Book on History of Global Modeling
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Scope

• Primarily atmospheric models, with limited treatment of ocean coupling, chemistry, bio- and geo-chemical interactions
• Emphasis on AGCMs for climate applications
• Intended audience will have at least a couple of years of college physical science
• Length ~200-300 pages
Structure

• Invite authors for key chapters
• For atmosphere, rough outline could start with Richardson and Charney NWP experiments moving forward to first-generation NWP and climate AGCMs, then to coupled ocean-atmosphere models
Next Steps (over next 6 months)

• Establish WG: Leo Donner, Wayne Schubert, Richard Somervelle + ?
• Identify chapter topics
• Develop time line for writing, editing, and publication
• Identify and invite chapter authors
Immediate Action Items

• Establish budget for book
• “Market survey”: Paul Edwards (Program in Science, Technology, and Society, Stanford University) may be publishing book with similar intended audience
Provisional Chapters-I

• From Richardson to early NWP
• From early NWP to climate GCMs
• NWP in the era of climate GCMs and their relationship to each other
• The evolution of research goals for AGCMs
• The evolution of complexity in AGCMs
Provisonal Chapters-II

• The role of observations in developing and evaluating GCMs
• The societal context of GCM research and development
• Coupling AGCMs to oceans, land, chemistry, and biology
Possible Authors-I

• From Richardson to early NWP: Peter Lynch, Joe Pedlosky, Norm Phillips, George Platzman

• From early NWP to Climate GCMs: Lennart Bengtsson, Akira Kasahara, Warren Washington

• The evolution of research goals for GCMs: Jim Hansen, John Mitchell, Suki Manabe
Possible Authors-II

- The evolution of complexity in GCMs-Akio Arakawa, Dave Randall, Eric Roeckner, Tony Slingo
- The role of observations in developing and evaluating GCMs-Bob Atlas, Bill Rossow, Graeme Stephens, Kevin Trenberth, Bruce Wielicki
- The societal context for GCM research-Micky Glantz, Jerry Mahlman, Steve Schneider
- Coupling-Kirk Bryan, Ralph Cicerone, Paul Crutzen, Jorge Sarmiento, Dave Schimel