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The solar cycle and the current solar minimum

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In this talk we discuss the evolution of the Sun's large-scale magnetic field, on timescales relevant to the solar cycle. This evolution can be modeled using the surface flux transport equations, and we will outline the ingredients which go into the model. Special attention will be paid to the term describing the emergence of new flux onto the solar surface. The results of the model will be compared against observations covering most of the twentieth century, and in particular we will discuss what determines the surface field during solar minima.