

Ice sheet model development for CESM1.1.0 and beyond

Bill Sacks
LIWG Software Engineering Liaison

CESM1.1 Release

Shooting for before Breckenridge workshop

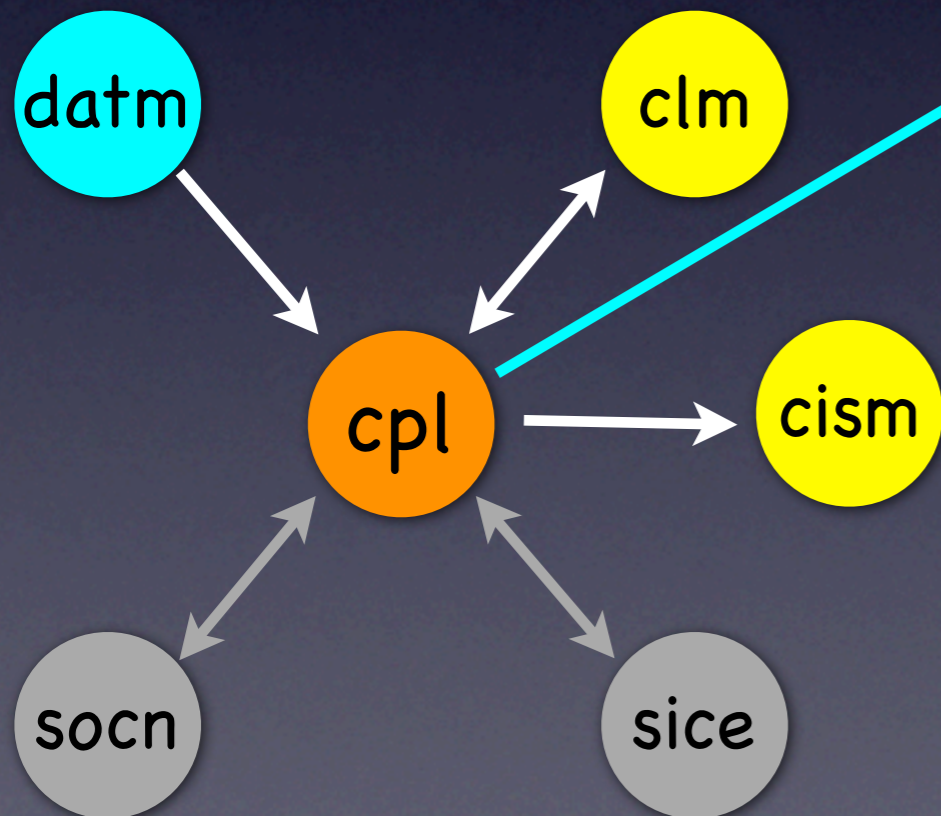
- Ensemble capabilities
 - ▶ Not fully supported by cism
- New grid support
 - ▶ CAM-SE (HOMME grid)
- High-resolution land datasets

New TG Compset

Key: **active** / **data** / stub model

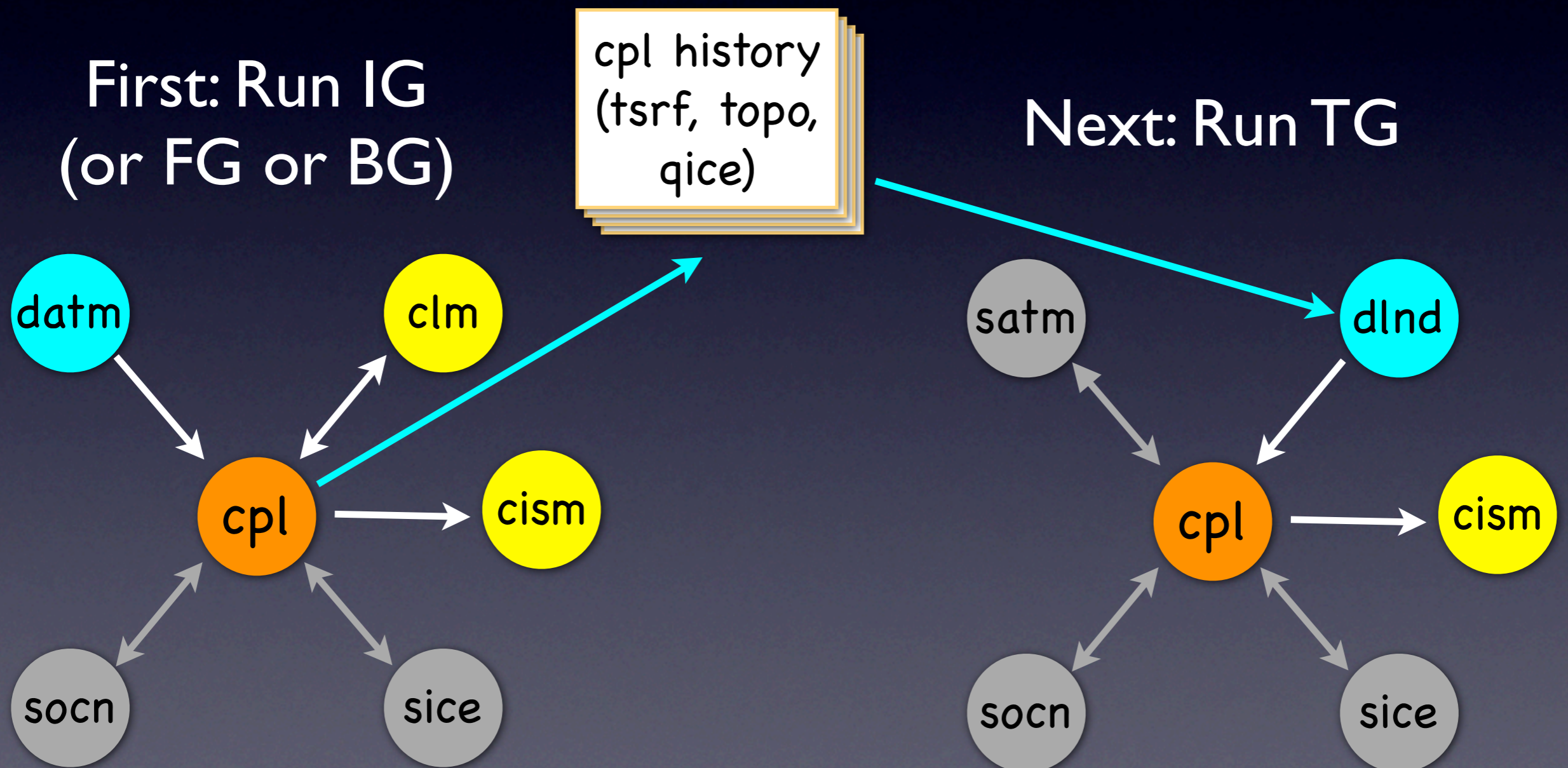
First: Run IG
(or FG or BG)

