

Operational Weather Analysis

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Preface

This e-book is based on a course presented at the University of Kansas. The course was designed to fall between an introductory level course in atmospheric science and the dynamic/synoptic courses that make up a good atmospheric science program. It assumes that a reader is familiar with basic atmospheric processes but has not been exposed to the hydrodynamic or thermodynamic equations typically covered in dynamics, synoptic and physical meteorology classes. It introduces some equations but does not derive these equations. The physical interpretation of these equations is emphasized.

The intent of this e-book is to familiarize the reader with concepts and ideas used in operational weather analysis. It is a mixture of conceptual ideas about weather analysis and practical application of theoretical ideas to operational forecasting.

About the Author: Richard McNulty is a meteorologist with some 45 years of operational and academic experience in exploring the atmosphere. He graduated from New York University with a B.S. in meteorology and oceanography, a master's degree in meteorology, and a Ph.D.

During his almost 28 years with the National Weather Service (NWS), Dr. McNulty served as a research meteorologist with the original Techniques Development Unit (TDU) of the National Severe Storms Forecast Center (NSSFC). He became intimately familiar with NWS forecast and warning operations at both WSFO Topeka and the Aviation Weather Center. During 10 years at the National Weather Service Training Center (NWSTC) he taught several classes on operational meteorology topics and time management. Dr. McNulty also taught part-time in the Atmospheric Science Program at the University of Kansas, sharing his operational insights with neophyte meteorologists.

Dr. McNulty published numerous articles in peer-reviewed journals and conference pre-prints, as well as contributed to the training material developed at the NWSTC. He was actively involved in the American Meteorological Society as a local chapter officer, and with the National Weather Association as councilor and committee member. During the Viet Nam War Dr. McNulty served as a weather/oceanography officer in the U.S. Navy.

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