



S F S THE SCHOOL
FOR FIELD STUDIES

Political and Social Dimensions of Conservation

SFS 3081

Syllabus
4 credits

The School for Field Studies (SFS)
Center for Climate Studies (CCS)
Puerto Natales, Chile

This syllabus may develop or change over time based on local conditions, learning opportunities, and faculty expertise. Course content may vary from semester to semester.

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COURSE CONTENT SUBJECT TO CHANGE

Please note that this is a copy of a recent syllabus. A final syllabus will be provided to students on the first day of academic programming.

SFS programs are different from other travel or study abroad programs. Each iteration of a program is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- Changes in access to or expiration or change in terms of permits to the highly regulated and sensitive environments in which we work;
- Changes in social/political conditions or tenuous weather situations/natural disasters may require changes to sites or plans, often with little notice;
- Some aspects of programs depend on the current faculty team as well as the goodwill and generosity of individuals, communities, and institutions which lend support.

Please be advised that these or other variables may require changes before or during the program. Part of the SFS experience is adapting to changing conditions and overcoming the obstacles that they may present. In other words, this is a field program, and the field can change.

Course Overview

This is a transformative moment in Chilean conservation governance. This moment has been gestated through different social, political, and economic events and has transcended all the components of the ecosystem and the efforts for its sustainable management. During 2021 and 2022, a Constitutional Convention was created, voted by the Chilean population. The Constitutional Convention of Chile has developed a project for a new constitution, which includes a serious focus on biological conservation, for example, recognizing nature as a subject of law. On September 4, 2022, the plebiscite was held, which rejected the proposal for an Ecological Constitution. Despite these results, the social movements in Chile continue to develop actions to highlight the value of conservation. Currently, Chile is in a new process of writing a new constitution under a participation framework regulated by a conservative lens, which for example through corporations seeks to increase legal powers to develop activities near the State Protected Wilderness Areas (SNASPE). The political-institutional system seeks public-private alliances that reduce the decision-making power of grassroots social organizations.

In Chilean Patagonia, this situation is reflected to the same extent, with its own nuances and peculiarities. Patagonia has more than 50% of its territory under conservation, with more than 40% of marine waters and fjords under conservation, and between them, there is a high level of connectivity. However, Patagonia suffers from past pressures due to the extractive model inherited from the colony and strengthened during the military dictatorship. It is also threatened by the loss of habitat due to real estate development, tourism, and infrastructure for connectivity, as well as contamination of fresh and marine waters as a result of salmon aquaculture, and the introduction of invasive species.

This course presents the Triple Crisis defined by the UN President in December 2022. In this case, the emphasis will be on how climate change and pollution create positive feedback to the loss of biodiversity, which ultimately reduces the well-being of humans and non-humans. Examples will be given at the international level and from Patagonia, especially during the field excursions planned for this semester. Additionally, students will be introduced to the Kunming-Montreal Global Biodiversity Framework (GBF) which was adopted in December 2022. This historic Framework “sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050”. Among the Framework’s key elements are 4 goals for 2050 and 23 targets for 2030, and Target 3 will be mostly used along the course, because includes three different ecosystems, an ecosystem services framework, and polycentric governance for tackling the bio(cultural) conservation.

Learning Objectives

The main learning objectives of the course are:

1. Analyze the triple planetary crisis (pollution, climate change, and biodiversity loss) based on world trends, the international political arena, and different case studies from Patagonia.
2. Identify and understand the political processes necessary for the conservation of biodiversity and/or cultures in Patagonia, with emphasis on the Chilean system.
3. Connect historical land use practices, indigenous territories, natural boundaries, and political events to current conservation approaches in the region.
4. Investigate challenges and opportunities in terrestrial, coastal-marine, and inland water environments including balancing the provision of ecosystem services, integration of traditional and indigenous knowledge, and promoting equitably governed systems of protected areas and other effective area-based conservation measures.

Assessment

The evaluation breakdown for the course is as follows:

Assessment Item	Value (%)
Socioecological Report	20
Field Exercises (2)	20
Field Notebook	15
Quizzes	15
Integrated Discussion	10
In-class activities	10
Participation	10
TOTAL	100

Socioecological Report (20%)

This report will allow students to acquire different scientific skills: gathering information from various sources, presenting secondary information, identifying an on-site observation topic, and presenting information from secondary sources along with direct field observation. All of this is within the socioecological systems paradigm. Students will be divided into groups. Each group will oversee a field excursion, preparing a presentation for their peers before the excursion. During the field trip, they will observe some of the described elements, and subsequently, after the trip, they will present their findings. These activities focus on desk work, fieldwork, and communication. Specifically, during the fieldwork, students will be able to apply the socioecological paradigm following guidelines provided in class and progressively integrating themes from the Conservation classes.

