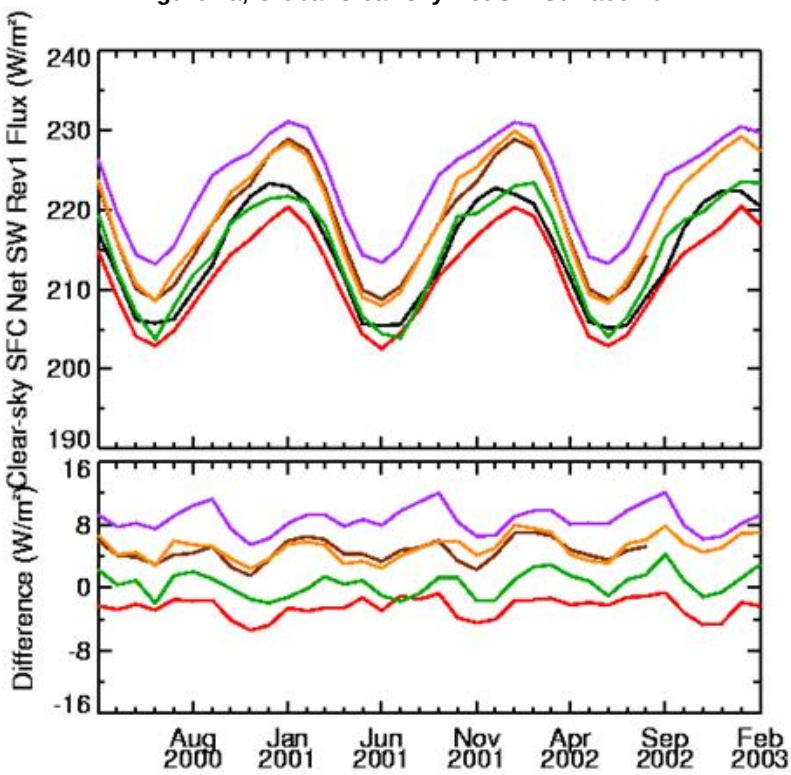
Comparison of CERES and Other Global Surface Flux Datasets

Figure 4: The comparison of monthly mean CERES-SRBAVG Edition2D-Rev1 GEO (Model A), GEWEX-SRB (SRB), GEWEX-SRB-QC (SRB-QC), ISCCP-FD (ISCCP-FD), NCEP-reanalysis (NCEP), ECMWF-ERA40 (ECMWF) with the CERES-SRBAVG Edition2D-Rev1 GEO (Model B)

a. global clear-sky SW surface down-welling fluxes during 2000 to 2003
b. global all-sky SW surface down-welling fluxes during 2000 to 2003
c. global clear-sky LW surface down-welling fluxes during 2000 to 2003
d. global all-sky LW surface down-welling fluxes during 2000 to 2003
e. global surface net fluxes and clear-sky SW surface down-welling fluxes during 2000 to 2003
f. global all-sky SW surface down-welling fluxes during 2000 to 2003
g. global clear-sky LW surface down-welling fluxes during 2000 to 2003
h. global all-sky LW surface down-welling fluxes during 2000 to 2003