cpl history
(tsrf, topo,
qice)



New TG Compset

Key: **active** / **data** / stub model

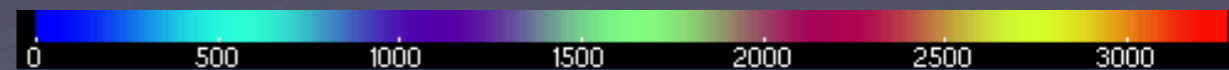
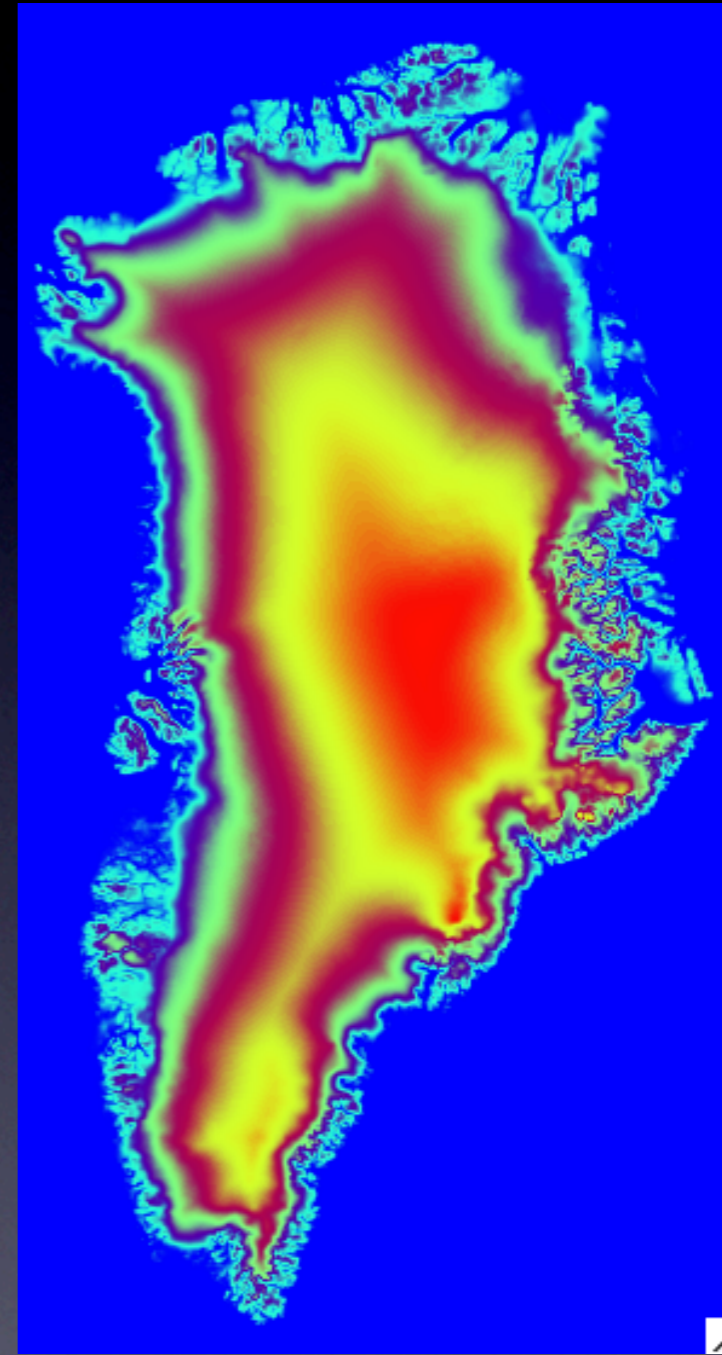


New CISM Features

- CISM2!
 - ▶ SEACISM dynamical core, parallel solvers, etc.
- CISM time manager supports longer time steps
 - ▶ e.g., 1-year time step
- New default Greenland grid: 5 km

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Greenland ice surface upper elevation (m)

Bamber et al. (2001); data set created by Jesse Johnson, Brian Hand, Tim Bocek - University of Montana

New CLM Features

- Improved glacier cover, consistent with CISM over Greenland
 - ▶ Soon, will switch to Alex Gardner's glacier mask
- Ability to output fields averaged only over glacier portion of each grid cell

```
call hist_addfld1d (fname='FSA_ICE', units='watt/m^2', &  
  avgflag='A', long_name='absorbed solar radiation over ice landunits', &  
  ptr_pft=clm3%g%l%c%p%pef%fsa, c2l_scale_type='urbanf', l2g_scale_type='ice')
```