

# Supporting Information for: "On the Creation, Depletion, and End of Life of Polar Cap Patches"

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## Contents of this file (Files uploaded separately)

1. Caption for Video S1

**Introduction** This document contains the caption for supplementary Video 1 (Video S1), which file is uploaded separately. The video is of the file type MP4 and contains

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data from the Super Dual Aurora Radar Network, DMSP SSUSI auroral boundaries and the location for three selected polar cap patches. Further information on the data can be found in Section 2 of the main text. The location of the three polar cap patches is derived from the method outlined in Section 3 of the main text.

**Video S1.** Shows the tracking location of the three selected events, shown as red stars, in geomagnetic coordinates. The SuperDARN convection velocity are provided as the underlying color-map and the fitted vector velocities are seen as dots with respective vector lines. The DMSP SSUSI auroral oval boundaries are shown in coral.