## **CDO** Reference Card

Climate Data Operators Version 1.6.2 September 2013

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http://code.zmaw.de/projects/cdo

#### Syntax

cdo [Options]	Operator1	-Operator2	OperatorN	1	
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#### Options

•	
-a	Generate an absolute time axis
-b < nbits >	Set the number of bits for the output precision
	(I8/I16/I32/F32/F64 for nc,nc2,nc4,nc4c;
	F32/F64 for grb2,srv,ext,ieg; 1-24 for grb,grb2)
	Add L or B for Little or Big endian byteorder
$-\mathbf{f} < format >$	Outputformat: grb,grb2,nc,nc2,nc4,nc4c,srv,ext,ieg
-g < grid>	Grid or file name
	Grid names: r <nx>x<ny>, n<n>, gme<ni></ni></n></ny></nx>
-h	Help information for the operators
-M	Indicate that the I/O streams have missing values
-m $<$ $missval >$	Set the default missing value (default: -9e+33)
-0	Overwrite existing output file, if checked
-R	Convert GRIB1 data from reduced to regular grid
-r	Generate a relative time axis
-s	Silent mode
-t	Set the parameter table name or file
	Predefined tables: echam4 echam5 mpiom1
-V	Print the version number
-v	Print extra details for some operators
-z szip	SZIP compression of GRIB1 records

#### Operators

#### Information

showdate

showtime

<operator> ifile

showtimestam Show timestamp

Dataset information listed by parameter identifier		
Dataset information listed by parameter name		
Dataset information and simple map		
les		
Short information listed by parameter identifier		
Short information listed by parameter name		
les		
Compare two datasets listed by parameter id		
Compare two datasets listed by parameter name		
<pre><operator> ifile1 ifile2</operator></pre>		
Number of parameters		
Number of levels		
Number of years		
Number of months		
Number of dates		
Number of timesteps		
<pre><operator> ifile</operator></pre>		
Show file format		
Show code numbers		
Show variable names		
Show standard names		
Show levels		
Show GRIB level types		
Show years		
Show months		

Show date information

Show time information

pardes	Parameter description
griddes	Grid description
zaxisdes	Z-axis description
vct	Vertical coordinate table
<pre><operator> ifile</operator></pre>	

#### File operations

The operations		
copy	Copy datasets	
cat	Concatenate datasets	
<pre><operator> ifi</operator></pre>	les ofile	
replace	Replace variables	
replace ifile1	ifile2 ofile	
duplicate	Duplicates a dataset	
duplicate[,ndup	ofile ofile	
mergegrid	Merge grid	
mergegrid ifil	e1 ifile2 ofile	
merge	Merge datasets with different fields	
mergetime	Merge datasets sorted by date and time	
<pre>&lt; operator &gt; ifi</pre>	les ofile	
splitcode	Split code numbers	
splitparam	Split parammeter identifiers	
splitname	Split variable names	
splitlevel	Split levels	
splitgrid	Split grids	
splitzaxis	Split z-axes	
splittabnum	Split parameter table numbers	
<pre><operator>[,swap] ifile obase</operator></pre>		
splithour	Split hours	
splitday	Split days	
splitmon	Split months	
splitseas	Split seasons	
splityear	Split years	
<pre><operator> ifile obase</operator></pre>		

Split time selection

splitsel, nsets[, noffset[, nskip]] ifile obase

Select fields

# Selection

Beleev	Defect fields	
delete	Delete fields	
<pre><operator>,params ifiles ofile</operator></pre>		
selparam	Select parameters by identifier	
delparam	Delete parameters by identifier	
<operator>,par</operator>	rams ifile ofile	
selcode	Select parameters by code number	
delcode	Delete parameters by code number	
< operator >, cod	les ifile ofile	
selname	Select parameters by name	
delname	Delete parameters by name	
<pre>&lt; operator &gt; ,nar</pre>	mes ifile ofile	
selstdname	Select parameters by standard name	
selstdname,stdnames ifile ofile		
sellevel	Select levels	
sellevel, levels it		
	Select levels by index	
sellevidx, levidx ifile ofile		
selgrid		
selgrid, grids ifile ofile		
selzaxis	Select z-axes	
selzaxis,zaxes ifile ofile		
	Select GRIB level types	
selltype,ltypes ifile ofile		
seltabnum	Select parameter table numbers	
seltabnum,tabnums ifile ofile		

