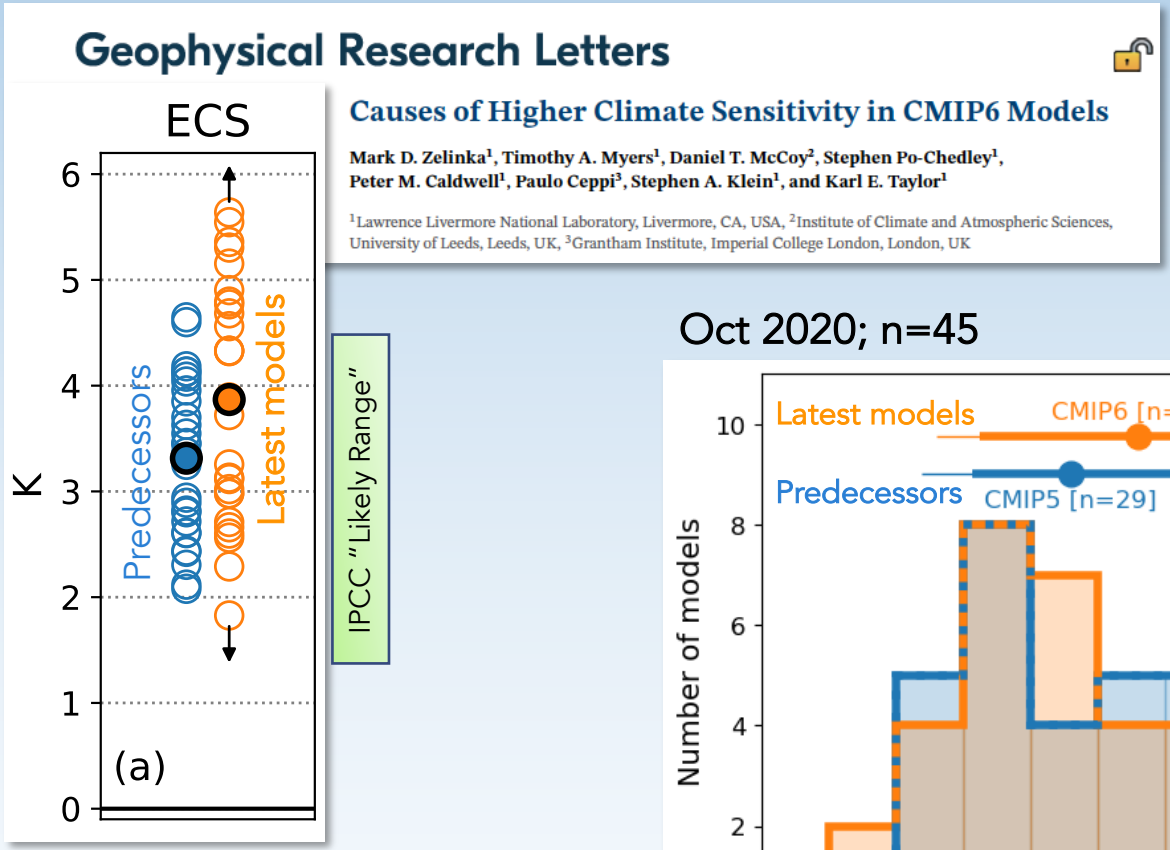
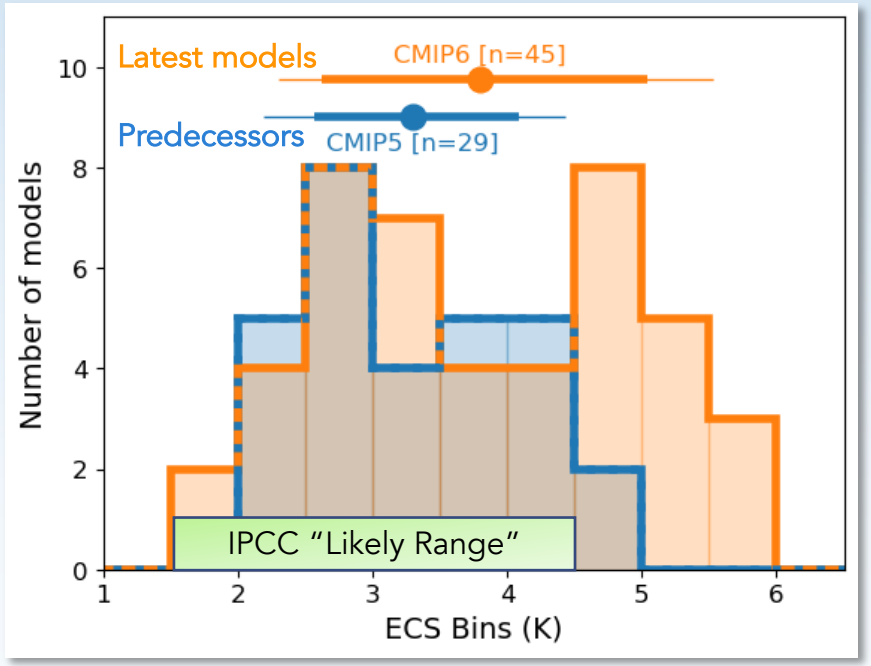
Mark Zelinka
zelinka1@llnl.gov
@mzelinka