Field Exercises (20%)

FEX 1: Water quality monitoring in Estero Natales (10%)

This field activity aims to familiarize students with a field methodology for in situ measurement of water quality parameters. The activity will take place within a single hydrological system, covering the description from the upstream waters to the confluence point with another aquatic ecosystem. Seven sampling points will be established. Students will be divided into groups, with each group responsible for monitoring a specific sampling point. During the fieldwork, discussions will be facilitated regarding watershed aspects that could explain the water quality of Estero Natales. It is important to note that this FEX is the outcome of a previously conducted DR, and the collected data will serve as a foundation to further develop this research project. The project will provide support to local decision-makers.

FEX 2: Social science methodologies (10%)

This FEX will have students learn how to evaluate written content develop interview protocols and use those protocols to conduct interviews. These methods will be useful in querying and understanding the main reasons for conservation in Patagonia. This FEX has two parts.

The first part is textual analysis, which is necessary for developing an interview protocol. In this part, students will review the public-facing information about different conservation and tourism initiatives in Patagonia. They will use these sources to develop a series of interview protocols that examine the main reasons for conserving and developing tourism in Patagonia.

The second is conducting a series of interviews with conservation and tourism managers in Patagonia. The students will apply the protocol they developed in the first part of the FEX. Through this process, they can learn about the advantages provided by interviews in obtaining information that cannot be had through other data collection methods.

Field Notebook (20%)

Each location we travel to provides a context for observation and learning. As we progress through the semester, the class themes will become easier to see in the landscape, and the things we see in a new location deepen the understandings we made in prior spaces. A field notebook is a physical means of capturing the observations and insights that you gain in the field over the course of the semester.

You should make personal observations in every field outing – apart from any formal academic activities (e.g., FEX, field lectures) that take place there. These personal observations can form the basis of entries written up in a designated field notebook. You can choose how you wish to develop your field notebook entries to best match your own observational and writing style. NOTE: the field notebook is a shared assignment across the core courses. It will be handed in twice during the semester: before the Midsemester Break and after the Final Exam. Keep in mind the following grading rubric:

- **Completeness (2%):** Your field notebook must have at least one entry per day in the field, and you must have at least one entry for each class at each hand-in. In addition, each individual entry must include the location, the date and time, the course to which the entry is directed, and – of course – the observation you made at the indicated date and time.
- **Coherence (5%):** Each entry should be coherent in the way it presents information. This includes legibility, clear argumentation, a connection of ideas, and concept development. If figures and drawings are included, coherence would mean placing them in their observed context and indicating how they connect with (or stand independent from) any accompanying writing.
- **Correctness (8%):** Each entry should connect with topics covered during lectures, discussions, readings, etc. In addition, the specifics contained in the entry must be factually correct. There is no requirement for formal citations.
- **Connection (5%):** Each entry should connect the field observation with something external to the location – ideally connecting to **themes** being built and discussed across your field notebook entries. Examples of themes: history of fire, the effects of wind, the impacts of conservation initiatives, and even comparisons with familiar landscapes back home. The key is to expand your entries beyond just the lectures or activities of the associated field trip and write your entries with the idea of using them to explore concepts and ideas throughout the semester, instead of having a set of disconnected entries.

Quizzes (15%)

Three short quizzes in the Center will be used to evaluate the field lectures.

Integrated Discussion (10%)

To review and develop our understandings of the topics explored in the field, we will have **two** integrated discussions. Since all field locations provide context for observation and learning, this activity will take advantage of your Field Notebook entries and class notes to integrate knowledge. For each integrated discussion, the class will be broken into four (4) groups, with each group being in charge of connecting specific themes with specific field locations. Each group will use an online platform to make a presentation and guide a discussion of their peers.

Keep in mind the following grading rubric:

- **Digital platform use (3%):** Each group must select an online platform to create their presentation and discussion guide. Your use of this platform should best display the knowledge gained in field locations. This platform should display content in an interactive way and must be

capable of offline sharing.

- **Connecting field locations to course contents (3%):** Each group will be evaluated on how they connect their assigned field locations with course content on the platform. This includes coherency of the written content.
- **Presentation and discussion (4%):** Each group member will be evaluated on the presentation of their materials to their peers, their ability to lead and moderate a discussion that covers the topics they were assigned, and their level of engagement with the discussions of other groups.

In-class activities (10%)

All students should be part of activities held in classes or field trips. Some of these activities are student led-discussion, presentation of assigned papers, finding information relative to different topics, and filling a shared database for the entire course, observing specific elements of the human landscape, among others.

Participation (10%)

Everybody should be prepared for each academic session. This implies reading the materials for each session with enough detail to be able to ask relevant questions; and to participate in analytical discussions about the key issues. Active participation during classes, discussions, assignments, and hikes is expected.

