

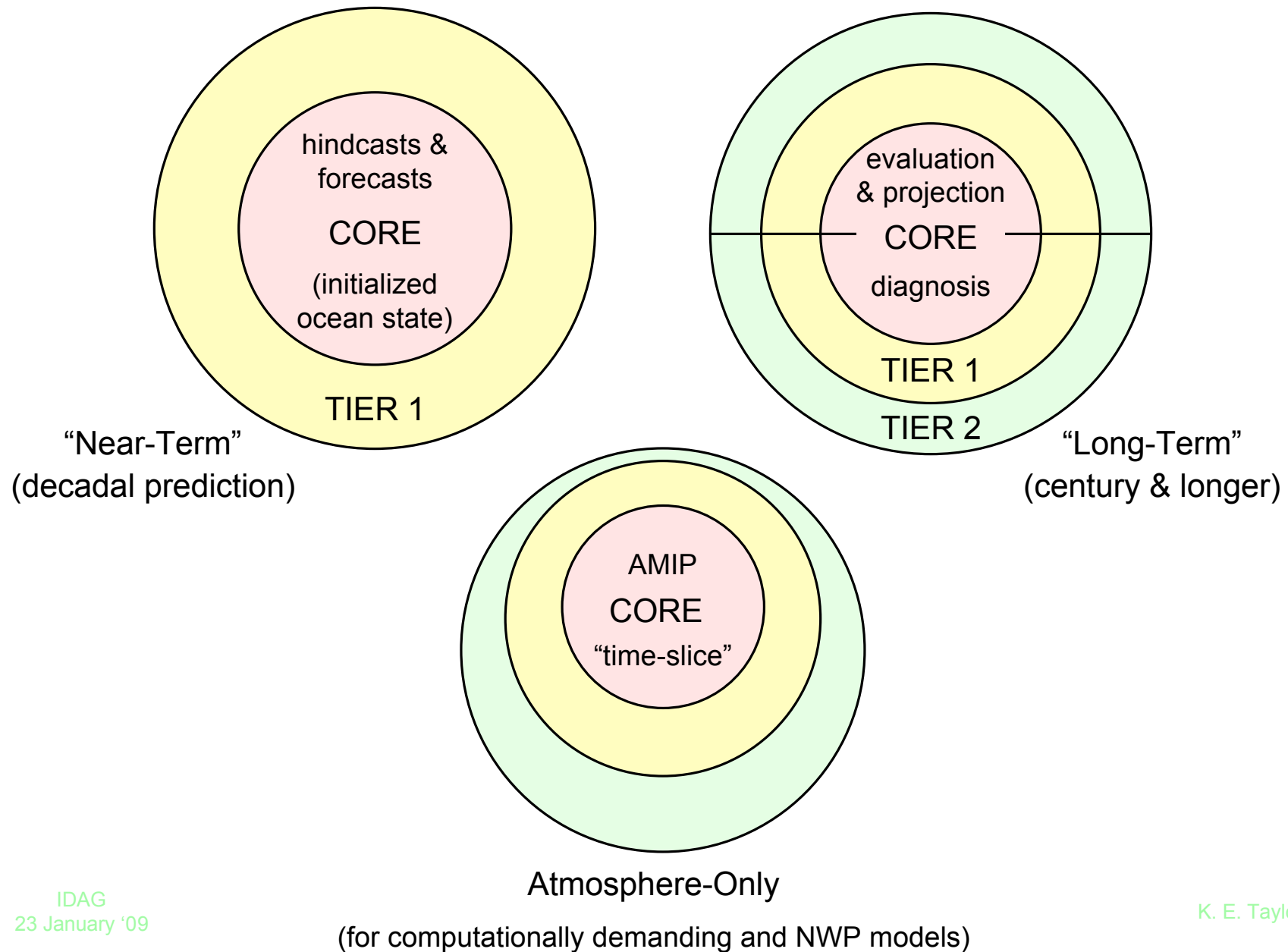
# CMIP5 Simulation Plans

Karl E. Taylor  
(representing the WGCM's CMIP Panel)

