

Day 50 Kernel Radiative Forcing Comparison

G305M_ISCCP	Model	Climate	C/M %	Obs	O/M %	SHOC 2M 301K	
LWCF	40.64	18.10	44.54%	10.57	26.01%	1km resolution, 64km grid	
SWCF	-32.83	-13.57	41.33%	-13.24	40.33%		
NCF	7.81	4.53		-2.66			
G505M_ISCCP	Model	Climate	C/M %	Obs	O/M %	SHOC 2M 305K	
LWCF	25.17	19.93	79.18%	11.90	47.28%	1km resolution, 64km grid	
SWCF	-26.06	-18.06	69.30%	-17.84	68.46%		
NCF	-0.89	1.86		-5.94			
G205_ISCCP	Model	Climate	C/M %	Obs	O/M %	NOSHOC 1M 301K	
LWCF	35.27	20.36	57.73%	13.44	38.11%	1km resolution, 64km grid	
SWCF	-41.42	-28.70	69.29%	-28.39	68.54%		
NCF	-6.15	-8.34		-14.95			
G405_ISCCP	Model	Climate	C/M %	Obs	O/M %	NOSHOC 1M 305K	
LWCF	39.19	21.51	54.89%	13.70	34.96%	1km resolution, 64km grid	
SWCF	-42.07	-24.81	58.97%	-24.55	58.36%		
NCF	-2.88	-3.30		-10.85			

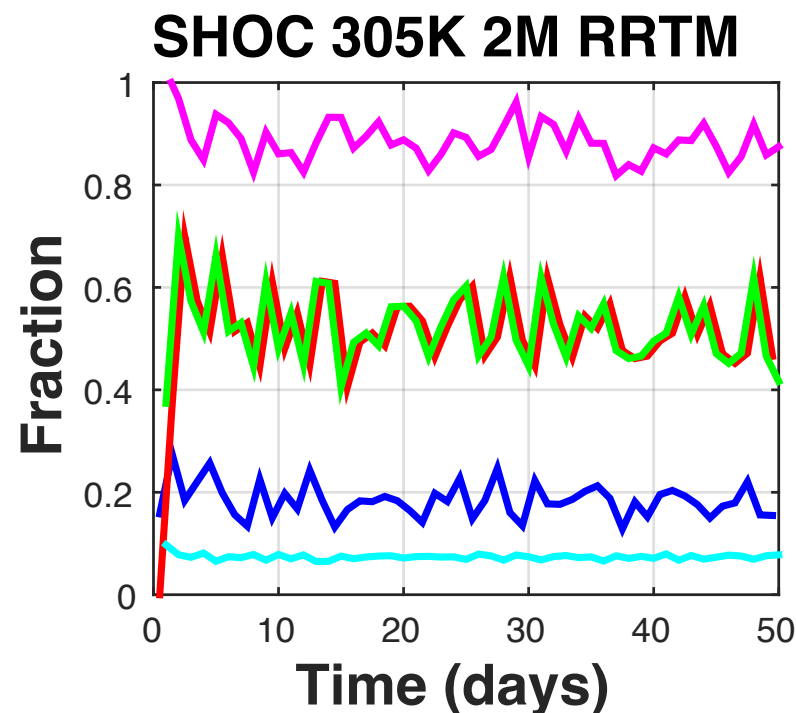
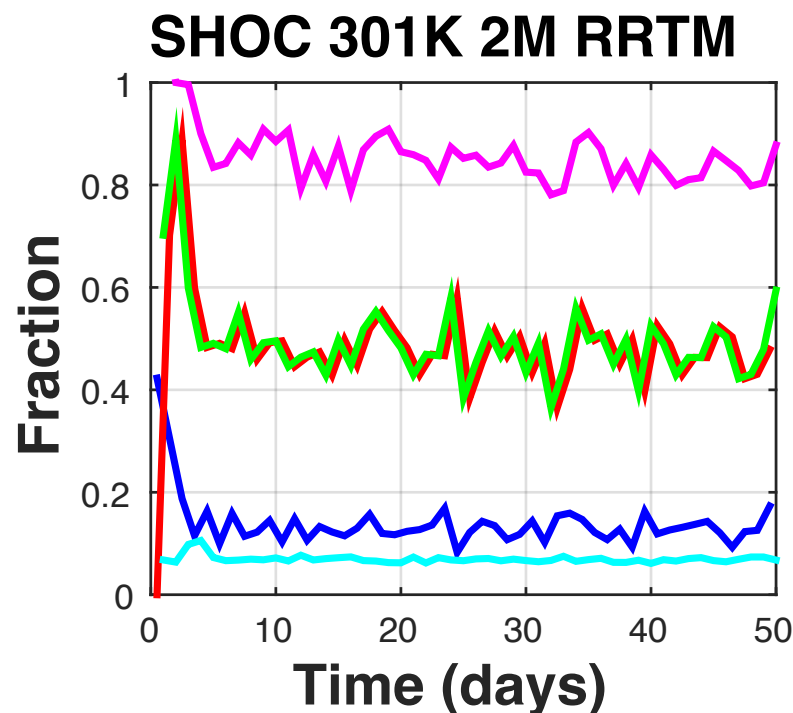
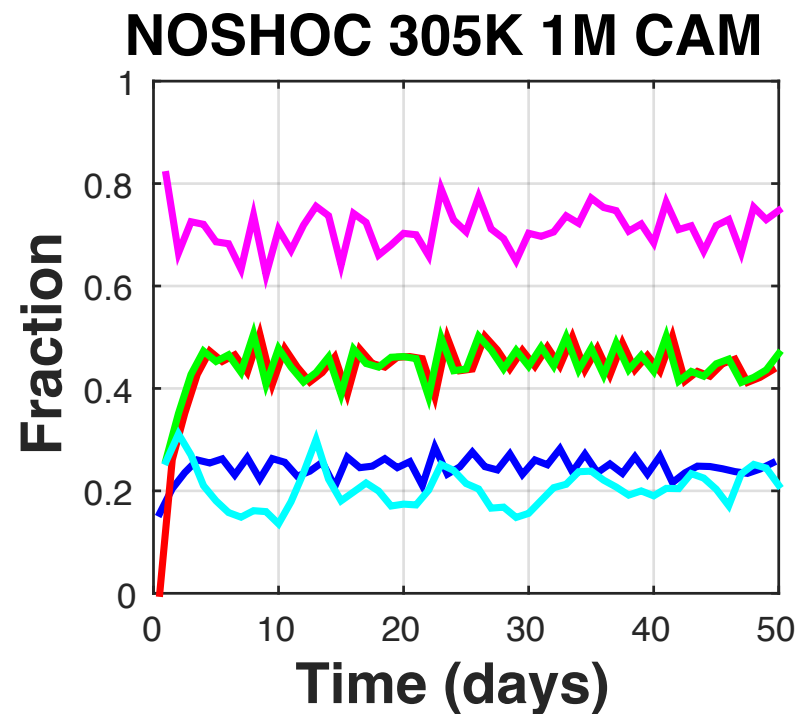
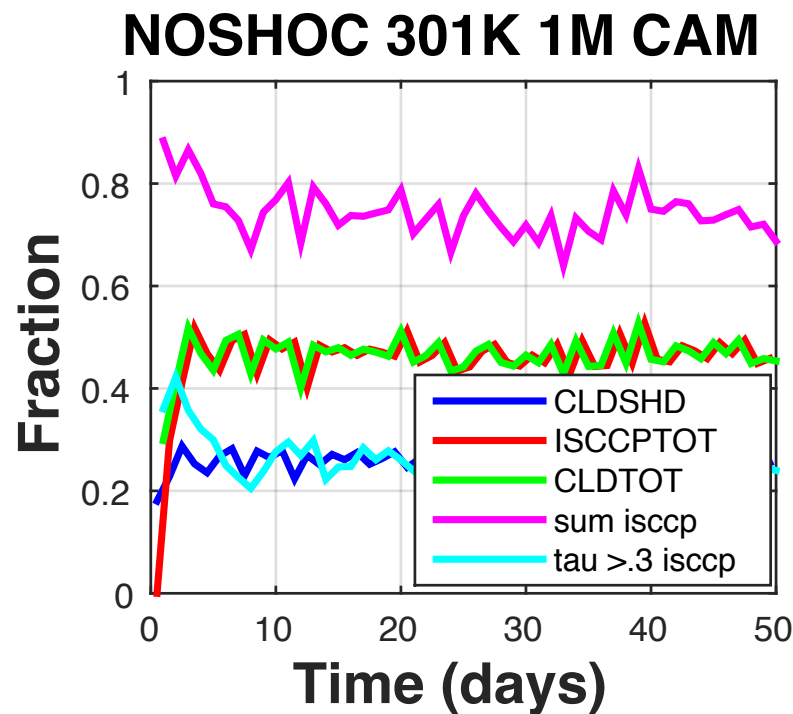
- Climate model kernels are closer than observation derived kernels for NCF. (differences of 0.42-3.28)
- Sizable C/M ratio differences between model setup.
- Kernels in all cases much lower than SAM LWCF and SWCF values.

