On the Scenic Beauty of Santiago: What Does the Intergovernmental Panel on Climate Change (IPCC) Know About Aesthetics?

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Explorations

Buildings in Santiago de Chile. Rjcastillo. **Wikimedia Commons**. CC BY-SA 4.0.

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An *Ecosystem Services* article from 2017 warned that under current trends in urbanization, rising temperatures, and wildfires, Santiago de Chile could suffer an alarming 18 to 28 percent drop in scenic beauty.[1] This statistic may surprise readers. Some may find it odd, even inappropriate, to focus on aesthetics in climate-change studies. Isn't "beauty" ultimately subjective, a matter of personal taste? Doesn't aesthetics clash with scientific standards of objectivity, as Patrick Brown states?[2] Others will readily acknowledge that aesthetics is deeply connected to the climate crisis, arguing that the drive to protect and restore the environment is partly fueled by a desire to preserve nature's beauty. Yet they might balk at the attempt to assign a percentage value to this.

We believe this finding, however one views it, demands attention. The *Ecosystem Services* article has been cited in over sixty other publications spanning the Americas, Europe, and China. Perhaps the most important of these is the IPCC's most recent ***Impacts, Adaptation, and Vulnerability*** assessment report, published by its Working Group II (henceforth referred to as the "WGII Report").[3] The IPCC's assessment reports are the most comprehensive and authoritative stock take of the scientific community's understanding of climate change, serving as crucial references for policymakers, journalists, and educators. But while philosophical work on the epistemology of climate

models, for instance, **has featured** in some of its other reports, little work from the humanities is included in discussions about the aesthetic impacts of climate change.



The IPCC's Sixth Assessment Report Trailer. Intergovernmental Panel on Climate Change.

On 11 April 2024, participants of a Munich-based workshop titled "**Defining and Using Aesthetics in the Environmental Humanities: An Interdisciplinary Experiment**" were invited to discuss the use of aesthetics in the WGII Report. In this post, we share some reflections from that discussion, with the aim of raising awareness, and hope that the next report, due to appear by 2029, will feature a more robust understanding of the aesthetic impacts of climate change.

To begin, it is worth noting the sheer variety of ways in which the WGII Report employs the term "aesthetics." It is considered a "benefit," a "resource," an "aspect," a "service," and a "value" at different points in the report.[4] In addition, it is used as an adverb, as in "aesthetically pleasing";[5] and as a property, as in the "aesthetics" of a waterfront, landscape, or beach destination.[6] Moreover, it serves as an adjective for "improvements" or "changes," or as something separate that can be "improved" itself.[7] Despite this variety, all of the uses only relate to landscapes and ecosystems in their entirety, thereby ignoring the aesthetic qualities of specific flora, fauna, or landscape features. This list also represents nearly all the instances we found of the term being

used: it appears on only two dozen of the WGII Report's 3000-plus pages. Crucially, the term is also not mentioned in the glossary, barring one exception, which we will revisit later. In sum, even if a researcher or policymaker came across a passage about aesthetic impact, what can we expect them to take away from it if the usage of "aesthetics" is so varied?

In contrast to the WGII Report as a whole, the *Ecosystem Services* article on Santiago – with its finding included as a "projected impact" in the WGII Report – *does* offer a consistent definition. Its authors equate environmental aesthetics with scenic beauty, describing the latter as "the aesthetic values derived from the appreciation of natural scenery and scenic views."[8] This definition is based on a 2004 paper on residential property values in Auckland, New Zealand, which compared the literal dollar value of a house to the number and breadth of its ocean views.[9] By adopting such a reductionist understanding, the Santiago researchers—deliberately or not—sidestep a long-standing and complex debate on the nature of beauty, particularly the question of whether it is a subjective or an objective quality, a discussion that stretches back to the eighteenth century in Western philosophy.

Instead of complexity, the Santiago researchers valued measurability in their definition of beauty. With the link between unobstructed views and beauty established, they could calculate the total scenic beauty of over a hundred locations in and around Santiago using a 3D model of the region. Factoring in the average values for the heights of buildings in different locations, an algorithm could determine the number of visible locations from any given point. The higher the number, the better, with lines of sight to conservation areas, forests, or water bodies being weighted stronger due to their superior scenic beauty. By calculating how the number and quality of sight lines changes under different scenarios of rising temperatures and urbanization, and comparing it to a current-day model, the researchers were able to calculate the predicted percentage change in scenic beauty.

