timothy Mitchell (2009), 'Carbon democracy', *Economy and Society*, Vol. 38, No. 3, pp. 399-432.

Timothy Mitchell (2011), *Carbon Democracy: Political Power in the Age of Oil* (London: Verso).

Francois Molle et al (2009), 'Hydraulic bureaucracies and the hydraulic mission: flows of water, flows of power', *Water Alternatives*, Vol. 2, No. 3, pp. 328-49.

Francois Molle (2009), ‘River basin planning and management: the social life of a concept’, *Geoforum*, Vol. 40, No. 3, pp. 484-94.

Nancy Lee Peluso and Peter Vandergeest (2011), ‘Political ecologies of war and forests: counterinsurgencies and the making of national natures’, *Annals of the Association of American Geographers*, Vol. 101, No. 3, pp. 587-608.

Michael Ross (2001), ‘Does oil hinder democracy?’ *World Politics*, Vol. 53, pp. 325-61.

Thayer Scudder (1993), ‘Development-induced relocation and refugee studies: 37 years of change and continuity among Zambia’s Gwembe Tonga’, *Journal of Refugee Studies*, Vol. 6, No. 2, pp. 123-52.

Jan Selby (2005) ‘Oil and water: the contrasting anatomies of resource conflicts’, *Government and Opposition*, Vol. 40, No. 2, pp. 200-224.

Jan Selby (2019), ‘Climate change and the Syrian civil war, part II: the Jazira’s agrarian crisis’, *Geoforum*, Vol. 101, pp. 260-74.

Jan Selby and Clemens Hoffmann (2014), ‘Beyond scarcity: rethinking water, climate change and conflict in the Sudans’, *Global Environmental Change*, Vol. 29, pp. 360-70.

Erik Swyngedouw (2015), *Liquid Power: Contested Hydro-Modernities in Twentieth-Century Spain* (Cambridge MA: MIT Press).

Harry Verhoeven (2015), *Water, Civilisation and Power in Sudan: The Political Economy of Military-Islamist State Building* (Cambridge: Cambridge University Press).

Robert Vitalis (2007), *America’s Kingdom: Mythmaking on the Saudi Oil Frontier* (Stanford: Stanford University Press).

Philippus Wester (2009), ‘Capturing the waters: the hydraulic mission in the Lerma-Chapala Basin, Mexico (1876-1976)’, *Water History*, Vol. 1, No. 1, pp. 9-29.

Louise Wise (2021), ‘The genocide-ecocide nexus in Sudan: violent “development” and the racial-spatial dynamics of (neo)colonial-capitalist extraction’, *Journal of Genocide Research*, Vol. 23, No. 2, pp. 189-211.

Karl Wittfogel (1957), *Oriental Despotism: A Comparative Study of Total Power* (New Haven: Yale University Press).

Donald Worster (1985), *Rivers of Empire: Water, Aridity and the Growth of the American West* (New York: Pantheon).

Megan Ybarra (2012), ‘Taming the jungle, saving the Maya forest: sedimented counter-insurgency practices in contemporary Guatemalan conservation’, *Journal of Peasant Studies*, Vol. 39, No. 2, pp. 479-502.

Week 5: The international political ecology of water, energy and carbon

In week 4 we will have focused mainly on 'internal' or 'domestic' processes of development and state-building, and the role of water and energy resources therein. But development and state-building are of course never discretely internal processes; they always unfold within (multiple) international and global contexts – and it is to these that we turn in week 5. To this end, we will both consider the 'international political ecology' of colonialism; and contemporary international patterns and flows of resources (and pollutants). Our main focus will be on the sharp international inequalities and hierarchies in consumption and production of water, energy and other resources (and pollutants), and on how these were established during the era of European colonialism, with continuities (though also some changes) through to today.

Questions

- How should we understand the political ecology of European colonialism? What impacts did colonialism have on patterns of resource use and exploitation? And how central or important were these patterns to colonialism itself?
- What are the main structural features of the contemporary 'virtual water' trade? What explains this pattern? Are liberal calls for increased trade in virtual water to be welcomed?
- Do consumption-based calculations of greenhouse gas emissions compel us to modify our understanding of the climate crisis and existing mitigation strategies?
- To what extent are contemporary patterns of 'ecologically unequal exchange' legacies of empire?

Preparation

For the seminar please read and come prepared to discuss all four core readings below. Use the questions above to guide your reading. You should come prepared with your own notes on the readings, as well as answers to at least some of the above questions.

Core readings

Amitav Ghosh (2016), *The Great Derangement: Climate Change and the Unthinkable* (Chicago: University of Chicago Press), part 2.

Hannah Holleman (2016), 'De-naturalizing ecological disaster: colonialism, racism and the global Dust Bowl of the 1930s', *Journal of Peasant Studies*, Vol. 44, No. 1, pp. 234-60.

C. Zhan-Ming and G.Q. Chen (2013), 'Virtual water accounting for the globalized world economy: national water footprint and international virtual water trade', *Ecological Indicators*, Vol. 28, pp. 145-8.

Steven Davis and Ken Caldeira (2010), 'Consumption-based accounting of CO_2 emissions', *Proceedings of the National Academy of Sciences*, Vol. 107, No. 12, pp. 5687-92.

Further readings

Tony Allan (2011), *Virtual Water: Tackling the Threat to the Planet's Most Precious Resource* (London: IB Tauris).

Jessica Barnes (2013), 'Water, water everywhere but not a drop to drink: the false promise of virtual water', *Critique of Anthropology*, Vol. 33, No. 4, pp. 371-89.

On Barak (2020), *Powering Empire: How Coal Made the Middle East and Sparked Global Carbonisation* (Oakland: University of California Press).

Alison Bashford and Joyce Chaplin (2016), *The New Worlds of Thomas Robert Malthus: Rereading the Principle of Population* (Princeton: Princeton University Press).

Simon Bromley (1991), *American Hegemony and World Oil: The Industry, the State System and the World Economy* (Pennsylvania State University Press).