seltimestep	Select timesteps	
seltimestep, timesteps ifile ofile		
seltime	Select times	
seltime, times it	file ofile	
selhour	Select hours	
selhour, hours i	file ofile	
selday	Select days	
selday,days ifi	le ofile	
selmon	Select months	
${\bf selmon}, months$	ifile ofile	
selyear	Select years	
selyear, years ifile ofile		
selseas	Select seasons	
selseas,seasons ifile ofile		
seldate		
seldate,date1[,date2] ifile ofile		
selsmon		
selsmon,month[,nts1[,nts2]] ifile ofile		
sellonlatbox	Select a longitude/latitude box	
sellonlatbox,lon1,lon2,lat1,lat2 ifile ofile		
selindexbox	Select an index box	
selindexbox,idx1,idx2,idy1,idy2 ifile ofile		
	-	

#### Conditional selection

< operator >, c ifile ofile

Equal

ifthen	If then
ifnotthen	If not then
<pre><operator> ifile1 ifile2 ofile</operator></pre>	
ifthenelse	If then else
ifthenelse ifile1 ifile2 ifile3 ofile	
ifthenc	If then constant
	II then constant
ifnotthenc	If not then constant

#### Comparison

eq

ne	Not equal	
le	Less equal	
lt	Less than	
ge	Greater equal	
gt	Greater than	
<pre><operator> ifile1 ifile2 ofile</operator></pre>		
eqc	Equal constant	
nec	Not equal constant	
lec	Less equal constant	
ltc	Less than constant	
gec	Greater equal constant	
gtc	Greater than constant	
< operator >, c ifile ofile		

#### Modification

setpartab	Set parameter table	
setpartab, table ifile ofile		
setcode	Set code number	
setcode,code if	ile ofile	
setparam	Set parameter identifier	
setparam,param ifile ofile		
setname	Set variable name	
setname,name ifile ofile		
setunit	Set variable unit	
setunit,unit ifile ofile		
setlevel	Set level	
setlevel, level ifile ofile		
setltype	Set GRIB level type	
setltype.ltype ifile ofile		

setdate	Set date	
setdate, date if:	ile ofile	
settime	Set time of the day	
$\mathbf{settime}, time\ \mathtt{if}$	ile ofile	
setday	Set day	
setday,day ifil	e ofile	
setmon	Set month	
setmon, month i	ifile ofile	
setyear	Set year	
setyear, year ifi	ile ofile	
settunits	Set time units	
settunits, units	ifile ofile	
settaxis	Set time axis	
settaxis,date,tir	ne[,inc] ifile ofile	
setreftime	Set reference time	
setreftime, date	.time[,units] ifile ofile	
setcalendar	Set calendar	
setcalendar,calendar ifile ofile		
shifttime	Shift timesteps	
shifttime,sval ifile ofile		
chcode	Change code number	
chcode.oldcode.	newcode[,] ifile ofile	
	Cl + :1 +:C	

circoac	change code nameer	
chcode,oldcode,newcode[,] ifile ofile		
chparam	Change parameter identifier	
chparam,oldpar	am,newparam, ifile ofile	
chname	Change variable name	
chname,oldnam	e,newname, ifile ofile	
chunit	Change variable unit	
chunit,oldunit,newunit, ifile ofile		
chlevel	Change level	
chlevel,oldlev,newlev, ifile ofile		
chlevelc	Change level of one code	
chlevelc,code,oldlev,newlev ifile ofile		
chlevelv	Change level of one variable	
chlevelv,name,oldlev,newlev ifile ofile		
setgrid	Set grid	
setgrid, grid ifile ofile		

