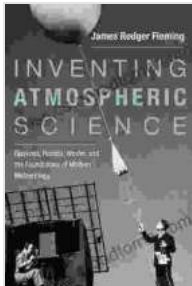


Unveiling the Secrets of Meteorology: The Landmark Book "Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology"



Inventing Atmospheric Science: Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology

by James Rodger Fleming

★★★★☆ 4.3 out of 5

Language : English
File size : 6064 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Word Wise : Enabled
Print length : 376 pages



Meteorology, the scientific study of the Earth's atmosphere and its intricate phenomena, has undergone a remarkable transformation throughout history. From the rudimentary observations of ancient civilizations to the sophisticated modeling systems of today, the field has witnessed a profound evolution.

At the heart of this transformation lies the groundbreaking work of a quartet of extraordinary scientists: Vilhelm Bjerknes, Carl-Gustaf Rossby, and Harry Wexler. Their groundbreaking research and collaborative efforts laid the foundations of modern meteorology, forever altering our understanding of weather patterns and forecasting.

The Bergen School: A Catalyst for Meteorological Revolution

The genesis of modern meteorology can be traced to the establishment of the Bergen School in Norway in 1917. Under the visionary leadership of Vilhelm Bjerknes, the school became a global hub for meteorological research and innovation.



Bjerknes introduced the concept of "air masses" - distinct bodies of air with uniform temperature and humidity - and their role in shaping weather patterns. He also developed the "polar front theory," which explained the formation of cyclones and anticyclones along the boundary between cold and warm air masses.

Rossby's Dynamical Meteorology and Numerical Weather Prediction

Carl-Gustaf Rossby, a Swedish-American meteorologist, joined the Bergen School in 1922 and revolutionized the field with his pioneering work in dynamical meteorology. Rossby's research centered on the interplay between the Earth's rotation, atmospheric pressure gradients, and wind patterns.



CARL-GUSTAF ROSSBY

Rossby developed the concept of "planetary waves" - large-scale atmospheric disturbances that propagate across the globe. He also made significant contributions to numerical weather prediction, laying the groundwork for computer-based weather forecasting systems.

Wexler's Contributions to Atmospheric Circulation and Weather Forecasting

Harry Wexler, an American meteorologist, joined the U.S. Weather Bureau in 1935 and played a pivotal role in advancing the field of meteorology in the United States. Wexler's research focused on atmospheric circulation patterns, particularly the jet stream.



Wexler developed innovative weather forecasting techniques, including the use of weather maps and upper-air observations. He also established the

National Hurricane Center in 1955, a critical milestone in hurricane preparedness and forecasting.

The Landmark Book: A Comprehensive Historical Account

The publication of "Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology" in 1993 marked a significant milestone in meteorological literature. This comprehensive historical account, meticulously researched by James R. Fleming, provides a captivating narrative of the lives and contributions of these three pioneering scientists.

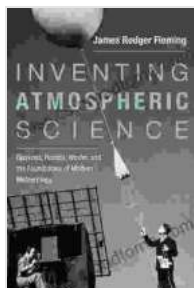
The book meticulously details the scientific breakthroughs, collaborations, and challenges faced by Bjerknes, Rossby, and Wexler. It offers a profound understanding of the intellectual climate and scientific advancements that shaped the field of meteorology during the early 20th century.

The contributions of Vilhelm Bjerknes, Carl-Gustaf Rossby, and Harry Wexler to meteorology are immeasurable. Their groundbreaking research and collaborative efforts have transformed our understanding of weather patterns, forecasting techniques, and atmospheric circulation.

"Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology" stands as a testament to their profound impact on the field. This landmark book is an invaluable resource for students, meteorologists, weather enthusiasts, and anyone seeking a deeper understanding of the origins and evolution of modern meteorology.

By delving into the pages of this captivating work, readers embark on a journey through the minds and innovations of these remarkable scientists.

It is a journey that unveils the secrets of meteorology and illuminates the path to our current understanding of the Earth's ever-changing atmosphere.

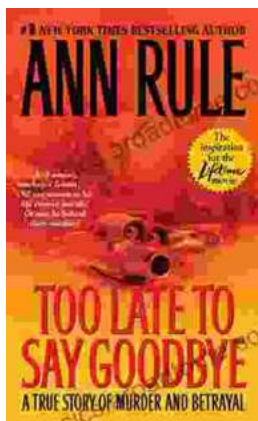


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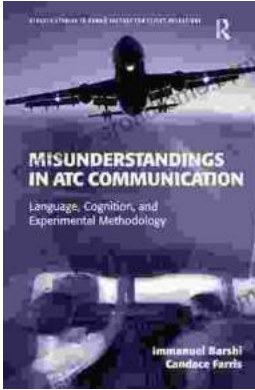
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