

## **Recruitment of intertidal invertebrates in the southeast Pacific: Interannual variability and the 1997–1998 El Niño**

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### **Abstract**

We evaluated interannual variability and the effect of the 1997–1998 El Niño event on recruitment of intertidal mussels and barnacles along the coast of central Chile in the southeast Pacific. Monthly monitoring of recruitment at 11 sites spread over 900 km (29–34°S) during the 1997–1998 El Niño and over the same months in 1998–1999 and 1999–2000 allowed us to assess geographic patterns in interannual recruitment variation. The geographically most consistent interannual trend was observed for the mussel *Perumytilus purpuratus*, which showed overall lower recruitment rates during the 1997–1998 El Niño year. However, the magnitude of the effect at any given site was small. Interannual variation in recruitment rates of the other two intertidal mussel species, as well as two chthamaloid barnacles, were not consistent across the region, and overall, few sites exhibited significant differences among years. Differences between two and three orders of magnitude in mean annual recruitment of mussels and barnacles were observed among sites, yet the relative ranking of sites was fairly similar among years for most species. Contrary to the large positive effect that the 1997–1998 El Niño had on barnacle recruitment along the coast of central and northern California, our results show that recruitment of dominant intertidal barnacles along central Chile were not significantly altered by this strong oceanographic event. Lack of consistent trends among sites emphasizes the need to study several sites when looking at large-scale oceanographic anomalies and shows that El Niño effects on interannual recruitment variation are not predictable.