Grading Scheme

A	95.00 - 100.00%	B+	86.00 - 89.99%	C+	76.00 - 79.99%	D	60.00 - 69.99%
A-	90.00 - 94.99%	B	83.00 - 85.99%	C	73.00 - 75.99%	F	0.00 - 59.99%
		B-	80.00 - 82.99%	C-	70.00 - 72.99%		

General Reminders

Honor Code/Plagiarism - SFS places high expectations on their students and we hold students accountable for their behaviors. SFS students are held to the honor code below. SFS has a zero-tolerance policy towards student cheating, plagiarism, data falsification, and any other form of dishonest academic and/or research practice or behavior. Using the ideas or material of others without giving due credit is cheating and will not be tolerated. Any SFS student found to have engaged in or facilitated academic and/or research dishonesty will receive no credit (0%) for that activity.

"SFS does not tolerate cheating or plagiarism in any form. While participating in an SFS program, students are expected to refrain from cheating, plagiarism and any other behavior which would result in a student receiving credit for work which they did not accomplish on their own. Students are expected to report any instance of cheating or plagiarism by others."

Deadlines - Deadlines for written and oral assignments are instated to promote equity among students and to allow faculty ample time to review and return assignments before others are due. As such, deadlines are firm; extensions will only be considered under extreme circumstances. Late assignments will incur a penalty of 10% of your grade for each day you are late. After two days past the deadline, assignments will no longer be accepted. Assignments will be handed back to students after a one-week grading period. Grade corrections for any assessment item should be requested in writing at least 24 hours after assignments are returned. No corrections will be considered afterwards.

Content Statement - Every student comes to SFS with unique life experiences, which contribute to the way various information is processed. Some of the content in this course may be intellectually or emotionally challenging but has been intentionally selected to achieve certain learning goals and/or showcase the complexity of many modern issues. If you anticipate a challenge engaging with a certain topic or find that you are struggling with certain discussions, we encourage you to talk about it with faculty, friends, family, the HWM, or access available mental health resources.

Participation - Since we offer a program that is likely more intensive than you might be used to at your home institution, missing even one lecture can have a proportionally greater effect on your final grade simply because there is little room to make up for lost time. Participation in all components of the course is mandatory, it is important that you are prompt for all activities, bring the necessary equipment for field exercises and class activities, and simply get involved.

Course Content

Type: D: Discussion, FEX: Field exercise, FL: Field Lecture, GL: Guest Lecture, L: Lecture, O: Orientation
Readings in bold are required; “Sess”: Class session, where 1 class session ≈ 50 minutes

Code	Title and outline	Type	Sess	Readings
CONS01	Course Introduction: Commitment to diversity, inclusion, and equity – making the classroom a place that enhances all students’ learning. (Shared class session with ESCS and PE)	O	0.5	
One-day Expedition to EXPLORA Torres del Paine				
CONS02	What is the triple planetary crisis and why is biological conservation an objective to be achieved? Present and explain the triple planetary crisis to students with and field activity based on observation.	D	1.0	UN Climate Change, 2022
TOPIC 1: THE SOCIOECOLOGICAL PARADIGM				
CONS03	Climate change governance: Mitigation, adaptation, and international agreements; analysis of how climate change has been included in the new Chilean Constitution.	L, D	1.5	Arriagada et al. 2018; Sapiains et al. 2021
	Socioecological report: explanation of the criteria to use in the report, clarify rubric and Lecturer interaction.	L	1.0	
	FEX1: explanation of the activities, group creation, and delivery of rubric	L	0.5	
	Socioecological systems affected by extractivism in Patagonia; Presenting the socioecological paradigm and the extractive industries impacts and how to study its effects on biodiversity and livelihood loss in Patagonia	L, D	1.0	
One-day Expedition to Monumento Natural Cueva del Milodón				
CONS04	Chilean Political System	FL	1.5	

