



## Fluid Dynamics of the Mid-latitude Atmosphere (Hardback)

By Brian J. Hoskins, Ian N. James

John Wiley and Sons Ltd, United States, 2014. Hardback. Condition: New. New. Language: English . Brand New Book. This book gives a coherent development of the current understanding of the fluid dynamics of the middle latitude atmosphere. It is primarily aimed at post-graduate and advanced undergraduate level students and does not assume any previous knowledge of fluid mechanics, meteorology or atmospheric science. The book will be an invaluable resource for any quantitative atmospheric scientist who wishes to increase their understanding of the subject. The importance of the rotation of the Earth and the stable stratification of its atmosphere, with their implications for the balance of larger-scale flows, is highlighted throughout. Clearly structured throughout, the first of three themes deals with the development of the basic equations for an atmosphere on a rotating, spherical planet and discusses scale analyses of these equations. The second theme explores the importance of rotation and introduces vorticity and potential vorticity, as well as turbulence. In the third theme, the concepts developed in the first two themes are used to give an understanding of balanced motion in real atmospheric phenomena. It starts with quasi-geostrophic theory and moves on to linear and nonlinear theories for mid-latitude weather...



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