(a) Baudoin IS, Group 1

(b) Rennik IS, Group 1

| 0 | 0.2 | 0.4 | 0.6 | 0.8 | 1 |

<-- Less likely to fracture / More likely to fracture -->

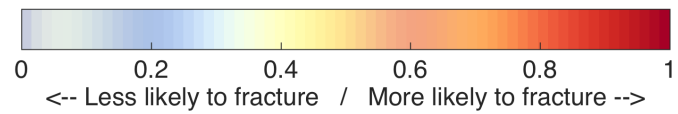



Figure S1. Group 1: Modelled probability of a fracture for Baudoin IS (a) and Rennik IS (b). Observed surface fractures are shown in black and observed non-fractured ice is marked with orange circles. Red polygons represent regions where high resolution images were available.

(a) West IS, Group 1   (b) Ekstroṁ IS, Group 1

(c) Filchner IS, Group 1   (d) Stancomb-Brunt IS, Group 1

0   0.2   0.4   0.6   0.8   1

<-- Less likely to fracture / More likely to fracture -->

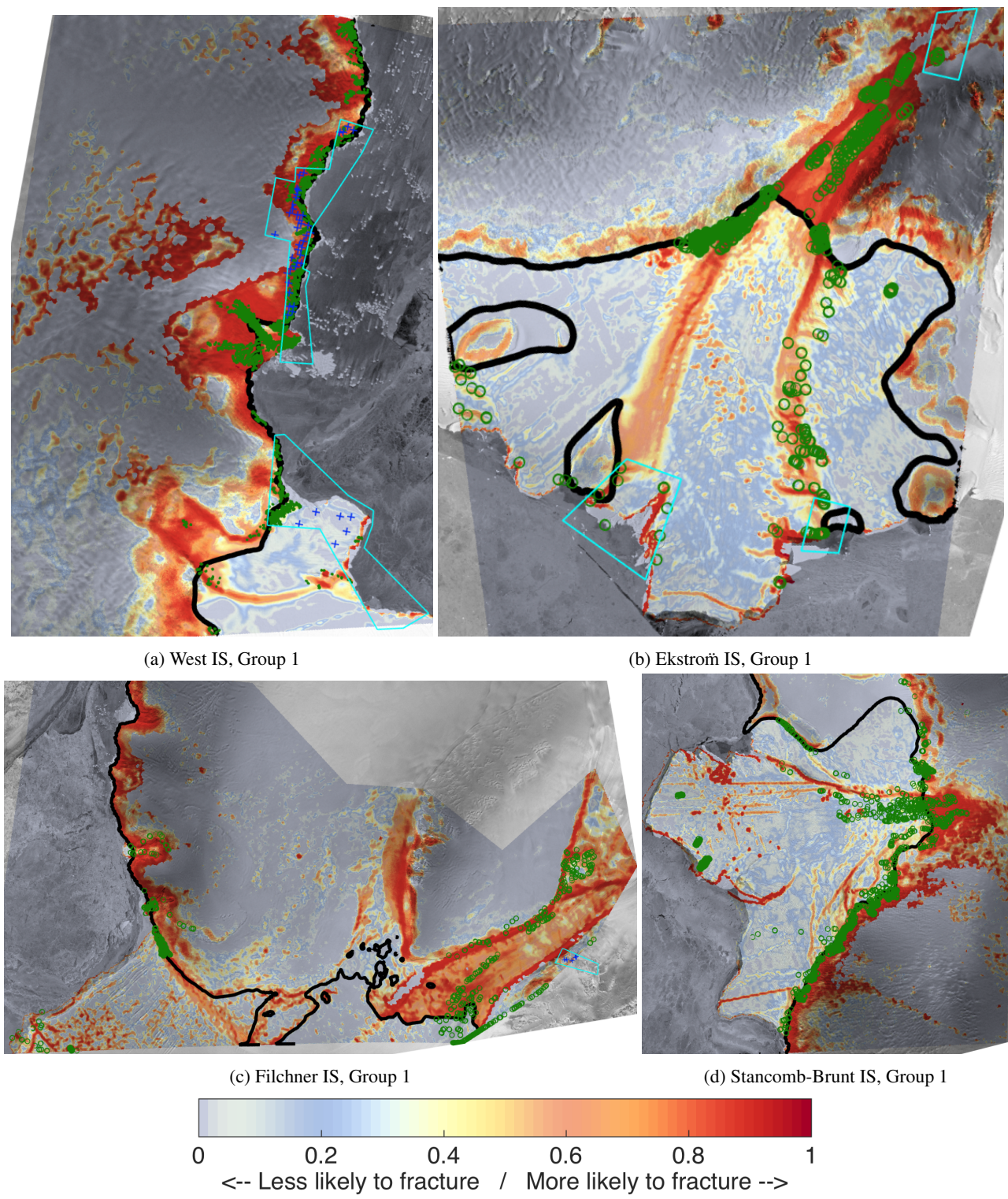
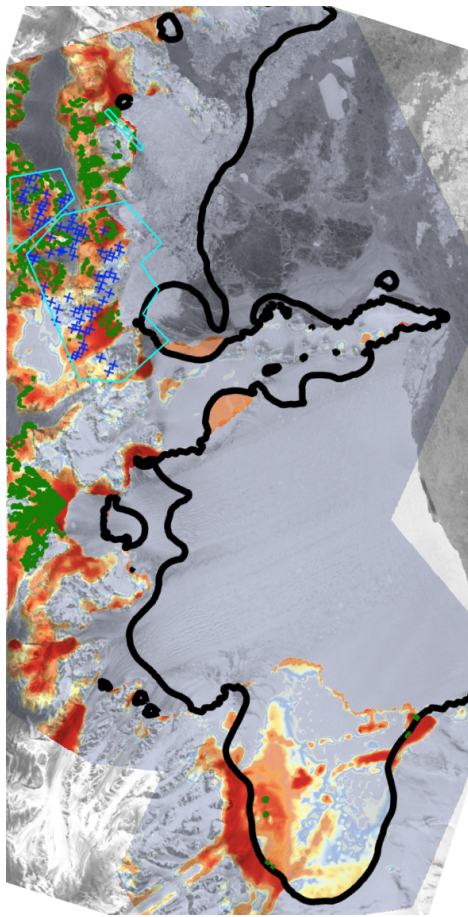
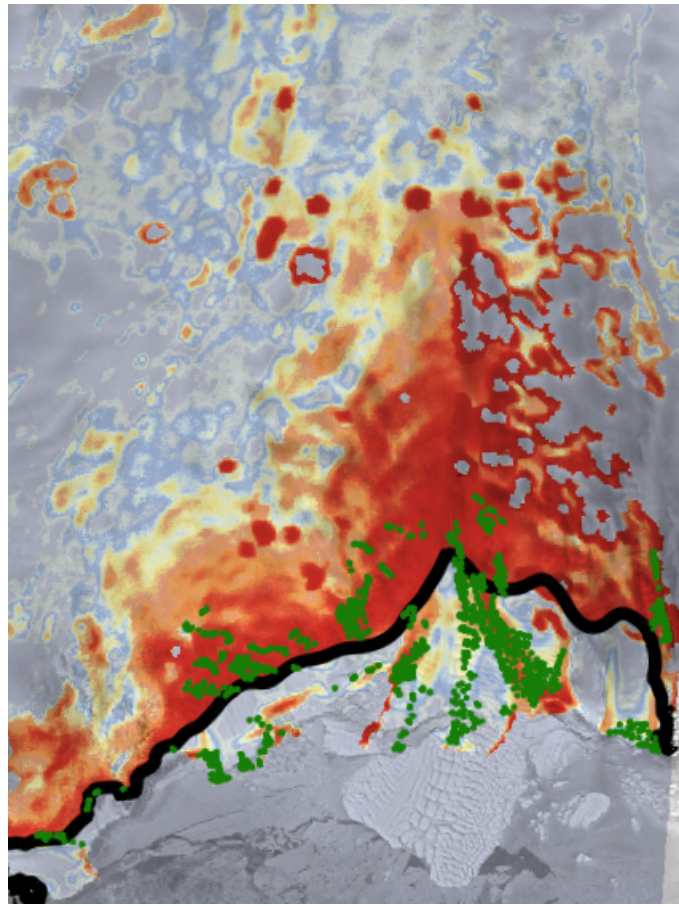



Figure S2. Group 1: Modelled probability of a fracture for West IS (a), Ekstroṁ IS (b), Filchner IS (c) and Stancomb-Brunt IS (d). Labels the same as Fig. S1.