Code	Title and outline	Type	Sess	Readings
	Current political system in Chile, main political features that enhance the neoliberal model.			
CONS05	Skills workshop: improving skills for Field Exercises and class activities related to political and social aspects of conservation.		4	
Multi-day Expedition to Punta Arenas				
CONS06	Conservation in urban areas The case of Urban wetlands in Chile and the different governance models that promote conservation, access, and equitability	FL	1.5	
CONS07	International efforts for conservation, legal impacts promoting conservation, and tourism limits for conserving Patagonia: Observation and identification of Torres del Paine Biosphere Reserve, the impacts of land reform in Chile and how current tourism system promotes or not conservation at the local scale, and how these elements can be part of the Post-2020 Global Biodiversity Framework.	FL	1.5	UICN, 2022
CONS08	Patagonia the iconic landscape: The wilderness concept, conservation, and preservation at the end of the world. Discussion on the field	FL	1.5	Cronon, 1995; Cronon, 1996
CONS09	Introduction to the Patagonian conservation model: terrestrial state protected areas in Chilean Patagonia by its characterization, evolution, and management.	FL	1.5	Tacon et al. 2021
TOPIC 2: FRESHWATER				
CONS10	Structure and functions of wetlands Climatic, hydrological, soil components and processes that provide ecosystem services and nature contribution to social well-being (Shared with ES&CS, PE classes)	L, D	2.0	
CONS11	FEX01: Measuring the Water Quality along Estero Natales	FEX	2.0	
Multi-day Expedition to Rupestre Patagonia y Pingo Salvaje				
CONS12	Conservation at different scales and status Conservation at different biodiversity scales and at different legal status, like Protected Areas and OEMC: Conservation initiatives dedicated to some of this and private conservation initiatives in Patagonia	FL	1.5	
CONS13	Valuating nature: How are ecosystems valued for the multiple services they provide human communities? What happens when human populations are far from ecosystems providing	FL, D	1.5	Iriarte, González, and Nahuelhual 2010; Martínez Pastur et al. 2016; Costanza et al.

Code	Title and outline	Type	Sess	Readings
	services? How are cultural services valued compared to provisioning or regulating services?			2017; Brain et al. 2020
CONS14	Sustainable management and conservation of wetlands in Torres del Paine Biosphere Reserve: wetland and ecosystem services identification in the landscape, and application of rapid ecological assessment.	FL	1.5	CBD Technical Series No. 22
CONS15	Integrated discussion: A student-led exploration combining themes and locations visited during the first half of the course.	D	2.0	
Multi-day Expedition to El Calafate				
CONS16	Socioecological perception of glaciers: perception as a cultural action to conserve	FL, D	1.0	Stewart et al. 2016
CONS17	Biocultural conservation in Patagonia: role of habitat- habits and in-habitants for conserving biodiversity and culture	FL	1.0	Rozzi 2013
Multi-day Expedition to Parque Nacional Torres del Paine				
CONS18	Cultural Ecosystem Service provided by glaciers in Patagonia and Chile: main ecosystem services provided by glaciers, glacier dynamics, and the economic activities that can affect ES.	FL	1.0	
CONS19	History of Torres del Paine National: Park creation, management priorities, conservation issues; climate change impacts and issue prioritization in the park	FL	2.0	
CONS20	Scaling environmental governance: International governance, Patagonian regional policies, land tenure, and territories; local regulations and conservation.	FL	1.0	Petit et al. 2018; OECD/ECLAC 2016
TOPIC 3: ICE				
CONS21	Glacier conservation in Patagonia and Chile: main elements for glacier conservation from Chilean Laws and international methodology like the Open Standards for the Practice of Conservation.	L	1.0	
	Local and sustainable entrepreneurs: efforts to reduce the current threats to conservation (Ecovasos Dorotea or Compost Coiron)	GL	1.0	
	FEX 2 PART A: Preparing the interview to main stakeholders of tourism, public and private conservation, research on conservation.	FEX	2.0	
One-day Expedition to Vega Castillo				
CONS22	Ramsar Convention: wetland definition, convention goals, Ramsar in Chile and Patagonia.	FL	1.0	
TOPIC 4: FIRE				

Code	Title and outline	Type	Sess	Readings
CONS23	Chilean Environmental History: the main eras of political and social change, and their effects on the Chilean environment institution.	L	1.0	Maillet and Carrasco 2021
	Fire causes and impacts on biodiversity in Patagonia: integrating impacts of fire on the visited landscapes with the sociopolitical Chilean system, and the socioecological relevance of wetlands and the iconic National Park Torres del Paine	L, D	1.0	
	Environmental protection in Chile and the paradoxical Political Ecology of Resource Extraction in Patagonia: environmental protection in Chile and how it is effective enough for controlling extractives' industries impacts on the environment, economy, and livelihoods, multi-stakeholder power dynamics by revising case studies in Patagonia.	D	2.0	Montory et al. 2010; Inostroza, Zasada, and König 2016; Silva 2016; Bustos, Folchi, and Fragkou 2017; Blair, Bosak, and Gale 2019; Alfonso et al. 2020; Anbleyth-Evans et al. 2020
Multi-day Expedition to Tierra del Fuego				
CONS23	FEX 2 PART B: Application of the interview to the stakeholders from Pali Aike National Park	FEX	0.5	
CONS24	Conservation at different biodiversity scales and at different legal statuses, like Protected Areas and OEMC initiatives in Patagonia and they can contribute to the GFB and Target 3 (30x30)	FL, GL	1.0	
	FEX 2 PART B: Application of the interview to the stakeholders from Karukinka in two areas, conservation, and research	FEX2	1.0	
CONS25	Private initiatives for fauna conservation: purposes and differences between keystone, umbrella, and emblematical species. Conservation initiatives dedicated to some of this and private conservation.	GL	1.0	
	FEX 2 PART B: Application of the interview to the stakeholders from Pingüino Rey related to private conservation	FEX	0.5	
CONS26	Cultural conservation of indigenous communities in Tierra del Fuego: how indigenous communities of Tierra del Fuego are maintaining their culture, which is their conservation mechanism.	GL	1.0	
	FEX 2 PART B: Application of the interview to the stakeholders from indigenous communities related to cultural conservation	FEX	0.5	
CONS27	International and Chilean initiatives for wetlands conservation: different initiatives that Chile is implementing from the Wetland National Inventory, Ramsar Sites, Urban Wetland law and	FL	1.0	