Day 26-50 Avg. Kernel Radiative Forcing Comparison

G305M_ISCCP	Model	Climate	C/M %	Obs	O/M %	
LWCF	29.55	18.62	63.01%	11.01	37.26%	SHOC 2M 301K
SWCF	-25.25	-13.88	54.97%	-13.63	53.98%	1km resolution, 64km grid
NCF	4.31	4.74		-2.62		
G505M_ISCCP	Model	Climate	C/M %	Obs	O/M %	
LWCF	32.71	18.87	57.69%	11.15	34.09%	SHOC 2M 305K
SWCF	-30.99	-16.90	54.53%	-16.64	53.69%	1km resolution, 64km grid
NCF	1.71	1.98		-5.49		
G205_ISCCP	Model	Climate	C/M %	Obs	O/M %	
LWCF	36.83	21.90	59.46%	14.22	38.61%	NOSHOC 1M 301K
SWCF	-42.42	-28.43	67.02%	-28.09	66.22%	1km resolution, 64km grid
NCF	-5.59	-6.53		-13.87		
G405_ISCCP	Model	Climate	C/M %	Obs	O/M %	
LWCF	35.93	20.34	56.61%	13.14	36.57%	NOSHOC 1M 305K
SWCF	-40.73	-25.74	63.20%	-25.48	62.56%	1km resolution, 64km grid
NCF	-4.80	-5.40		-12.34		

- Climate model kernels are closer than observation derived kernels for NCF. (differences of 0.27-0.94)
- C/M ratio percentages are much closer (54-67%)
- Kernels in all cases much lower than SAM LWCF and SWCF values.

