SWIFT-AI-DS: Description of Variables

Variable	Unit	Description
modeldate	days since (Jan 0, 0000)	Serial date number that represents the whole and fractional number of days from a fixed, preset date (January 0, 0000) in the proleptic ISO calendar.
dayofyear	days since (Jan 0)	Date number that represents the whole number of days starting from (January 0) of that year (1…365 or 1…366) in the Gregorian calendar
month	Julian month	Date number that represents the Julian month (01…12)
year	years	Date number that represents the whole number of years in the Gregorian calendar
overhead	Dobson Units	Overhead ozone column derived from the number of ozone molecules per area integrated vertically above the respective Lagrangian point in the atmosphere, and given in Dobson units.
eqlat	degree	Equivalent latitude calculated from daily-average: potential vorticity [10−6 m2 K s−1 kg−1], potential temperature [K], latitude [deg]
sza_min	degree	The respective zenith angle of the sun for the daily average latitude, measured at 12 UTC model time for the Greenwich meridian. This gives the highest position of the sun (lowest angle measured from the zenith) for the respective latitude and day of the year.
sunlight_hours	hours	Number that represents the whole and fractional number of hours of sunlight of the respective Lagrangian point calculated from daily-average: latitude [deg], modeldate
O2+hv->O(3P)+O(3P)	s-1	Photolysis frequency of the stated reaction
O3+hv->O2+O(3P)	s-1	Photolysis frequency of the stated reaction
NO2+hv->NO+O(3P)	s-1	Photolysis frequency of the stated reaction
HNO3+hv->OH+NO2	s-1	Photolysis frequency of the stated reaction
ClONO2+hv->ClO+NO2	s-1	Photolysis frequency of the stated reaction
Cl2O2+hv->Cl+ClOO	s-1	Photolysis frequency of the stated reaction
longitude_avg	degrees east	Daily-average longitude as geographic coordinate in degrees east (0…360)
latitude_avg	degrees north	Daily-average latitude as geographic coordinate in degrees north (-90…90)
z_avg	m	Daily-average log-pressure height
temperature_avg	K	Daily-average temperature
theta_avg	K	Daily-average potential temperature
pv_avg	10−6 m2 K s−1 kg−1	Daily-average potential vorticity

Cly	-	Chemical chlorine family is given as volume mixing ratio and calculated according to this formula: Cly = Cl + Cl2 * 2 + ClO + OClO + Cl2O2 * 2 + HCl + HOCl + ClONO2 + ClNO2 + BrCl
Bry	-	Chemical bromine family is given as volume mixing ratio and calculated according to this formula: Bry = Br + Br2 * 2 + BrCl + BrO + HBr + HOBr + BrONO2
NOy	-	Chemical nitrogen family is given as volume mixing ratio and calculated according to this formula: NOy = NO + NO2 + NO3 + N2O5 * 2 + HNO3 + HO2NO2 + N + ClONO2 + ClNO2 + BrONO2
HOy	-	Chemical hydrogen family is given as volume mixing ratio and calculated according to this formula: HOy = H2O
Ox	-	Chemical oxygen family is given as volume mixing ratio and calculated according to this formula: Ox = O3 + O + O1D
dOx	-	24h-Tendency of the chemical oxygen family given as volume mixing ratio and calculated according to this formula: tendency = state_dayend - state_daybegin
dCly	-	24h-Tendency of the chemical chlorine family given as volume mixing ratio and calculated according to this formula: tendency = state_dayend - state_daybegin
dBry	-	24h-Tendency of the chemical bromine family given as volume mixing ratio and calculated according to this formula: tendency = state_dayend - state_daybegin
dNOy	-	24h-Tendency of the chemical nitrogen family given as volume mixing ratio and calculated according to this formula: tendency = state_dayend - state_daybegin
dHOy	-	24h-Tendency of the chemical hydrogen family given as volume mixing ratio and calculated according to this formula: tendency = state_dayend - state_daybegin

12th July 2022, Helge Mohn