Vallis, G.K.: Atmospheric and Oceanic Fluid Dynamics – Fundamentals and Large-Scale Circulations. Cambridge University Press, Cambridge (UK), 2006. XXV + 745 pp. H/B £ 40.00, ISBN 978-0-521-84969-2, www.cambridge.org

I admit, I haven't read all the 16 chapters of this wonderfully designed textbook on "Atmospheric and Oceanic Fluid Dynamics". On 745 pages, the author introduces us into the fundamentals and large-scale circulations of the atmosphere and oceans. The 717 pages of text are divided into four parts with 245, 204, 132, and 136 pages, respectively. In the first part "Fundamentals of Geophysical Fluid Dynamics", the *Equations of Motion*, the *Effects of Rotation and Stratification*, the *Shallow Water Systems and Isentropic Coordinates*, *Vorticity and Potential Vorticity*, and *Simplified Equations for Ocean and Atmosphere* are discussed. The second part "Instabilities, Wave-Mean Flow Interaction and Turbulence" contains the chapters *Barotropic and Baroclinic Instability, Wave-Mean Flow Interaction, Basic Theory of Incompressible Turbulence, Geostrophic Turbulence and Baroclinic Eddies, and Turbulent Diffusion* and *Eddy Transport*. The remaining two parts "Large-Scale Atmospheric Circulation" and "Large-Scale Oceanic Circulation" comprise 3 chapters each. In the atmospheric part, the overturning circulations (Hadley, Ferrel Cells), the mid-latitude circulations and planetary waves and the stratosphere are discussed. The oceanic part considers the wind-driven gyres and the wind- and buoyancy-driven circulations in the ocean.

As a text book, I used G. K. Vallis' textbook in the last year mainly for refreshing my knowledge about the fundamentals of dynamics. I think, it is one of the strengths of the book to provide a clear and consistent view from the fundamentals to the current research topics. Moreover, I also found the book extremely helpful to introduce the issues of fluid dynamics to students. Fortunately, a young student of mathematics writing her diploma thesis at our institute started in early spring last year. She had no background in meteorology or in fluid dynamics. And, as I was partly involved in supervising her, I tested the textbook of G. K. Vallis to teach her the basics of atmospheric circulations.

We started with the shallow water equations and enjoyed the clarity and the comprehensiveness of the text. For the student, the text was an excellent starting point into the atmospheric dynamics. Simultaneously to the reading and discussions about this topic, we used the analytic solutions presented for the non-rotating/rotating flows to verify her attempts solving the shallow-water equations numerically. Gravity wave propagation and dispersion relationships followed almost automatically. In this way, we had an easy and clear way to proceed with the tasks she had to solve in her diploma work. Another example was a dispute we had after a PhD student gave a talk and used some basic relationships written for isentropic coordinates. A scientist questioning these findings was easily convinced after we showed him the respective pages in G. K. Vallis' textbook.

Since this time, I consulted the book many times and found its presentation exceptionally clear and concise. There are appendices at the end of each chapter containing notes and hints for further reading and problems. I consider this as an excellent way to stimulate further thinking about the fundamentals and to deepen and broaden the knowledge.

Scanning through the references, I got the impression that all essential classical and recent articles which contributed to the theoretical geophysical fluid dynamics are contained. German contributions (except the numerous quotations of our "Klassiker" in this field, namely of Ertel and Stommel) are, however, rare. I do not comment this as it can be viewed from at least two sides. Nevertheless, I was proud to found two citations of two of our senior scientists and two more recent papers from a former PhD student who continues his career in North America.

Nevertheless, I would be happy to see this wonderful textbook on as many desks of our community as possible.

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Van den Dool, H.: Empirical Methods in Short-Term Climate Prediction. Oxford University Press, Oxford, 2007. 215 pp. H/C £ 49.95, ISBN: 978-0-19-920278-2, www.oup.com

Depending on your profession and interests, knowledge about next season's climate might be more important (or at least as important) to you than tomorrow's weather. Short-term (i.e. mainly seasonal) climate forecasts are useful for agriculture, energy supply planning and water management and are provided operationally by several institutions, NOAA's Climate Prediction Center (CPC), which is the author's affiliation, being among the pioneering ones. The availability of global reanalyses covering half a century, together with powerful methods for statistical data analysis has stimulated progress in this fascinating field. In spite (or because, as the author argues) of all the ongoing actvities it seems that up to now, information about methods and results in climate prediction is scattered throughout the literature and there is no monograph treating the topic. Dr. van den Dool, a long-term practitioner in this area, has used his teaching and presentation materials to produce such a monograph with a strong inclination towards the practical aspects of seasonal climate prediction. As the title indicates and for reasons discussed especially in the final chapter of