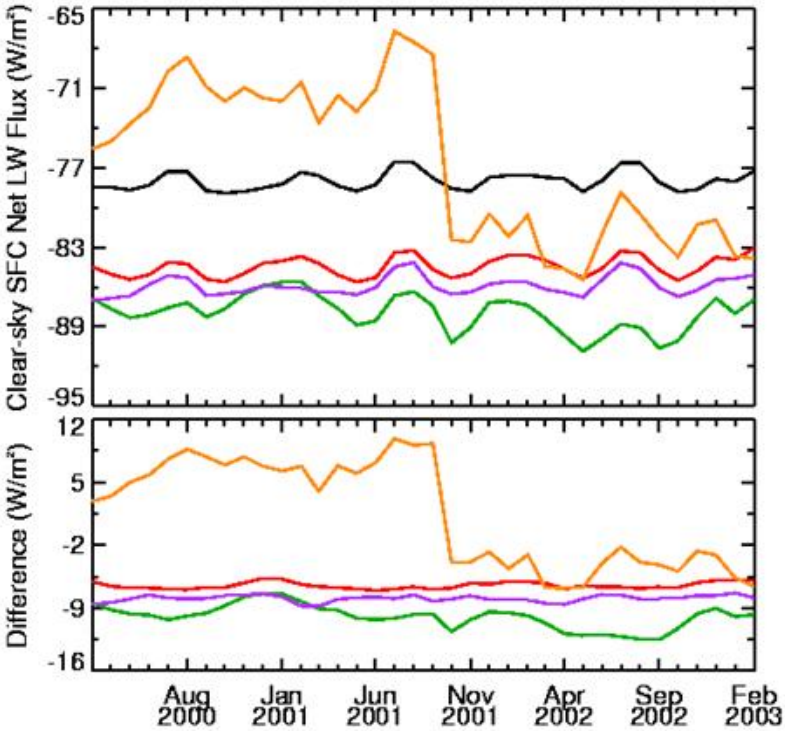
There are various datasets not available for certain surface parameters. The CERES Rev1 user applied corrections have been applied to the CERES SW Model A and Model B surface fluxes. The top panel displays the global monthly means for each dataset. The middle panel shows the monthly mean flux differences with respect to CERES Model B. The bottom panel left side contains the legend for the top panel and the corresponding 3-year flux means. The bottom panel right side contains the legend for the middle panel and the corresponding 3-year mean differences.

Figure 4a, Global Clear-sky Net SW Surface flux



Clear-sky SFC Net SW Rev1		Difference		Avg
modelA	211.9	modelA - modelB		-2.5
modelB	214.4			
SRB	214.9	SRB - modelB		0.5
SRB_QC		SRB_QC - modelB		
NCEP	223.1	NCEP - modelB		8.7
ECMWF	218.0	ECMWF - modelB		4.6
ISCCP FD	219.5	ISCCP FD - modelB		5.1

Figure 4b, Global Clear-sky Net LW Surface flux



Clear-sky SFC Net LW		Difference		Avg
modelA	-84.5	modelA - modelB		-6.5
modelB	-78.0			
SRB	-87.9	SRB - modelB		-10.0
SRB_QC		SRB_QC - modelB		
NCEP	-85.9	NCEP - modelB		-7.9
ECMWF		ECMWF - modelB		
ISCCP FD	-76.5	ISCCP FD - modelB		1.5

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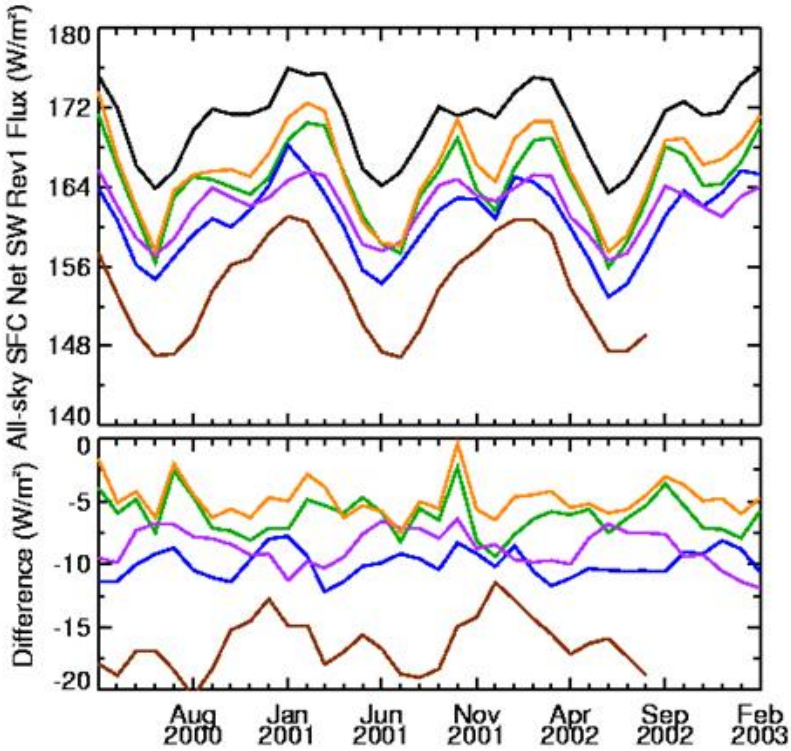
Figure 4c, Global All-sky Net SW Surface flux