setgriatype	Set grid type
setgridtype,gri	dtype ifile ofile
setgridarea	Set grid cell area
setgridarea,grid	darea ifile ofile
	0
setzaxis	Set z-axis
setzaxis,zaxis ifile ofile	

setgatt	Set global attribute	
setgatt, attname, attstring ifile ofile		
setgatts	Set global attributes	
setgatts, attfile	ifile ofile	

invertlat	Invert latitudes
invertlat ifile	ofile
invertlev	Invert levels

maskregion	Mask regions
maskregion,reg	cions ifile ofile
macklanlathay	Mack a longitudo/latitudo boy

invertlev ifile ofile

masklonlatbox	Mask a longitude/latitude box	
masklonlatbox	,lon1,lon2,lat1,lat2 ifile ofile	
maskindexbox	Mask an index box	
maskindexbox,idx1,idx2,idy1,idy2 ifile ofile		

setclonlatbox Set a longitude/latitude box to constant		
setclonlatbox,c,lon1,lon2,lat1,lat2 ifile ofile		
setcindexbox Set an index box to constant		
setcindexbox,c,idx1,idx2,idy1,idy2 ifile ofile		

enlarge	Enlarge fields
enlarge grid ifi	ile ofile

setmissval	Set a new missing value	
setmissval,newmiss ifile ofile		
setctomiss	setctomiss Set constant to missing value	
setmisstoc	Set missing value to constant	
<pre><operator>,c ifile ofile</operator></pre>		
setrtomiss	Set range to missing value	
setvrange	Set valid range	
<pre>&lt; operator &gt; .rmin.rmax ifile ofile</pre>		

#### Arithmetic

Arithmetic			
expr	Evaluate expressions		
expr,instr ifile	ofile		
exprf	Evaluate expressions from script file		
exprf,filename i	exprf,filename ifile ofile		
abs	Absolute value		
int	Integer value		
nint	Nearest integer value		
pow	Power		
sqr	Square		
sqrt	Square root		
exp	Exponential		
ln	Natural logarithm		
log10	Base 10 logarithm		
sin	Sine		
cos	Cosine		
tan	Tangent		
asin	Arc sine		
acos	Arc cosine		
reci	Reciprocal value		
<pre>&lt; operator &gt; ifi</pre>	lle ofile		
addc	Add a constant		
subc	Subtract a constant		
mulc	Multiply with a constant		
divc	Divide by a constant		
<operator>,c i</operator>			
add	Add two fields		
sub	Subtract two fields		
mul	Multiply two fields		
div	Divide two fields		
min	Minimum of two fields		
max	Maximum of two fields		
atan2	Arc tangent of two fields		
<pre><operator> ifi</operator></pre>	le1 ifile2 ofile		
monadd	Add monthly time series		
monsub	Subtract monthly time series		
monmul	Multiply monthly time series		
mondiv	Divide monthly time series		
<pre><operator> ifi</operator></pre>	le1 ifile2 ofile		
ymonadd	Add multi-year monthly time series		
ymonsub	Subtract multi-year monthly time series		
ymonmul	Multiply multi-year monthly time series		
ymondiv	Divide multi-year monthly time series		
<pre><operator> ifile1 ifile2 ofile</operator></pre>			
ydayadd	Add multi-year daily time series		
ydaysub	Subtract multi-year daily time series		
ydaymul	Multiply multi-year daily time series		
ydaydiv	Divide multi-year daily time series		
<pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre><pre></pre></pre></pre>			
yhouradd	Add multi-year hourly time series		
yhoursub	Subtract multi-year hourly time series		
yhourmul	Multiply multi-year hourly time series		
yhourdiv	Divide multi-year hourly time series		
	ile1 ifile2 ofile		
muldpm	Multiply with days per month		
divdpm	Divide by days per month		
muldpy	Multiply with days per year		
divdpy	Divide by days per year		
divupy			