Code	Title and outline	Type	Sess	Readings
	implications on Global Biodiversity Goal 2030. The goal is to frame them in SES.			
CONS28	Skills workshop: improving skills for Field Exercises and class activities related to political and social aspects of conservation.	L, D	4.0	
TOPIC 5: CLIMATE CHANGE				
CONS29	Impacts of climate change on social and economic conservation dimensions in Chile: Climate change governance discourse analysis: Exercise tracing the discourse of climate change in multiple outlets including media, academia, and social media.	L, D D	2.0 2.0	Methmann 2010; DW 2018; E. Figueroa 2019; DW 2020;
CONS30	Day to finish up end-of-semester assignments	D	1.0	
CONS31	Integrated discussion Semester review and discussion of the many ways in which the lecture themes tie together.	D	2.0	
Total number of class sessions			60	

Reading List

Readings in bold are required

- Alfonso, María Belén, Facundo Scordo, Carina Seitz, Gian Marco Mavo Manstretta, Ana Carolina Ronda, Andrés Hugo Arias, Juan Pablo Tomba, Leonel Ignacio Silva, Gerardo Miguel Eduardo Perillo, and María Cintia Piccolo. 2020. "First Evidence of Microplastics in Nine Lakes across Patagonia (South America)." *Science of The Total Environment* 733 (September): 139385. <https://doi.org/10.1016/j.scitotenv.2020.139385>.
- Anacona, Pablo Irribaren, Josie Kinney, Marius Schaefer, Stephan Harrison, Ryan Wilson, Alexis Segovia, Bruno Mazzorana, et al. 2018. "Glacier Protection Laws: Potential Conflicts in Managing Glacial Hazards and Adapting to Climate Change." *Ambio* 47 (8): 835–45. <https://doi.org/10.1007/s13280-018-1043-x>.
- Anbleyth-Evans, Jeremy, Francisco Araos Leiva, Francisco Ther Rios, Ricardo Segovia Cortés, Vreni Häussermann, and Carolina Aguirre-Munoz. 2020. "Toward Marine Democracy in Chile: Examining Aquaculture Ecological Impacts through Common Property Local Ecological Knowledge." *Marine Policy* 113 (March): 103690. <https://doi.org/10.1016/j.marpol.2019.103690>.
- Araos, Ana, Claudia Cerda, Oscar Skewes, Gustavo Cruz, Patricio Tapia, and Fernando Baeriswyl. 2020. "Estimated Economic Impacts of Seven Invasive Alien Species in Chile." *Human Dimensions of Wildlife* 25 (4): 398–403. <https://doi.org/10.1080/10871209.2020.1740837>.
- Armesto, Juan J., Daniela Manushevich, Alejandra Mora, Cecilia Smith-Ramirez, Ricardo Rozzi, Ana M. Abarzúa, and Pablo A. Marquet. 2010. "From the Holocene to the Anthropocene: A Historical Framework for Land Cover Change in Southwestern South America in the Past 15,000 Years." *Land Use Policy* 27 (2): 148–60. <https://doi.org/10.1016/j.landusepol.2009.07.006>.
- Arriagada, Rodrigo, Paulina Aldunce, Gustavo Blanco, Cecilia Ibarra, Pilar Moraga, Laura Nahuelhual, Raúl O’Ryan, Anahí Urquiza, and Laura Gallardo. 2018. "Climate Change Governance in the Anthropocene: Emergence of Polycentrism in Chile." Edited by Anne R. Kapuscinski, Kim A. Locke,**

