

rama2grads

V2.1

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1 Modules Index	1
1.1 Modules List	1
2 File Index	3
2.1 File List	3
3 Module Documentation	5
3.1 variables Module Reference	5
3.1.1 Detailed Description	5
3.1.2 Variable Documentation	6
3.1.2.1 est_util	6
3.1.2.2 hpy	6
3.1.2.3 id_name	6
3.1.2.4 lat	6
3.1.2.5 lon	7
3.1.2.6 msn	7
3.1.2.7 n_rama	7
3.1.2.8 n_ramau	7
3.1.2.9 nvars	7
3.1.2.10 rama	7
4 File Documentation	9
4.1 est_rama.txt File Reference	9
4.2 rama2gradsv2.F90 File Reference	9
4.2.1 Function/Subroutine Documentation	10
4.2.1.1 estacion()	10
4.2.1.2 juliano()	10
4.2.1.3 lee()	11
4.2.1.4 lee_simat()	11
4.2.1.5 output()	12
4.2.1.6 rama2gradsv2()	12
4.2.1.7 vconvert()	12
Index	15

Chapter 1

Modules Index

1.1 Modules List

Here is a list of all modules with brief descriptions:

variables	Variables used for the conversion from ascii to bin format	5
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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

rama2gradsv2.F90	9
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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

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

Author

Dr. Agustin Garcia Reynoso

Date

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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 describing 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	<i>cvar</i>	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

28/08/2012.

Version

2.1

Parameters

in	<i>fecha</i>	YYYY-MM-DD formate date
in	<i>hora</i>	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.

Author

Agustin Garcia

Date

28/08/2012.

Version

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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

28/08/2012.

Version

2.1

Definition at line 140 of file rama2gradsv2.F90.

4.2.1.5 output()

```
subroutine rama2gradsv2::output
```

Creates binary file (simat_2011.dat) and describing file (simat2011.ctl) for [GrADS](#)

Author

Agustin Garcia

Date

28/08/2012.

Version

2.1

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

Date

2020,2016,2004

Version

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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

28/08/2012.

Version

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Parameters

<code>in</code>	<code>cvar</code>	name of the variable to convert
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Definition at line 280 of file rama2gradsv2.F90.

Index

est_rama.txt, [9](#)
est_util
 variables, [6](#)
estacion
 rama2gradsv2.F90, [10](#)

hpy
 variables, [6](#)

id_name
 variables, [6](#)

juliano
 rama2gradsv2.F90, [10](#)

lat
 variables, [6](#)
lee
 rama2gradsv2.F90, [10](#)
lee_simat
 rama2gradsv2.F90, [11](#)
lon
 variables, [6](#)

msn
 variables, [7](#)

n_rama
 variables, [7](#)
n_ramau
 variables, [7](#)
nvars
 variables, [7](#)

output
 rama2gradsv2.F90, [11](#)

rama
 variables, [7](#)
rama2gradsv2
 rama2gradsv2.F90, [12](#)
rama2gradsv2.F90, [9](#)
 estacion, [10](#)
 juliano, [10](#)
 lee, [10](#)
 lee_simat, [11](#)
 output, [11](#)
 rama2gradsv2, [12](#)
 vconvert, [12](#)

variables, [5](#)

est_util, [6](#)
hpy, [6](#)
id_name, [6](#)
lat, [6](#)
lon, [6](#)
msn, [7](#)
n_rama, [7](#)
n_ramau, [7](#)
nvars, [7](#)
rama, [7](#)
vconvert
 rama2gradsv2.F90, [12](#)