Cloud Fraction Comparison



CLDSHD - shaded cloud fraction (SAM)

ISCCPTOT - ISCCP cloud fraction (stat file) $\tau > .3$

CLDTOT - total cloud area (isccp file) $\tau > .3$

sum isccp - sum of isccp 7x7 cloud categories

$\tau > .3$ isccp - sum of isccp 6x7 cloud categories

Stat file timesteps are .5:1:49.5.
isccp file timesteps are 1:1:50

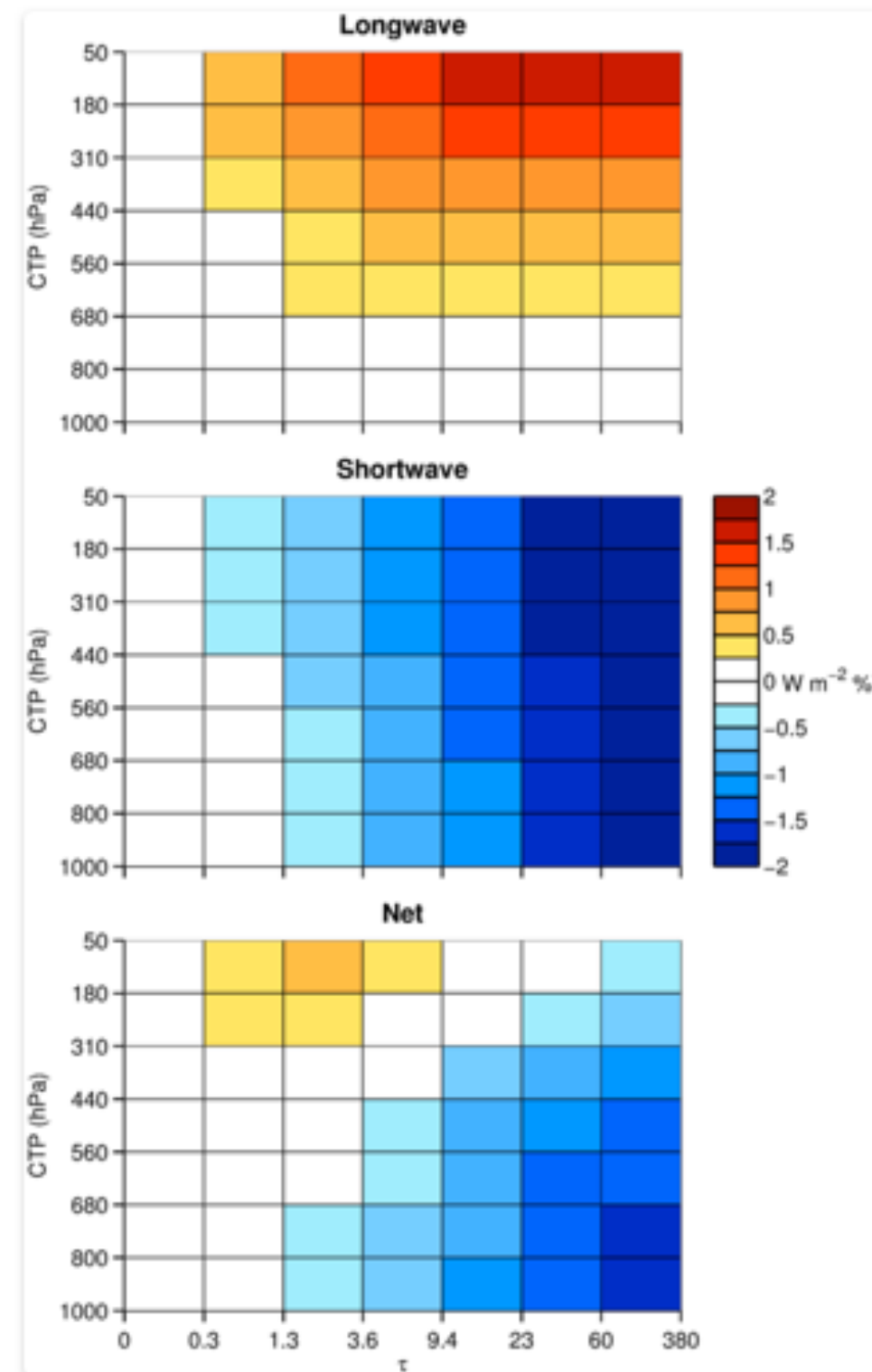
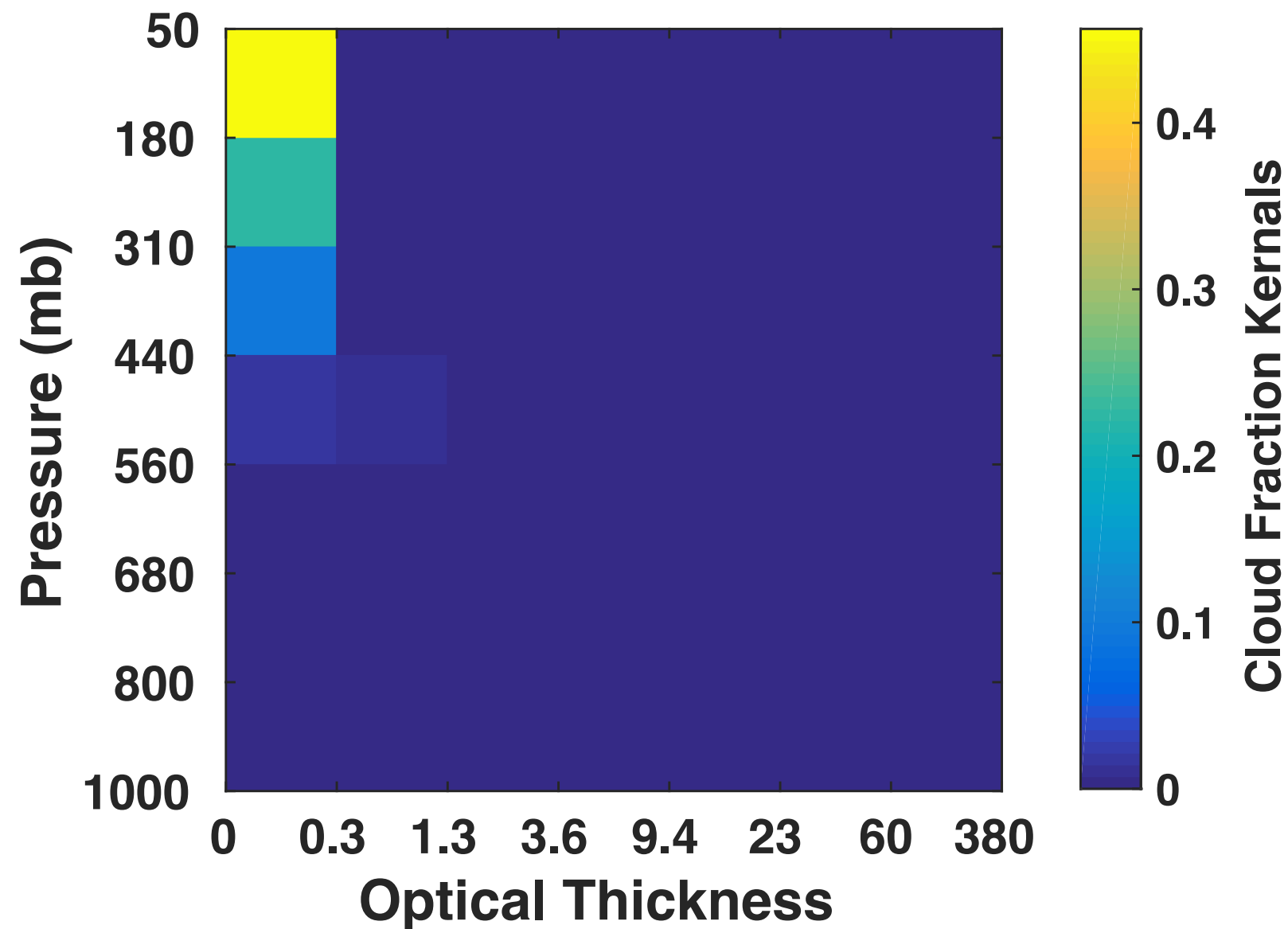
ISCCPTOT starts with 0, then each subsequent saving time has the previous CLDTOT value. Behaves as if stat file is being written before isccp routines performed.