(a) Larsen B IS, Group 2 (b) Ninnis IS, Group 1

(c) Abbot IS, Group 1

0   0.2   0.4   0.6   0.8   1
<-- Less likely to fracture / More likely to fracture -->

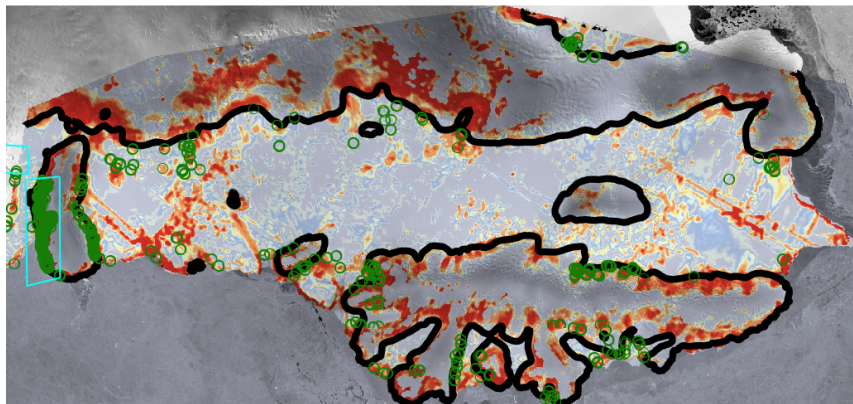
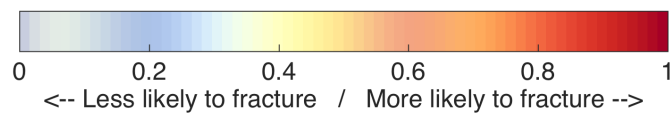
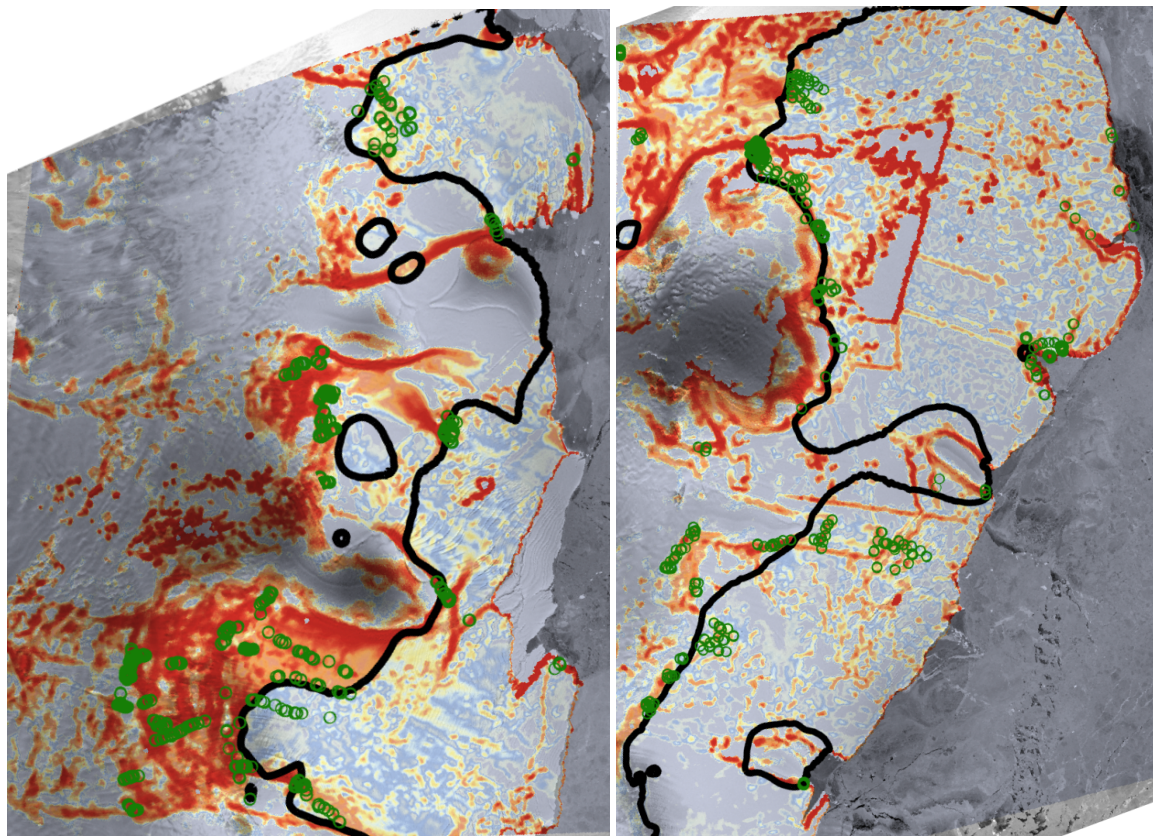
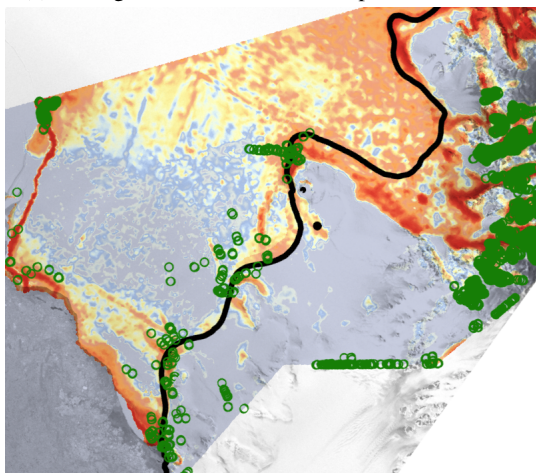