Making beauty measurable in this way counters the widespread notion that aesthetics is subjective—that "beauty is in the eye of the beholder." This also allows scenic beauty to be modeled alongside other factors, in this case the amount of carbon stored in trees and the yields of vineyards. Indeed, rather than a more nuanced understanding of beauty, the Santiago researchers suggest "more powerful tools" (i.e., more sophisticated models) and "finer parametrization" (i.e., more factors considered) as

improvements for their study.[10] It is worth noting here that philosophers have cautioned against confusing quantifiability with objectivity, especially when it comes to aesthetics: As Marcia Eaton states, "objectivity is not a matter of reducing things to numeric formulas; it is a matter of grounding one's claims in evidence in such a way that interpersonal agreement or disagreement is meaningful."[11] The desire for an objective understanding of how climate change affects aesthetic value does not necessitate the quantification of beauty. Furthermore, it is not evident that the Santiago paper's methodology adequately captures how climate change might bring about aesthetic loss. In particular, its emphasis on the picturesque, which aligns with a formalist environmental aesthetic (i.e., the perceptible properties—lines, shapes, color, composition—of landscape are the focus of aesthetic engagement), is too narrow when one considers the myriad ways we aesthetically appreciate nature. Not only do we use a range of senses to appreciate different properties of nature, but our responses also extend beyond mere pleasure.

This restrictive definition of aesthetics, if applied to the WGII Report's understanding of aesthetics as a whole, would also render the report internally inconsistent: Its narrowness grates against their seemingly more complex notion of "aesthetic experience" as invoked in the IPCC report's glossary, under the entry for "Ecosystem Services." The latter is defined as referring to the ecological processes and functions with "monetary or non-monetary value to individuals or society at large."[12] Such ecological functions include "aesthetic experiences, recreation, spiritual enrichment, social relations, cultural identity, knowledge and other values. . .which support physical and mental health and human well-being."[13] While currently left unexplored in its reports, it is clear that the IPCC recognizes ecosystem services and its relation to aesthetic value as extending beyond scenic views, to encompass a variety of human experiences and cultural dimensions that contribute to quality of life. We hope readers can agree that the definition of scenic beauty and its relationship to aesthetic value given in the Santiago paper is ultimately unsatisfying.

Highlighting the IPCC report's deficiencies, its problematic assumptions, and neglect of diverse perspectives on aesthetics is important. But, as humanities scholars, we must also turn our critical gaze inward. To what extent are we complicit in these oversights? If the IPCC earnestly sought advice on better integrating humanities research on the aesthetic dimensions of climate change, what would we advise?

These questions are especially important given that environmental aesthetics has tended to neglect environmental change and urgent climate and biodiversity issues in favor of “pristine” nature, steering clear of aesthetics as it relates to environmental science and policy. There are some exceptions. One particularly prominent voice is that of environmental philosopher **Emily Brady**, a keynote speaker at our Munich workshop. In her ongoing book project, she champions a “Planetary Aesthetics” approach, which involves studying the beauty of environmental change in each of the earth’s “spheres” (hydrosphere, atmosphere, **cryosphere**, biosphere, lithosphere), mirroring the framework used by climate scientists to understand the earth system.[14] She looks to understand the aesthetic impacts in each sphere on their own terms. Importantly, her perspective is explicitly pluralist, recognizing multiple grounds for aesthetic appreciation. This may include multisensory perception, as mentioned above, but also imagination, scientific knowledge, and diverse worldviews. Brady claims that while pluralist, the perspective should remain “critical,” meaning that there are ways an aesthetic description can “fail us,” although readers will have to wait until the book is out to learn which criteria for failure she proposes.[15] Nevertheless, similar efforts from humanities scholars to integrate aesthetics within large and pressing environmental issues like climate change and biodiversity loss are necessary if we want to have effective answers to the above questions.

These reflections are far from an exhaustive exploration of the IPCC’s relationship with aesthetics. In fact, each of their three assessment reports merits a separate analysis, from the aesthetic values informing the physical basis for understanding climate change (Working Group I) to the aesthetic concerns motivating climate action (Working Group III) as hinted at in our introduction. Nevertheless, our intention here is to encourage more dialogue between philosophers, environmental-humanities scholars, and climate scientists, in order to ensure that “aesthetics” is no longer used in a scattergun or contradictory way, but rather as an effective tool in understanding the complex impacts of climate change on societies.

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