Post-disintegration evolution of the largest Larsen B tributary glaciers

Ted Scambos¹, Jennifer Bohlander², and Karen Alley³
¹ESOC/CRES, University of Colorado, Boulder CO, United States of America (tascambos@colorado.edu)
²Polar Science Consultants, Cary NC, United States of America (jenniferbohlander@gmail.com)
³College of Wooster, Wooster OH, United States of America (kalley64@gmail.com)

Crane and Hektoria glaciers, the major tributaries of the former Larsen B Ice Shelf, underwent major structural and ice flow changes in the aftermath of the ice shelf's disintegration in March, 2002. In addition to the widely reported initial acceleration (leading to speeds 3 to 6 times the pre-disintegration rate), the continued retreat led to the formation of significant ice cliffs. For Hektoria, this occurred as a seamless transition from ice shelf disintegration. Crane Glacier had a two-stage acceleration, first increasing in speed by 3x in the first few months after disintegration, then slowing through September 2004, and then a rapid additional acceleration in 2005-2006. Both glaciers developed significant ice cliffs during retreat, with peak ice-front heights of 105 m for Crane and 85 m for Hektoria.