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- Recent Papers
- Volumes**
- Library Search
- Title and Author Search

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Submission

Review

Production

Subscription



[Volumes](#) [Contents of Volume 22](#)

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The Andes climate and weather

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Abstract. This paper documents the main features of the weather, climate and climate variability over Andes cordillera in South America on the basis of instrumental observations. We first provide a basic physical understanding of the mean annual cycle of the atmospheric circulation and precipitation and over the Andes and adjacent lowlands. In particular, the diversity of precipitation, temperature and wind patterns is interpreted in terms of the long meridional extent of the Andes and the disruption of the large-scale circulation by this formidable topographic barrier. We also document the impact of the El Niño Southern Oscillation phenomenon on the temperature and precipitation regimes along the Andes.

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