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Preface

Preface to the Ocean Modelling special issue on ocean eddies

This issue of *Ocean Modelling* gathers articles that focus on the representation and parameterization of ocean mesoscale and submesoscale phenomena in numerical simulations, as well as theoretical and observational studies that provide evaluations of simulation integrity. It is noteworthy that designating a special issue on ocean eddies is arguably unnecessary today, with ocean mesoscale and submesoscale phenomena now central for many questions posed by *Ocean Modelling* authors and presented in their papers. Nonetheless, there are good reasons to formally encourage documentation of these topics within one journal issue.

In particular, we recently passed the 20 year anniversary of the pivotal papers by Gent and McWilliams (1990) and Greatbatch and Lamb (1990). Their papers remain a touchstone for many ongoing eddy parameterization studies today. It was partly in recognition of this anniversary that the CLIVAR Working Group for Ocean Model Development sponsored a workshop in 2009 on ocean eddies. This three day gathering at the Hadley Centre was an exciting and provocative occasion to communicate and debate the state-of-the-science, and for that matter the state-of-the-art, in ocean eddy-related phenomena. It was furthermore at this workshop that the idea for the present special issue of Ocean Modelling was born. The web site http://www.clivar.org/organization/wgomd/meso/meso.php contains the workshop presentations and posters. Some of that material now forms the basis for a few of the articles in the present special issue of *Ocean Modelling*.

Ocean Modelling readers will hopefully find much of the material in this special issue of interest, if not for their immediate research agenda, then perhaps as a point of reference for cutting-edge ideas on ocean eddies in theory, numerical models, and observations. The articles offer a solid sampling of the best that the science presents for understanding and simulating the ocean, acknowledging that mesoscale and submesoscale eddy phenomena are fundamental to these tasks.

References

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