- and Jennie Stephens. *Elementa: Science of the Anthropocene* 6 (January): 68. <https://doi.org/10.1525/elementa.329>.
- Astorga, Anna, Paulo Moreno, and Brian Reid. 2018. "Watersheds and Trees Fall Together: An Analysis of Intact Forested Watersheds in Southern Patagonia (41–56° S)." *Forests* 9 (7): 385. <https://doi.org/10.3390/f9070385>.
- Bennett, Nathan J., Robin Roth, Sarah C. Klain, Kai M. A. Chan, Douglas A. Clark, Georgina Cullman, Graham Epstein, et al. 2017. "Mainstreaming the Social Sciences in Conservation." *Conservation Biology* 31 (1): 56–66. <https://doi.org/10.1111/cobi.12788>.
- Berasaluce, Maite, Pablo Díaz-Sieffer, Paulina Rodríguez-Díaz, Marcelo Mena-Carrasco, José Tomás Ibarra, Juan L. Celis-Diez, and Pedro Mondaca. 2021. "Social-Environmental Conflicts in Chile: Is There Any Potential for an Ecological Constitution?" *Sustainability* 13 (22): 12701. <https://doi.org/10.3390/su132212701>.
- Blair, Heidi, Keith Bosak, and Trace Gale. 2019. "Protected Areas, Tourism, and Rural Transition in Aysén, Chile." *Sustainability* 11 (24): 7087. <https://doi.org/10.3390/su11247087>.
- Borgias, Sophia L. 2018. "'Subsidizing the State': The Political Ecology and Legal Geography of Social Movements in Chilean Water Governance." *Geoforum* 95 (October): 87–101. <https://doi.org/10.1016/j.geoforum.2018.06.017>.
- Brain, M.J., L. Nahuelhual, S. Gelcich, and F. Bozzeda. 2020.** "Marine Conservation May Not Deliver Ecosystem Services and Benefits to All: Insights from Chilean Patagonia." *Ecosystem Services* 45 (October): 101170. <https://doi.org/10.1016/j.ecoser.2020.101170>.
- Bronfman, Nicolás C., Pamela C. Cisternas, Esperanza López-Vázquez, and Luis A. Cifuentes. 2016. "Trust and Risk Perception of Natural Hazards: Implications for Risk Preparedness in Chile." *Natural Hazards* 81 (1): 307–27. <https://doi.org/10.1007/s11069-015-2080-4>.
- Bronfman, Nicolás C., Pamela C. Cisternas, Paula B. Repetto, Javiera V. Castañeda, and Eliana Guic. 2020. "Understanding the Relationship Between Direct Experience and Risk Perception of Natural Hazards." *Risk Analysis* 40 (10): 2057–70. <https://doi.org/10.1111/risa.13526>.
- Bustos, Beatriz, Mauricio Folchi, and Maria Fragkou. 2017. "Coal Mining on Pastureland in Southern Chile; Challenging Recognition and Participation as Guarantees for Environmental Justice." *Geoforum* 84 (August): 292–304. <https://doi.org/10.1016/j.geoforum.2015.12.012>.
- Cid Aguayo, Beatriz Eugenia, and José Barriga. 2016. "Behind Certification and Regulatory Processes: Contributions to a Political History of the Chilean Salmon Farming." *Global Environmental Change* 39 (July): 81–90. <https://doi.org/10.1016/j.gloenvcha.2016.04.005>.
- Costanza, Robert, Rudolf de Groot, Leon Braat, Ida Kubiszewski, Lorenzo Fioramonti, Paul Sutton, Steve Farber, and Monica Grasso. 2017.** "Twenty Years of Ecosystem Services: How Far Have We Come and How Far Do We Still Need to Go?" *Ecosystem Services* 28 (December): 1–16. <https://doi.org/10.1016/j.ecoser.2017.09.008>.
- Cronon, William. 1995.** "The Trouble with Wilderness; or, Getting Back to the Wrong Nature." In *Uncommon Ground: Rethinking the Human Place in Nature*, 69–90. New York: New York: W. W. Norton & Co.,.
- Cronon, William. 1996. "The Trouble With Wilderness, A Response." *Environmental History* 1 (1).
- DW, Planet A, dir. 2018.** *Climate (In) Justice*. <https://www.youtube.com/watch?v=pHRu0VV-Dbw&t=2s>. — — —, dir. 2020. *Why It's Hard to Care about Climate Change*.

<https://www.youtube.com/watch?v=QK7g6pgaC7I>.

Fernández Génova, Macarena, Germaynee Vela-Ruiz Figueroa, Fiorella Repetto-Giavelli, Juliana Torres Mendoza, Nicolás Recabarren Traub, Inti González Ruiz, and Romina López Márquez. 2020. "Local Stakeholders' Perception as a Contribution to the Identification of Negative Impacts on Protected Areas: A Case Study of Torres Del Paine National Park." In *Socio-Ecological Studies in Natural Protected Areas*, edited by Alfredo Ortega-Rubio, 215–42. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-47264-1_12.

