rama2grads

V2.1

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Chapter 1

Modules Index

1.1 Modules List

Here is a list of all modules with brief descriptions:

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

Chapter 3

Module Documentation

3.1 variables Module Reference

Variables used for the conversion from ascii to bin format.

Variables

- integer n_rama
- integer n_ramau
- integer hpy
- integer nvars
- real, dimension(n_rama) lon
- real, dimension(n_rama) lat
- real, dimension(n_rama) msn
- real, dimension(hpy, n_rama, nvars) rama
- character(len=3), dimension(n_rama) id_name
- logical, dimension(n_rama) est_util

3.1.1 Detailed Description

Variables used for the conversion from ascii to bin format.

Parameters

n_rama	Number of stations in localization file est_rama.txt
n_ramau	Number of stations in output file
hpy	Number of hours per year
nvars	SIMAT/RAMA variables (TMP,WSP,WMD,RH,PBa,O3,SO2,NOx,NO2,NO,CO,PM10,PM2.5)
rnulo	Null value if missing
lon	longitud localization for rama station
lat	latitude localization for rama station
msn	Station Altitud
rama	Array with all data for all the time period and stations
id_name	ID of the station
est_util	true if the station contains data

Author

Dr. Agustin Garcia Reynoso

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3.1.2 Variable Documentation

3.1.2.1 est_util

```
logical, dimension(n_rama) variables::est_util
```

Definition at line 37 of file rama2gradsv2.F90.

3.1.2.2 hpy

```
integer variables::hpy
```

Definition at line 29 of file rama2gradsv2.F90.

3.1.2.3 id_name

```
character(len=3), dimension(n_rama) variables::id_name
```

Definition at line 36 of file rama2gradsv2.F90.

3.1.2.4 lat

```
real, dimension(n_rama) variables::lat
```

Definition at line 34 of file rama2gradsv2.F90.

3.1.2.5 lon

```
real, dimension(n_rama) variables::lon
```

Definition at line 34 of file rama2gradsv2.F90.

3.1.2.6 msn

```
real, dimension(n_rama) variables::msn
```

Definition at line 34 of file rama2gradsv2.F90.

3.1.2.7 n_rama

```
integer variables::n_rama
```

Definition at line 29 of file rama2gradsv2.F90.

3.1.2.8 n_ramau

```
integer variables::n_ramau
```

Definition at line 29 of file rama2gradsv2.F90.

3.1.2.9 nvars

```
integer variables::nvars
```

Definition at line 29 of file rama2gradsv2.F90.

3.1.2.10 rama

```
real, dimension(hpy,n_rama,nvars) variables::rama
```

Definition at line 35 of file rama2gradsv2.F90.

Chapter 4

File Documentation

4.1 est_rama.txt File Reference

4.2 rama2gradsv2.F90 File Reference

Modules

- module variables

  Variables used for the conversion from ascii to bin format.

Functions/Subroutines

- program rama2gradsv2

  Main program for convert ascii files SIMAT/RAMA to binary file for GrADS
- subroutine output

  Creates binary file (simat_2011.dat) and descripting file (simat2011.ctl) for GrADS
- subroutine lee_simat

  Reads meteorological (meteorologia_2011.csv) and pollutant concentration (contaminantes_2011.csv) files stores values in matrix rama.
- subroutine lee

  Reads est_rama.txt file containing localization stations.
- integer function estacion (cvar)

  Identify the statios in the data set.
- integer function vconvert (cvar)

  Converts the variable name into integer ID number.
- integer function juliano (fecha, hora)

  Obtains the number of hours in a year from date and hour.

Variables

- integer variables::n_rama
- integer variables::n_ramau
- integer variables::hpy
- integer variables::nvars
- real, dimension(n_rama) variables::lon
- real, dimension(n_rama) variables::lat
- real, dimension(n_rama) variables::msn
- real, dimension(hpy, n_rama, nvars) variables::rama
- character(len=3), dimension(n_rama) variables::id_name
- logical, dimension(n_rama) variables::est_util

4.2.1 Function/Subroutine Documentation

4.2.1.1 estacion()

```
integer function rama2gradsv2::estacion (
            character (len=3), intent(in) cvar )
```

Identify the statios in the data set.

Parameters

in	*cvar*	station name for identification

Definition at line 253 of file rama2gradsv2.F90.

4.2.1.2 juliano()

```
integer function rama2gradsv2::juliano (
            character(len=10), intent(in) fecha,
            character (len=5), intent(in) hora )
```

Obtains the number of hours in a year from date and hour.

Author

Agustin Garcia

Date

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Parameters

in	*fecha*	YYYY-MM-DD formate date
in	*hora*	Day hour

Definition at line 325 of file rama2gradsv2.F90.

4.2.1.3 lee()

```
subroutine rama2gradsv2::lee
```

Reads est_rama.txt file containing localization stations.

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Agustin Garcia

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Definition at line 227 of file rama2gradsv2.F90.

4.2.1.4 lee_simat()

```
subroutine rama2gradsv2::lee_simat
```

Reads meteorological (meteorologia_2011.csv) and pollutant concentration (contaminantes_2011.csv) files stores values in matrix rama.

Author

Agustin Garcia

Date

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Definition at line 140 of file rama2gradsv2.F90.

4.2.1.5 output()

```
subroutine rama2gradsv2::output
```

Creates binary file (simat_2011.dat) and descripting file (simat2011.ctl) for GrADS

Author

Agustin Garcia

Date

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Definition at line 69 of file rama2gradsv2.F90.

4.2.1.6 rama2gradsv2()

```
program rama2gradsv2
```

Main program for convert ascii files SIMAT/RAMA to binary file for GrADS

Author

Dr. Agustin Garcia Reynoso

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Definition at line 49 of file rama2gradsv2.F90.

4.2.1.7 vconvert()

```
integer function rama2gradsv2::vconvert (
            character (len=3), intent(in) cvar )
```

Converts the variable name into integer ID number.

Author

Agustin Garcia

Date

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Version

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Parameters

in	*cvar*	name of the variable to convert

Definition at line 280 of file rama2gradsv2.F90.

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