

# **Crevasses forming in wind-glazed surfaces of East Antarctica**

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We present a crevasse map of East Antarctica based on observations of optical and radar satellite imagery. Crevasses are found not only near the coast, where strain rates and the causal stresses are high, but also far within the plateau where both accumulation and surface slopes are very low. A comparison of crevasse initiation sites to the distribution of surface facies reveals that crevasses are preferentially forming in wind-glazed surfaces across the ice sheet, yet are almost entirely absent within megadune areas.

The likely cause of crevasses in low stress areas is tension imposed on randomly oriented, macroscale, cracks present in wind-glazed surfaces. Such cracks have previously been invoked as conduits aiding deep firn convection and firn recrystallization. Crevasses initiating in wind-glazed surfaces from shallow cracks are potentially larger conduits for atmospheric circulation than have been previously described.