< operator > ifile ofile

#### Statistical values

day < stat >

daypctl

monpctl

<operator> ifile ofile

<operator> ifile ofile

Available statistical functions	< stat >
minimum	min
maximum	max
sum	sum
mean	mean
average	avg
variance	var, var1
standard deviation	std, std1

sum		sum	
mean		mean	
average		avg	
varianc	e deviation	var, var1 std, std1	
		sia, siai	
consects	Consecutive Timesteps		
< operator > ifi	le ofile		
ens < stat >	Statistical values over an	ensemble	
<pre><operator> ifi</operator></pre>	les ofile		
enspctl	Ensemble percentiles		
$\mathbf{enspctl}, p \; \mathtt{ifile}$	s ofile		
ensrkhistspace	Ranked Histogram average	red over time	
	Ranked Histogram average		
ensroc	Ensemble Receiver Opera	ting characteri	stics
< operator > obs	file ensfiles ofile		
enscrps	Ensemble CRPS and deco	omposition	
enscrps rfile	ifiles ofilebase		
ensbrs	Ensemble Brier score		
${\it ensbrs}, {\it x} \; {\it rfile}$	ifiles ofilebase		
fld < stat >	Statistical values over a f	ield	
< operator > ifi	le ofile		
fldpctl	Field percentiles		
${f fldpctl}, p \ {f ifile}$	ofile		
$\mathbf{zon} < stat >$	Zonal statistical values		
< operator > ifi	le ofile		
zonpctl	Zonal percentiles		
$\mathbf{zonpctl}, p \; \mathtt{ifile}$	ofile		
mer < stat >	Meridional statistical value	1es	
< operator > ifi	le ofile		
merpctl Meridional percentiles			
$\mathbf{merpctl}, p$ ifile ofile			
	Statistical values over gri	d boxes	
< operator >, nx,	ny ifile ofile		
$\mathbf{vert} < stat >$	Vertical statistical values		
< operator > ifi	le ofile		
timsel< stat>	Time range statistical val	nes	
	ts[,noffset[,nskip]] ifile of		
	Time range percentiles	ifile? ifile?	R ofile
timselpctl,p,nsets[,noffset[,nskip]] ifile1 ifile2 ifile3 ofile			
	Running statistical values	3	
< operator >, nts	ifile ofile		
runpctl	Running percentiles		
runpctl,p,nts if			
	ile1 ofile		
tim < stat >	ile1 ofile Statistical values over all	timesteps	
tim < stat > $< operator > ifi$	Statistical values over all	timesteps	
< operator > ifi	Statistical values over all le ofile	timesteps	
<pre><operator> ifi timpctl</operator></pre>	Statistical values over all le ofile Time percentiles	timesteps	
< operator > ifi timpctl timpctl, $p$ ifile	Statistical values over all le ofile Time percentiles 1 ifile2 ifile3 ofile	timesteps	
<pre><operator> ifi timpctl timpctl,p ifile hour<stat></stat></operator></pre>	Statistical values over all le ofile  Time percentiles 1 ifile2 ifile3 ofile  Hourly statistical values	timesteps	
< operator > ifi timpctl timpctl,p ifile hour $< stat >$ < operator > ifi	Statistical values over all le ofile  Time percentiles 1 ifile2 ifile3 ofile  Hourly statistical values le ofile	timesteps	
<pre><operator> ifit timpctl timpctl,p ifile hour<stat> <operator> ifit hourpctl</operator></stat></operator></pre>	Statistical values over all le ofile  Time percentiles 1 ifile2 ifile3 ofile  Hourly statistical values	timesteps	

Daily statistical values

Monthly statistical values

Monthly percentiles

monpctl,p ifile1 ifile2 ifile3 ofile

Daily percentiles daypctl,p ifile1 ifile2 ifile3 ofile

### yearmonmean ifile ofile year<stat> <operator> yearpctl yearpctl,p seas < stat >< operator >seaspctl seaspctl,p i yhour< stat < operator >yday< stat : < operator >ydaypctl ydaypctl,pymon< stat < operator >ymonpctl ymonpctl,p yseas< stat < operator >yseaspctl yseaspctl,pydrun<stat < operator >ydrunpctl Multi-year daily running percentiles ydrunpctl,p,nts ifile1 ifile2 ifile3 ofile Correlation and co. fldcor Correlation in grid space fldcor ifile1 ifile2 ofile timcor Correlation over time timcor ifile1 ifile2 ofile fldcovar Covariance in grid space fldcovar ifile1 ifile2 ofile timcovar Covariance over time timcovar ifile1 ifile2 ofile Regression

regres	Regression	
regres ifile ofile		
detrend	Detrend	
detrend ifile ofile		
trend	Trend	
trend ifile ofile1 ofile2		
subtrend	Subtract trend	
subtrend ifile	1 ifile2 ifile3 ofile	

