

Infos zu Halverson, Jeffrey B.: An introduction to severe storms and hazardous weather, 2024

Inhaltsangabe:

This book presents a deep and encompassing survey of severe weather in all its forms.

Inhaltsverzeichnis:

Introductory Principles

1. An Introduction to Severe Storms & Societal Impacts
2. Meteorological Primer, Part I: Pressure and Wind Relationships
3. Meteorological Primer, Part II: Moisture and Precipitation in Storms
4. Meteorological Observations and ForecastingB. Weather Hazards Generated by Large-Scale Atmospheric Vortices
5. Structure, Energetics and Climatology of Extratropical Cyclones vs. Hurricanes
6. Genesis, Evolution and Intensification of Extratropical Cyclones and Hurricanes
7. Winter Weather Hazards: Arctic Air Outbreaks, Nor'easters, Blizzards, Lake Effect Snow and Ice Storms
8. Landfalling Hurricanes: Coastal and Inland Devastation C. Severe Local Storms and Their Weather Hazards
9. Structure and Evolution of Ordinary Thunderstorms
10. Severe Thunderstorms, Emphasizing Supercells and Damaging Hail
11. Tornadoes: Structure, Evolution, and Genesis
12. Tornado Outbreaks, Detection, Warning and Societal Response
13. Violent Thunderstorm Downdrafts: Downbursts and Derechos
14. The Science of Flash FloodsD. Appendix - Heat Waves

Autor:

Jeffrey B. Halverson received his PhD in Environmental Science at the University of Virginia in 1994, then assumed a post-doc under Dr. Joanne Simpson (the first woman in the United States to receive a PhD in Meteorology) at NASA's Goddard Space Flight Center. He is currently Professor at the University of Maryland, Baltimore County (UMBC), where he teaches courses on physical geography, water science, natural hazards, meteorology, severe storms, climate change, and Earth's natural history. He and his team of graduate students investigate severe storms, particularly hurricanes. In 2000 he helped pioneer a new type of technology for measuring air temperature at high altitudes in the eye of hurricanes. Halverson has authored or coauthored more than 60 scientific publications on severe storms and has appeared in science documentaries aired by NOVA, National Geographic, The Weather Channel, and The Discovery Channel. He is a columnist, feature writer, and assistant editor for Weatherwise Magazine. He is a writer and Severe Weather Expert for the Washington Post's Capital Weather Gang. In 2015 he adapted a new teaching technology - a large, digitally projected sphere of the Earth, called Magic Planet - for teaching his courses.