Figueroa, Alejandra, Manuel Contreras, and Bárbara Saavedra. 2018. "Wetlands of Chile: Biodiversity, Endemism, and Conservation Challenges." In *The Wetland Book*, edited by C. Max Finlayson, G. Randy Milton, R. Crawford Prentice, and Nick C. Davidson, 823–38. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-007-4001-3_247.

Figueroa, Ester, dir. 2019. *Climate Change Is a Gender Issue*. https://www.youtube.com/watch?v=zCZY_2xFLfc.

Gitay, H., Finlayson, C.M. & Davidson, N.C. 2011. A Framework for assessing the vulnerability of wetlands to climate change. Ramsar Technical Report No. 5/CBD Technical Series No. 57. Ramsar Convention Secretariat, Gland, Switzerland & Secretariat of the Convention on Biological Diversity, Montreal, Canada.

Inostroza, Luis, Ingo Zasada, and Hannes J. König. 2016. "Last of the Wild Revisited: Assessing Spatial Patterns of Human Impact on Landscapes in Southern Patagonia, Chile." *Regional Environmental Change* 16 (7): 2071–85. <https://doi.org/10.1007/s10113-016-0935-1>.

Iriarte, Jose Luis, Humberto E. González, and Laura Nahuelhual. 2010. "Patagonian Fjord Ecosystems in Southern Chile as a Highly Vulnerable Region: Problems and Needs." *AMBIO* 39 (7): 463–66. <https://doi.org/10.1007/s13280-010-0049-9>.

Iturraspe, Rodolfo. 2016. "Patagonian Peatlands (Argentina and Chile)." In *The Wetland Book*, edited by C. Max Finlayson, G. Randy Milton, R. Crawford Prentice, and Nick C. Davidson, 1–10. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-007-6173-5_230-1.

León, Carolina A., Marvin Gabriel, Carolina Rodríguez, Rodolfo Iturraspe, Adolfin Savoretti, Verónica Pancotto, Alfonso Benítez-Mora, et al. 2021. "Peatlands of Southern South America: A Review." *Mires and Peat* 27 (03): 1–29. <https://doi.org/10.19189/MaP.2020.SNPG.StA.2021>.

Maillet, Antoine, and Sebastián Carrasco. 2021. "Between Environmental Subsystem Change and Extractive Regime Resilience." In *Andean States and the Resource Curse*, by Gerardo Damonte and Bettina Schorr, 1st ed., 158–76. London: Routledge. <https://doi.org/10.4324/9781003179559-11>.

Márquez, Ítalo, and Guido Staub. 2019. "Mapping of Reforestation Progress in Chilean National Park Torres Del Paine." *Proceedings of the ICA* 2 (July): 1–5. <https://doi.org/10.5194/ica-proc-2-83-2019>.

Martínez Pastur, Guillermo, Pablo L. Peri, María V. Lencinas, Marina García-Llorente, and Berta Martín-López. 2016. "Spatial Patterns of Cultural Ecosystem Services Provision in Southern Patagonia." *Landscape Ecology* 31 (2): 383–99. <https://doi.org/10.1007/s10980-015-0254-9>.

Martínez-Harms, María José, Juan J. Armesto, Juan Carlos Castilla, Anna Astorga, José Aylwin, Alejandro H. Buschmann, Victoria Castro, et al. 2022. "A Systematic Evidence Map of Conservation Knowledge in Chilean Patagonia." *Conservation Science and Practice* 4 (1). <https://doi.org/10.1111/csp2.575>.

Methmann, Chris Paul. 2010. "'Climate Protection' as Empty Signifier: A Discourse Theoretical Perspective on Climate Mainstreaming in World Politics." *Millennium: Journal of International Studies*

