

# *How Behavioral Science is Relevant to Society, Specifically, the Importance and Relationship of Animal Behavior and Climate Change.*

Alix Glaenzer



*Image 1: Taken by Joel Sartore for National Geographic <https://www.science.org/doi/full/10.1126/science.356.6335.258>*

From the beginning of humankind, we have never been alone, as we have shared this planet alongside thousands of animal and plant species. Humans have taken a destructive path, and we now find ourselves amidst the pinnacle of climate catastrophes, the merciless destruction of forests and seas, and the escalating toll of species and souls slipping into oblivion.

Nature holds the answers, yet our inability to comprehend their languages leaves us clueless. “It is essential that humanity begins to better appreciate our role as just one part of a large and interdependent biological community” (1). For humans to better understand this community and for our society to evolve, we need to fully comprehend humanity and our behavioral tendencies. To do this, we must dive into our evolutionary lineage which shows that our ancestors encompass both animals and plants thus, the comprehension of our species and the planet we inhabit is incomplete without a thorough “understanding of the commonalities of all life forms”(2).

The Earth has a total of “431” (4) delicate and interconnected ecosystems, each characterized by complex processes in which every species has an important role. These ecosystems coincidentally shape Earth as an ecosystem that is “dependent on interacting species and consisting of finite resources” (1).

Behavioral science plays a crucial role in society by enabling us to understand our behaviors and those of the plant and animal species we coexist and depend on. Furthering our comprehension allows us to gauge the overall health of our planet, especially against climate change. For instance, if fish in a particular area display unusual behavior, our knowledge of their regular behavior enables us to glean insights into the health of the surrounding body of water, the adjoining ecosystems it sustains, and even our well-being, particularly concerning the food we consume that interacts with that aquatic environment. Differences in behavior due to climate change, such as migration patterns, mating, and feeding habits, can have cascading domino effects. This knowledge is crucial for forecasting species’ ability to adapt or their vulnerability to changing conditions. With the knowledge of what the behavior signifies, we can better prepare, mitigate, and reduce the impacts of climate change.

Furthermore, behavioral science can not only offer explanations for our problems, but it may offer solutions. Bioinspired solutions offer valuable insights for addressing climate-related challenges (3). One example is biomimicry\*, a method of developing technologies that mimic natural processes and behaviors observed in animals. This method encourages the growth of more environmentally friendly and efficient designs across diverse fields, such as energy, transportation, and architecture.

By learning more about ourselves and other species through behavioral science, we will be able to find hope for our planet and ourselves.

### **Citations:**

- (1) Vignieri, S., & Fahrenkamp-Uppenbrink, J. (2017). Ecosystem earth. *Science*, 356(6335), 258-259.  
<https://www.science.org/doi/full/10.1126/science.356.6335.258>
- (2) Lattal, K. A. (2001). The human side of animal behavior. *Behavior Analyst*, 24(2), 147-161. doi: 10.1007/bf03392026
- (3) Rahman, T., & Candolin, U. (2022). Linking animal behavior to ecosystem change in disturbed environments. *Frontiers in Ecology and Evolution*, 10, 893453. <https://www.frontiersin.org/articles/10.3389/fevo.2022.893453/full>
- (4) Roger S., Deniz K., et al. (2020) An assessment of the representation of ecosystems in global protected areas using new maps of World Climate Regions and World Ecosystems. *Global Ecology and Conservation*. Vol 21.  
<https://doi.org/10.1016/j.gecco.2019.e00860>.
- **Biomimicry**: A method that mimics the natural processes and behaviors found in nature to solve human design challenges in an environmentally conscious manner. <https://biomimicry.org/what-is-biomimicry/>