Figure S3. Group 1 and 2: Modelled probability of a fracture for Larsen B IS (Nordenskjold coast) (a), Ninnis IS (b) and Abbot IS (c). Labels the same as Fig. S1.

(a) Borchgrevnik-Lazarev IS, Group 1

(b) Riiser-Larsen IS, Group 1

(c) Larsen C IS, Group 2

(d) Ronne IS, unsuccessful results

0   0.2   0.4   0.6   0.8   1

<-- Less likely to fracture / More likely to fracture -->

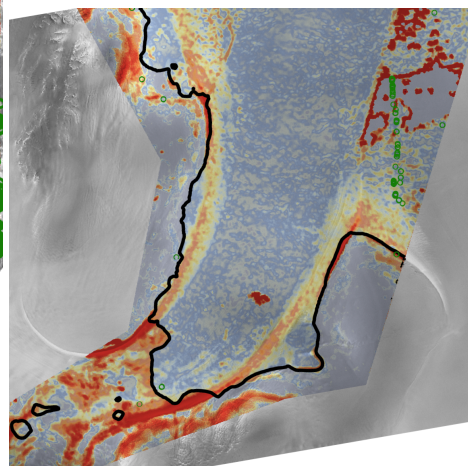
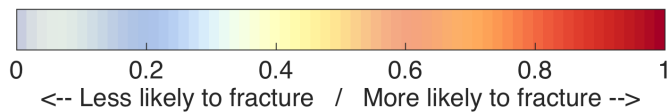
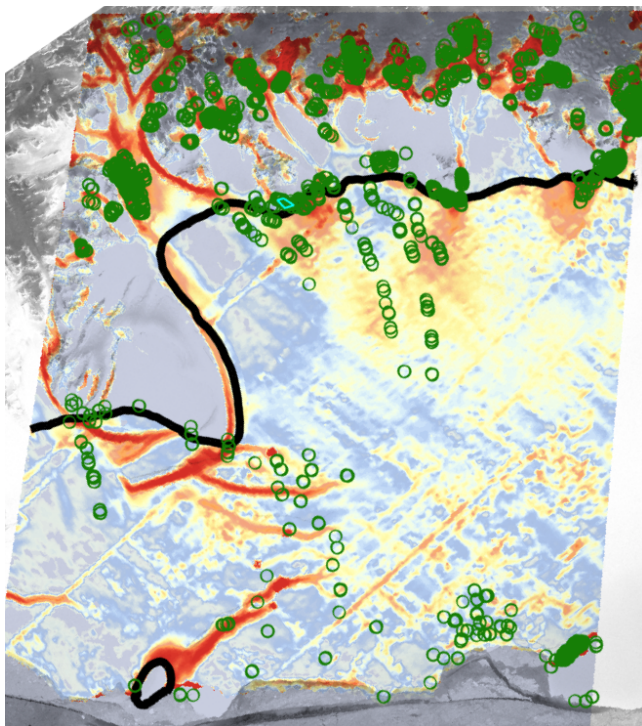
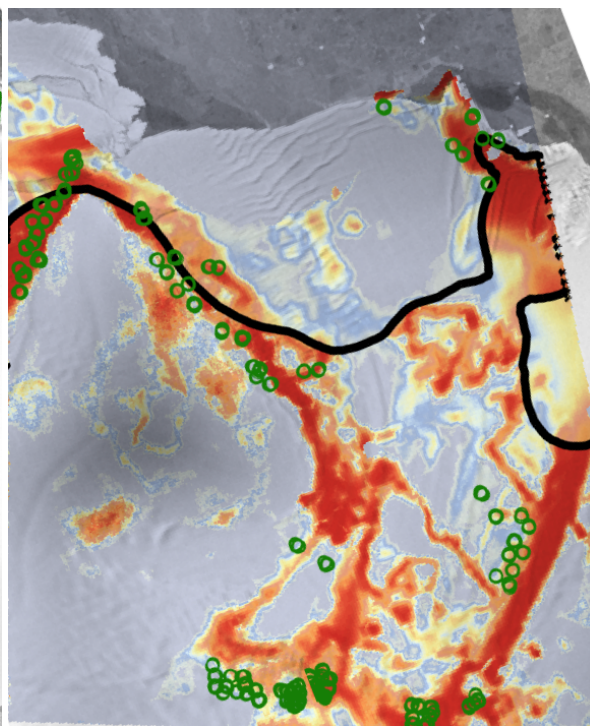
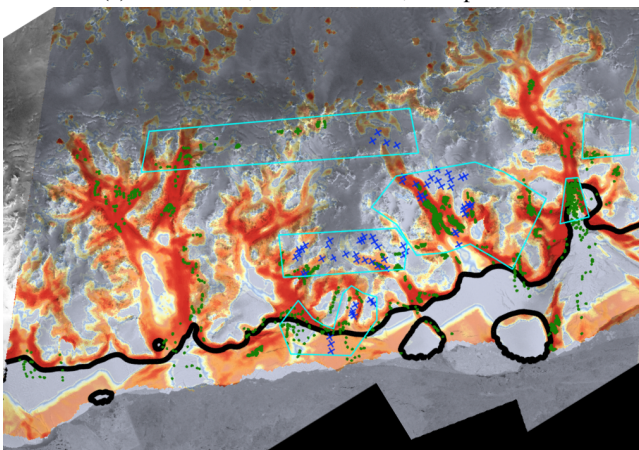



