

### **Rapid Solar Cycle Onset - Potential New Climate Study Tool?**

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Investigation of long-term variability in flux from the Yohkoh Soft X-ray Telescope revealed a sudden intensity rise in August 1997, from solar minimum values to about 30% of the Cycle 23 maximum within two solar rotations. The step-function increase was mirrored in several other activity measures, including strong-field ( $>25$  G) magnetic flux. The onset appeared to be global in nature, rather than localized, and to reflect a transition in active region character (number, size, longevity, complexity, connectivity, flare productivity). Preliminary results show that cycles 21 and 22 had similar sharp rises. Besides constraining dynamo-transport theories, the sudden onset of the solar activity cycle might offer a useful fiducial marker for studying solar input to Earth climate.