

2019-03-19 All-Hands Meeting - Performance Group Breakout

Date

19 Mar 2019 - 19 Mar 2019

Time

- 3p (MT), Tues, 3/19
- 10a (MT), Wed, 3/20

Remote

- Unfortunately, no speaker phone setup, so remote access unavailable.

Attendees

- Philip Jones
- Sarat Sreepathi
- Hongzhang Shan
- Noel Keen
- Peter Caldwell
- Jayesh Krishna
- Luca Bertagna
- Henry R. Moncada
- Mathias Jacquelin
- Andy Salinger
- Mark Taylor
- J. Austin Ellis
- Hyun-Gyu Kang
- Ben Hillman
- Oksana Guba
- Balwinder Singh
- Mark Petersen
- Adrian Turner

Discussion items

Proposed topics, not in order yet...

Time	Item	Who	Notes
	GPU accelerated v2 model		What sims planned for v2? On Summit? Will we need a GPU-enabled code for that (esp. atm physics)?
	Single precision		
	Best or most useful way to present benchmark results?		
	I/O		
	Communication improvements (1-sided, sea-ice)		
	Gordon Bell submission, simulations		
	MPAS GPU work		

What Actually Happened

[Peter Caldwell](#) and [Sarat Sreepathi](#) discussed some PACE functionality

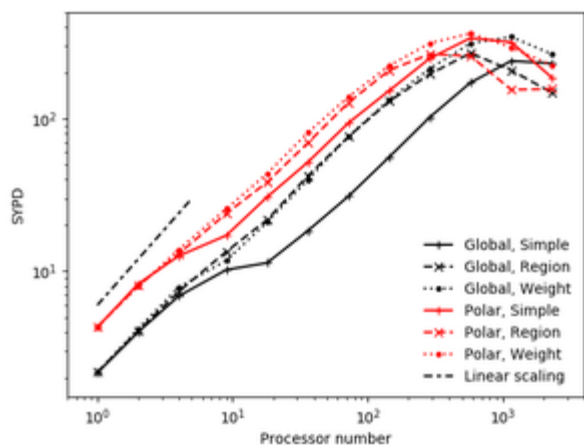
I/O discussion with upcoming PIO2 and ADIOS integration. Issue with restarts and ADIOS when chaining a sequence of jobs.

More discussion on v1/v2 physics. MAM still seems like the best prototyping project - still not clear how much should be ported.

Discussion of Gordon Bell submissions, both this year and next.

Single precision - numbers like 30-40% in other experience, accuracy tests - convergence tests: CLUBB could be run in SP, ocean saw 1.5x improvement with no careful validation

Discussed new load balancing partitions for sea ice that [Adrian Turner](#) has created - need to understand coupler assumptions.



Discussed incremental process for merging MPAS-O mods

[Noel Keen](#) reports that we have been awarded NESAP, so need to determine benchmark/kernel and potential work for postdoc.

Communication improvements - might still be a low priority if need to run at lower node counts. Still a benefit for ocean/ice.