From Last
Meeting

Cloud Fraction Kernels

Zelinka et al 2012

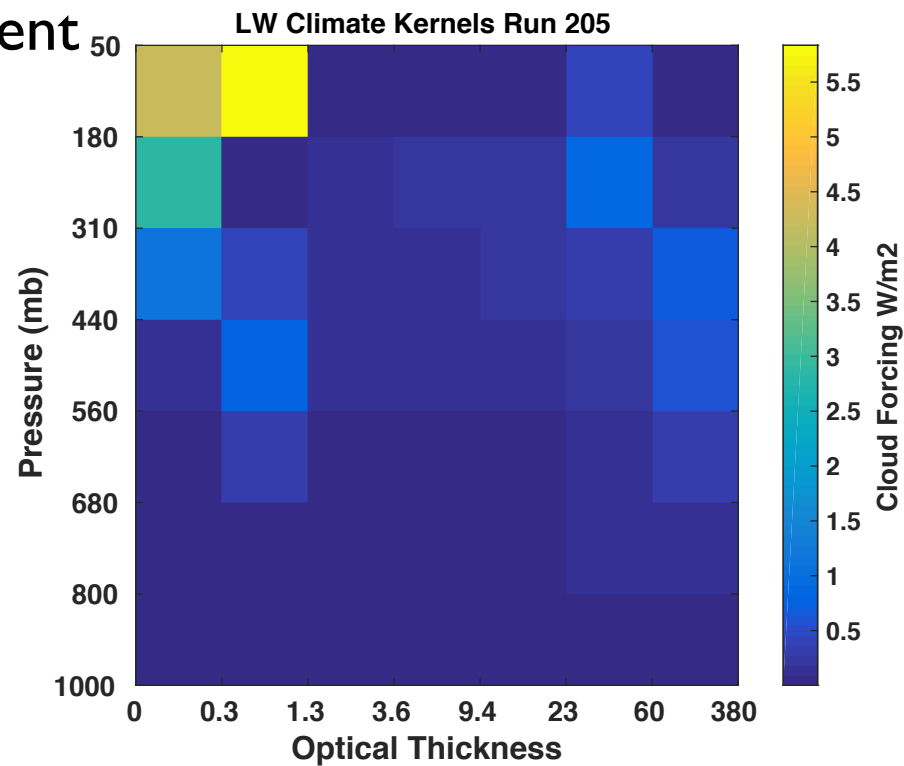
SHOC 30IK RRTM Double Moment



LW Fluxes - Kernel Contributions

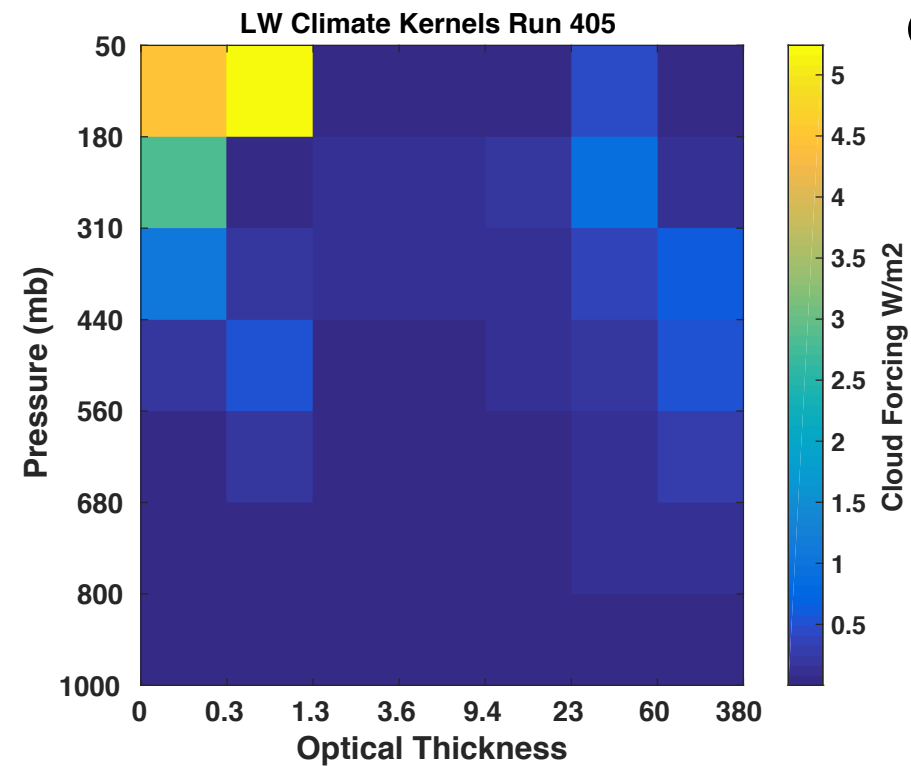
NOSHOC 30IK

CAM 1-moment