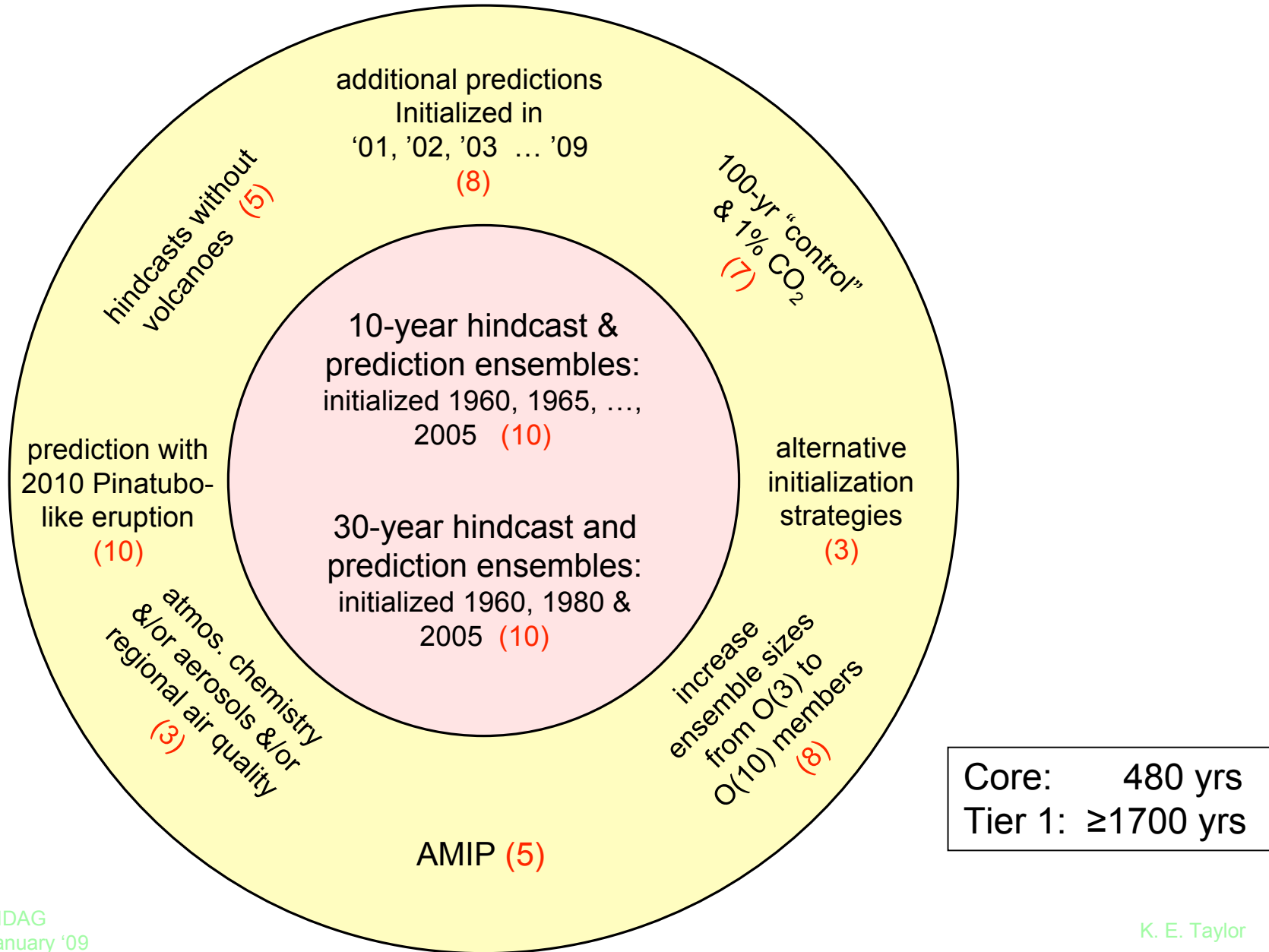
Presented by *Greg Flato*

Program for Climate Model Diagnosis and Intercomparison

# CMIP5: Three Suites of Experiments

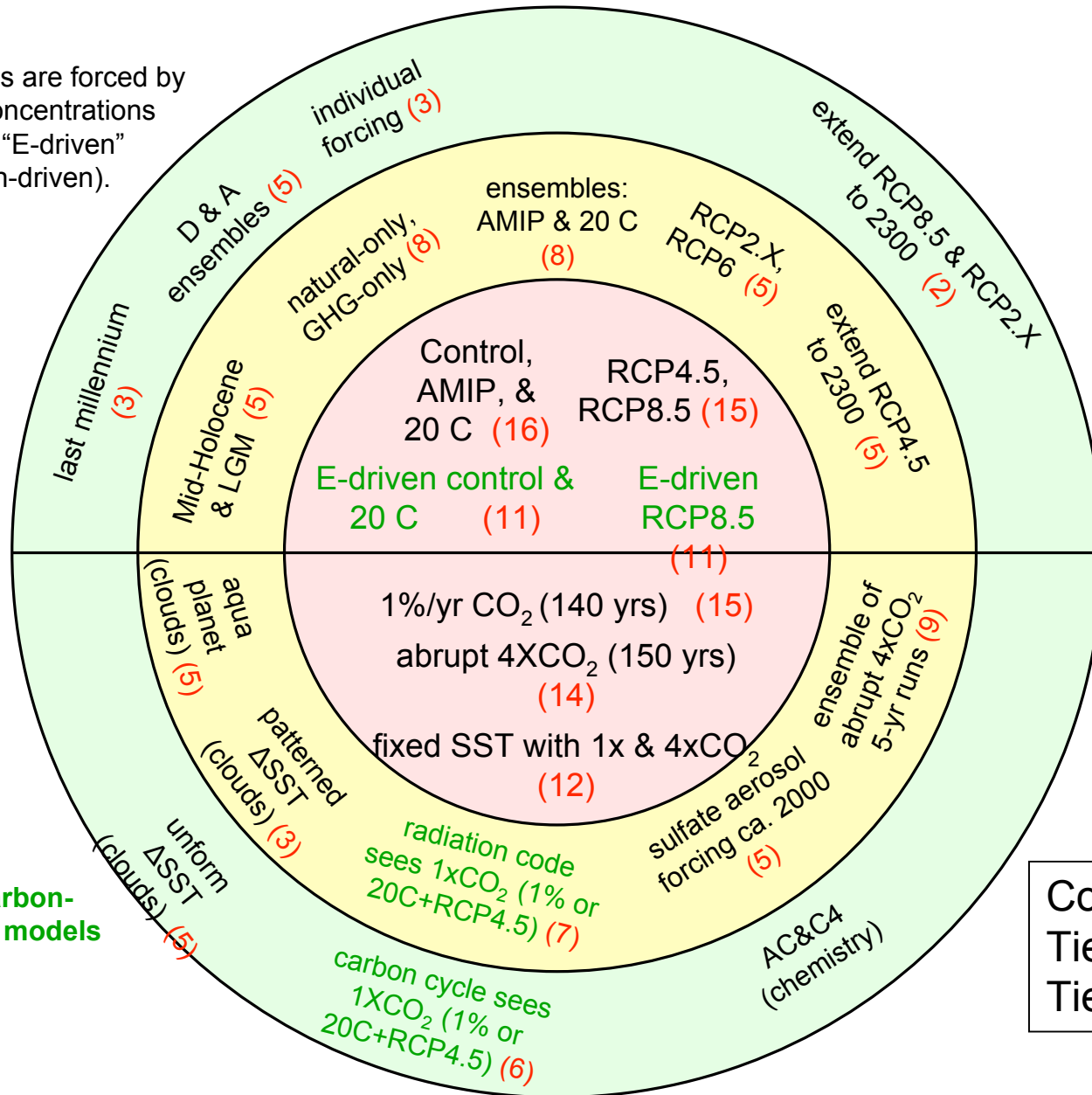


# CMIP5 Decadal Prediction Experiments



# CMIP5 Long-term Experiments

All simulations are forced by