All-sky SFC Net SW Rev1		Difference	Avg
modelA		modelA - modelB	
modelB	170.6		
SRB	164.5	SRB - modelB	-6.1
SRB_QC	160.7	SRB_QC - modelB	-10.0
NCEP	162.0	NCEP - modelB	-8.7
ECMWF	153.8	ECMWF - modelB	-16.4
ISCCP FD	165.8	ISCCP FD - modelB	-4.8

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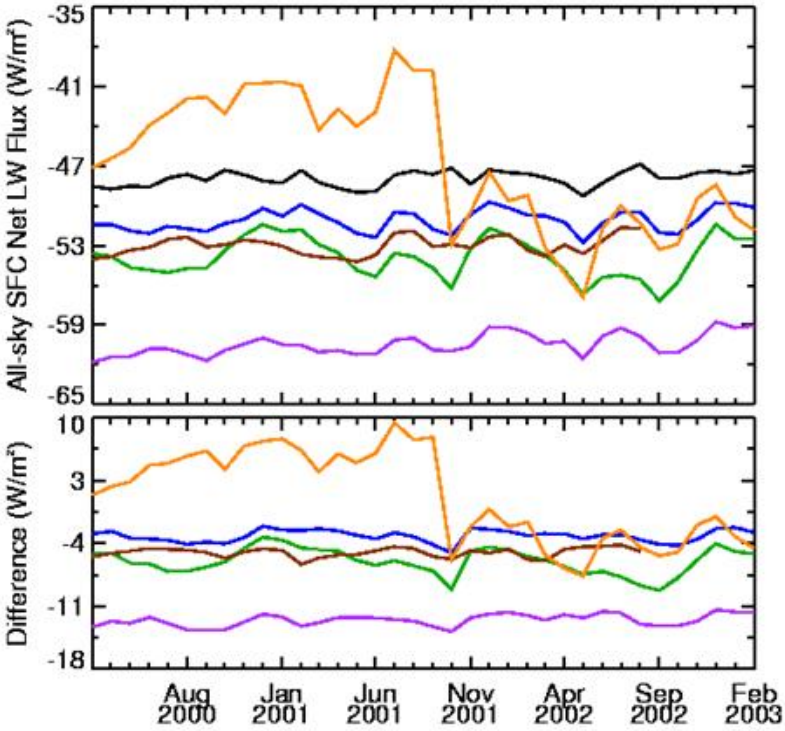
Figure 4d, Global All-sky Net LW Surface flux



All-sky SFC Net LW		Difference		Avg
modelA		modelA - modelB		
modelB	-47.9			
SRB	-53.9	SRB - modelB		-6.0
SRB_QC	-51.1	SRB_QC - modelB		-3.2
NCEP	-60.5	NCEP - modelB		-12.5
ECMWF	-53.0	ECMWF - modelB		-5.0
ISCCP FD	-46.7	ISCCP FD - modelB		1.2

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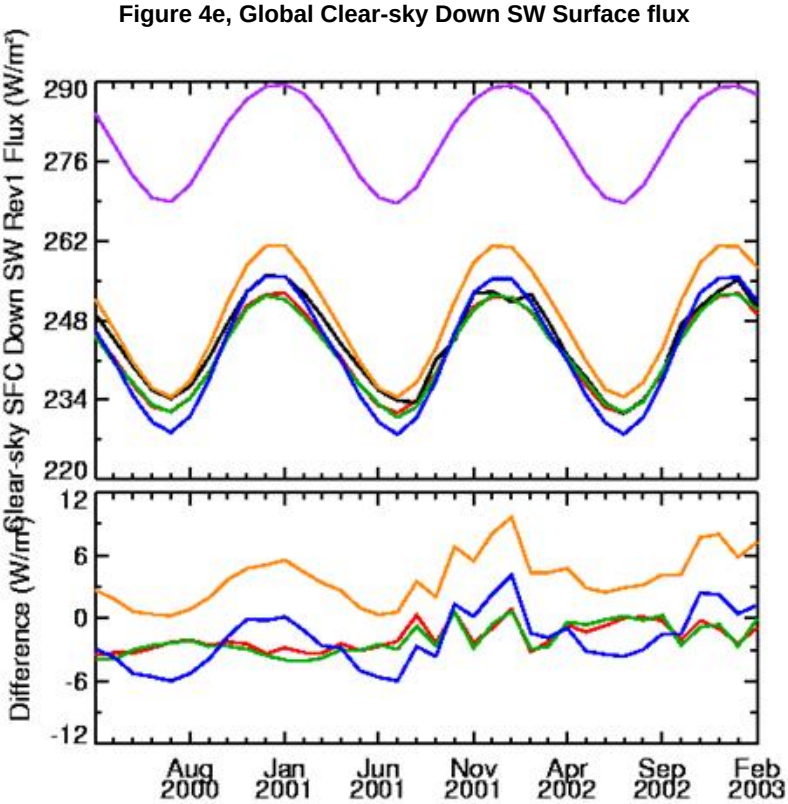
Figure 4e, Global Clear-sky Down SW Surface flux