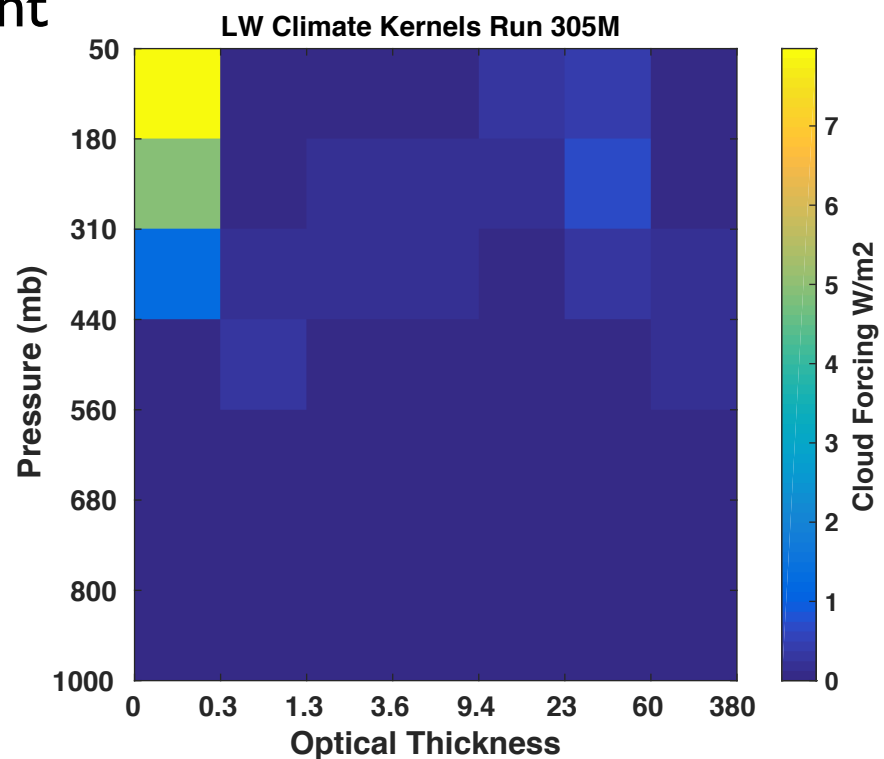
NOSHOC 305K

CAM 1-moment



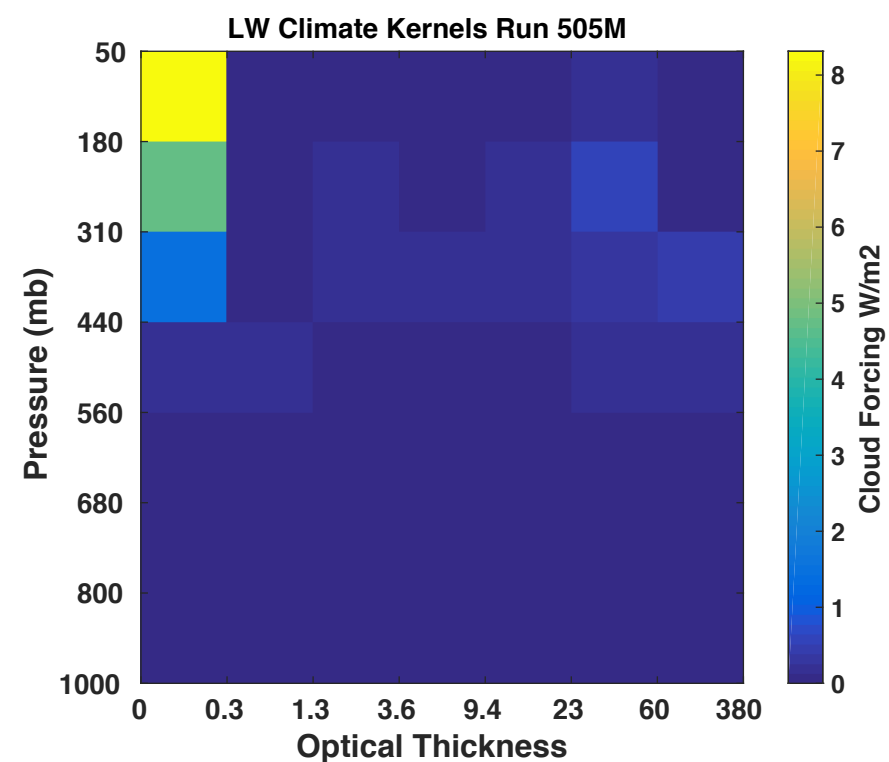
SHOC 30IK RRTM

2-moment



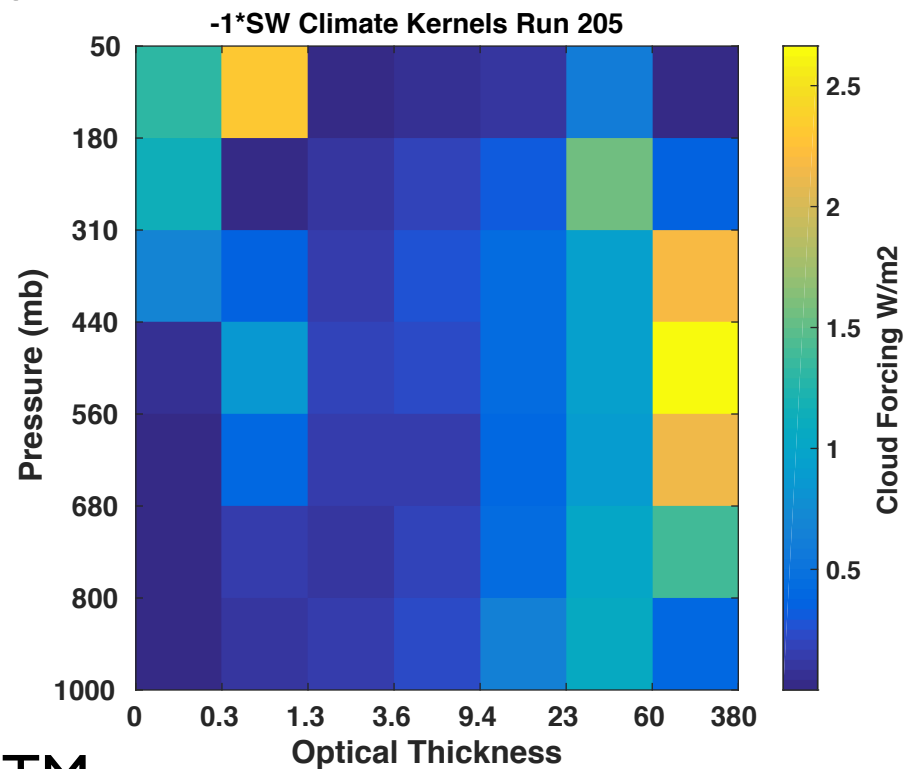
SHOC 305K RRTM

2-moment

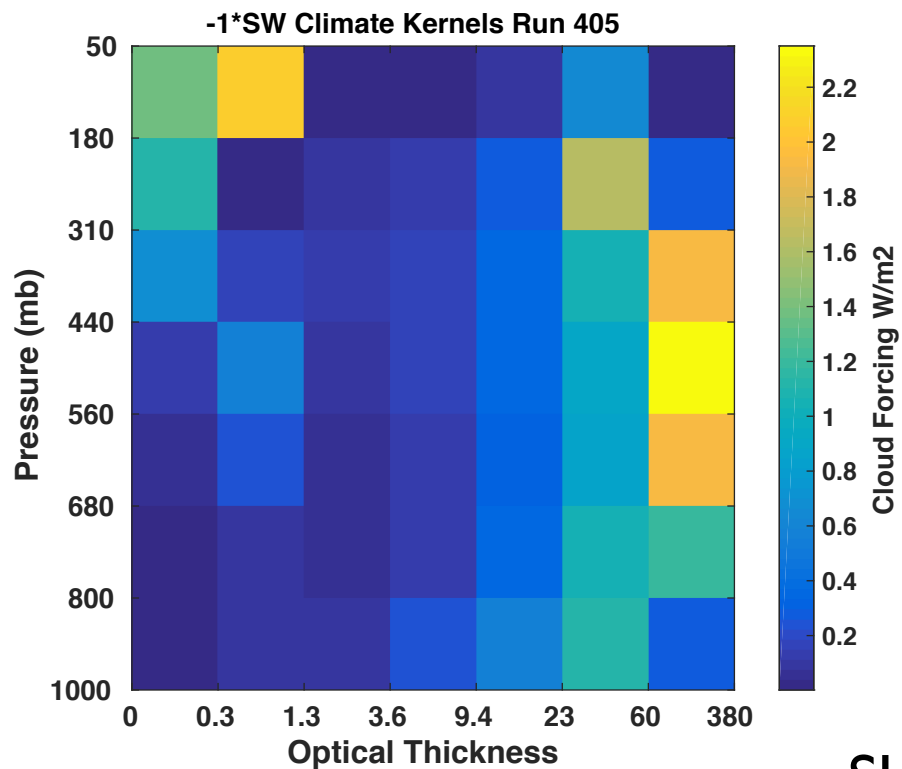