Simon Bromley (2005), 'The United States and the control of world oil', *Government and Opposition*, Vol. 40, No. 2, pp. 225-55.

Jonathan Chenoweth et al (2014), 'Quantifying the human impact on water resources: a critical review of the water footprint concept', *Hydrological and Earth System Sciences*, Vol. 18, No. 6, pp. 2325-42.

Brett Clark and John Bellamy Foster, 'Ecological imperialism and the global metabolic rift: unequal exchange and the guano/nitrates trade', *International Journal of Comparative Sociology*, 50:3-4 (2009), 311-34.

Yolanda Collins (2021), 'Racing climate change in Guyana and Suriname', *Politics* (online first).

Nick Cullather (2010), *The Hungry World: America's Cold War Battle Against Poverty in Asia* (Harvard: Harvard University Press).

Gregory Cushman (2013), *Guano and the Opening of the Pacific World: A Global Ecological History* (Cambridge: Cambridge University Press).

Cara New Daggett (2019), *The Birth of Energy: Fossil Fuels, Thermodynamics and the Politics of Work* (Durham: Duke University Press).

Mike Davis (2002), *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London: Verso).

Hannah Holleman (2018), *Dust Bowls of Empire: Imperialism, Environmental Politics, and the Injustice of "Green" Capitalism* (New Haven: Yale University Press).

Tim Di Muzio (2015), *Carbon Capitalism: Energy, Social Reproduction and World Order* (London: Rowman and Littlefield).

David Gilmartin (1994), 'Scientific empire and imperial science: colonialism and irrigation technology in the Indus basin', *The Journal of Asian Studies*, Vol. 53, No. 4, pp. 1127-49.

Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860* (Cambridge: Cambridge University Press).

A.Y. Hoekstra and P.Q. Hung (2005), 'Globalisation of water resources: international virtual water flows in relation to crop trade', *Global Environmental Change*, Vol. 15, No. 1, pp. 45-56.

Alf Hornborg (2011), *Global Ecology and Unequal Exchange: Fetishism in a Zero-Sum World* (London: Routledge).

Alf Hornborg and Joan Martinez-Alier (2016), 'Ecologically unequal exchange and ecological debt', *Journal of Political Ecology*, Vol. 23, No. 1, pp. 328-33.

Andrew Jorgenson (2012), 'The sociology of ecologically unequal exchange and carbon dioxide emissions, 1960-2005', *Social Science Research*, Vol. 41, No. 2, pp. 242-52.

Simon Lewis and Mark Maslin (2015), 'Defining the Anthropocene', *Nature*, Vol. 519, pp. 171-80.

Simon Lewis and Mark Maslin (2018), *The Human Planet: How We Created the Anthropocene* (London: Penguin).

Timothy Mitchell (2009), 'Carbon democracy', *Economy and Society*, Vol. 38, No. 3, pp. 399-432.

Jason Moore (2000), 'Sugar and the expansion of the early modern world-economy: commodity frontiers, ecological transformation, and industrialization', *Review*, Vol. 23, No. 3, pp. 409-33.

Jason Moore (2015), *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso).

Glen Peters et al (2011), 'Growth in emission transfer via international trade from 1990 to 2008', *Proceedings of the National Academy of Sciences*, Vol. 108, No. 21, pp. 8903-8.

Kenneth Pomeranz (2000), *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press).

Christopher Sneddon (2015), *Concrete Revolution: Large Dams, Cold War Geopolitics, and the US Bureau of Reclamation* (Chicago: University of Chicago Press).

David Spiro (1999), *The Hidden Hand of American Hegemony: Petrodollar Recycling and International Markets* (Ithaca: Cornell University Press).

Robert Vitalis (2007), *America's Kingdom: Mythmaking on the Saudi Oil Frontier* (Stanford: Stanford University Press).

Robert Vitalis (2020), *Oilcraft: The Myths of Scarcity and Security That Haunt US Energy Policy* (Stanford: Stanford University Press), ch. 1.

R. Wang et al (2016), '(Virtual) water flows uphill toward money', *Environmental Science and Technology*, Vol. 50, No. 22, 12327.

Thomas Wiedmann et al (2015), 'The material footprint of nations', *Proceedings of the National Academy of Sciences*, Vol. 112, No. 20, pp. 6271-6.

World Economic Forum Water Initiative (2011), *Water Security: The Water-Food-Energy-Climate Nexus* (Washington DC: Island Press), introduction.

Week 6: The international climate regime

In week 6 we at last turn to contemporary climate change politics, starting at the international level. The aims of the seminar will be threefold: (1) to develop a basic descriptive understanding of the 2015 Paris agreement on climate change, including by analysing the Paris agreement text; (2) to develop a similar understanding of what was achieved (and what not achieved) at the 26th Conference of the Parties (COP26) held in Glasgow in November 2021; and (3) to consider what ambitions, interests, assumptions and power relations underpinned the Paris and Glasgow agreements, and that underpin the UN climate regime as a whole. We will not consider alternatives to Paris; we come to these in week 7.

Questions

- On the Paris agreement: What are the main elements of the Paris agreement? What does it require state parties to do? How does it differ from the 1997 Kyoto Protocol? What are its theoretical and other premises/assumptions about international cooperation, and about climate change?
- On what was agreed at COP26: In what respects does the Glasgow Climate Pact represent an advance over the 2015 Paris Agreement? How substantive or meaningful are the various pledges made at and in the run-up to COP26? Do these pledges suggest that the Paris Agreement is working?
- What are the main power relations that underpin and explain the current international climate regime?
- What are the strengths of this regime? What are its shortcomings?

Preparation

For the seminar please read a) the Paris agreement; b) the Glasgow Climate Pact; c) Carbon Brief's summary of what was agreed at Glasgow; and d) any additional contextualising material (either from the further readings or elsewhere) that helps you to understand Paris, Glasgow, and/or the international climate regime more broadly.

You should come prepared with your own notes on the pieces you have read, as well as answers to at least some of the above questions.