Apr 2019; n~15

Sep 2019; n=27



Oct 2020; n=45



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LLNL-PRES-817827

PCMDI Earth System Model Evaluation Project

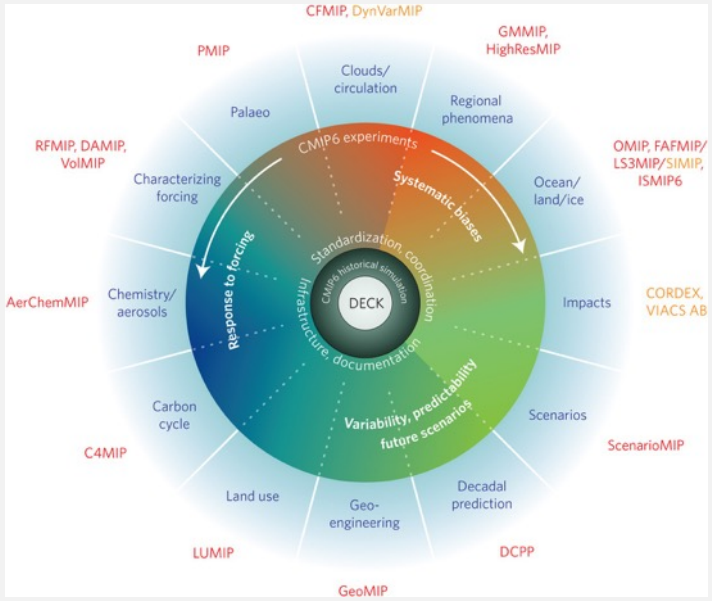
How were we able to (relatively quickly) inter-compare results from dozens of global climate model simulations performed all over the world, find out why they are more sensitive than their predecessors, and identify the root causes?