SW Fluxes - Kernel Contributions

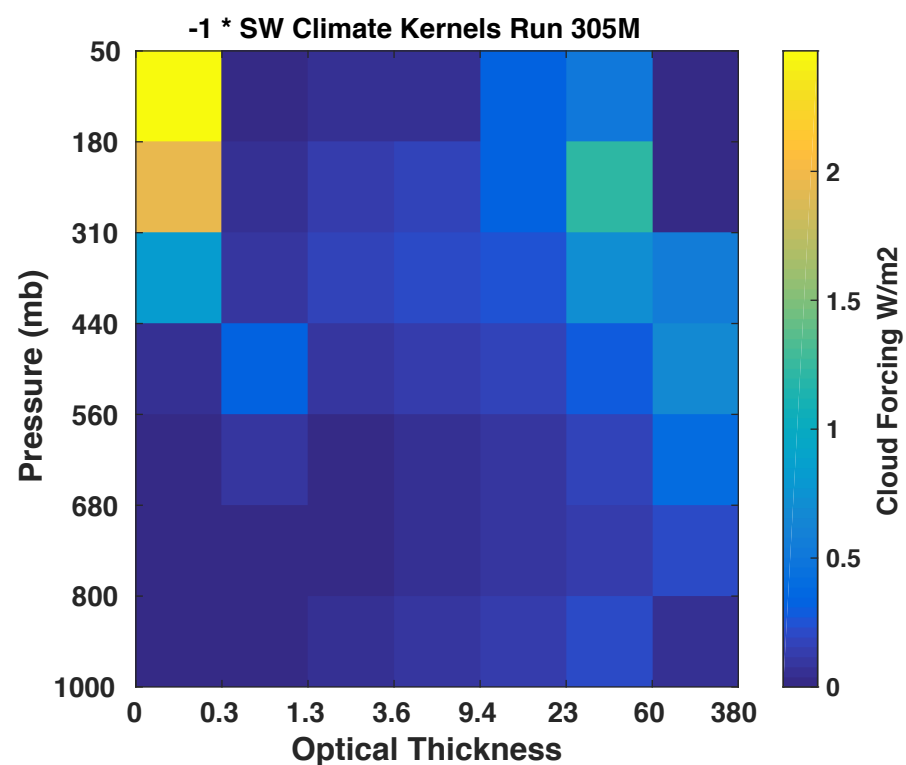
NOSHOC 30IK
CAM I-moment



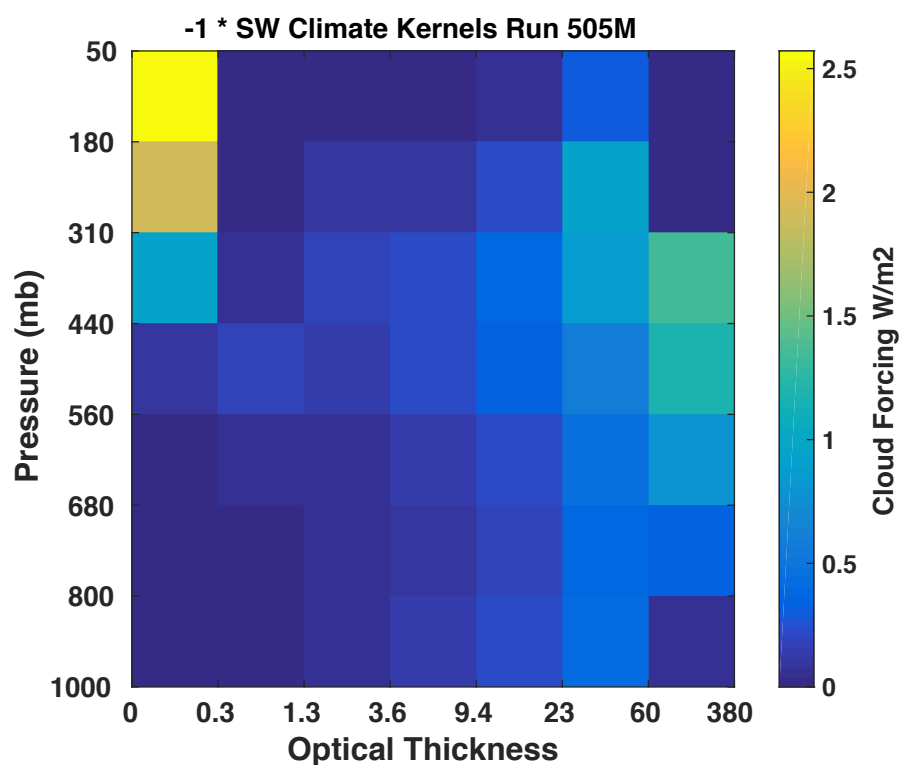
NOSHOC 305K
CAM I-moment



SHOC 30IK RRTM
2-moment

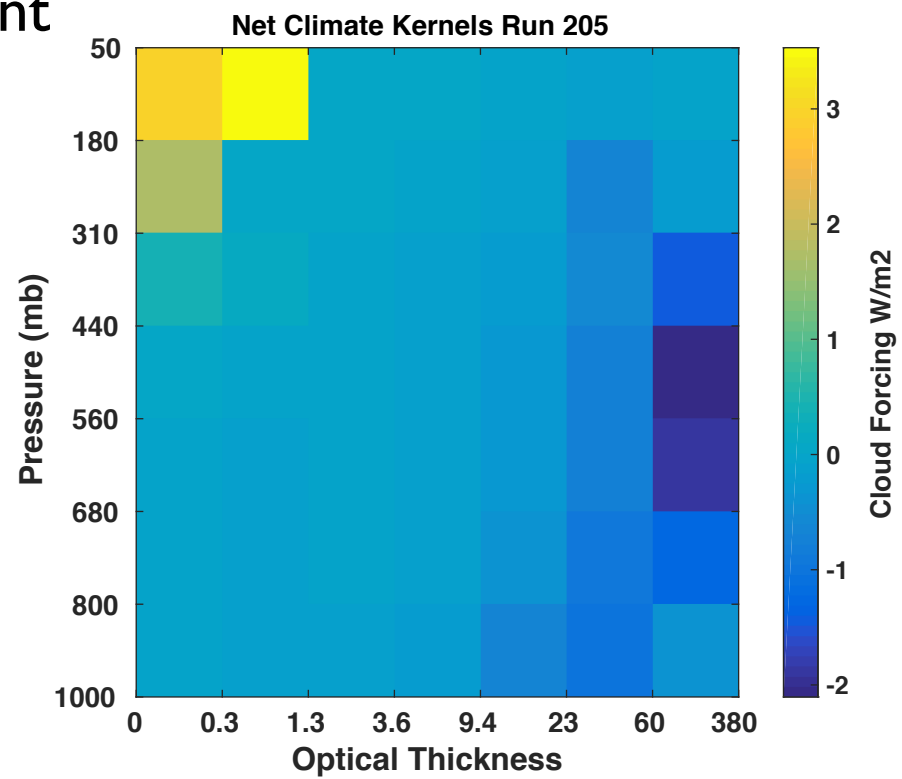


