

Known issues in ATL14 and ATL15, release 002
October 2022

1. **Ice-front advance and retreat.** (see ATBD section 2.1.3.) The ATL14/15 products are intended to provide surface-height estimates for the ice sheet, and not to include the surface-height changes that happen with ice-shelf fronts advance and retreat (i.e. between the height of the ice-sheet surface and the water as the ice front moves.) A time-varying mask has been applied in Antarctica, but not yet in the Arctic glaciers and or the Greenland ice sheet.
2. **Near-Grounding Zone Tides:** (see ATBD section 2.1.3.) The ATL14/15 products are corrected for the effects of ocean tide fluctuations using tidal constituent outputs from regional tide models. Within grounding zones, ice flexure occurs as the ice transitions from a fully grounded state to a floating state in hydrostatic balance with the ocean. The ATL14/15 Antarctic products include a correction factor applied to the tide model, but surface-height change estimates are still less accurate near grounding lines than they are in other parts of the ice sheets.
3. **Data density in cycles 1 and 2.** (See ATBD section 3.2.) The heights in cycles 1 and 2 come from crossovers between the data in these cycles, which were not measured on the reference ground tracks, and data from the other cycles, which were. As a result, the data density is much smaller for cycles 1 and 2, and the products are generally less accurate and less able to measure details of the height-change field.
4. **Data gaps in ATL14.** The ATL14 product in Antarctica only has one row and column of pixels marked as invalid every 40 km in each direction. The data values should be unaffected around these locations, and we expect to fill in the missing values in an updated version of the product in the near future.