#### **EOFs**

Calculate EOFs in spatial or time space	
Calculate EOFs in time space	
Calculate EOFs in spatial space	
Calculate 3-Dimensional EOFs in time space	
<pre><operator>,neof ifile ofile1 ofile2</operator></pre>	
Calculate principal coefficients of EOFs	
ifile2 obase	

#### Interpolation

> Yearly statistical values	remapbil	Bilinear interpolation
> ifile ofile	remapbic	Bicubic interpolation
	remapdis	Distance-weighted average remapping
Yearly percentiles	remapnn	Nearest neighbor remapping
ifile1 ifile2 ifile3 ofile	remapcon	First order conservative remapping
Seasonal statistical values	remapcon2	Second order conservative remapping
> ifile ofile	remaplaf	Largest area fraction remapping
	<pre>&lt; operator &gt; ,gric</pre>	d ifile ofile
Seasonal percentiles	genbil	Generate bilinear interpolation weights
ifile1 ifile2 ifile3 ofile	genbic	Generate bicubic interpolation weights
t> Multi-year hourly statistical values	gendis	Generate distance-weighted average remap weights
> ifile ofile	gennn	Generate nearest neighbor remap weights
	gencon	Generate 1st order conservative remap weights
> Multi-year daily statistical values	gencon2	Generate 2nd order conservative remap weights
> ifile ofile	genlaf	Generate largest area fraction remap weights
Multi-year daily percentiles	<pre>&lt; operator &gt; ,gric</pre>	
offile1 ifile2 ifile3 ofile		
	remap	SCRIP grid remapping
t > Multi-year monthly statistical values	remap,grid,weig	ghts ifile ofile
> ifile ofile	remapeta	Remap vertical hybrid level
Multi-year monthly percentiles		oro ifile ofile
p ifile1 ifile2 ifile3 ofile		
Multi annu annual atatistical anlua	ml2pl	Model to pressure level interpolation
Multi-year seasonal statistical values	ml2pl,plevels if	
> ifile ofile	ml2hl	Model to height level interpolation
Multi-year seasonal percentiles	ml2hl,hlevels if	ile ofile
pifile1 ifile2 ifile3 ofile	intlevel	Linear level interpolation
ut> Multi-year daily running statistical values	intlevel, levels in	file ofile
>,nts ifile ofile	intlevel3d	Linear level interpolation onto a 3d vertical coordin
,	intlevelsd	like intlevel3d but with extrapolation
Multi-year daily running percentiles		ordinate ifile1 ifile2 ofile
p,nts ifile1 ifile2 ifile3 ofile	<pre><pre><pre>operator &gt;,1coo</pre></pre></pre>	ordinate fiffer fiffez office

#### Interpolation between timesteps inttime,date,time[,inc] ifile ofile Interpolation between timesteps intntime

,	
intyear	Interpolation between two years
introor ware it	file1 ifile2 obace

Spectral to gridpoint

Gridpoint to spectral

#### Transformation

sp2gp

sp2gpl

gp2sp

intntime.n ifile ofile

gp2spl	Gridpoint to spectral (linear)	
<pre><operator> ifile ofile</operator></pre>		
sp2sp	Spectral to spectral	
sp2sp,trunc ifile ofile		
dv2uv	Divergence and vorticity to U and V wind	
dv2uvl	Divergence and vorticity to U and V wind (linear)	
uv2dv	U and V wind to divergence and vorticity	
uv2dvl	II and V wind to divergence and vorticity (linear)	

