

Introduction to GFDL Earth System Models

Presented by

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Using GFDL ESMs for NOAA goals



GFDL

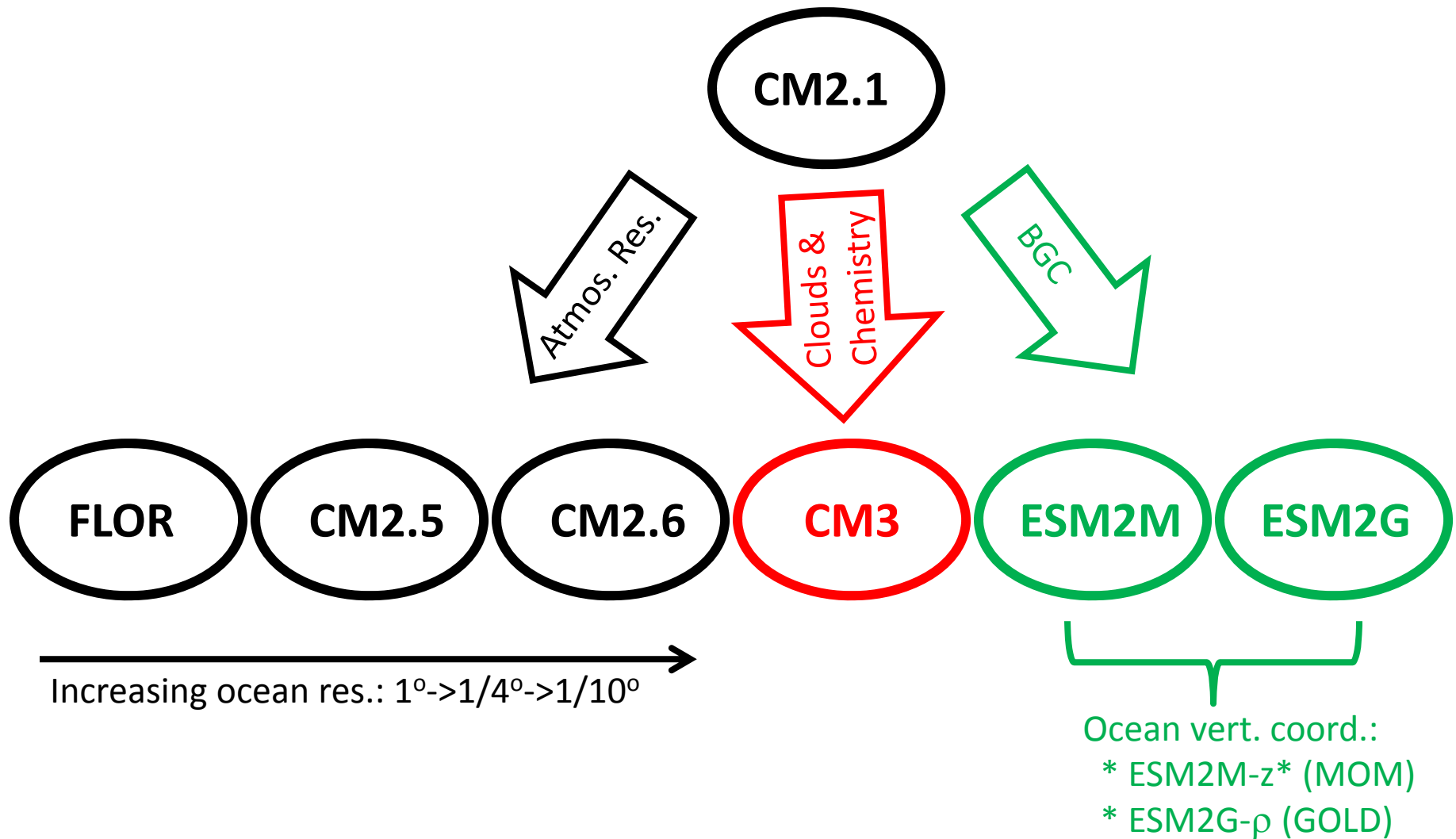


ESMs

NOAA Strategic Goals:

- Climate adaptation and mitigation
- Weather-ready nation
- Healthy oceans
- Resilient coastal communities and economies