Clear-sky SFC Down SW Rev1		Avg	Difference		Avg
modelA		242.6	modelA - modelB		-1.8
modelB		244.4			
SRB		242.4	SRB - modelB		-2.0
SRB_QC		242.5	SRB_QC - modelB		-1.9
NCEP		280.1	NCEP - modelB		35.7
ECMWF			ECMWF - modelB		
ISCCP FD		248.3	ISCCP FD - modelB		3.8

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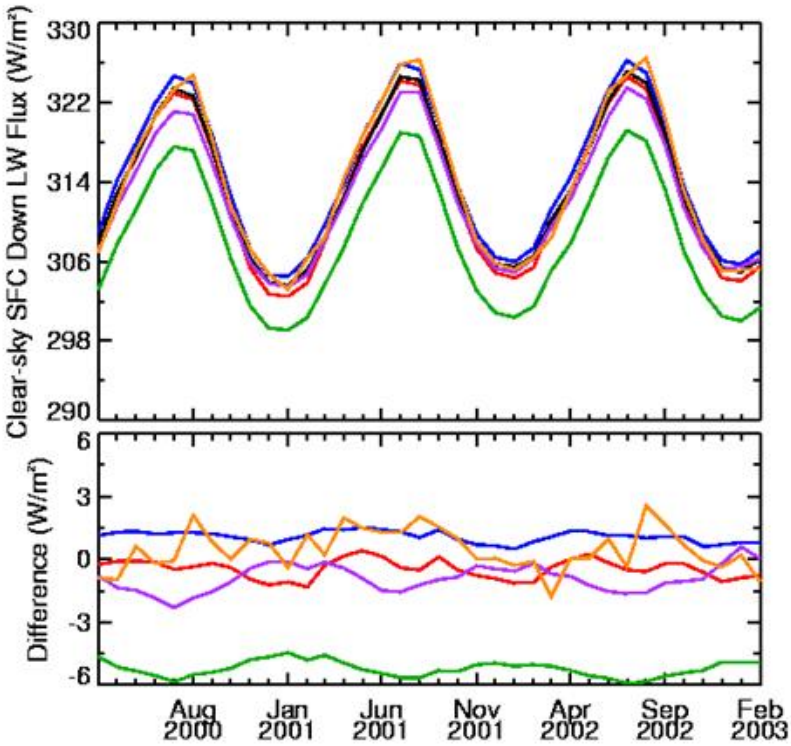
Figure 4f, Global Clear-sky Down LW Surface flux



Clear-sky SFC Down LW		Difference		Avg
modelA	313.0	modelA - modelB		-0.5
modelB	313.5			
SRB	308.2	SRB - modelB		-5.2
SRB_QC	314.6	SRB_QC - modelB		1.1
NCEP	312.6	NCEP - modelB		-0.9
ECMWF		ECMWF - modelB		
ISCCP FD	313.9	ISCCP FD - modelB		0.5