prescribed concentrations except those "E-driven" (i.e., emission-driven).



Coupled carbon-cycle climate models only

IDAG  
23 January '09

Core: ≥1718 yrs  
Tier 1: ≥1727 yrs  
Tier 2: ≥2038 yrs

K. E. Taylor

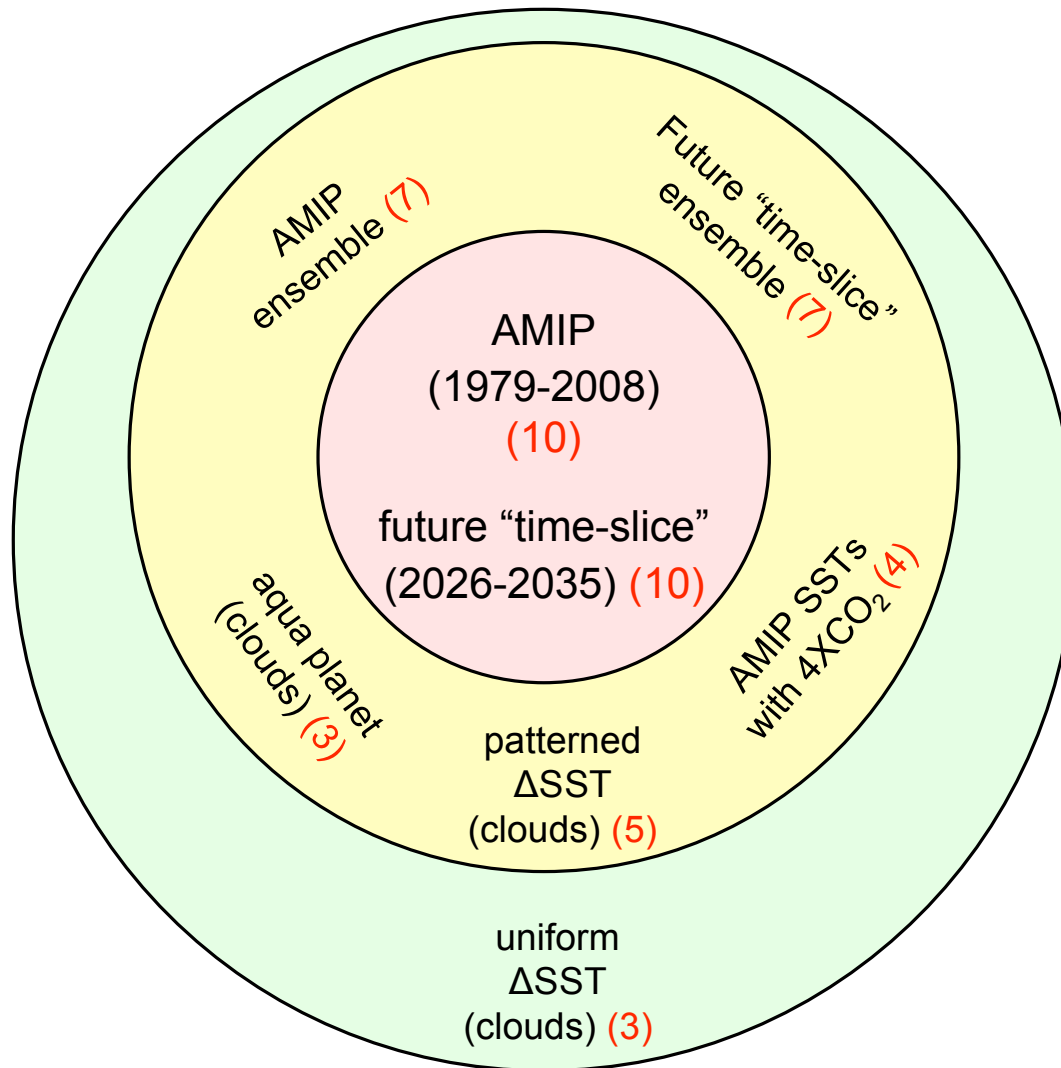
## CMIP5 summary of years requested (long-term only)

