

3.2 Based on download numbers and numbers in scholarly publications

Variables used in scholarly publications (<https://cmip-publications.llnl.gov/search?type=variable>) and downloaded from IPCC DDC AR5 Reference Data Archive with ranks ≥ 50 were included. The rank is a combined rank of the two analyses methods. The total number of variables for this method is 65. Additionally all fixed field variables should be included (not listed).

CF Standard Name	Rank
air_temperature	1.5
precipitation_flux	2.5
eastward_wind	3.5
northward_wind	4.5
surface_temperature	7
geopotential_height	7
specific_humidity	7
air_pressure_at_sea_level	8.5
surface_air_pressure	10
sea_water_potential_temperature	10
relative_humidity	13.5
wind_speed	14.5
sea_ice_area_fraction	15.5
surface_downwelling_shortwave_flux_in_air	15.5
cloud_area_fraction	17.5
upward_ocean_mass_transport	17.5
sea_surface_temperature	18.5
surface_downwelling_longwave_flux_in_air	19
sea_water_salinity	21
toa_outgoing_longwave_flux	22
surface_snow_thickness	22
surface_upwelling_longwave_flux_in_air	22.5
square_of_upward_ocean_mass_transport	22.5
surface_upwelling_shortwave_flux_in_air	24.5
toa_outgoing_shortwave_flux	26.5
surface_upward_latent_heat_flux	27
area_fraction	27
atmosphere_water_vapor_content	27
surface_upward_sensible_heat_flux	28
toa_incoming_shortwave_flux	29
water_evaporation_flux	31
sea_ice_thickness	31.5
toa_outgoing_shortwave_flux_assuming_clear_sky	34.5
cloud_area_fraction_in_atmosphere_layer	34.5
snowfall_flux	35
surface_downwelling_shortwave_flux_in_air_assuming_clear_sky	36
sea_water_x_velocity	37.5
toa_outgoing_longwave_flux_assuming_clear_sky	38
surface_upwelling_shortwave_flux_in_air_assuming_clear_sky	38.5
sea_water_y_velocity	41.5
convective_precipitation_flux	43.5
surface_downwelling_longwave_flux_in_air_assuming_clear_sky	45

sea_surface_salinity	47
heterotrophic_respiration_carbon_flux	47
mass_fraction_of_cloud_liquid_water_in_air	49
ocean_mixed_layer_thickness_defined_by_mixing_scheme	49.5
soil_moisture_content	50
rainfall_flux	51
runoff_flux	52
surface_downward_eastward_stress	55.5
net_downward_radiative_flux_at_top_of_atmosphere_model	56.5
surface_downward_northward_stress	58.5
surface_snow_amount	59
moisture_content_of_soil_layer	59
lagrangian_tendency_of_air_pressure	61
soil_carbon_content	76.5
surface_downward_sensible_heat_flux	79
surface_net_downward_longwave_flux	105
air_pressure	108
surface_downward_latent_heat_flux	116.5
sea_area_fraction	138.5
isccp_cloud_area_fraction	169
downwelling_shortwave_flux_in_air	206