x100

Coordinated Experiments

WCRP CMIP6

World Climate Research Programme

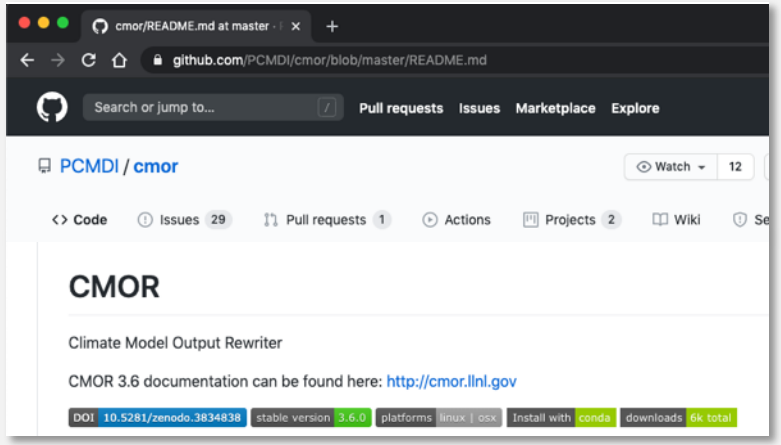


Standard Inputs

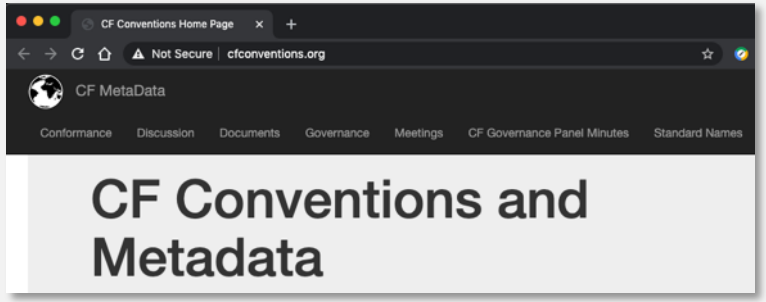
input4MIPs

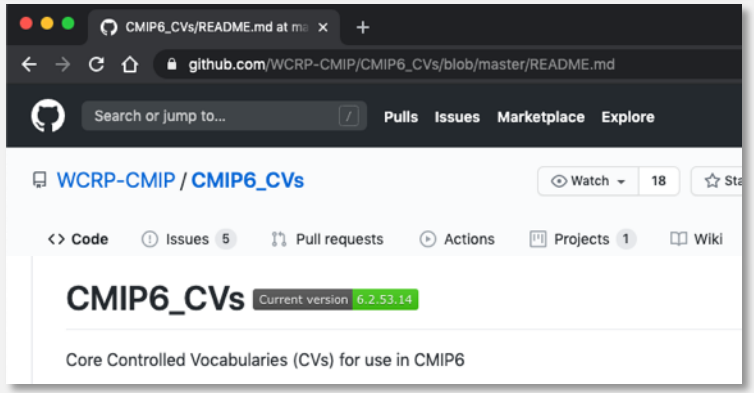
input datasets for Model Intercomparison Projects

