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Estimate of sea salt sources to Antarctica: An alternative interpretation of the EPICA sea salt record?

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It has recently been shown that sea ice (via frost flowers) is an important source of sea salt to coastal Antarctica. This has been used to suggest that the sea salt record from ice cores may reflect a proxy for sea ice extent around Antarctica. In this study, two ice cores were analysed at high resolution (subseasonal) to determine various trace chemicals including the sea salt content and total sulphate. The ice cores represent both a coastal (DSS, Law Dome) site and more inland (GD17, Wilkes Land) site from East Antarctica. The high resolution records allow us to investigate the winter contribution of sea salts (e.g. Na) from frost flowers through the Na:sulphate ratio (ie sulphate fractionation). We find that at Law Dome $\sim$20% of sea salt budget can be explained by frost flowers and $\sim$5% at GD17, which is further inland. A previous study from an ice core on an iceberg suggested $\sim$80% sea salt influence from frost flowers. This suggests that as you move away from the frost flower source (sea ice), the influence decreases and may be less than 5% at EPICA Dome C. This indicates that the sea salt record from EPICA Dome C probably more reflects ocean sources of sea salt rather than frost flower (sea ice).