- 39 (2): 345–72. <https://doi.org/10.1177/0305829810383606>.
- Montory, Mónica, Evelyn Habit, Pilar Fernandez, Joan O. Grimalt, and Ricardo Barra. 2010. “PCBs and PBDEs in Wild Chinook Salmon (*Oncorhynchus Tshawytscha*) in the Northern Patagonia, Chile.” *Chemosphere* 78 (10): 1193–99. <https://doi.org/10.1016/j.chemosphere.2009.12.072>.
- Nahuelhual, Laura, G. Saavedra, F. Henríquez, F. Benra, X. Vergara, C. Perugache, and F. Hasen. 2018. “Opportunities and Limits to Ecosystem Services Governance in Developing Countries and Indigenous Territories: The Case of Water Supply in Southern Chile.” *Environmental Science & Policy* 86 (August): 11–18. <https://doi.org/10.1016/j.envsci.2018.04.012>.
- Nahuelhual, Laura, Gonzalo Saavedra, María Amalia Mellado, Ximena Vergara Vergara, and Tomás Vallejos. 2020. “A Social-Ecological Trap Perspective to Explain the Emergence and Persistence of Illegal Fishing in Small-Scale Fisheries.” *Maritime Studies* 19 (1): 105–17. <https://doi.org/10.1007/s40152-019-00154-1>.
- OECD/ECLAC. 2016. *(OECD Environmental Performance Reviews: Chile 2016*. OECD Environmental Performance Reviews. Paris: OECD Publishing.
- Petit, Ignacio J., Ana N. Campoy, Maria-Jose Hevia, Carlos F. Gaymer, and Francisco A. Squeo. 2018.** “Protected Areas in Chile: Are We Managing Them?” *Revista Chilena de Historia Natural* 91 (1): 1. <https://doi.org/10.1186/s40693-018-0071-z>.
- Quiñones, Renato A., Marcelo Fuentes, Rodrigo M. Montes, Doris Soto, and Jorge León-Muñoz. 2019. “Environmental Issues in Chilean Salmon Farming: A Review.” *Reviews in Aquaculture* 11 (2): 375–402. <https://doi.org/10.1111/raq.12337>.
- Rodriguez, Emiliano. 2022. “Chile Proposes New Constitution Steeped in Science.” *Nature*.
- Romero, Francisca, Angelo Espinoza, Nicole Sallaberry-Pincheira, and Constanza Napolitano. 2019. “A Five-Year Retrospective Study on Patterns of Casuistry and Insights on the Current Status of Wildlife Rescue and Rehabilitation Centers in Chile.” *Revista Chilena de Historia Natural* 92 (1): 6. <https://doi.org/10.1186/s40693-019-0086-0>.
- Rozzi, Ricardo. 2013.** “Biocultural Ethics: From Biocultural Homogenization Toward Biocultural Conservation.” In *Linking Ecology and Ethics for a Changing World*, edited by Ricardo Rozzi, S.T.A. Pickett, Clare Palmer, Juan J. Armesto, and J. Baird Callicott, 9–32. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-007-7470-4_2.
- Rozzi, Ricardo, Juan J. Armesto, Julio R. Gutiérrez, Francisca Massardo, Gene E. Likens, Christopher B. Anderson, Alexandria Poole, et al. 2012. “Integrating Ecology and Environmental Ethics: Earth Stewardship in the Southern End of the Americas.” *BioScience* 62 (3): 226–36. <https://doi.org/10.1525/bio.2012.62.3.4>.
- Salgado, Hugo, Jennifer Bailey, Rachel Tiller, and John Ellis. 2015. “Stakeholder Perceptions of the Impacts from Salmon Aquaculture in the Chilean Patagonia.” *Ocean & Coastal Management* 118 (December): 189–204. <https://doi.org/10.1016/j.ocecoaman.2015.07.016>.
- Sapiains, Rodolfo, Cecilia Ibarra, Guadalupe Jiménez, Raúl O’Ryan, Gustavo Blanco, Pilar Moraga, and Maisa Rojas. 2021.** “Exploring the Contours of Climate Governance: An Interdisciplinary Systematic Literature Review from a Southern Perspective.” *Environmental Policy and Governance* 31 (1): 46–59. <https://doi.org/10.1002/eet.1912>.
- Silva, Eduardo. 2016. “Patagonia, without Dams! Lessons of a David vs. Goliath Campaign.” *The Extractive Industries and Society* 3 (4): 947–57. <https://doi.org/10.1016/j.exis.2016.10.004>.

Stewart, Emma J., Jude Wilson, Stephen Espiner, Heather Purdie, Chris Lemieux, and Jackie Dawson. 2016. "Implications of Climate Change for Glacier Tourism." *Tourism Geographies* 18 (4): 377–98. <https://doi.org/10.1080/14616688.2016.1198416>.

UN Climate Change. 2022. What is the triple planetary crisis? Available on: <https://unfccc.int/blog/what-is-the-triple-planetary-crisis>

Valdés-Pineda, Rodrigo, Roberto Pizarro, Pablo García-Chevesich, Juan B. Valdés, Claudio Olivares, Mauricio Vera, Francisco Balocchi, et al. 2014. "Water Governance in Chile: Availability, Management and Climate Change." *Journal of Hydrology* 519 (November): 2538–67. <https://doi.org/10.1016/j.jhydrol.2014.04.016>.

Zagarola, Jean-Paul A., Christopher B. Anderson, and James R. Veteto. 2014. "Perceiving Patagonia: An Assessment of Social Values and Perspectives Regarding Watershed Ecosystem Services and Management in Southern South America." *Environmental Management* 53 (4): 769–82. <https://doi.org/10.1007/s00267-014-0237-7>.