Software to prepare & check output

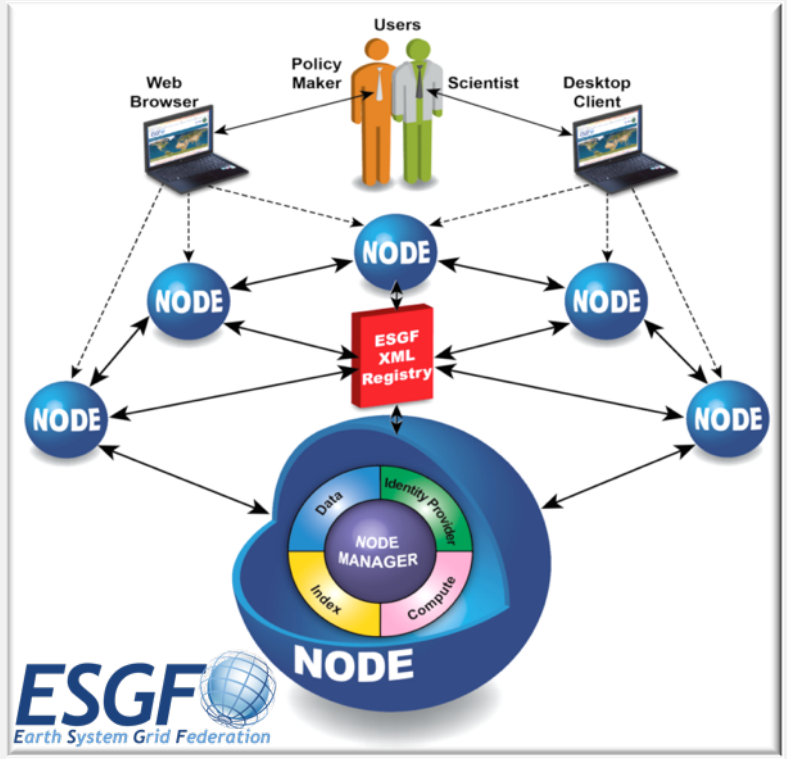


Standard Output (fields, vocabularies, formats, etc.)





Decentralized Data Distribution



Community Evaluation Tools

obs4MIPs

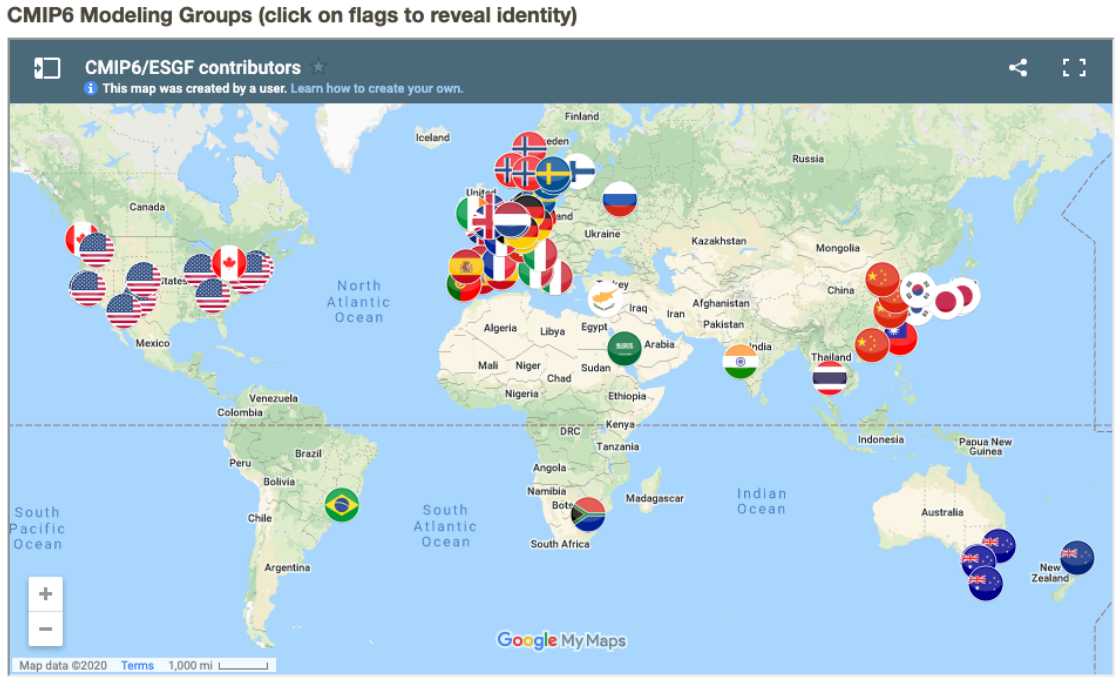
Observations for Model Intercomparisons Project

CMEC

Coordinated Model Evaluation Capabilities

CMIP6	7,332,043 total datasets 16,528.09 TB	3,581,398 distinct datasets 9,441.88 TB	3,750,645 replica datasets 7,086.22 TB
CMIP5	201,129 total datasets 5,294.68 TB	52,163 distinct datasets 1,527.12 TB	148,966 replica datasets 3,767.56 TB

Modeling Centers (114)



Data Nodes (30)

PCMDI Earth System Model Evaluation Project

ESGF Earth System Grid Federation