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Stratospheric induced changes in the storm-track

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Stratospheric induced changes in the storm-track are studied using diagnostic and prognostic PV surgery in a balanced isentropic PV model. The PV of various stratospheric states is implanted onto various tropospheric states and the diagnostic effect of changing the stratosphere is calculated by means of PV surgery. The result is a large-scale anticyclonic or cyclonic effect at the surface. The prognostic model is then run forwards in time. The results of prognostic surgery yield changes which are of smaller scale than the diagnostic changes and involve changes to the evolution of cyclones in the storm-track. An attempt is made to explain these changes.