Core readings:

UNFCCC (2015), Adoption of the Paris Agreement, Report No. FCCC/CP/2015/L.9/Rev.1 (12 December), **not available through Leganto** but at: http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf. Please note that the actual text of Agreement starts on p. 21 of this document.

Glasgow Climate Pact (13 November 2021), **not available through Leganto** but at: https://unfccc.int/sites/default/files/resource/cma3_auv_2_cover%20decision.pdf

'COP26: key outcomes agreed at the UN climate talks in Glasgow', *Carbon Brief* (15 November 2021), **not available through Leganto** but at:

https://www.carbonbrief.org/cop26-key-outcomes-agreed-at-the-un-climate-talks-in-glasgow

Further readings

Jen Iris Allan (2021), 'Making the Paris Agreement: historical processes and drivers of institutional design;', *Political Studies* (online first).

Harriet Bulkeley et al. (2014), *Transnational Climate Change Governance* (Cambridge: Cambridge University Press).

David Ciplet et al. (2015), *Power in a Warming World: The New Global Politics of Climate Change and the Remaking of Environmental Inequality* (Cambridge: MIT Press).

'COP26: key outcomes for food, forests, land use and nature in Glasgow', *Carbon Brief* (17 November 2021), available at: https://www.carbonbrief.org/cop26-key-outcomes-for-food-forests-land-use-and-nature-in-glasgow

Robert Falkner (2005), 'American hegemony and the global environment', *International Studies Review*, Vol. 7, No. 4, pp. 585–99.

Robert Keohane and David Victor (2011), 'The regime complex for climate change', *Perspectives on Politics*, Vol. 9, No. 1, pp. 7-23

Robert Keohane and David Victor (2016), 'Cooperation and discord in global climate policy', *Nature Climate Change*, Vol. 6, pp. 570–5.

Taedong Lee and Chris Koski (2015), 'Multilevel governance and urban climate change mitigation', *Environment and Planning C: Government and Policy*, Vol. 33, No. 6, pp. 1501-17.

Jonathan Pickering et al. (2018), 'The impact of the US retreat from the Paris agreement: Kyoto revisited?', *Climate Policy*, Vol. 18, No. 7, pp. 818-27.

J. Timmons Roberts and Bradley C. Parks (2007), *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy* (Cambridge, MA: MIT Press).

J. Timmons Roberts (2011), 'Multipolarity and the new world (dis)order: US hegemonic decline and the transformation of the global climate regime', *Global Environmental Change*, Vol. 21, No. 3, pp. 776-84.

Jan Selby (2019), 'The Trump presidency, climate change, and the prospect of a disorderly energy transition', *Review of International Studies*, Vol. 45, No. 3, pp. 471-90.

UK Climate Change Committee, *COP26: Key Outcomes and Next Steps for the UK* (December 2021), available at: https://www.theccc.org.uk/publication/cop26-key-outcomes-and-next-steps-for-the-uk/

Week 7: Preventing dangerous climate change: revolution or reform?

The aim of this session is to explore, in broad terms, whether the current international approach to tackling climate change, as explored in week 6, is adequate or not. We will examine readings from a variety of perspectives - some reformist, which argue that climate change can be addressed through incremental reforms, and others revolutionary, which argue that much more fundamental economic and/or political transformations are required. While our main focus, as in week 6, will be climate change, we will also need to consider the implications of some of the other problems and crises considered in previous weeks, for assessing whether 'reform or revolution' is required.

Questions

- How do eco-modernists think we should address climate change? Are they right? What are the limitations or flaws in eco-modernist thinking?
- Are existing state commitments out of line with the internationally agreed Paris objectives? If so, does this means that 'developed country parties', in particular, need to considerably expand their mitigation efforts, as Anderson and colleagues argue?
- Will a 'supply-side' climate regime ultimately be needed, to ensure that fossil fuels are kept in the ground? Do Newell and Simms suggest a workable model for such a regime?
- How can feminist and especially eco-feminist analyses help us understand what is needed to prevent dangerous levels of climate change?
- Alternatively, is some form of Leninist response required to tackle climate change, as Malm argues?
- And more broadly, will the challenge of climate change demand and produce entirely new approaches to, and forms of, politics and economy? Does climate change require a 'transformation of the political', as Mann and Wainwright argue? Does it necessitate 'degrowth', as Kallis, Hickel and others argue? And more broadly: given that climate change is far from the only contemporary socio-ecological crisis, are reformist (and climate-centred) responses likely to be sufficient?

Preparation

For the seminar please read any 3 of the 5 core readings below, and come prepared with your own notes on those pieces that you have read, as well as answers to those questions above that relate to them. If you want and are able to read more than this - including any of the further readings below, or other readings that you find - that would be great; it is however not required or expected.

Core readings

J. Asafu-Adjaye et al (2015), *An Ecomodernist Manifesto* (Oakland: Breakthrough Institute), **not available through Leganto** but at: http://www.ecomodernism.org/manifesto-english

Kevin Anderson et al (2020), 'A factor of two: how the mitigation plans of "climate progressive" nations fall far short of Paris-compliant pathways', *Climate Policy*, Vol. 20, No. 10, pp. 1290-1304.

Peter Newell and Andrew Simms (2020), 'Towards a fossil fuel non-proliferation treaty', *Climate Policy*, Vol. 20, No. 8, pp. 1043-54.

Greta Gaard (2015), 'Ecofeminism and climate change', *Women's International Studies Forum*, Vol. 49, pp. 20-33.

Andreas Malm (2020), *Corona, Climate, Chronic Emergency: War Communism in the Twenty-First Century* (London: Verso), ch. 3.

Further readings

A Fair Shares Phase Out: A Civil Society Equity Review on an Equitable Global Phase Out of Fossil Fuels (November 2021), available at: http://civilsocietyreview.org/report2021/

Anil Agarwal and Sunita Narain, *Global Warming in an Unequal World: A Case of Environmental Colonialism* (New Delhi: Centre for Science and the Environment, 1991), available at: https://cdn.cseindia.org/userfiles/GlobalWarming%20Book.pdf

Elizabeth Allen et al (2019), 'Women's leadership in renewable transformation, energy justice and energy democracy: redistributing power', *Energy Research and Social Science*, Vol. 57.

