

COMPARISON OF CROSS-MOUNTAIN PRECIPITATION PROFILES FROM AROUND THE WORLD

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It is not well known how the precipitation regime of the Southern Alps, New Zealand compares to that which is observed in other mountainous regions of the world. A common form of representing precipitation distribution in the Southern Alps is through cross-mountain average annual precipitation transects (Chinn 1979; Griffiths and McSaveney 1983; Sinclair et al. 1997; Henderson and Thompson 1999). These transects show a similar form with a peak in average annual precipitation associated with the first barrier the mountains present to the predominant wind, then declining totals further to the lee. A new precipitation transect prepared for the Aoraki/Mt Cook region demonstrates this form (see Figure 1).

The U.S. National Climatic Data Center (NCDC) Global Historical Climatology Network Version 2 (GHCN V2) archives precipitation data from around the world. This has been combined with elevation data from the Shuttle Radar Topography Mission (SRTM) and GTOPO30 to prepare average annual precipitation transects for mountainous regions around the world. In this way the Southern Alps precipitation transects are compared to those observed from other mountainous regions of the world.

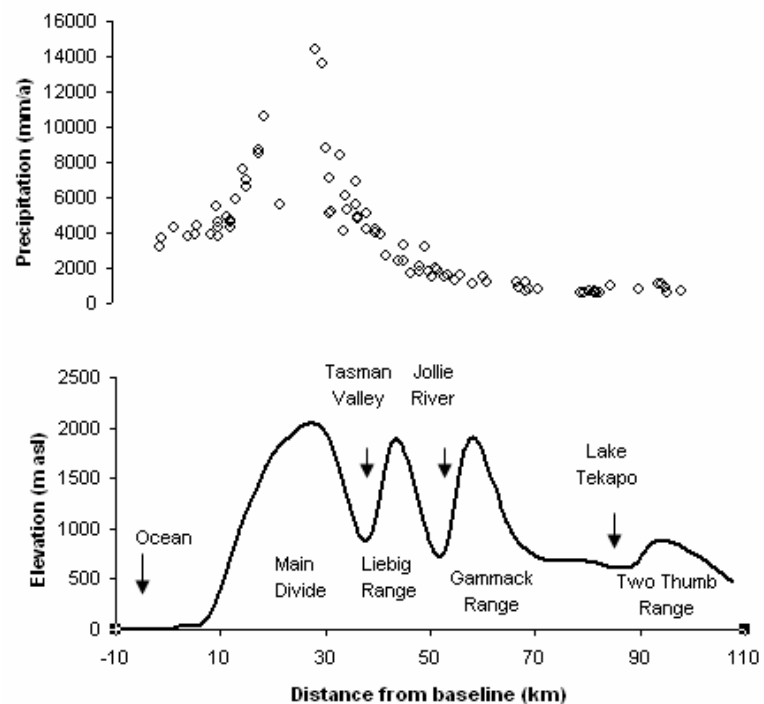


Figure 1. Average annual precipitation totals across a transect through the Southern Alps in the Aoraki/Mt Cook region.

References

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