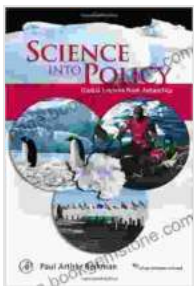


Science Into Policy: Global Lessons From Antarctica

Antarctica is a unique continent that serves as a living laboratory for scientific research. The continent's extreme environment has led to the development of innovative technologies and approaches to science, which have applications in other parts of the world. This article explores the ways in which science in Antarctica is informing policy and decision-making around the globe.

Climate Change

Antarctica is one of the most sensitive regions to climate change. The continent's ice sheets are melting at an accelerating rate, and this is contributing to sea level rise. Scientists in Antarctica are studying the effects of climate change on the continent's ice sheets, and their findings are helping to inform policy decisions about how to mitigate climate change.



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by Paul Arthur Berkman

★★★★☆ 4.6 out of 5

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For example, a study published in the journal Nature in 2019 found that the Thwaites Glacier in Antarctica is melting at a rate of 2.1 kilometers per year. This is more than twice the rate that it was melting in the 1990s. The study's findings suggest that the Thwaites Glacier could collapse within the next few decades, and this could lead to a significant rise in sea level.

The findings of this study have helped to inform policy decisions about how to mitigate climate change. For example, the United Nations Framework Convention on Climate Change (UNFCCC) has adopted a goal of limiting global warming to well below 2 degrees Celsius above pre-industrial levels. This goal is based on the scientific evidence that shows that limiting global warming to this level will help to avoid the worst effects of climate change, such as the collapse of the Thwaites Glacier.

Environmental Protection

Antarctica is also home to a unique and fragile ecosystem. The continent is home to a variety of plants and animals, including penguins, seals, and whales. Scientists in Antarctica are studying the effects of human activity on the continent's ecosystem, and their findings are helping to inform policy decisions about how to protect the environment.

For example, a study published in the journal Science in 2018 found that microplastics are contaminating the Antarctic marine ecosystem.

Microplastics are tiny pieces of plastic that are less than 5 millimeters in size. They are often found in personal care products, such as toothpaste and shampoo, and they can be ingested by marine animals. The study's findings suggest that microplastics are having a negative impact on the health of marine animals in Antarctica.

The findings of this study have helped to inform policy decisions about how to protect the Antarctic environment. For example, the Antarctic Treaty System has adopted a ban on the use of microplastics in personal care products. This ban is designed to help reduce the amount of microplastics that are entering the Antarctic marine ecosystem.

Conservation

Antarctica is a valuable natural resource. The continent's ice sheets contain the world's largest freshwater reserves, and its mineral resources are estimated to be worth trillions of dollars. Scientists in Antarctica are studying the continent's natural resources, and their findings are helping to inform policy decisions about how to conserve these resources.

For example, a study published in the journal *Nature* in 2017 found that the Ross Sea in Antarctica is home to a vast ecosystem of marine life. The study's findings suggest that the Ross Sea is one of the most productive marine ecosystems in the world. This information is helping to inform policy decisions about how to protect the Ross Sea from fishing and other human activities.

The findings of this study have helped to inform the development of the Ross Sea Marine Protected Area (MPA). The MPA is the world's largest marine protected area, and it is designed to protect the Ross Sea's unique ecosystem. The MPA is a testament to the importance of science in informing policy decisions about conservation.

Science in Antarctica is providing valuable insights into some of the most pressing challenges facing the world today. The continent's extreme environment is a natural laboratory for scientific research, and the findings

of this research are helping to inform policy decisions around the globe. From climate change to environmental protection and conservation, science in Antarctica is playing a vital role in shaping the future of our planet.

Here are some additional ways in which science in Antarctica is informing policy and decision-making around the globe:

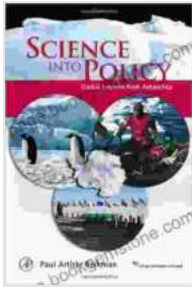
- Scientists in Antarctica are studying the effects of climate change on the continent's ice sheets. Their findings are helping to inform policy decisions about how to mitigate climate change and adapt to its effects.
- Scientists in Antarctica are studying the effects of human activity on the continent's ecosystem. Their findings are helping to inform policy decisions about how to protect the environment and conserve natural resources.
- Scientists in Antarctica are studying the continent's mineral resources. Their findings are helping to inform policy decisions about how to manage these resources in a sustainable way.

The science conducted in Antarctica is essential for informing policy and decision-making around the globe. By studying the continent's extreme environment, scientists are gaining valuable insights into the challenges facing our planet. This knowledge is helping to shape policies that will protect our planet for future generations.

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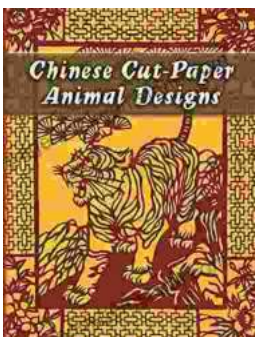


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