Knowledge Transfer to Climate Modeling Centers (WG 11)

Goals from Implementation Plans

General aims of this working group:

- Provide improved tools for simulation of cloudiness to modeling centers; &
- Provide innovative tools for evaluation of these simulations.

Specifically, our tasks from the implementation plan are:

- Provision of prototype MMF to modeling centers and collaboration on its application to climate models;
- Provision of improved parameterizations to climate modelers; &
- Provision of advanced diagnostics tools to climate modelers

Opportunities and Challenges

- **Goals:**
  - Provision of prototype MMF to modeling centers and collaboration on its application to climate models;
  - Provision of improved parameterizations to climate modelers; &
  - Provision of advanced diagnostics tools to climate modelers

- **(Hypothetical) reasons for centers to engage:**
  - Demonstrable improvements of physical fidelity of parameterizations.
  - Utility of MMF and diagnostics to understand AOGCM behavior.
  - Breakthroughs in understanding cloud-climate feedbacks.

- **Impediments:**
  - NIH (“not invented here”)
  - IPCC and other competing priorities

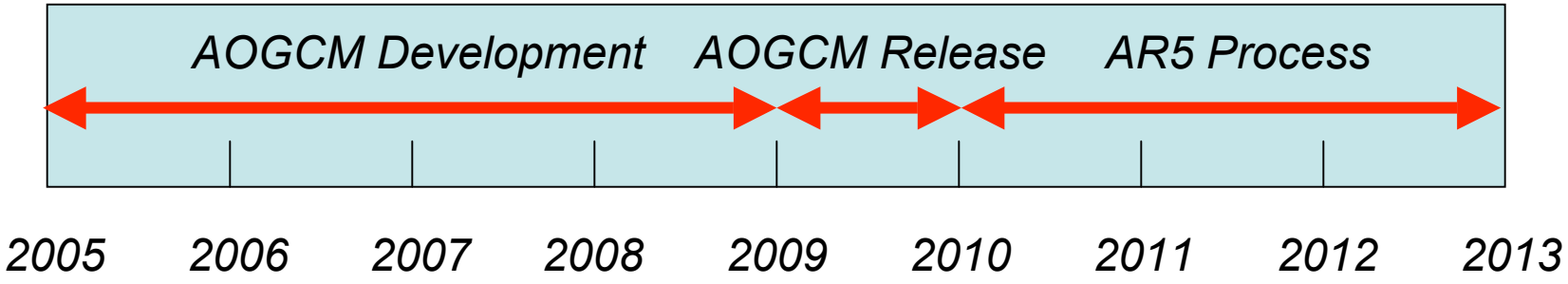
The timeline for IPCC AR5

Assumptions:

- It is likely that the AR5 report will be issued 6 years after AR4, in 2013.
- Following the precedent in AR4, the simulations will have to be finished three years ahead, in 2010.

- **Therefore the climate modeling centers need to be ready in 2009 (at the latest).**
- **This means the modeling centers have just 3 years to accomplish our objectives.**

- **This has implications for the interaction of CMMAP with the centers.**



Recommendations & General Action Items

- **Recommendation:**
  Knowledge Transfer coordinator would also serve as liaison to traditional modeling centers.

- **Action Items:**
  - *Develop student/post-doc interactions among CMMAP and modeling centers.*
  - *Develop interactions among CMMAP and other high-res. modeling projects affiliated with centers*
  - *Long-term: Foster feedback from centers to CMMAP on implications of advanced parameterizations for climate feebacks, simulations of past/present/future climate.*

Interactions with the Modeling Groups

- How best to foster interactions?
  One suggestion: students and post-docs.

- Sources of students and post-docs:
  - *Students and post-docs funded through CMMAP*
  - *Students and post-docs at the modeling centers.*

- CMMAP members @ centers can act as
  - *Post-doc mentors*
  - *Members of PhD committees*

- Research topics:
  - *Differences in, e.g., MJO between CAM-SP, CAM, CCSM, etc.*

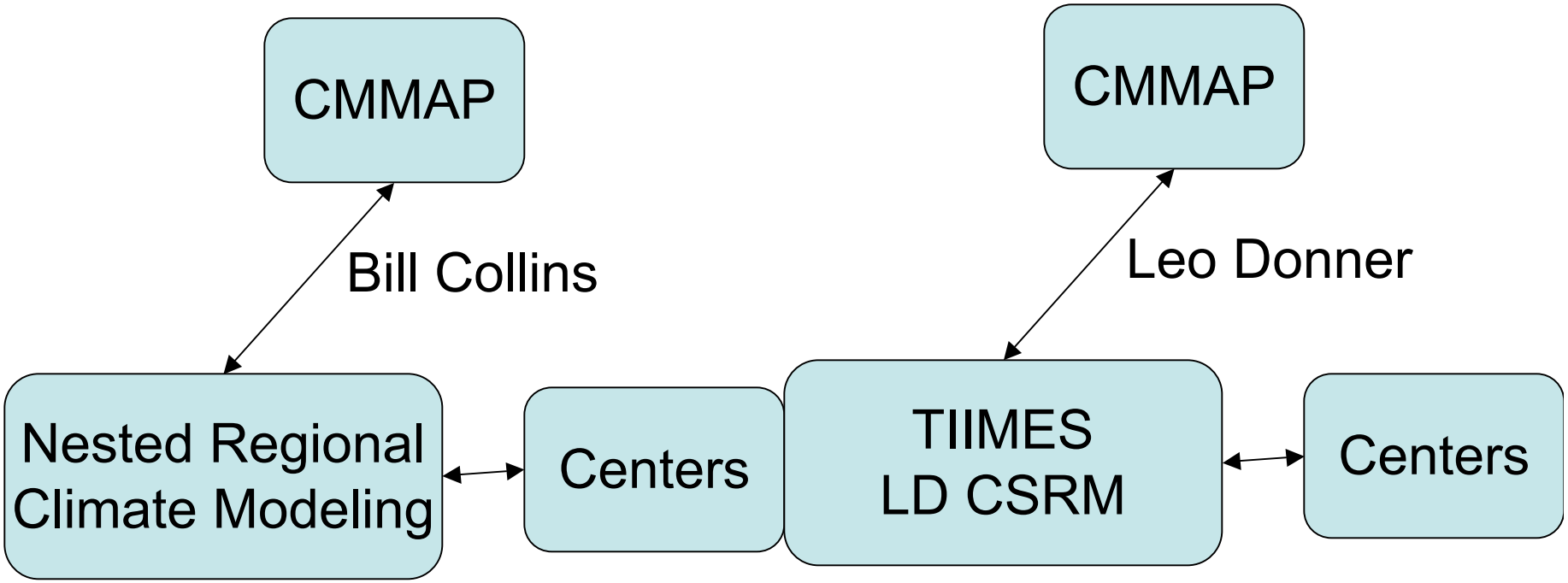
Action Items for Students

- Survey MS and PhD students with CMMAP faculty interested in opportunities at centers
  (Bill Collins)

- Survey resources to foster visits for PhD students and fellowships for postdoctoral fellows
  (Bill Collins & Rossow, Leo Donner, Howard Barker)

- Work with KT Coordinator to create student-resource corner on CMMAP website
  (Bill Collins)

Action Item: Foster exchange with other Processing-oriented modeling efforts



Longer-term Goal: Feedback Loop