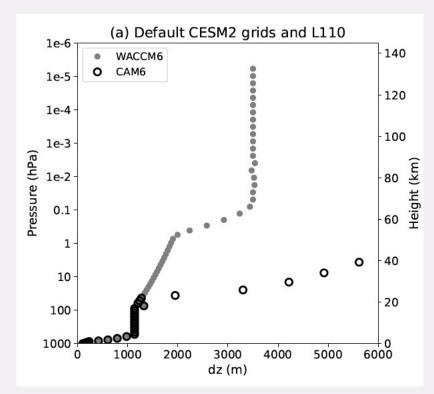


WACCM(X) SURVEY RESULTS

Martina Bramberger, Nick Pedatella, Daniele Visioni

BACKGROUND

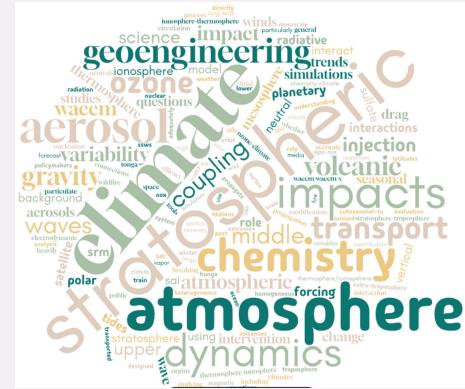
- New CAM development (top at 80km) where now WACCM and CAM stratospheres overlap
- Since their inception, these models have been widely used by the research community for studying the chemistry, dynamics, and physics of the stratosphere, mesosphere, thermosphere, and ionosphere.
- To ensure that WACCM and WACCM-X continue to evolve in a manner that is most useful to the research community
- Want to use results of this survey to help prioritize future model development efforts



Simpson et al. submitted

SURVEY

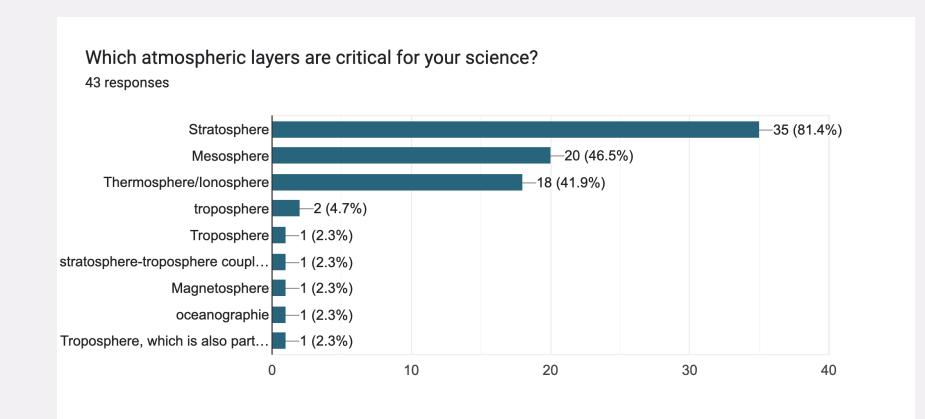
- We received 43 responses resembling the different communities using WACCM(X) quite well
- Most responses from employees at NCAR and CU, but a lot of universities across the US and in Europe participated
- Scientific fields range from
 - Stratospheric Ionospheric dynamics, to
 - Stratospheric Aerosol (Geoengineering, volcanic, etc), to
 - Satellite drag, to
 - Nuclear winter



RESULTS

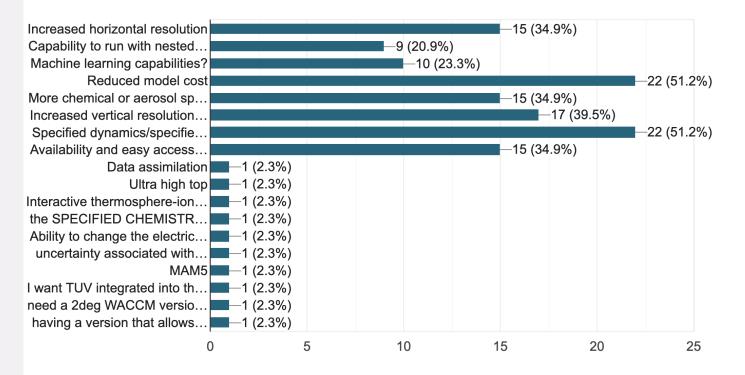
Are you engaged in WACCM/WACCM-X model development? 43 responses -8 (18.6%) Yes 20 (46.5%) No No, but I would be interested -14 (32.6%) I would say not really, but some —1 (2.3%) people think I am -1 (2.3%) 10 15 20 0 5

RESULTS – ATMOSPHERIC LAYERS



RESULTS - DEVELOPMENTS

What developments of WACCM/WACCM-X would you need to support your research? 43 responses



CONCLUSIONS

- Wide interest in science community in mesosphere
- Community clearly asks for reduced model costs and datasets
- ... and also asks for increased model resolution
 - What does that mean for WACCM model versions? Will we include ML to reduce cost?
 - Are we planning on providing a coarse model version and a high-resolution version
 - Are we going to provide specific model runs that then can be used for studies by the science community?

For the Future

- We propose that the Whole Atmosphere Working Group will focus on atmospheric layers from stratosphere and upwards independent of model
- Plan on publishing a paper this year with recommendations which model to use for different research areas