

CM2.x atmosphere land monthly variable list by table

Table A1a: Monthly-mean 2-d atmosphere or land surface data (longitude, latitude, time:month)

To learn about the directory structure used in storing CM2.0 data on this server, see the FAQ [How are the CM2.0 model output files arranged in directories on the GFDL Data Portal?](#)

The variables and output variable names listed in this table are consistent with those of the IPCC/PCMDI archive as outlined in their document titled [IPCC Standard Output from Coupled Ocean-Atmosphere GCMs](#).

	CF standard_name	output variable name	GFDL's CM2 variable name(s)	Notes
		Location on GFDL Data Portal relative to http://nomads.gfdl.noaa.gov/dods-data/		
1	air_pressure_at_sea_level	psl	slp	
		/ModelName/ExpName/pp/atmos/ts/monthly/psl_A1.YYYY01-YYYY12.nc		
2	precipitation_flux	pr	precip	includes both liquid and solid phases
		/ModelName/ExpName/pp/atmos/ts/monthly/pr_A1.YYYY01-YYYY12.nc		
3	air_temperature	tas	t_ref	near-surface
		/ModelName/ExpName/pp/atmos/ts/monthly/tas_A1.YYYY01-YYYY12.nc		
4	moisture_content_of_soil_layer	mrsos	Not Available	
5	soil_moisture_content	mrso	water	

		/ModelName/ExpName/pp/land/ts/monthly/mrso_A1.YYYYY01-YYYY12.nc	
6	surface_downward_eastward_stress	tauu	tau_x
		/ModelName/ExpName/pp/atmos/ts/monthly/tauu_A1.YYYYY01-YYYY12.nc	
7	surface_downward_northward_stress	tauv	tau_y
		/ModelName/ExpName/pp/atmos/ts/monthly/tauv_A1.YYYYY01-YYYY12.nc	
8	surface_snow_thickness	snd	Not Available
9	surface_upward_latent_heat_flux	hfls	latent (from land) + LH (from ice)
		/ModelName/ExpName/pp/atmos/ts/monthly/hfls_A1.YYYYY01-YYYY12.nc	
10	surface_upward_sensible_heat_flux	hfss	shflx
		/ModelName/ExpName/pp/atmos/ts/monthly/hfss_A1.YYYYY01-YYYY12.nc	
11	surface_downwelling_longwave_flux_in_air	rlds	lwdn_sfc
		/ModelName/ExpName/pp/atmos/ts/monthly/rlds_A1.YYYYY01-YYYY12.nc	
12	surface_upwelling_longwave_flux_in_air	rlus	lwup_sfc
		/ModelName/ExpName/pp/atmos/ts/monthly/rlus_A1.YYYYY01-YYYY12.nc	
13	surface_downwelling_shortwave_flux_in_air	rsds	swdn_sfc
		/ModelName/ExpName/pp/atmos/ts/monthly/rsds_A1.YYYYY01-YYYY12.nc	
		rsus	swup_sfc

14	surface_upwelling_shortwave_flux_in_air	/ModelName/ExpName/pp/atmos/ts/monthly/rsus_A1.YYYY01-YYYY12.nc		
15	surface_temperature	ts	t_surf	"skin" temperature
		/ModelName/ExpName/pp/atmos/ts/monthly/ts_A1.YYYY01-YYYY12.nc		
16	surface_air_pressure	ps	ps	not mean sea-level pressure
		/ModelName/ExpName/pp/atmos/ts/monthly/ps_A1.YYYY01-YYYY12.nc		
17	snowfall_flux	prsn	snow_conv + snow_ls	
		/ModelName/ExpName/pp/atmos/ts/monthly/prsn_A1.YYYY01-YYYY12.nc		
18	convective_precipitation_flux	prc	prec_conv	
		/ModelName/ExpName/pp/atmos/ts/monthly/prc_A1.YYYY01-YYYY12.nc		
19	atmosphere_water_vapor_content	prw	WVP	vertically integrated
		/ModelName/ExpName/pp/atmos/ts/monthly/prw_A1.YYYY01-YYYY12.nc		
20	soil_frozen_water_content	mrfso	Not Available	
21	surface_runoff_flux	mrros	Not Available	
22	runoff_flux	mrro	wroff + sroff	
		/ModelName/ExpName/pp/land/ts/monthly/mrro_A1.YYYY01-YYYY12.nc		

23	surface_snow_amount_where_land	snw	snow	
/ModelName/ExpName/pp/land/ts/monthly/snw_A1.YYYY01-YYYY12.nc				
24	surface_snow_area_fraction_where_land	snc	Not Available	
25	surface_snow_melt_flux_where_land	snm	smelt	
/ModelName/ExpName/pp/land/ts/monthly/snm.YYYY01-YYYY12.nc				
26	eastward_wind	uas	u_ref	near-surface
/ModelName/ExpName/pp/atmos/ts/monthly/uas.YYYY01-YYYY12.nc				
27	northward_wind	vas	v_ref	near-surface
ModelName/ExpName/pp/atmos/ts/monthly/vas.YYYY01-YYYY12.nc				
28	specific_humidity	huss	Not Available	near-surface
29	toa_incoming_shortwave_flux	rsdt	swdn_toa	at the top of the atmosphere
/ModelName/ExpName/pp/atmos/ts/monthly/rsdt_A1.YYYY01-YYYY12.nc				
30	toa_outgoing_shortwave_flux	rsut	swup_toa	at the top of the atmosphere
/ModelName/ExpName/pp/atmos/ts/monthly/rsut_A1.YYYY01-YYYY12.nc				