Edward Barbier (2010), *A Global Green New Deal: Rethinking the Economic Recovery* (Cambridge: Cambridge University Press).

Edward Barbier (2010), 'How is the global green new deal going?' *Nature*, Vol. 464, pp. 832-3.

Aaron Bastani (2019), *Fully Automated Luxury Communism* (London: Verso).

Oliver Belcher et al (2020), 'Hidden carbon costs of "everywhere war": logistics, geopolitical ecology, and the carbon boot-print of the US military', *Transactions of the Institute of British Geographers*, Vol. 45, No. 1, pp. 65-80.

Felix Creutzig et al, 'Demand side solutions to climate change mitigation consistent with high levels of well-being', *Nature Climate Change* (2021).

Clive Hamilton (2016), 'The theodicy of the "good Anthropocene", *Environmental Humanities*, Vol. 7, No. 1, pp. 233-38.

Giorgos Kallis (2019), *Limits: Why Malthus was Wrong and Why Environmentalists Should Care* (Stanford: Stanford University Press).

Giorgos Kallis et al (2020), *The Case for Degrowth* (London: Wiley).

Giorgos Kallis and Sam Bliss (2019), 'Post-environmentalism: origins and evolution of a strange idea', *Journal of Political Ecology*, Vol. 26. No. 1.

Naomi Klein (2014), *This Changes Everything: Capitalism Versus the Climate* (New York: Simon and Schuster), introduction.

Bruno Latour, 'Fifty shades of green' (2015), *Environmental Humanities*, Vol. 7, pp. 219-25.

Bjorn Lomberg (2020), *False Alarm: How Climate Change Panic Costs us Trillions, Hurts the Poor, and Fails to Fix the Planet* (New York: Basic).

Christophe McGlade and Paul Ekins (2014), 'Un-burnable oil: an examination of oil resource utilisation in a decarbonised energy system', *Energy Policy*, Vol. 64, pp. 102–12.

Andreas Malm (2021), *How to Blow up a Pipeline: Learning to Fight in a World on Fire* (London: Verso)

Geoff Mann and Joel Wainwright (2013), 'Climate Leviathan', *Antipode*, Vol. 45, No. 1, pp. 1-22.

Geoff Mann and Joel Wainwright (2018), *Climate Leviathan: A Political Theory of Our Planetary Future* (London: Verso).

Peter Newell (2021), *Power Shift: The Global Political Economy of Energy Transitions* (Cambridge: Cambridge University Press).

Patricia E. Perkins (2019), 'Climate justice, commons, and degrowth', *Ecological Economics*, Vol. 160, pp 183-90.

Michael Shellenberger (2020), *Apocalypse Never: Why Environmental Alarmism Hurts Us All* (New York: Harper Collins).

Isak Stoddard et al (2021), 'Three decades of climate mitigation: why haven't we bent the global emissions curve?' *Annual Review of Environment and Resources*, Vol. 46, pp. 653-89.

Stockholm Environment Institute et al (2021), *The Production Gap: The Discrepancy between Countries' Planned Fossil Fuel Production and Global Production Levels Consistent with Limiting Warming to 1.5^{O}C or 2^{O}C*, available at: https://productiongap.org/

UNEP (2021), *Emissions Gap Report 2021* (Nairobi: UNEP), available at: https://www.unep.org/resources/emissions-gap-report-2021

Week 8: Instruments of transition or green windfalls? Efficiency, pricing, trading

Technological, financial and trading instruments are central to contemporary environmental sustainability including climate mitigation strategies. In week 8 we delve into some of the most important of them, in particular by asking whether they are really instruments of transition and sustainability, or not and above all avenues for profit-making. There is a huge literature on these topics, but here we concentrate on just four issues: the overall question of 'green grabbing'; the value of resource use 'efficiency' investments; carbon pricing and tax reform; and fossil fuel subsidy reform. We will consider both the economic and technical rationales for each instrument, and their politics or political economy, including the political obstacles to their implementation and their potential impacts (questions of 'just transition').

Questions

- What is 'green grabbing'? What causes or enables it? What types of resources does it apply to? Can it be avoided?
- Efficiency: do resource use efficiency measures actually decrease consumption? What are the 'Jevons Paradox' and 'rebound effect'? What accounts for them? If they are right, then what are the implications?
- Carbon pricing and tax reform: What is carbon pricing? How is it meant to work? What is its record in practice? Could sustained increases in the price of carbon drive rapid energy transition? Is tax reform a better option, as Green argues? Why has climate policy not yet been integrated into tax policies?
- Fossil fuel subsidy reform: What are fossil fuel subsidies? What are their impacts on the production and consumption of fossil fuels? How would reducing them affect carbon emissions? What are the main obstacles to fossil fuel subsidy reform? What has the impact of fossil fuel subsidy reform been in Haiti? What are the broader implications of this?

Preparation

For the seminar please read the four core readings below, and come prepared with your own notes on them, as well as answers to the questions above.

Core readings

James Fairhead et al (2012), 'Green grabbing: a new appropriation of nature', *Journal of Peasant Studies*, Vol. 39, No. 2, pp. 237-61.

John Bellamy Foster et al (2010), *The Ecological Rift: Capitalism's War on the Earth* (New York: Monthly Review Press), ch. 7.

Jessica Green (2021), 'Beyond carbon pricing: tax reform is climate policy', *Global Policy*, Vol. 12, No. 3, pp. 372-9.

Keston Perry (2020), 'For politics, people or the planet? The political economy of fossil fuel reform, energy dependence and climate policy in Haiti', *Energy Research and Social Science*, Vol. 63.