Spectral to gridpoint (linear)

dv2uv	Divergence and vorticity to U and V wind
dv2uvl	Divergence and vorticity to U and V wind (linear)
uv2dv	U and V wind to divergence and vorticity
uv2dvl	U and V wind to divergence and vorticity (linear)
dv2ps	D and V to velocity potential and stream function
< operator > ifi	le ofile

#### Import/Export

import_binary	Import binary data sets	
import_binary ifile ofile		
$import\_cmsaf$	Import CM-SAF HDF5 files	
import_cmsaf ifile ofile		
	T AMED 1: 01	
$import\_amsr$	Import AMSR binary files	
import_amsr ifile ofile		
input	ASCII input	
•		
input,grid ofile		
inputsrv	SERVICE ASCII input	
inputext	EXTRA ASCII input	
<pre><operator> ofile</operator></pre>		

con.wgs.final, file of ite			
outputf outputed outputed outputed outputed outputed outputed outputed SERVICE ASCII output  SECALOR Consecutive dry days index per time period  sea.catl Consecutive summer days index per time period  sea.catl Consecutive wer days index per time period  sea.catl Consecutive wer days index per time period  sea.catl I it offile  SECALOR (Sites offile offile  SECALO	_	ASCII output	
outputsty outputsty SERVICE ASCII output  SERVICE ASCII output  SERVICE ASCII output  Consecutive dry days index per time period exacted			hurr ifile ofile
outputs outputs EXTRA ASCII output  outputs EXTRA ASCII output  Ascillaneous  Miscellaneous  Mis	•		
outputexy   SERVICE ASCII output			
## Consecutive dry days index per time period ecacdd.   Consecutive frost days index per time period ecacdd.   Consecutive summer days index per time period ecacdd.   Cold wave with save than summer days index per time period ecacdd.   Cold wave with save than summer days index per time period ecacdd.   Cold wave with save than summer days index per time period ecacdd.   Cold wave with save than summer days index pe		U 1	
Canada   Consecutive dry days index per time period ecanded   Consecutive dry days index per time period ecanded   Consecutive fort days index per time pe			Climate indices
cadd   Consecutive wet days index per time period   caed   fill   of ills   caed   ca	-	•	eca_cdd Consecutive dry days index per time period
gradedeal GrADS data descriptor file (version I GRB man) coperator > file (version 2 GRB man) coperator > file of ile version coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man)	<pre><pre><pre>coperator &gt; 111</pre></pre></pre>	1100	
gradedeal GrADS data descriptor file (version I GRB man) coperator > file (version 2 GRB man) coperator > file of ile version coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man) coperator > file of ile version 2 GRB man)			Consequeive front days index per time period
Miscellaneous   GrADS data descriptor file (version 2 GRIB map)   gradeded 2   GrADS data descriptor file (version 2 GRIB map)   gradeded 2   GrADS data descriptor file (version 2 GRIB map)   Graded version 2 Graded versio			The state of the s
gradades   GrADS data descriptor file (version I GRIB map)	Miscellaneous	8	
canced   Consecutive wet days index per time period			
Consecutive wet days makes per time period eca.cwd   Recard   Re			eca_csu[,T] ifile ofile
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$eca\_tg10p$	Cold days percent wrt 10th percentile of reference period	
$ m eca\_tg10p$ ifile	e1 ifile2 ofile	
U .	Warm days percent wrt 90th percentile of reference period	
$ m eca\_tg90p$ ifile	e1 ifile2 ofile	
eca_tn10p	Cold nights percent wrt 10th percentile of reference period	
eca_tn10p ifile1 ifile2 ofile		
eca_tn90p	Warm nights percent wrt 90th percentile of reference period	
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	33 33333 3333	
eca_tr	Tropical nights index per time period	
$eca_{tr}[,T]$ ifile	ofile	
eca_tx10p	Very cold days percent wrt 10th percentile of reference period	
eca_tx10p ifile1 ifile2 ofile		
eca_tx90p	Very warm days percent wrt 90th percentile of reference period	
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