Mineral aerosol as a source of iron for the marine ecosystems in the Southern Ocean

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Atmospheric deposition of dust source materials is a significant source of exogenous iron (Fe) in marine ecosystems. Especially, the Southern Ocean is the most biogeochemically important ocean because of its large spatial extent and its considerable influence on the global carbon cycle. However, there is large uncertainty in our estimate of the dust emissions in the Southern Hemisphere. Here, we implement a newly developed dust emission scheme into a global atmospheric chemistry transport model to produce better agreement with measurements of Fe loading over the oceans.

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