Figure S4. Group 1 and 2: Modelled probability of a fracture for Borchgrevnik-Lazarev IS (a), Riiser-Larsen IS (b), Larsen C IS (c), Ronne IS, unsuccessful results (d). Labels the same as Fig. S1.

(a) Larsen C IS, Fallieres Coast, Group 4   (b) Borchgrevnik IS, Group 4

(c) Larsen D IS, Group 2   (d) Ross East IS, Group 2

| 0 | 0.2 | 0.4 | 0.6 | 0.8 | 1 |

<-- Less likely to fracture / More likely to fracture -->

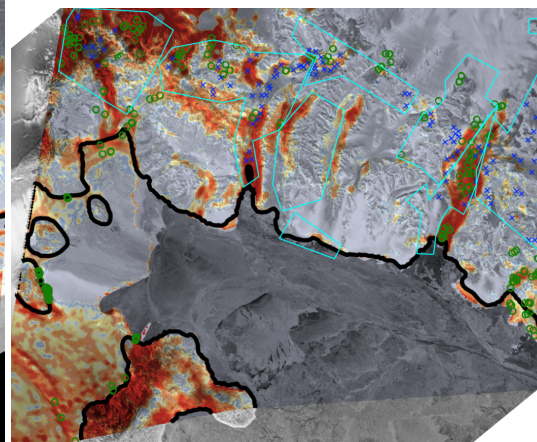
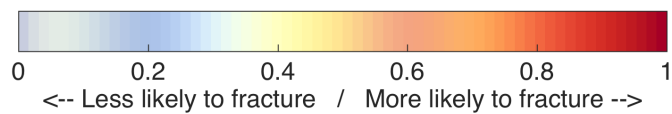
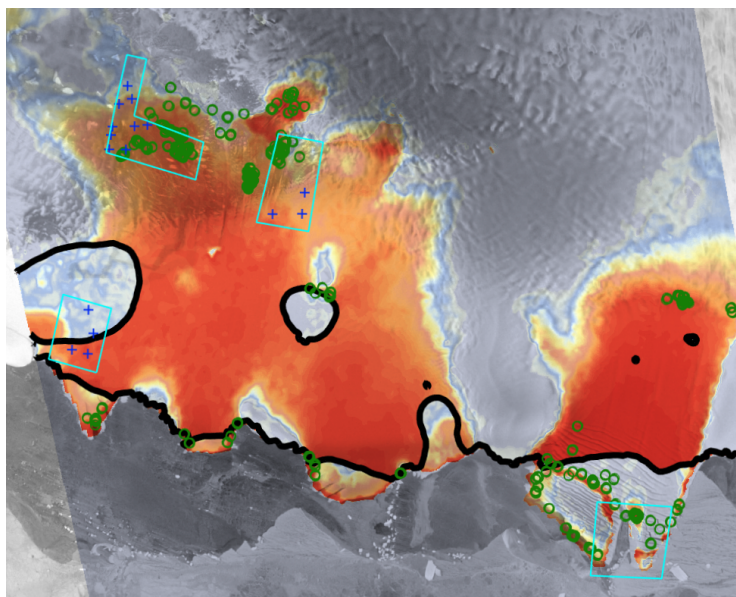
