Reconstructed Long Term Solar Activity from Cosmogenic Nuclides and Its Relation with Proxy Climatic Records

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Of the number of natural archives that preserve proxy records of past climate, ice cores from the polar regions of the Earth are also useful to reconstruct solar activity in the past, as they preserve cosmogenic nuclides (e.g. ¹⁰Be), the production of which depends on the cosmic ray activity, which is modulated by solar activity. The other cosmogenic nuclide ¹⁴C suffers from complications such as its involvement in the Earth's biogeochemical cycles. In this paper we critically review the reconstruction of solar activity from cosmogenic nuclides. Further we present examples of reconstructed monsoon rainfall from various archives in the Indian region and discuss how they relate to solar activity, including some plausible causal mechanisms.