

Produtos SPCON

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Chapter 1

Modules Index

1.1 Modules List

Here is a list of all modules with brief descriptions:

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readfields		
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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

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Chapter 3

Module Documentation

3.1 gaussrep Module Reference

Set of routines to calculate parameters in a Gaussian grid.

Functions/Subroutines

- subroutine, public **creategaussrep** (*jmax*, *jmaxhf*)
Obtain Gaussian latitudes.

Variables

- real, dimension(:), allocatable, public **glat**
- real, dimension(:), allocatable, public **colrad**
- real, dimension(:), allocatable, public **rsc2**
- real, dimension(:), allocatable, public **wgt**

3.1.1 Detailed Description

Set of routines to calculate parameters in a Gaussian grid.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes

3.1.2 Function/Subroutine Documentation

3.1.2.1 creategaussrep()

```
subroutine, public gaussrep::creategaussrep (  
    integer, intent(in) jmax,  
    integer, intent(in) jmaxhf )
```

Obtain Gaussian latitudes.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>jmax,jmaxhf</i>	
----	--------------------	--

Definition at line 37 of file GaussRep.f90.

3.1.3 Variable Documentation

3.1.3.1 colrad

`real, dimension(:), allocatable, public gaussrep::colrad`

Definition at line 25 of file GaussRep.f90.

3.1.3.2 glat

`real, dimension(:), allocatable, public gaussrep::glat`

Definition at line 25 of file GaussRep.f90.

3.1.3.3 rcs2

`real, dimension(:), allocatable, public gaussrep::rcs2`

Definition at line 25 of file GaussRep.f90.

3.1.3.4 wgt

`real, dimension(:), allocatable, public gaussrep::wgt`

Definition at line 25 of file GaussRep.f90.

3.2 readfields Module Reference

Set of routines to read grib files.

Functions/Subroutines

- subroutine, public **readgrib** (fname, imax, jmax, field, statfctrd)
Subroutine to read grib files.

3.2.1 Detailed Description

Set of routines to read grib files.

Author

Julio Pablo Reyes Fernandez and Antonio Marcos Mendonça

3.2.2 Function/Subroutine Documentation

3.2.2.1 readgrib()

```
subroutine, public readfields::readgrib (
    character(len=*), intent(in) fname,
    integer, intent(in) imax,
    integer, intent(in) jmax,
    real, dimension(imax,jmax), intent(out) field,
    integer, intent(inout) statfctrd )
```

Subroutine to read grib files.

Author

Julio Pablo Reyes Fernandez and Antonio Marcos Mendonça

Parameters

in	<i>fname,imax,jmax</i>	
in, out	<i>field</i>	
out	<i>statfctrd</i>	

Definition at line 37 of file ReadFields.f90.

Chapter 4

File Documentation

4.1 source/cluster.f90 File Reference

Functions/Subroutines

- program **cluster**
Program to evaluate the clusters from the global ensemble weather forecasting. It is based on the Ward's minimum variance algorithm.
- subroutine **attribute** (clustersetup, imax, jmax, nmembers, nfctdy, grpeta, freqcalc, lonw, lone, lats, latn, dirinp, dirrms, dirout, dirclt, resol, prefix)
Subroutine to set up basic variables.
- subroutine **getpoints** (glat, lonw, lone, lats, latn, imax, jmax, iwest, ieast, jsout, jnort)
Subroutine to obtain the respective points of the selected region.
- subroutine **lweights** (imax, jmax, glat, latweight)
Subroutine to evaluate the latitudinal weights.
- subroutine **caldate** (anldate, ngrbs, freqcalc, fctdate, fcthours)
Subroutine to calculate the dates of forecast files.
- subroutine **getlstgrb** (anldate, dateeta, fctdate, ngrbs, nmembers, prefix, resol, lstfct, cltarq, cltarqeta)
Subroutine to generate the list of forecast files (gribs). Generate the name of the output clusters list.