Further readings

Gavin Bridge et al (2020), ‘Pluralizing and problematizing carbon finance’, *Progress in Human Geography*, Vol. 44, No. 4, pp. 724-42.

Robert Brulle (2018), ‘The climate lobby: a sectoral analysis of lobbying spending on climate change in the USA, 2000 to 2016’, *Climatic Change*, Vol. 149, pp. 289-303.

Connor Cavanagh and Tor Benjaminsen (2014), ‘Virtual nature, violent accumulation: the “spectacular failure” of carbon offsetting at a Ugandan national park’, *Geoforum*, Vol. 56, pp. 55-65.

Brett Christophers (2021), ‘Fossilised capital: price and profit in the energy transition’, *New Political Economy*, Vol. 27, No. 1, pp. 146-59.

Brett Christophers (2021), ‘The end of carbon capitalism (as we knew it)’, *Critical Historical Studies*, Vol. 8, No. 2.

Alexander Dunlap and James Fairhead (2014), ‘The militarisation and marketisation of nature: an alternative lens to “climate conflict”’, *Geopolitics*, Vol. 19, No. 4, pp. 937-61.

Robert Fletcher (2012), 'Capitalizing on chaos: climate change and disaster capitalism', *Ephemera*, Vol. 12, No. 1/2, pp. 97-112.

McKenzie Funk (2014), *Windfall: The Booming Business of Global Warming* (New York: Penguin).

Jessica Green (2021), ‘Does carbon pricing reduce emissions? A review of ex-post analyses’, *Environmental Research Letters*, Vol. 16.

Jessica Green (2021), ‘Follow the money: how reforming tax and trade rules can fight climate change’, *Foreign Affairs* (12 November).

Jessica Green et al (2021), ‘Transition, hedge or resist? Understanding political and economic behavior towards decarbonisation in the oil and gas industry’, *Review of International Political Economy*, online first.

Yoon-Hee Ha and John Byrne (2019), ‘The rise and fall of green growth: Korea’s energy sector experiment and its lessons for sustainable energy policy’, *WIRESs Energy and Environment*, Vol. 8, No. 4.

William Stanley Jevons (1865), *The Coal Question: An Inquiry Concerning the Progress of the Nation, and the Probable Exhaustion of our Coal-Mines* (London: Macmillan and Co).

Jessica Jewell et al (2018), ‘Limited emission reductions from fuel subsidy removal except in energy-exporting regions’, *Nature*, Vol. 554, pp. 229-33.

Erick Lachapelle et al, ‘The political economy of decarbonisation: from green energy “race” to green “division of labour”’, *New Political Economy*, Vol. 22, No. 3, pp. 311-27.

Larry Lohmann (2005), ‘Marketing and making carbon dumps: commodification, calculation and counterfactuals in climate change mitigation’ *Science as Culture*, Vol. 14, No. 3, pp. 203-35.

Peter Newell (2021), *Power Shift: The Global Political Economy of Energy Transitions* (Cambridge: Cambridge University Press).

Peter Newell and Matthew Paterson (2010), *Climate Capitalism: Global Warming and the Transformation of the Global Economy* (Cambridge: Cambridge University Press).

Matthew Paterson (2012), ‘Who and what are carbon markets for? Politics and the development of climate policy’, *Climate Policy*, Vol. 12, No. 1, pp. 82-97.

Jun Rentschler and Morgan Bazilian (2017), ‘Reforming fossil fuel subsidies: drivers, barriers and the state of progress’, *Climate Policy*, Vol. 17, No. 7, pp. 891-914.

Daniel Rosenbloom and Adrian Rinscheid (2020), ‘Deliberate decline: an emerging frontier for the study and practice of decarbonisation’, *WIREs Climate Change*, Vol. 11, No. 6.

Elizabeth Shove (2018), ‘What is wrong with energy efficiency?’ *Building Research and Information*, Vol. 46, No. 7, pp. 779-89.

Jakob Skovgaard and Harro van Asselt (2019), ‘The politics of fossil fuel subsidies and their reform: implications for climate change mitigation’, *WIRES Climate Change*, Vol. 10, No. 4.

Steve Sorrell et al (2009), ‘Empirical estimates of the direct rebound effect: a review’, *Energy Policy*, Vol. 37, No. 4, pp. 1356-71.

Diana Stuart et al (2017), ‘Climate change and the Polanyian counter-movement: carbon markets or degrowth?’ *New Political Economy*, Vol. 29, No. 1, pp. 89-102.

Irja Vormedal et al (2020), ‘Big oil and climate regulation: business as usual or a changing business?’ *Global Environmental Politics*, Vol. 20, No. 4, pp. 143-66.

Robert Watt (2021), ‘The fantasy of carbon offsetting’, *Environmental Politics*, Vol. 30, No. 7, pp. 1069-88.

Week 9: Environmental scarcity, migration and conflict

Seminar 9 of the module will consider the links between environmental shocks and changes (or what is often called 'environmental scarcity') on the one hand, and migration and conflict on the other. There are some diametrically opposed views on this subject. One body of work, most usually labelled Malthusian, claims that there are important such links, while others, especially political ecologists, have been highly critical or sceptical, and have offered alternative explanations. This debate predates contemporary concern with climate change, but currently focuses principally on the latter. In this seminar we will consider the range of conflicting interpretations, both in relation to climate change and to specific resources; and we will consider the issues both in theoretical terms, and with regard to specific cases, above all the claimed role of climate change and drought in the Syrian civil war.

Questions

- What is Homer-Dixon's model of how environmental change can cause acute conflict? Are you convinced by it? If not, what are its shortcomings?
- How does Le Billon's political ecology-informed interpretation differ from Homer-Dixon's? Which of the two do you find more credible?
- Was climate change a factor in the start of the Syrian civil war in 2011?
- Is climate change likely to spur mass migration in the coming decades?
- How profound are the conflict and security implications of climate change-induced environmental changes? Are environmental changes attributable to climate change already affecting patterns of violence, conflict and instability? How might it do so in future? Through what processes or causal pathways is climate change likely to cause conflict? Does it make sense to think of climate change as a 'threat multiplier'? Is climate change a national and international security issue?
- Is the 'securitisation' of climate change and sensible or not? In what ways, if at all, are 'climate migration' and 'climate conflict' discourse politically problematic?

