

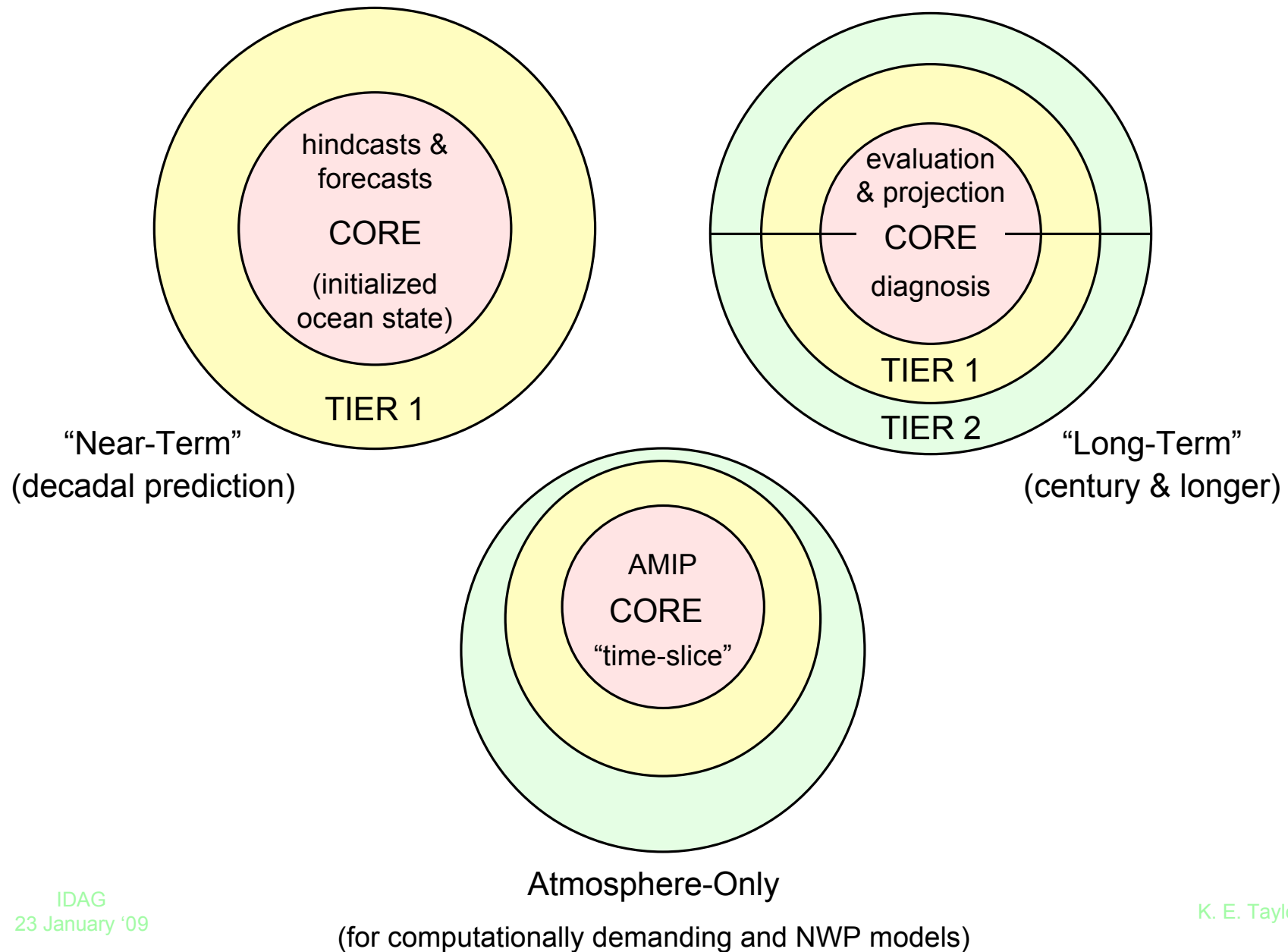
CMIP5 Simulation Plans

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

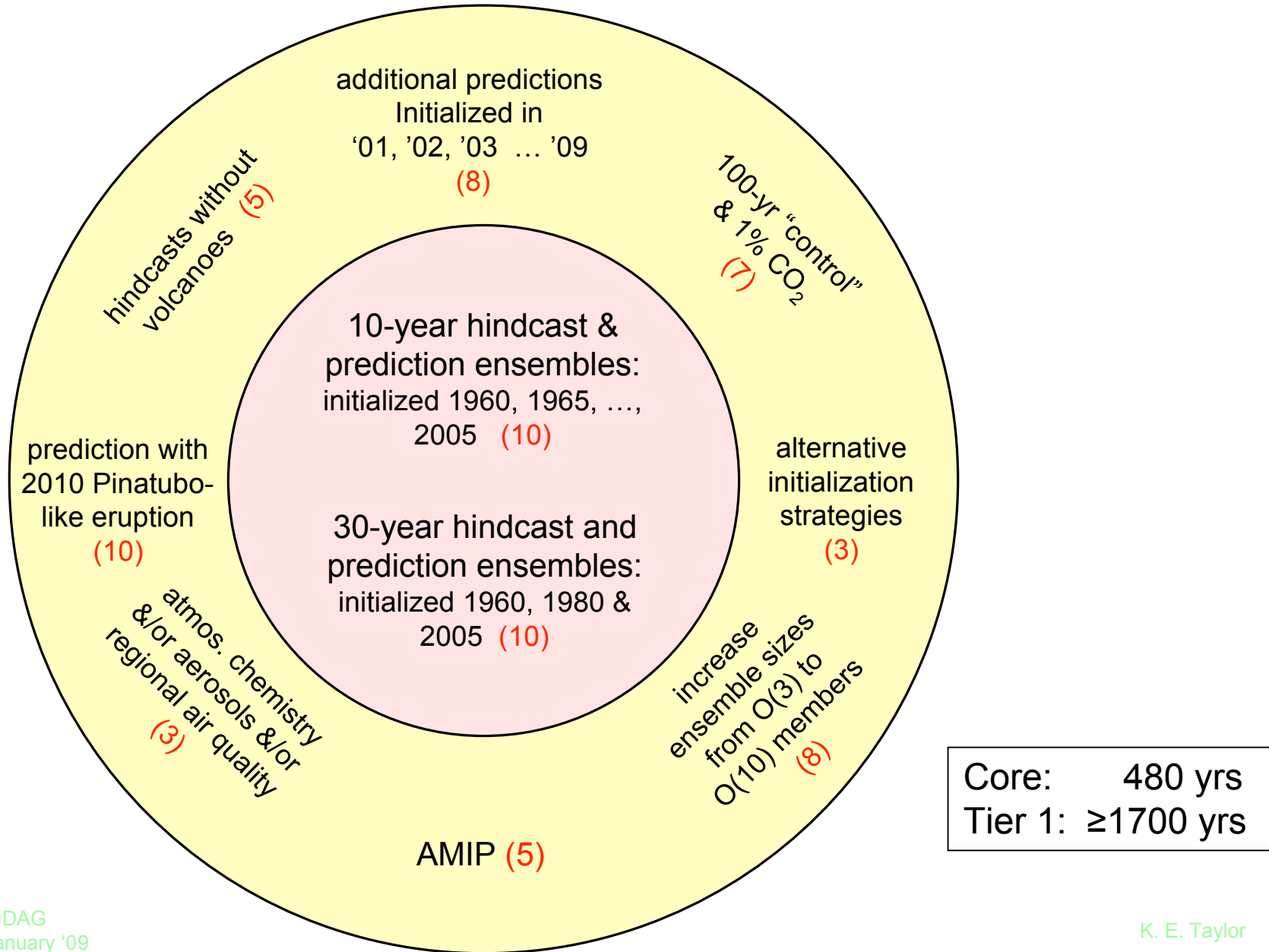
Presented by *Greg Flato*

Program for Climate Model Diagnosis and Intercomparison

CMIP5: Three Suites of Experiments