4.1.1 Function/Subroutine Documentation

4.1.1.1 attribute()

```
subroutine attribute (  
    character (len=*), intent(in) clustersetup,  
    integer, intent(out) imax,  
    integer, intent(out) jmax,  
    integer, intent(out) nmembers,  
    integer, intent(out) nfctdy,  
    integer, intent(out) grpeta,  
    integer, intent(out) freqcalc,  
    real, intent(out) lonw,
```

```

real, intent(out) lone,
real, intent(out) lats,
real, intent(out) latn,
character (len=*), intent(out) dirinp,
character (len=*), intent(out) dirrms,
character (len=*), intent(out) dirout,
character (len=*), intent(out) dirclt,
character (len=*), intent(out) resol,
character (len=*), intent(out) prefix )

```

Subroutine to set up basic variables.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>clustersetup</i>	
out	<i>imax,jmax,nmembers,nfctdy,grpeta,freqcalc,lonw,lone,lats,latn,dirinp,dirrms,dirout,dirclt,resol,prefix</i>	

Definition at line 658 of file cluster.f90.

4.1.1.2 caldate()

```

subroutine caldate (
character(len=10), intent(in) anldate,
integer, intent(in) ngrbs,
integer, intent(in) freqcalc,
character(len=10), dimension(ngrbs), intent(out) fctdate,
integer, dimension(ngrbs), intent(out) fcthours )

```

Subroutine to calculate the dates of forecast files.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>ngrbs,freqcalc,anldate</i>	
out	<i>fcthours,fctdate</i>	

Definition at line 898 of file cluster.f90.

4.1.1.3 cluster()

```

program cluster ( )

```

Program to evaluate the clusters from the global ensemble weather forecasting. It is based on the Ward's minimum variance algorithm.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes

Definition at line 19 of file cluster.f90.

4.1.1.4 getlstgrb()

```
subroutine getlstgrb (
    character(len=10), intent(in) anldate,
    character(len=10), intent(in) dateeta,
    character(len=10), dimension(ngrbs), intent(in) fctdate,
    integer, intent(in) ngrbs,
    integer, intent(in) nmembers,
    character(len=*), intent(in) prefix,
    character(len=*), intent(in) resol,
    character(len=*), dimension(nmembers,ngrbs), intent(out) lstfct,
    character(len=*), dimension(ngrbs), intent(out) cltarq,
    character(len=*), intent(out) cltarqeta )
```

Subroutine to generate the list of forecast files (gribs). Generate the name of the output clusters list.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>nmembers, ngrbs, anldate, dateeta, fctdate, prefix, resol</i>	
out	<i>cltarqeta, cltarq, lstfct</i>	

Definition at line 996 of file cluster.f90.

4.1.1.5 getpoints()

```
subroutine getpoints (
    real, dimension(jmax), intent(in) glat,
    real, intent(in) lonw,
    real, intent(in) lone,
    real, intent(in) lats,
    real, intent(in) latn,
    integer, intent(in) imax,
    integer, intent(in) jmax,
    integer, intent(out) iwest,
```

```

integer, intent(out) ieast,
integer, intent(out) jsout,
integer, intent(out) jnort )

```

Subroutine to obtain the respective points of the selected region.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>imax,jmax,lonw,lone,lats,latn,glat</i>	
out	<i>west,ieast,jsout,jnort</i>	

Definition at line 730 of file cluster.f90.

4.1.1.6 lweights()

```

subroutine lweights (
integer, intent(in) imax,
integer, intent(in) jmax,
real, dimension(jmax), intent(in) glat,
real, dimension(jmax), intent(out) latweight )

```

Subroutine to evaluate the latitudinal weights.

Author

Antonio Marcos Mendonça and Fabio Augusto Fernandes (CPTEC/INPE)

Parameters

in	<i>imax,jmax,glat</i>	
out	<i>latweight</i>	

Definition at line 829 of file cluster.f90.

4.2 source/GaussRep.f90 File Reference

Modules

- module **gaussrep**

Set of routines to calculate parameters in a Gaussian grid.

Functions/Subroutines

- subroutine, public **gaussrep::creategaussrep** (jmax, jmaxhf)
Obtain Gaussian latitudes.

Variables

- real, dimension(:), allocatable, public **gaussrep::glat**
- real, dimension(:), allocatable, public **gaussrep::colrad**
- real, dimension(:), allocatable, public **gaussrep::rcs2**
- real, dimension(:), allocatable, public **gaussrep::wgt**

4.3 source/ReadFields.f90 File Reference

Modules

- module **readfields**
Set of routines to read grib files.

Functions/Subroutines

- subroutine, public **readfields::readgrib** (fname, imax, jmax, field, statfctrd)
Subroutine to read grib files.

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