Preface

Special Issue on Southern Hemisphere Extreme Winds

Southern Hemisphere land masses (i.e., Southern Africa, South America, Australia, New Zealand) are essentially affected by the same synoptic weather systems producing strong winds - these may well differ in some respects from the Northern Hemisphere due to the much greater proportion of open ocean in the Southern Hemisphere.

For this Special Issue, six groups of authors, from Australia, New Zealand, South Africa, Brazil and Argentina, have been invited to write about their experiences and investigations of severe winds and their effects on structures in each of those countries. The papers are all based on presentations at a successful Workshop on Southern Hemisphere Extreme Winds held in Canberra, Australia, on August 4th 2010.

Tropical cyclones are common in the Indian and South Pacific Oceans, and a major cause of structural damage in the countries neighbouring these countries. Due to differing ocean currents, they are rare in the South Atlantic Ocean, but some have been reported recently as discussed in the paper in this Issue by A.M. Loredo-Souza.

Severe local windstorms due to thunderstorms are also commonly experienced in Argentina, Brazil, South Africa and Australia, and have produced numerous structural failures on structures such as transmission line towers in all of those countries. These events are discussed in several papers in this Issue.

The papers cover the following topics:

- Structure of extreme winds, e.g., downdraft outflows, tornados, tropical cyclones, downslope winds,
- Extreme wind speed predictions with separation of storm type,
- Anecdotal reviews of severe wind events and their effects.

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