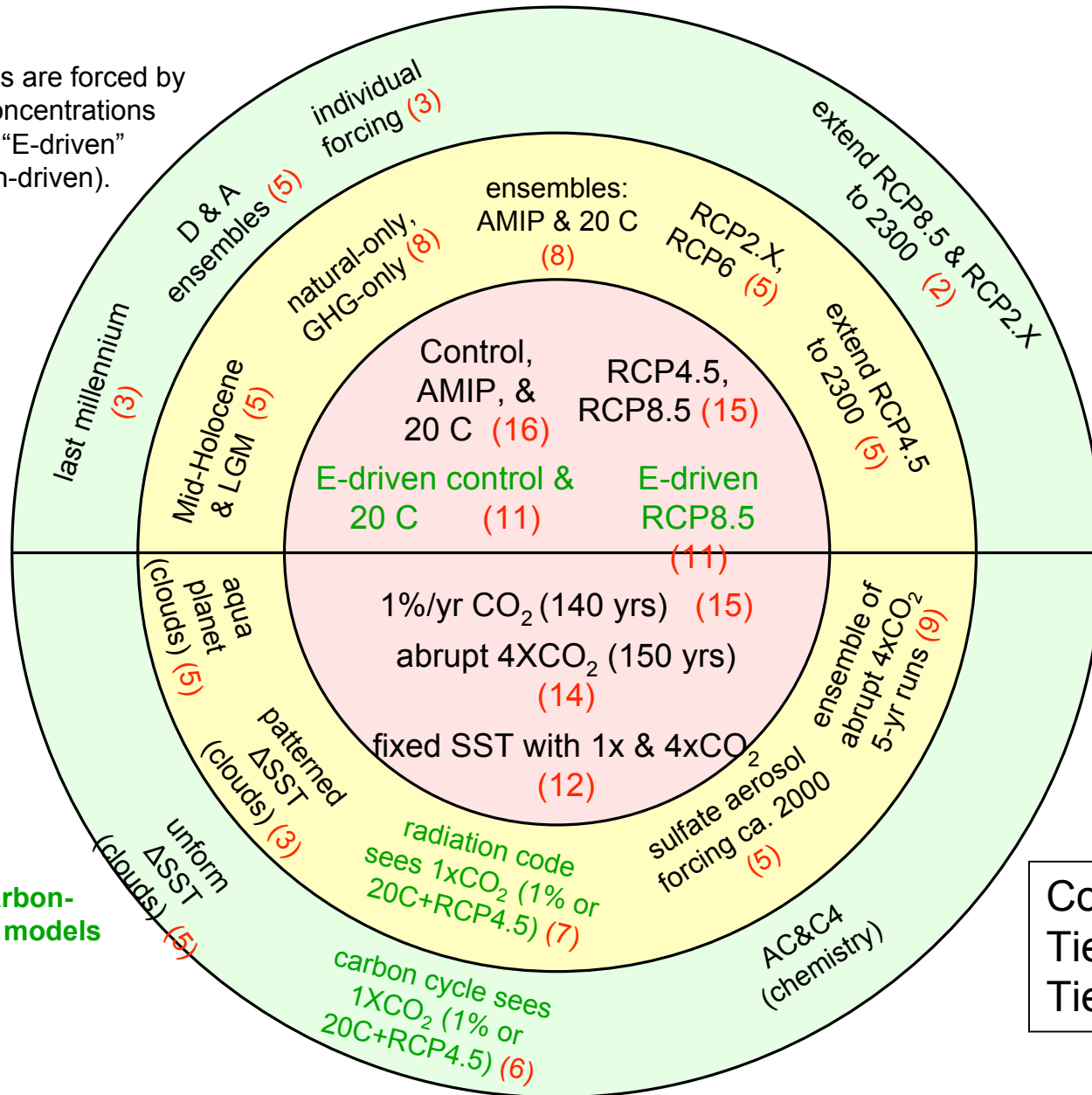


CMIP5 Decadal Prediction Experiments



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

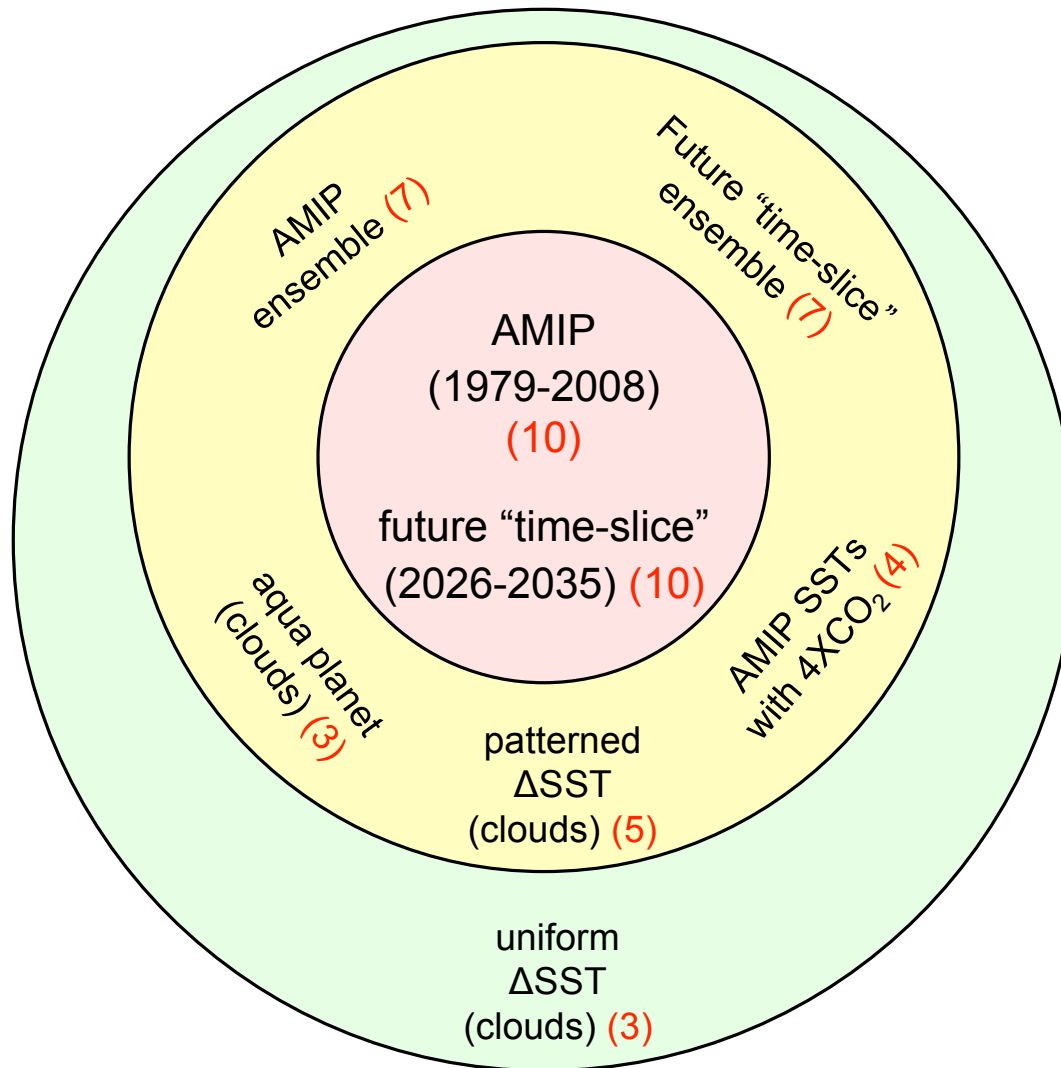
CMIP5 summary of years requested (long-term only)

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		
Totals:	1226	≥1434	≥1868	≥640	≥140

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

- 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)

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

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

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

Estimated deadlines for WG1 contributions

- Papers accepted - May 2011
 - 2nd 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

- 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

- 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.