SHOC 305K RRTM
2-moment

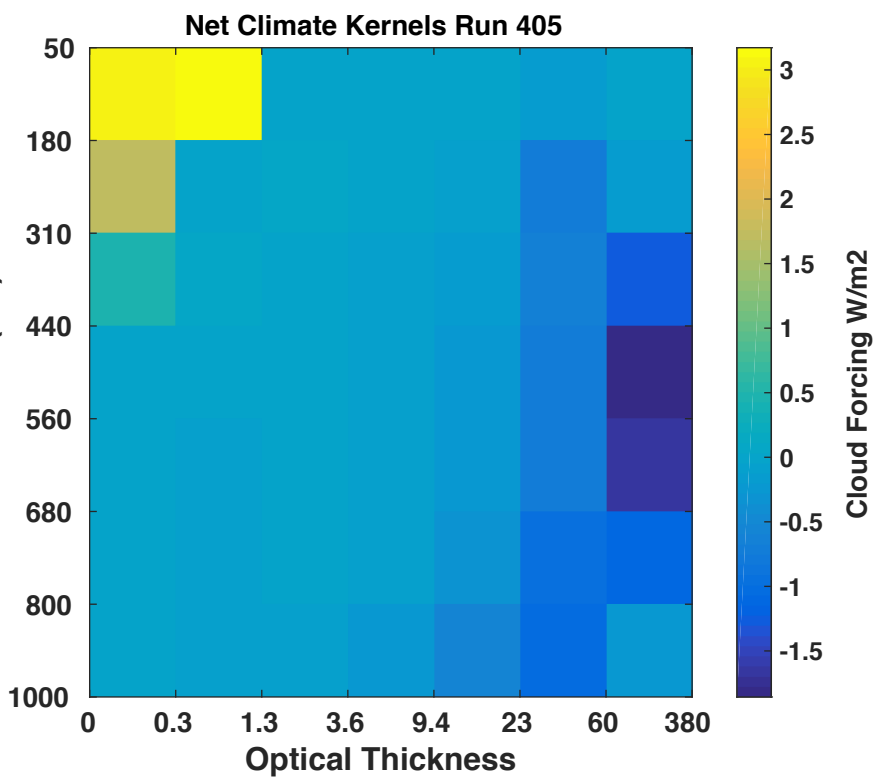


Net Fluxes - Kernel Contributions

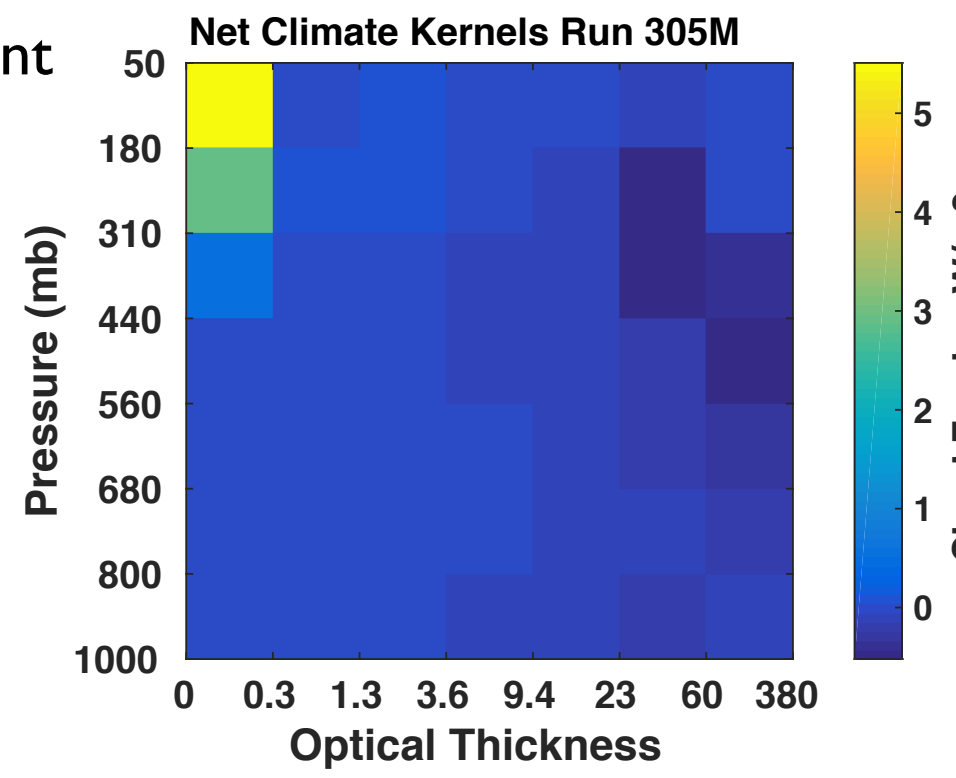
NOSHOC 30IK
CAM I-moment



NOSHOC 305K
CAM I-moment



SHOC 30IK RRTM
2-moment



SHOC 305K RRTM
2-moment