Preparation

For the seminar please read four of the six core readings below, and come prepared with your own notes on those pieces you have read, as well as answers to the questions relating to them above. Ideally, you should select and read the articles in pairs. The first two are classic general statements about the links between environment, resources and security, from two different perspectives. The next two are about the implications of climate change specifically, focusing especially on the question of 'climate migration'. And the last two are two different interpretations of the role of climate change in the Syrian civil war. Ideally you should read two of these pairs of texts.

Core readings

Thomas Homer-Dixon (1991), 'On the threshold: environmental changes as causes of acute conflict', *International Security*, Vol. 16, No. 2, pp. 76-116.

Philippe Le Billon (2001), 'The political ecology of war: natural resources and armed conflicts', *Political Geography*, Vol. 20, No. 5, pp. 561-84.

Viviane Clement et al (2021), *Groundswell Part II: Acting on Internal Climate Migration* (World Bank), overview (pp. xix-xxxi). The report is **not available through Leganto** but at: https://openknowledge.worldbank.org/handle/10986/36248

Betsy Hartmann (2010), 'Rethinking climate refugees and climate conflict: rhetoric, reality, and the politics of policy discourse', *Journal of International Development*, Vol. 22, No. 2, pp. 233-46.

Colin Kelley et al (2015), 'Climate change in the fertile crescent and implications of the recent Syrian drought', *Proceedings of the National Academy of Sciences*, Vol. 112, No. 11, pp. 3241-46.

Jan Selby (2019), 'Climate change and the Syrian civil war, part II: the Jazira's agrarian crisis', *Geoforum*, Vol. 101, pp. 260-74.

Further readings

Andrew Baldwin (2013), 'Racialisation and the figure of the climate-change migrant', *Environment and Planning A*, Vol. 45, No. 6, pp. 1474-90.

Tor Benjaminsen et al (2012), 'Does climate change drive land-use conflicts in the Sahel?' *Journal of Peace Research*, Vol. 49, No. 1, pp. 97-111.

Giovanni Bettini (2013), 'Climate barbarians at the gate? A critique of apocalyptic narratives on "climate refugees"', *Geoforum*, Vol. 45, pp. 63-72.

Richard Black et al (2011), 'Migration as adaptation', *Nature*, Vol. 478, pp. 447-9.

Marshall Burke et al (2009), 'Warming increases the risk of civil war in Africa', *Proceedings of the National Academy of Sciences*, Vol. 106, No. 49, pp. 20670-4.

Matt Carr (2010), 'Slouching towards dystopia: the new military futurism', *Race and Class*, Vol. 51, No. 3, pp. 13-32.

Center for Naval Analysis Military Advisory Board (2007), *National Security and the Threat of Climate Change* (Alexandria, VA: CNA Corporation).

Simon Dalby (2009), *Security and Environmental Change* (Cambridge: Polity).

Gabrielle Daoust and Jan Selby (2022), 'Understanding the politics of climate security policy discourse: the case of the Lake Chad basin', *Geopolitics* (forthcoming).

Jared Diamond (2005), *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking Adult).

Carol Farbotko and Heather Lazrus (2012), 'The first climate refugees? Contesting global narratives of climate change in Tuvalu', *Global Environmental Change*, Vol. 22, No. 2, pp. 382-90.

Peter Gleick (1993), 'Water and conflict: fresh water resources and international security', *International Security*, Vol. 18, No. 1 (1993), pp. 79-112.

Betsy Hartmann (2014), 'Converging on disaster: climate security and the Malthusian anticipatory regime for Africa', *Geopolitics*, Vol. 19, No. 4, pp. 757-83.

Zeke Hausfather and Glen Peters (2020), 'Emissions – the "business as usual" story is misleading', *Nature*, Vol. 577, pp. 618-20.

Thomas Homer-Dixon, (1999) *Environment, Scarcity and Violence* (Princeton: Princeton University Press).

Robert Kaplan (1994), 'The coming anarchy: how scarcity, crime, overpopulation, tribalism and disease are rapidly destroying the social fabric of our planet', *The Atlantic*.

Benedikt Korf (2011), 'The imaginative geographies of climate wars', *Procedia: Social and Behavioral Sciences*, Vol. 14, pp. 35-9.

Philippe Le Billon (2012), *Wars of Plunder: Conflict, Profits and the Politics of Resources* (London: Hurst and Co).

Miriam Lowi (1995), *Water and Power: The Politics of a Scarce Resource in the Jordan River Basin*, 2nd edn. (Cambridge: Cambridge University Press).

Abrahm Lustgarten (2020), 'The great climate migration', *New York Times* (23 July).

Géraud Magrin (2016), 'The disappearance of Lake Chad: history of a myth', *Journal of Political Ecology,* Vol. 23, No. 1, pp. 204-22.

Thomas Malthus (1798), *An Essay on the Principle of Population*.

Jeffrey Mazo (2010), *Climate Conflict: How Global Warming Threatens Security and What To Do About It* (London: Routledge).

Todd Miller et al (2021), *Global Climate Wall: How the World's Wealthiest Nations Prioritise Borders over Climate Action* (Transnational Institute), available at: https://www.tni.org/en/publication/global-climate-wall

Nancy Lee Peluso and Michael Watts, eds. (2001), *Violent Environments* (Ithaca: Cornell University Press).

Rafael Reuvney (2007), 'Climate change-induced migration and violent conflict', *Political Geography*, Vol. 26, No. 6, pp. 656-73.

Kanta Rigaud et al (2018), *Groundswell: Preparing for Internal Climate Migration* (World Bank), available at: https://openknowledge.worldbank.org/handle/10986/29461

Peter Schwartz and Doug Randall (2003), *An Abrupt Climate Change Scenario and its Implications for United States National Security* (Pasadena: California Institute of Technology).