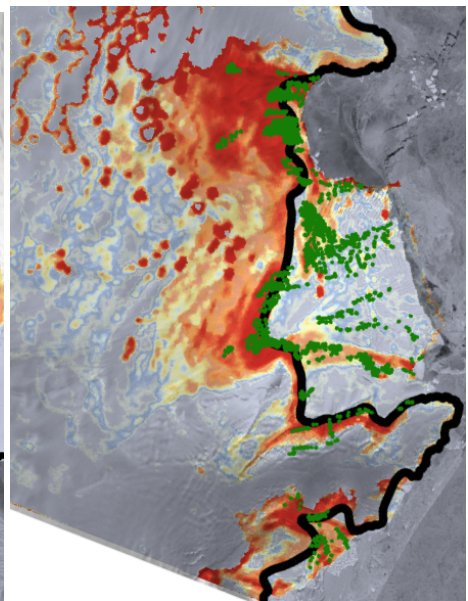
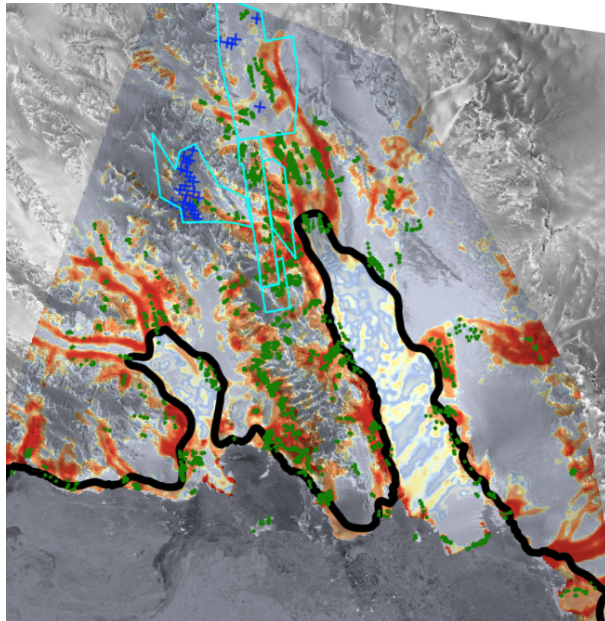
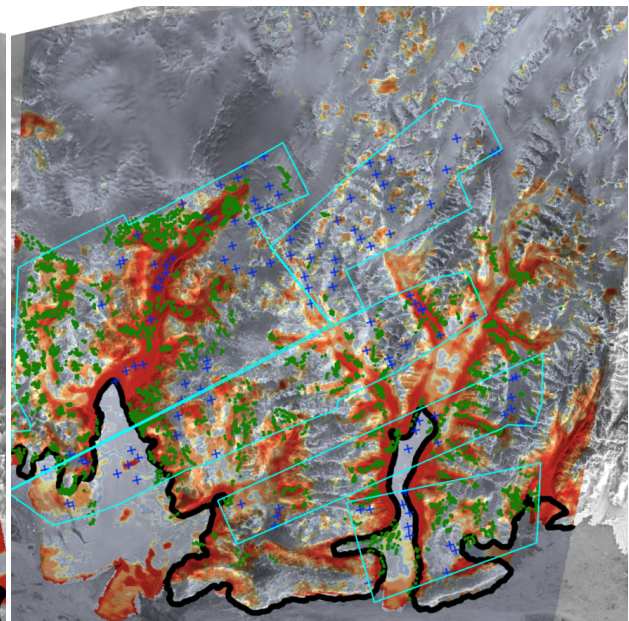



Figure S5. Group 2 and 4: Modelled probability of a fracture for Larsen C IS (a), Borchgrevnik IS (b), Larsen D IS (c) and Ross East IS (d). Labels the same as Fig. S1.

(a) Nivl IS, Group 3

(b) Cook IS, Group 1

(c) Rennik IS, Pennell Coast, Group 2

(d) Rennik IS, Lazarev Mountains, Group 3

0   0.2   0.4   0.6   0.8   1
<-- Less likely to fracture / More likely to fracture -->

