

JIM, BOB, AND SAM

A Day in the Life

JIM

- ◉ I make this guy look normal



In my spare time

- ◎ I find ways to modify my car
 - New wheels, *illegally* tinted windows
 - More efficient electrical consumption
 - Always in pursuit of the perfect sound system



SAM

- System for Atmospheric Modeling
- Current version 6.8.2
- Cloud-resolving model

BOB

- iMac



Things SAM Likes

- Bimodal Aerosol Size Distribution (fed minimum once per day)
- Large-scale forcing information
- u , v , temperature, water content vertical profiles
- Parameterized microphysics

SAM Dislikes

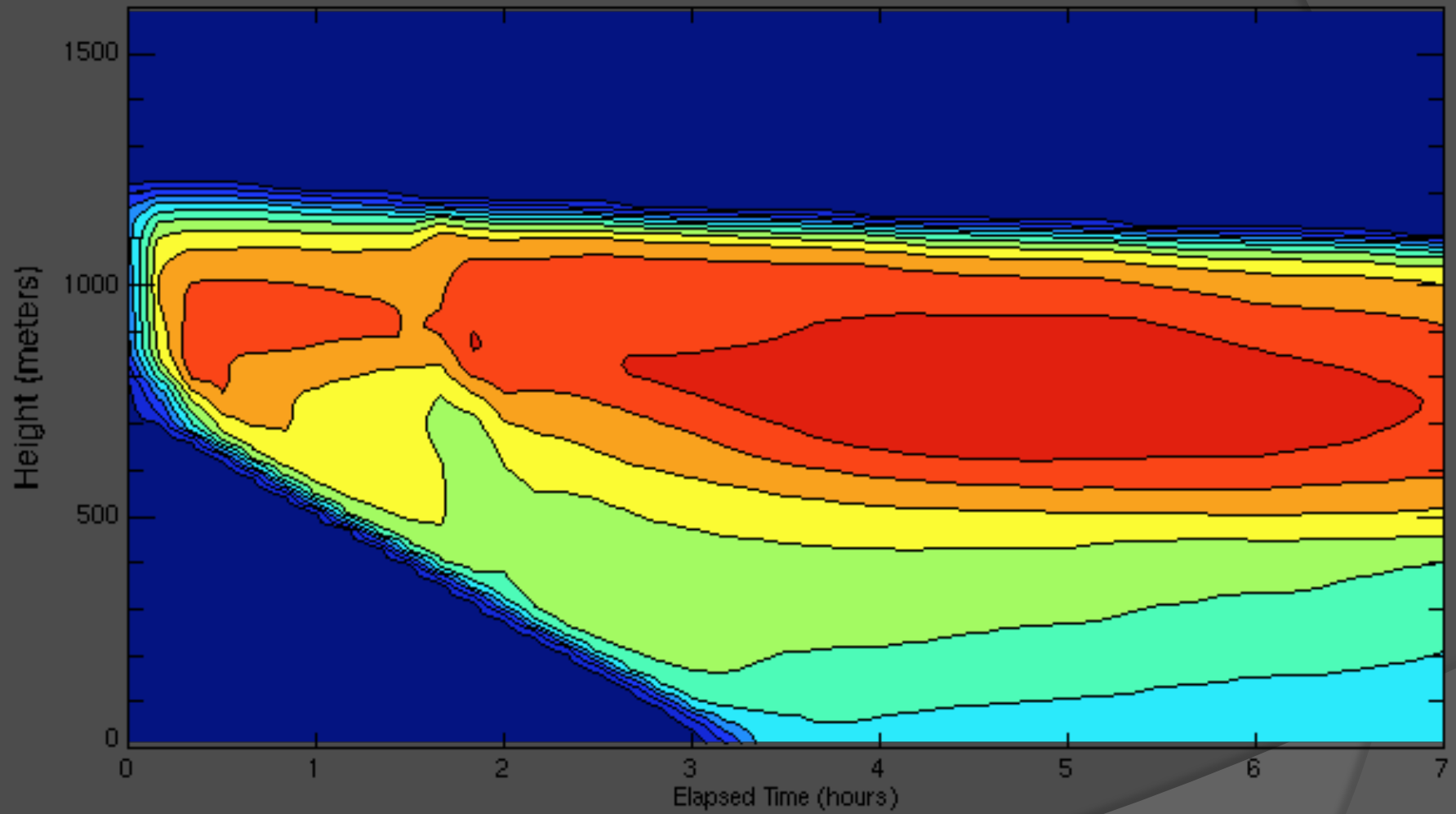
- Ice crystal growth
 - While SAM can faithfully reproduce liquid water concentrations and cloud water numbers very close to observed values, ice water contents are ALWAYS underestimated by several orders of magnitude for the cloud types modeled

In his spare time

- ◉ SAM recreates low-level arctic mixed-phase clouds
 - ISDAC
 - MPACE
- ◉ Sensitivity Studies
 - Vary IN Concentrations by factors of 10
- ◉ Exploring new ways of representing IN
 - DeMott Parameterization
 - Diagnostic (current) versus prognostic (planned) treatments

Cloud ice

g/kg times 1.0e-04



Jul 28, 2011

SAM would like you to know

- ⦿ Clouds matter
 - Important role in climate
- ⦿ We don't know enough about them
- ⦿ Things are getting better
 - slowly



I DARE YOU TO ASK
ME QUESTIONS