Jan Selby (2003), *Water, Power and Politics in the Middle East: The Other Israeli-Palestinian Conflict* (London: IB Tauris).

Jan Selby (2005) 'Oil and water: the contrasting anatomies of resource conflicts', *Government and Opposition*, Vol. 40, No. 2, pp. 200-224.

Jan Selby (2014), 'Positivist climate conflict research: a critique', *Geopolitics*, Vol. 19, No. 4, pp. 829-56.

Jan Selby et al (2017), 'Climate change and the Syrian civil war revisited', *Political Geography*, Vol. 60, pp. 232-44.

Jan Selby et al (2020), 'On blaming climate change for the Syrian civil war', *Middle East Report*, No. 296.

Jan Selby and Gabrielle Daoust (2021), *Rapid Evidence Assessment on the Impacts of Climate Change on Migration Patterns* (London: UK Foreign, Commonwealth and Development Office), available at: https://www.gov.uk/research-for-development-outputs/rapid-evidence-assessment-on-the-impacts-of-climate-change-on-migration-patterns

Jan Selby and Clemens Hoffmann (2014), 'Beyond scarcity: rethinking water, climate change and conflict in the Sudans', *Global Environmental Change*, Vol. 29, pp. 360-70.

Vandana Shiva (2002), *Water Wars: Privatization, Pollution and Profit* (London: Pluto).

Julian Simon (1996), *The Ultimate Resource 2* (Princeton: Princeton University Press).

Erik Swyngedouw, 'Apocalypse now! Fear and doomsday pleasures', *Capitalism Nature Socialism*, Vol. 24, No. 1 (2013), pp. 9-18.

Maria Julia Trombetta, 'Environmental security and climate change: analysing the discourse', *Cambridge Review of International Affairs*, Vol. 21, No. 4 (2009), pp. 585-602.

Matthew Turner (2004), 'Political ecology and the moral dimensions of "resource conflicts": the case of farmer-herder conflicts in the Sahel', *Political Geography*, Vol. 23, No. 7, pp. 863-89.

US National Intelligence Council (2021), *Climate Change and International Responses Increasing Challenges to US National Security Through 2040*, available at: https://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf

Harry Verhoeven (2011), 'Climate change, conflict and development in Sudan: Global neo-Malthusian narratives and local power struggles', *Development and Change*, Vol. 42, No. 3, pp. 679-707.

Janani Vivekananda et al (2019), *Shoring Up Stability: Addressing Climate and Fragility Risks in the Lake Chad Region* (Berlin: adelphi).

Aaron Wolf (1998), 'Conflict and cooperation along international waterways', *Water Policy*, Vol. 1, No. 2, pp. 251-65.

Chi Xu et al (2020), 'Future of the human climate niche', *Proceedings of the National Academy of Sciences*, Vol. 117, No. 21, pp. 11350-55.

Mark Zeitoun and Jeroen Warner (2006), 'Hydro-hegemony: a framework for analysis of transboundary water conflicts', *Water Policy*, Vol. 8, No. 5, pp. 435-60.

Week 10: Adaptation, mitigation and the coming world order

In the final week of the module, we will extend our discussion of the political and conflict implications of climate change into rather different territory: not by considering the direct or indirect environmental implications of climate change (as in week 9), but by considering the implications of responses to it, associated with both adaptation and mitigation. There are lots of specific ways in which adaptation and mitigation technologies, policies and initiatives may have political and conflict effects, but here we will concentrate on just three of them: what Paprocki calls 'anticipatory ruination' and others have called 'maladaptation'; the impacts of extractivism for the green economy; and the potential impacts of geoengineering. We will briefly consider these issues in turn before closing (and linking back to week 7) by considering Mann and Wainwright's model of possible climate politics futures – and reflecting on which of these is most likely and most desirable.

Questions

- Maladaptation: What are the implications of Paprocki's analysis of 'anticipatory ruination' in Bangladesh? How serious are the risks of maladaptation to climate change? What explains and causes maladaptation? (How) can it be avoided?
- Renewables and extractivism: What new resources will be needed for low-carbon energy production and a low-carbon global economy? What new political and political-economic dynamics will mass transition to these new resources create? What new tensions and conflicts will accompany, and are accompanying, them? Is the example of Bolivia a foretaste of what is to come, or an exception that tells us little about future dynamics?
- Geoengineering: What is geoengineering? How technically feasible is it? Are you convinced by Surprise's account of the political interests behind it? Or is it, as for instance Horton and Reynolds argue, a workable 'Plan B' in the event that emissions are not reduced and climate change accelerates (or even to address overshot)? How might geoengineering be (globally) governed? Around what principles? What conflicts and vulnerabilities would it generate? And at the broadest level: is it a good idea?
- Which of Mann and Wainwright's possible climate politics futures is most likely? Which is preferable? Or perhaps some other future is needed instead?

Preparation

For the seminar please read at least all four of the core readings below, and come prepared with your own notes on them, as well as answers to the questions above.

Core readings

Kasia Paprocki (2019), 'All that is solid melts into the bay: anticipatory ruination and climate change adaptation', *Antipode*, Vol. 51, No. 1, pp. 295-315.

Daniela Sanchez-Lopez (2019), 'Sustainable governance of strategic minerals: post-neoliberalism and lithium in Bolivia', *Environment: Science and Policy for Sustainable Development*, Vol. 61, No. 1, pp. 18-30.

Kevin Surprise (2020), ‘Geopolitical ecology of solar engineering: from a “logic of multilateralism” to logics of militarization’, *Journal of Political Ecology*, Vol. 27, No. 1.

Geoff Mann and Joel Wainwright (2013), ‘Climate Leviathan’, *Antipode*, Vol. 45, No. 1, pp. 1-22.

Further readings

Elizabeth Allen et al (2019), ‘Women’s leadership in renewable transformation, energy justice and energy democracy: redistributing power’, *Energy Research and Social Science*, Vol. 57.