31	toa_outgoing_longwave_flux	rlut	olr	at the top of the atmosphere	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rlut_A1.YYYY01-YYYY12.nc</i>
32	net_downward_radiative_flux_at_top_of_atmosphere_model	rtmt	swdn_toa - swup_toa - olr	at the top of the atmosphere	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rtmt_A1.YYYY01-YYYY12.nc</i>
33	net_downward_shortwave_flux_in_air	rsntp	swdn_200hpa - swup_200hpa	at 200 hPa	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rsntp_A1.YYYY01-YYYY12.nc</i>
34	net_upward_longwave_flux_in_air	rlntp	netlw_200hPa	at 200 hPa	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rlntp_A1.YYYY01-YYYY12.nc</i>
35	net_downward_shortwave_flux_in_air_assuming_clear_sky	rsntpcs	swdn_200hpa_clr - swup_200hpa_clr	at 200 hPa	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rsntpcs_A1.YYYY01-YYYY12.nc</i>
36	net_upward_longwave_flux_in_air_assuming_clear_sky	rlntpcs	netlw_200hPa_clr	at 200 hPa	<i>/ModelName/ExpName/pp/atmos/ts/monthly/rlntpcs_A1.YYYY01-YYYY12.nc</i>
37	surface_downwelling_shortwave_flux_in_air_assuming_clear_sky	rsdscs	swdn_sfc_clr		<i>/ModelName/ExpName/pp/atmos/ts/monthly/rsdscs_A1.YYYY01-YYYY12.nc</i>
38	surface_upwelling_shortwave_flux_in_air_assuming_clear_sky	rsuscs	swup_sfc_clr		<i>/ModelName/ExpName/pp/atmos/ts/monthly/rsuscs_A1.YYYY01-YYYY12.nc</i>

39	surface_downwelling_longwave_flux_in_air_assuming_clear_sky	rldscs	lwdn_sfc_clr	
/ModelName/ExpName/pp/atmos/ts/monthly/rldscs_A1.YYYY01-YYYY12.nc				
40	toa_outgoing_longwave_flux_assuming_clear_sky	rlutcs	olr_clr	
/ModelName/ExpName/pp/atmos/ts/monthly/rlutcs_A1.YYYY01-YYYY12.nc				
41	toa_outgoing_shortwave_flux_assuming_clear_sky	rsutcs	swup_toa_clr	
/ModelName/ExpName/pp/atmos/ts/monthly/rsutcs_A1.YYYY01-YYYY12.nc				
42	cloud_area_fraction	clt	tot_cld_amt	for the whole atmospheric column
/ModelName/ExpName/pp/atmos/ts/monthly/clt_A1.YYYY01-YYYY12.nc				
43	atmosphere_cloud_condensed_water_content	clwvi	LWP + IWP	include both liquid and ice phases, vertically integrated
/ModelName/ExpName/pp/atmos/ts/monthly/clwvi_A1.YYYY01-YYYY12.nc				
44	atmosphere_cloud_ice_content	clivi	IWP	vertically integrated
/ModelName/ExpName/pp/atmos/ts/monthly/clivi_A1.YYYY01-YYYY12.nc				

 **Table A1c: Monthly-mean 3-d atmosphere data (longitude, latitude, pressure, time:month)**

Except for cloud area fraction, this data must be provided on pressure levels, including at least the following standard levels: 1000, 925, 850, 700, 600, 500, 400, 300, 250, 200, 150, 100, 70, 50, 30, 20, 10 hPa.

To learn about the directory structure used in storing CM2.0 data on this server, see the FAQ [How are the CM2.0 model output files arranged in directories on the GFDL Data Portal?](#)

The variables and output variable names listed in this table are consistent with those of the IPCC/PCMDI archive as outlined in their document titled [IPCC Standard Output from Coupled Ocean-Atmosphere GCMs](#)

	CF standard_name	output variable name	GFDL's CM2 variable name(s)	Notes
		Location on GFDL Data Portal relative to http://nomads.gfdl.noaa.gov/dods-data/		
1	cloud_area_fraction_in_atmosphere_layer	cl	cld_amt	Unlike all other fields in this table, the cloud fraction is reported for each model layer (not interpolated to standard pressures). It includes both large-scale and convective cloud
		<i>/ModelName/ExpName/pp/atmos/ts/monthly/cl_A1.YYYY01-YYYY12.nc</i>		
2	air_temperature	ta	temp	
		<i>/ModelName/ExpName/pp/atmos/ts/monthly/ta_A1.YYYY01-YYYY12.nc</i>		
3	eastward_wind	ua	ucomp	
		<i>/ModelName/ExpName/pp/atmos/ts/monthly/ua_A1.YYYY01-YYYY12.nc</i>		

4	northward_wind	va	vcomp	
/ModelName/ExpName/pp/atmos/ts/monthly/va_A1.YYYY01-YYYY12.nc				
5	specific_humidity	hus	sphum	
/ModelName/ExpName/pp/atmos/ts/monthly/hus_A1.YYYY01-YYYY12.nc				
6	lagrangian_tendency_of_air_pressure	wap	omega	"omega", vertical component of velocity in pressure coordinates (positive down)
/ModelName/ExpName/pp/atmos/ts/monthly/wap_A1.YYYY01-YYYY12.nc				
7	geopotential_height	zg	hght	
/ModelName/ExpName/pp/atmos/ts/monthly/zg_A1.YYYY01-YYYY12.nc				
8	relative_humidity	hur	rh	
/ModelName/ExpName/pp/atmos/ts/monthly/hur_A1.YYYY01-YYYY12.nc				
9	mole_fraction_of_o3_in_air	tro3	qo3	
/ModelName/ExpName/pp/atmos/ts/monthly/tro3_A1.YYYY01-YYYY12.nc				

Questions related to the GFDL CM2.x models may be directed to...

[email
GFDL.Climate.Model.Info
at noaa dot gov]