Experiment	length of run (years)				
	AOGCMs and coupled carbon/climate models			Coupled carbon/climate models only	
	Core	Tier 1	Tier 2	Core	Tier 1-2
Model evaluation (control, historical & AMIP)	686	≥372		407	
Future projections (prescribed concentration)	190	390	400		
Future projections (Emissions -driven)				95	
Understanding differences in projections (diagnostic runs)	350	160			≥140
Paleoclimate		≥200	1000		
Detection & attribution		312	≥468		
<b>Totals:</b>	<b>1226</b>	<b>≥1434</b>	<b>≥1868</b>	<b>≥640</b>	<b>≥140</b>

CMIP3: Avg. years simulated=2800 (500-8400, med=2200)

# CMIP5 Atmosphere-Only Experiments

(targeted for computationally demanding and NWP models)



Core:	40 yrs
Tier 1:	≥185 yrs
Tier 2:	30 yrs

## Summary of CMIP5 participation

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- 12 modeling groups responded to request
- 24 different models registered (+17 QUMP)
- At least 5 other modeling groups expected to participate (Canada, Germany, Italy, Korea, USA)

<b>Experiment Suite</b>	<b>Likely # of models</b>	<b>Total simulated years expected</b>
"Decadal" prediction	10	<b>14053</b>
Longer term	16	<b>76147</b>
Atmosphere-only	10	<b>1977</b>
		<b>92177</b>

## Anticipated AR5 WG1 Meetings (AR4 time line plus 6 years)

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- Scoping meetings
  - Spring/fall 2009?
- 1<sup>st</sup> Lead Authors meeting - Sept 2010
- 2<sup>nd</sup> Lead Authors meeting - May 2011
- 3<sup>rd</sup> Lead Authors meeting - Nov 2011
- 4<sup>th</sup> Lead Authors meeting - Jun 2012
- Plenary - Jan/Feb 2013
- NOTE: WGII and WGIII plenaries in 2014



## Estimated deadlines for WG1 contributions

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- Papers accepted - May 2011
  - 2<sup>nd</sup> Lead Authors meeting
- Data available to public - Dec 2010
  - Between 1 and 2 LA meetings
- Runs done Summer 2010
  - Analysis will begin
  - No firm sunset date for data to be made public
- Several groups plan to begin simulations now.

# Forcing specifications

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- Integrated Assessment Model Consortium will provide
  - Concentrations
  - Emissions
  - Time-evolving land-use change
- Atmospheric Chemistry and Climate (AC&C) will convert this to global grids.
- Schedule:
  - Pre-industrial values by end 12/08
  - Historical values through 2005 by 3/09
  - Future scenarios by 7/09
- Solar and volcanic??

# Model Output

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- Don't panic (but I am)!
- Output list should be available soon
- New:
  - Carbon cycle
  - Satellite simulator output (ISCCP, Calipso, ?)
  - High frequency (daily) precip., temperature & ??? for full historical and projection simulations.