Peter Beinart (2019), ‘White nationalists discover the environment’, *The Atlantic* (5 August).

Patrick Bigger and Benjamin Neimark (2017), ‘Weaponizing nature: the geopolitical ecology of the US Navy’s biofuels program’, *Political Geography*, Vol. 60, pp. 13-22.

Mathieu Blondeel et al (2021), ‘The geopolitics of energy system transformation: a review’, *Geography Compass*, Vol. 15, No. 7.

Anthony Burke et al (2016), ‘Planet politics: a manifesto from the end of IR’, *Millennium*, Vol. 44, No. 3, pp. 499-523.

Jeff Colgan et al (2021), ‘Asset revaluation and the existential politics of climate change’, *International Organization*, Vol. 75, No. 2, pp. 586-610.

Gabrielle Daoust and Jan Selby (2022), ‘Understanding the politics of climate security policy discourse: the case of the Lake Chad basin’, *Geopolitics* (forthcoming).

Alexander Dunlap and James Fairhead (2014), ‘The militarisation and marketisation of nature: an alternative lens to “climate conflict”’, *Geopolitics*, Vol. 19, No. 4, pp. 937-61.

Siri Eriksen et al (2015), ‘Reframing adaptation: the political nature of climate change adaptation’, *Global Environmental Change*, Vol. 35, pp. 523-33.

Siri Eriksen et al (2021), 'Adaptation interventions and their effect on vulnerability in developing countries: help, hindrance or irrelevance?' *World Development*, Vol. 141, 105383.

James Fairhead et al (2012), ‘Green grabbing: a new appropriation of nature’, *Journal of Peasant Studies*, Vol. 39, No. 2, pp. 237-61.

Robert Fletcher (2012), 'Capitalizing on chaos: climate change and disaster capitalism', *Ephemera*, Vol. 12, No. 1/2, pp. 97-112.

Stephen Grant et al (2015), ‘Climatization: a critical perspective on framing disasters as climate change events’, *Climate Risk Management*, Vol. 10, pp. 27-34.

Betsy Hartmann (2010), ‘Rethinking climate refugees and climate conflict: rhetoric, reality, and the politics of policy discourse’, *Journal of International Development*, Vol. 22, No. 2, pp. 233-46.

Betsy Hartmann (2020), ‘The ecofascists’, *Columbia Journalism Review* (Spring).

Joshua Horton and Jesse Reynolds (2016), ‘The international politics of climate engineering: a review and prospectus for International Relations’, *International Studies Review*, Vol. 18, No. 3, pp. 438-61.

Debra Javeline (2014), ‘The most important topic political scientists are not studying: adapting to climate change’, *Perspectives on Politics*, Vol. 12, No. 2, pp. 420-34.

Philip Johnstone and Andrew Stirling (2016), *Submerged Politics of UK Nuclear Power: Is Trident Influencing UK Nuclear Policy?* (NGLI Spokesman).

Naomi Klein (2014), *This Changes Everything: Capitalism Versus the Climate* (New York: Simon and Schuster).

J. Lee et al (2020), ‘Reviewing the material and metal security of low-carbon energy transitions’, *Renewable and Sustainable Energy Reviews*, Vol. 124.

Matthew Lockwood (2018), ‘Right-wing populism and the climate change agenda: exploring the linkages’, *Environmental Politics*, Vol. 27, No. 4, pp. 712-32.

A.K. Magnan et al (2016), 'Addressing the risk of maladaptation to climate change', *WIREs Climate Change*, Vol. 7, No. 5, pp. 646-65.

Andreas Malm (2021), *How to Blow up a Pipeline: Learning to Fight in a World on Fire* (London: Verso).

Andreas Malm and the Zetkin Collective (2021), *White Skin, Black Fuel: On the Danger of Fossil Fascism* (London: Verso).

Geoff Mann and Joel Wainwright (2013), ‘Climate Leviathan’, *Antipode*, Vol. 45, No. 1, pp. 1-22.

Geoff Mann and Joel Wainwright (2018), *Climate Leviathan: A Political Theory of Our Planetary Future* (London: Verso).

Aaron McCright and Riley Dunlap (2011), ‘Cool dudes: the denial of climate change among conservative white males in the United States’, *Global Environmental Change*, Vol. 21, No. 4, pp. 1163-72.

Naho Mirumachi et al (2020), ‘Unveiling the security concerns of low carbon development: climate security analysis of the undesirable and unintended effects of mitigation and adaptation’, *Climate and Development*, Vol. 12, No. 2, pp. 97-109.

Peter Newell (2021), *Power Shift: The Global Political Economy of Energy Transitions* (Cambridge: Cambridge University Press).

Thomas Oatley (2021), 'Energy and the complexity of international order', *Global Environmental Politics*, Vol. 21, No. 4, pp. 20-41.

Indra Overland (2019), 'The geopolitics of renewable energy: debunking four emerging myths', *Energy Research and Social Science*, Vol. 49, pp. 36-40.

Kasia Paprocki (2018), 'Threatening dystopias: development and adaptation regimes in Bangladesh', *Annals of the American Association of Geographers*, Vol. 108, No. 4, pp. 955-73.

Matthew Paterson (2021), 'Climate change and international political economy: between collapse and transformation', *Review of International Political Economy*, Vol. 28, No. 2, pp. 394-405.

Jan Selby (2019), 'The Trump presidency, climate change, and the prospect of a disorderly energy transition', *Review of International Studies*, Vol. 45, No. 3, pp. 471-90.

US National Intelligence Council (2021), *Climate Change and International Responses Increasing Challenges to US National Security Through 2040*, available at: https://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf

Robert Vitalis (2020), *Oilcraft: The Myths of Scarcity and Security That Haunt US Energy Policy* (Stanford: Stanford University Press), ch. 1.

Sophie Webber (2016), 'Climate change adaptation as a growing development priority: towards critical adaptation scholarship', *Geography Compass*, Vol. 10, No. 10, pp. 401-13.