Comunicating data science

Table of contents

## Introduction

I. Introduction A. Background and context B. Purpose and objectives of the report C. Scope and limitations of the report

## Introduction

Atlantic cod also known by its scientific name Gadus morhua is one of the most commercially important fish species in the world, with a long history of human exploitation dating back to the 10th century during by the Vikings Kurlansky (1998a).

This species has been an important source of food and income for coastal communities across the North Atlantic region, supporting a vast industry of fishermen, processors, and distributors for centuries. However, the sustainability of the Atlantic cod fishery has been increasingly threatened in recent years due to overfishing, habitat destruction, and climate change.

The warming of ocean waters, caused by increasing greenhouse gas emissions, has altered the biology, ecology, and behaviour of Atlantic cod, leading to declines in population and distribution. These changes have had significant impacts on the commercial fishing industry, which has relied heavily on Atlantic cod as a source of income and food for centuries.

In recent years, scientific research and policy efforts have been focused on understanding the impacts of climate change on Atlantic cod, and developing sustainable fishing strategies that take into account the changing environmental conditions.

This report aims to review the current state of knowledge on the impact of climate change on Atlantic cod, including the ecological and environmental factors that shape its distribution and abundance, considering some of the socio-economic implications of its decline, and the strategies for sustainable management and conservation in the face of climate change.

Through an analysis of the data regarding sea surface temperature increase and fishing, this report seeks to contribute to a more comprehensive and evidence-based understanding of the challenges associated with the Atlantic cod fishery in the era of climate change.

## Background and context

Atlantic cod fishing has a long and complex history that dates back to at least the 11th century. Cod was a vital food source for European colonizers and became one of the most important commercial fish species in the North Atlantic.

The first recorded European explorers to fish for cod in North America were the Vikings, who fished for cod off the coast of Newfoundland around 1000 AD. Later, in the 15th and 16th centuries, European fishermen established seasonal fishing camps along the New England nicknaming it Cape Cod Kurlansky (1998b).

As European fishing fleets grew in size and range, they began to explore deeper waters and more distant fishing grounds, leading to the development of large-scale commercial fishing operations. By the late 18th century, French and English fleets were competing for the rich cod fisheries of the Grand Banks and other areas leading to the modernization and a significant increase of cod fishing Kurlansky (1998c).

As such from its beginning of being an important food source, to its increased values in trade as a commodity and its increased in significance culturally due to it becoming a staple of many coastal diets and the naval development that produced experienced seamen and naval infrastructure that was required during the naval arms race of the colonial era.

## objectives of the report

1. Climate Change and its Impact on Cod Fisheries A. Causes and Effects of Climate Change B. Historical Changes in Cod Populations C. Current Situation of Cod Fisheries
2. The Effects of Climate Change on Cod Fisheries in Denmark, Iceland, and Norway A. Greenland

Overview of Greenland's Cod Fisheries  
The Effects of Climate Change on Greenland's Cod Fisheries  
B. Iceland  
Overview of Iceland's Cod Fisheries  
The Effects of Climate Change on Iceland's Cod Fisheries  
C. Norway  
Overview of Norway's Cod Fisheries  
The Effects of Climate Change on Norway's Cod Fisheries

V. Conclusion A. Summary of Findings B. Implications for Cod Fisheries and Fishing Communities C. Future Directions for Research and Action

1. References A. List of Sources Cited B. Additional Resources for Further Reading

## References

Kurlansky, Mark. 1998a. *Cod*. Penguin Books.

———. 1998b. *Cod*. Penguin Books.

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