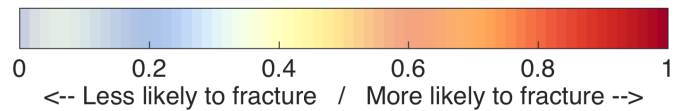
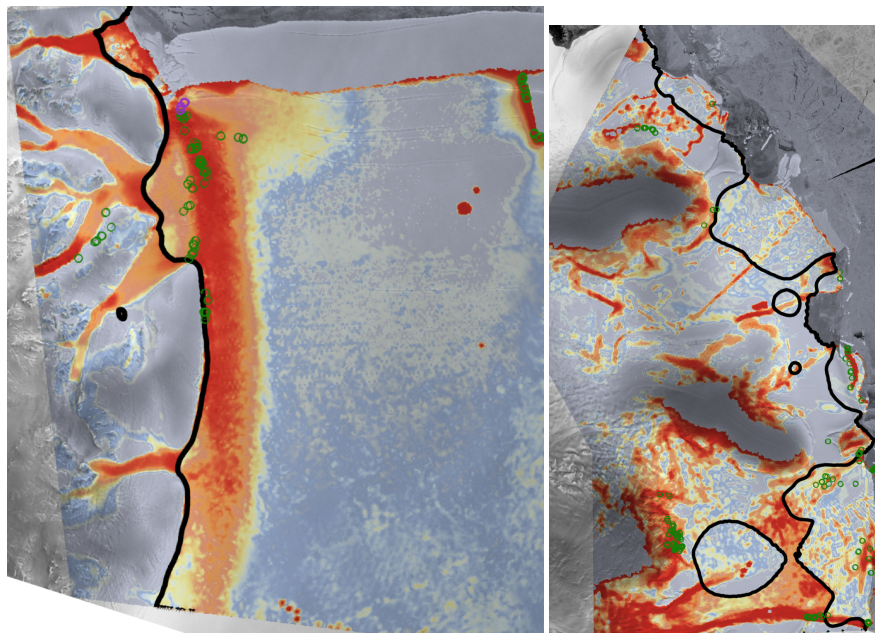
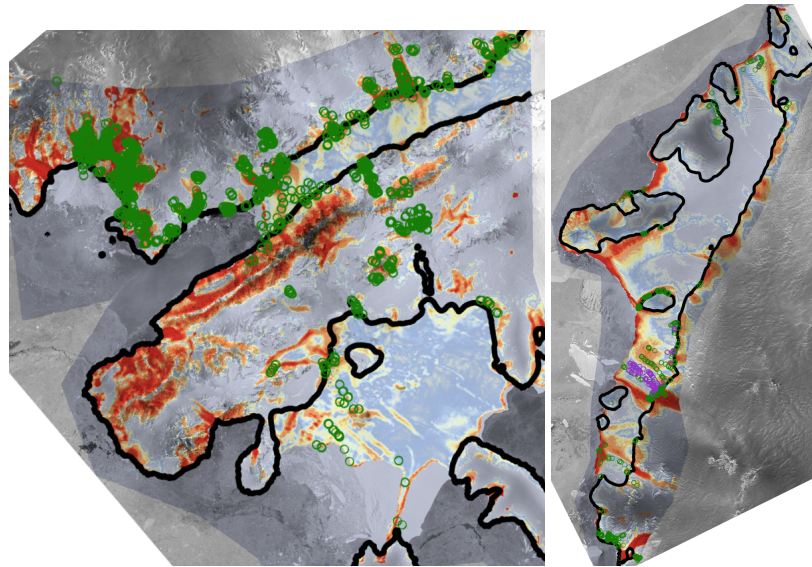



Figure S6. Group 1, 2 and 3: Modelled probability of a fracture for Nivl IS (a), Cook IS (b), Rennik IS (c and d). Labels the same as Fig. S1.

(a) Prince Harald IS, Group 1

(b) Jelbart and Atka IS, Group 2

(c) Wilkins and George VI IS, Group 1

(d) Getz IS, Group 2

0   0.2   0.4   0.6   0.8   1
<-- Less likely to fracture / More likely to fracture -->

