Emission data

[chemistry] ***emission_name(nspecies)***

description: List of all names of emitted species. The number of species *nspecies* varies depending on the employed chemistry scheme.
type: NC_STRING
coordinates:

nspecies	number of emission species

attributes:

(char) long_name	“emission species name”
(char) standard_name	“emission_name”
(char) *units*	„“

[chemistry] ***emission_index(nspecies)***

description: Index of the emitted species.
type: NC_USHORT
coordinates:

nspecies	number of emission species

attributes:

(char) long_name	“emission species index”
(char) standard_name	“emission_index”
(char) *units*	„“

[chemistry] ***emission_values(z,y,x,nspecies,ncat) (lod = 1)***
emission_values(dt_emission,z,y,x,nspecies) (lod = 2)

description: Emission values of the different emitted species. The coordinates vary based on selected level of detail (also see namelist item emiss_lod for more information).
type: NC_FLOAT
coordinates:

dt_emission	time step (in s) (*lod* = 2 only)
z	z-position (in m) (*lod* = 2 only) [*]
y	y-position (in m)
x	x-position (in m)
nspecies	number of emission species
ncat	number of emission category (*lod* = 1 only)

attributes:

(integer)	*lod*	level of detail (1,2)
	lod = 1	Emissions for each surface grid cell are provided as annual aggregate for all defined categories. They will then be distributed in time (day of week and time of day) using predefined scale factors.
	lod = 2	Emissions for each surface grid cell are provided at every time step.

(char) long_name	“emission values”
(char) standard_name	“emission_values”
(float) dt_emission	e.g. “3600.0” (*lod* = 2 only)
(char) *units*	*„kg/grid/yr“* (lod = 1) *„kg/m2/dt_emission“* (lod = 2)
(float) *_FillValue*	= *-9999.9f*
(char) coordinates	= *„E_UTM N_UTM lon lat“*
(char) grid_mapping	= *„crsUTM: E_UTM N_UTM crsETRS: lon lat“*

[*] NOTE: The z dimension is retained for backward compatibility and contains only one level. It is not used and will be depreciated in future releases.

[chemistry] ***emission_stack_height(y,x)***

description: Height of the stacks
type: NC_FLOAT
coordinates:

y	y-position (in m)
x	x-position (in m)

attributes:

(char) long_name “emission stack height”
(char) standard_name “emission_stack_height”
(char) *units* „m“
(float) *_FillValue* = *-9999.9f*
(char) coordinates = *„E_UTM N_UTM lon lat“*
(char) grid_mapping = *„crsUTM: E_UTM N_UTM crsETRS: lon lat“*

The following attributes are only required for *lod* = 1.

[chemistry] ***emission_time_factors(ncat,[nhoursyear],[nmonthdayhour])***

description: Emission time scaling factors for emission_values (*lod* = 1). Two different time factors are possible: 1) Scaling according to month-day-hour classification (*lod* = 1).

type: NC_FLOAT
coordinates:

ncat number of emission categories
nhoursyear not used, but retained for backward compatibility
nmonthdayhour number of time scaling factors (*lod* = 1 only)

Index	Description
1-12	scaling factor for the index month of the year (sum must be 1)
13-19	scaling factor for the index day of the week (sum must be 1)
20-43	scaling factor for the index hour of the wordking day (sum must be 1)
44-67	scaling factor for the index hours of a saturday (sum must be 1)
68-91	scaling factor for the index hours of a sunday/public holiday (sum must be 1)

attributes:

(integer)	*lod*	Level of detail
	lod = *1*	Classification in month-day-hour
(char) long_name		“emission time scaling factors”
(char) standard_name		“emission_time_scaling_factors”
(char) *units*		„“

[chemistry] ***emission_category_index(ncat)***

description: Category index of the emission quantity in question
type: NC_BYTE
coordinates:
ncat number of categories

attributes:

(char) long_name	“emission category Index”
(char) standard_name	“emission_cat_index”
(char) units	„“

[chemistry] ***emission_category_name(ncat)***

description: Emission categories names (match to ***emission_category_index*** of the same index element)
type: NC_STRING
coordinates:
ncat number of categories

attributes:

(char) long_name	“emission category name”
(char) standard_name	“emission_cat_name”
(char) *units*	„“

[chemistry] ***composition_nox(ncat,1:2)***

description: Composition of species NOx (NO and NO2). The sum for each

ncat must be equal to one.

type: NC_FLOAT

coordinates:

ncat	number of emission categories
1-2	1: NO, 2: NO2

attributes:

(char) long_name	“composition of NOx”
(char) standard_name	“composition_nox”
(char) *units*	„“

[chemistry] ***composition_sox(ncat,1:2)***

description: Composition of species SOx (SO2 and SO4). The sum for each ***ncat*** must be equal to one.

type: NC_FLOAT

coordinates:

ncat	number of emission categories
1-2	1: SO2, 2: SO4

attributes:

(char) long_name	“composition of SOx”
(char) standard_name	“composition_sox”
(char) units	„“

[chemistry] ***emission_pm_name(npm)***

description: List of all PM names.

type: NC_STRING

coordinates:

npm	number of PM species

attributes:

(char) long_name	“PM name”
(char) standard_name	“pm_name”
(char) *units*	„“

[chemistry] ***composition_pm(ncat,npm,1:3)***

description: Composition of PM emission species 1-3 (1: PM10, 2: PM2.5, 3: PM1). The sum for each ***ncat*** must be equal to one.
type: NC_FLOAT
coordinates:

ncat	number of emission categories
npm	number of PM species

attributes:

(char) long_name	“composition of PM”
(char) standard_name	“composition_PM”
(char) *units*	„“

[chemistry] ***emission_voc_name(nvoc)***

description: List of all VOC names.

type: NC_STRING
coordinates:

nvoc	number of VOC species

attributes:

(char) long_name	“VOC name”
(char) standard_name	“voc_name”
(char) *units*	„“

[chemistry] ***composition_voc(ncat,nvoc)***

description: Composition of VOC emission species. The sum for each ***ncat*** must be equal to one.
type: NC_FLOAT
coordinates:

ncat	number of emission categories
nvoc	number of VOC species

attributes:

(char) long_name	“composition of VOC”
(char) standard_name	“composition_voc”
(char) *units*	„“