GFDL ESM Genealogy



GFDL ESM Components

Sea Ice	Land	Atmosphere	Ocean	Ocean BGC
SIS	LM2	AM2	MOM4.1	miniBLING
	LM3	AM3 (chem.)	MOM5	BLING
		HiRAM	GOLD	TOPAZ
				COBALT

SIS2

LM4

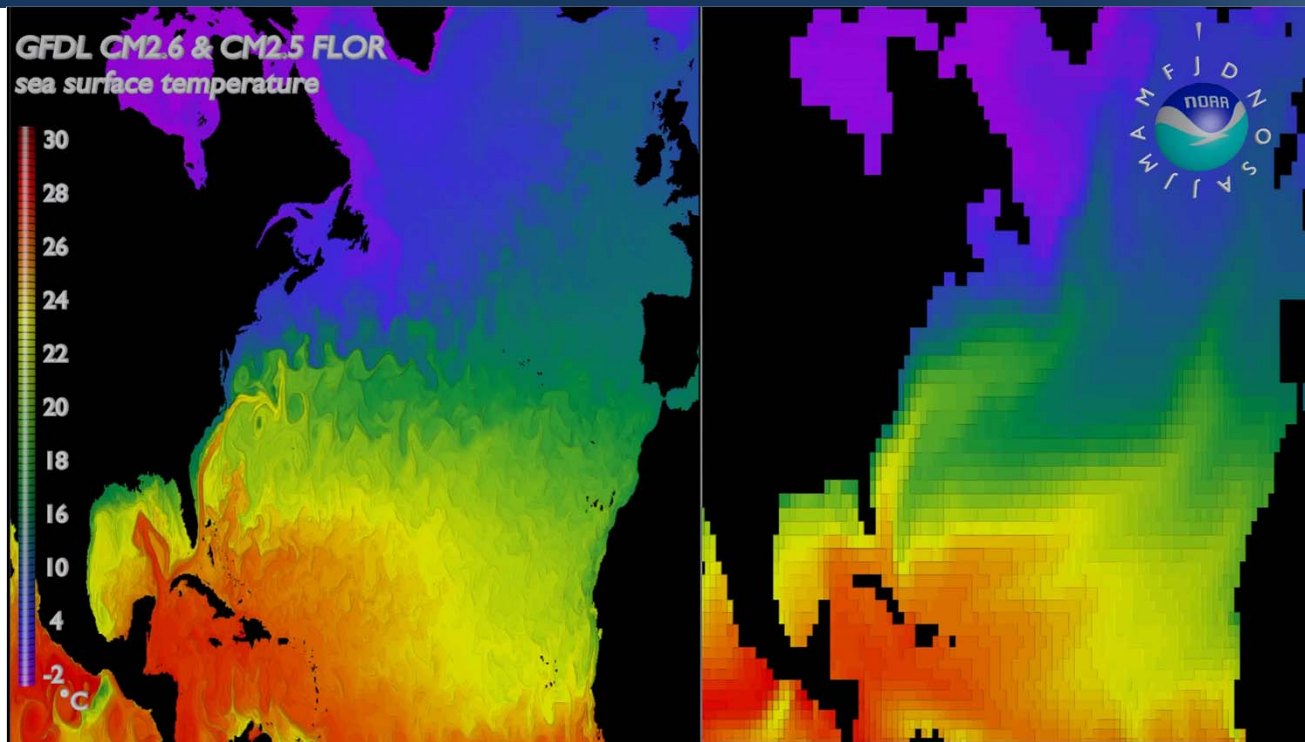
AM4

MOM6

GFDL 5-10 year strategic plan (2011):

- **CM4** to be the next generation climate model
- Trunk configuration: 0.5° atmosphere; 0.25° ocean

Using GFDL OBGCs to optimize science



Animation: Whit Anderson

Model	Cost	Throughput
Workhorse spec	1/8 Gaea	5 yrs/day
CM2.6	1/6 Gaea	2 yrs/day
ESM2.6 (COBALT)	1/6 Gaea	.4 yrs/day
CM2.6miniBLING	1/5 Gaea	2 yrs/day

Earth System Model Components