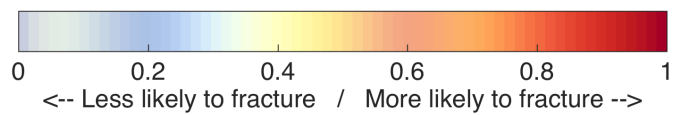
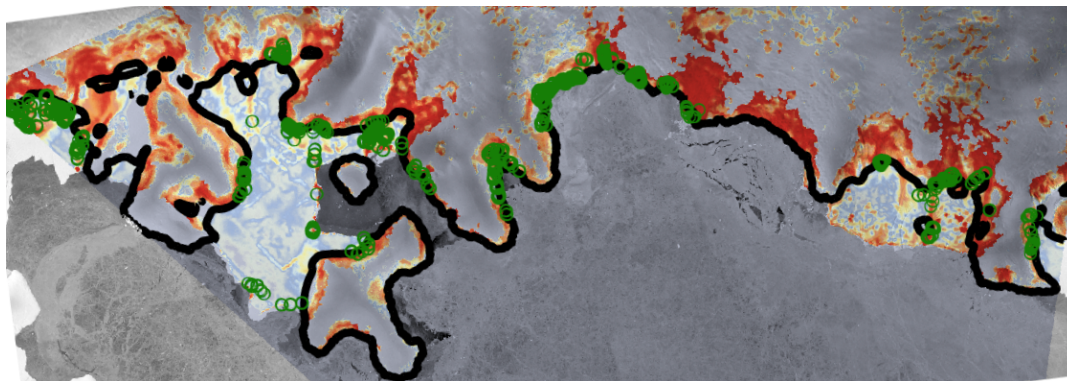
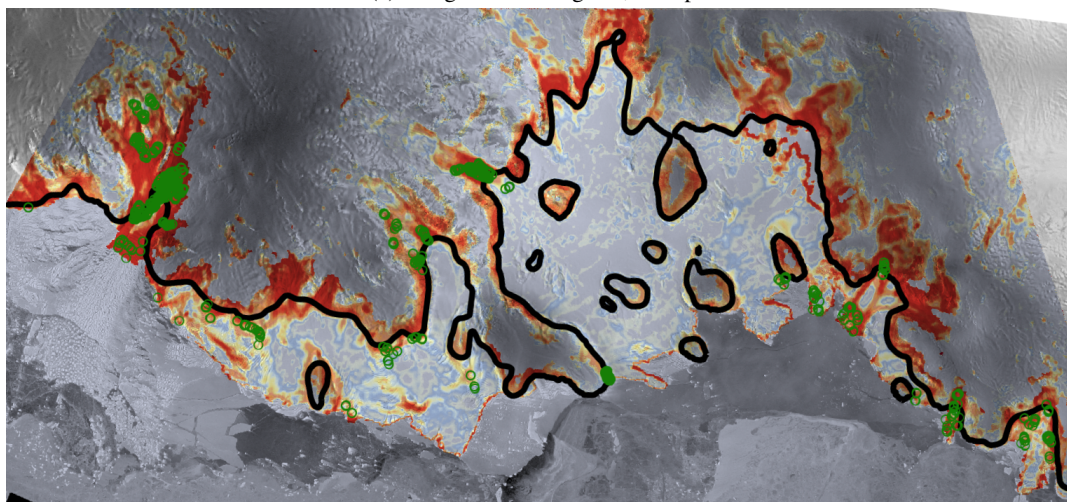



Figure S7. Group 1 and 2: Modelled probability of a fracture for Prince Harald IS (a), Jelbart and Atka IS (b), Wilkins and George VI IS (c) and Getz IS (d). Labels the same as Fig. S1.

(a) Stange and Ferringo IS, Group 1

(b) Nickerson and Sulzberger IS, Group 1

(c) West IS, Group 1

0   0.2   0.4   0.6   0.8   1

<-- Less likely to fracture / More likely to fracture -->

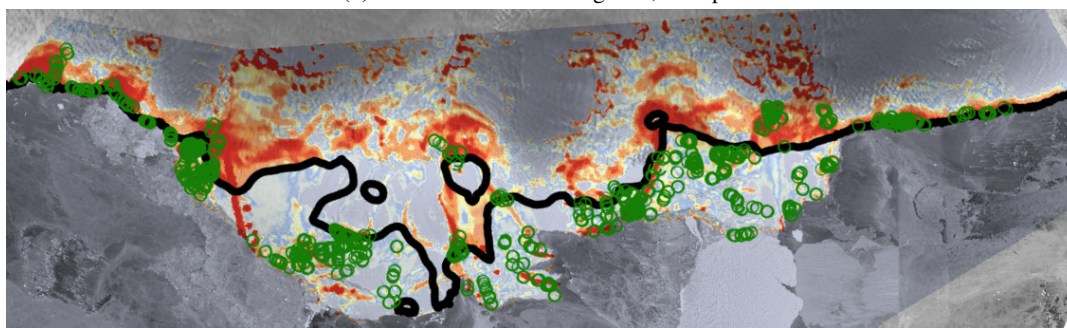
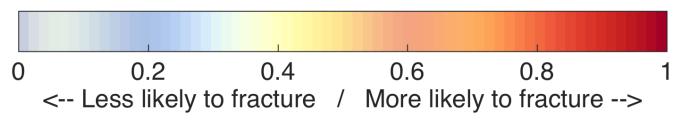



Figure S8. Group 1: Modelled probability of a fracture for Stange and Ferringo IS (a), Nickerson and Sulzberger IS (b) and West IS (c). Labels the same as Fig. S1.

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