

Firn density profiles simulated with the E3SM Land Model

- Increased number of snow layers from 5 to 16 (a)
- 16 layers extend > 60 m deep
- Relatively high near surface densification in models vs. observations (b)
- Improved density vs. depth with updated compaction model (Arthern et al., 2010)
- Enabled nearly entire transformation from snow to ice on glaciers and ice sheets, a first in ESMs