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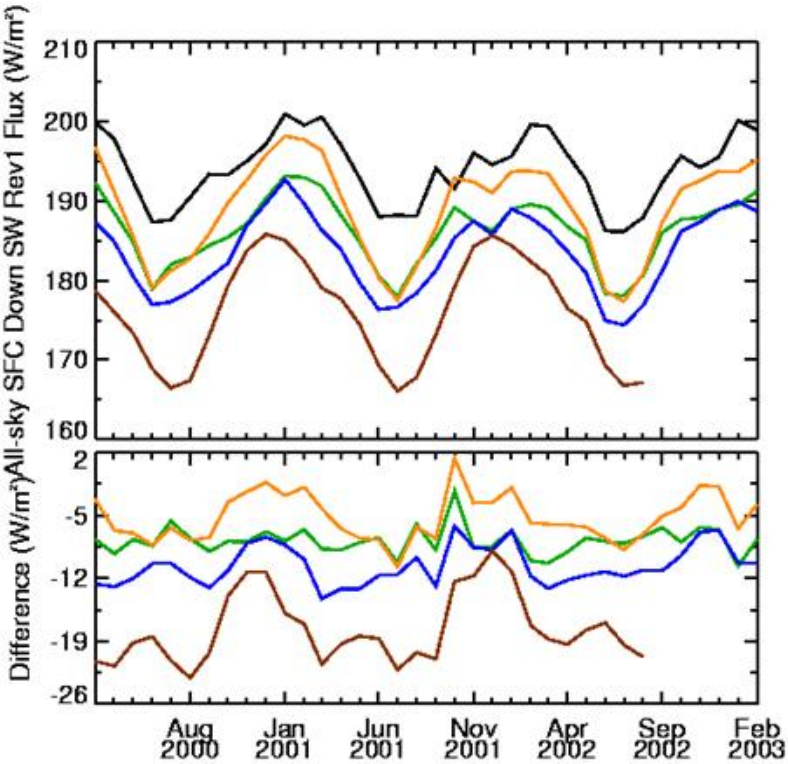
Figure 4g, Global All-sky Down SW Surface flux



All-sky SFC Down SW Rev1		Difference		Avg
modelA		modelA - modelB		
modelB	194.1			
SRB	186.3	SRB - modelB		-7.8
SRB_QC	183.5	SRB_QC - modelB		-10.6
NCEP		NCEP - modelB		
ECMWF	176.0	ECMWF - modelB		-17.7
ISCCP FD	188.9	ISCCP FD - modelB		-5.2

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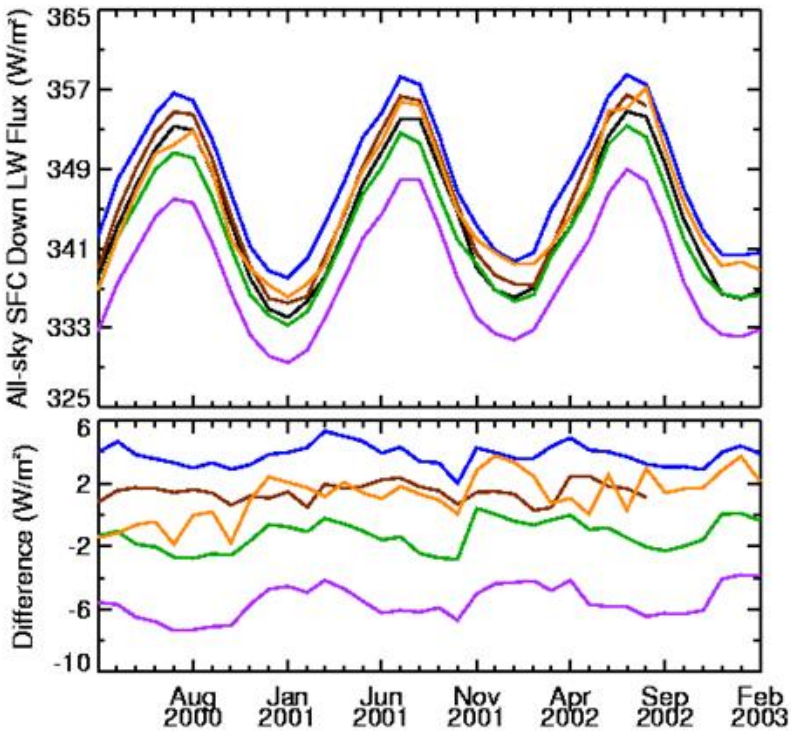
Figure 4h, Global All-sky Down LW Surface flux



All-sky SFC Down LW		Difference		Avg
modelA		modelA - modelB		
modelB	344.1			
SRB	342.8	SRB - modelB		-1.3
SRB_QC	347.9	SRB_QC - modelB		3.8
NCEP	338.5	NCEP - modelB		-5.5
ECMWF	346.2	ECMWF - modelB		1.5
ISCCP FD	345.3	ISCCP FD - modelB		1.2

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