CDO Reference Card

Climate Data Operators Version 1.6.0 March 2013

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

Syntax

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

showmon showdate

showtime

<operator> ifile

info	Dataset information listed by parameter identifier		
infon	Dataset information listed by parameter name		
map	Dataset information and simple map		
<pre><operator> ifi</operator></pre>	<pre><operator> ifiles</operator></pre>		
sinfo	Short information listed by parameter identifier		
sinfon	Short information listed by parameter name		
< operator > ifi	les		
diff	Compare two datasets listed by parameter id		
diffn	Compare two datasets listed by parameter name		
< operator > ifi	le1 ifile2		
npar	Number of parameters		
nlevel	Number of levels		
nyear	Number of years		
nmon	Number of months		
ndate	Number of dates		
ntime	Number of timesteps		
<pre><operator> ifile</operator></pre>			
showformat	Show file format		
showcode	Show code numbers		
showname	Show variable names		
showstdname	Show standard names		
showlevel	Show levels		
showltype	Show GRIB level types		
showyear	Show years		

Show months

showtimestamp Show timestamp

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

copy	Copy datasets	
cat	Concatenate datasets	
<pre><operator> ifiles ofile</operator></pre>		
replace	Replace variables	
replace ifile1	ifile2 ofile	
duplicate	Duplicates a dataset	
duplicate[,ndup	ofile ofile	
mergegrid	Merge grid	
mergegrid ifi	Le1 ifile2 ofile	
merge	Merge datasets with different fields	
mergetime	Merge datasets sorted by date and time	
<operator> if:</operator>		
splitcode	Split code numbers	
splitcode splitparam	Split code numbers Split parammeter identifiers	
_	•	
splitparam	Split parammeter identifiers	
splitparam splitname	Split parammeter identifiers Split variable names	
splitparam splitname splitlevel splitgrid splitzaxis	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes	
splitparam splitname splitlevel splitgrid splitzaxis splittabnum	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes Split parameter table numbers	
splitparam splitname splitlevel splitgrid splitzaxis splittabnum	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes	
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splitparam splitname splitlevel splitgrid splitzaxis splittabnum <operator>[,sw splithour splitday splitmon</operator>	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes Split parameter table numbers ap ifile obase Split hours	
splitparam splitname splitlevel splitgrid splitzaxis splittabnum <operator>[,sw splithour splitday splitmon splitseas</operator>	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes Split parameter table numbers apl ifile obase Split days Split days Split months Split seasons	
splitparam splitname splitlevel splitgrid splitzaxis splittabnum <operator>[,sw splithour splitday splitmon</operator>	Split parammeter identifiers Split variable names Split levels Split grids Split z-axes Split parameter table numbers ap/ifile obase Split hours Split days Split months Split seasons Split years	

Split time selection

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

Salact fields

Selection soloct

select	Select fields	
delete	Delete fields	
<pre><operator>,params ifiles ofile</operator></pre>		
selparam	Select parameters by identifier	
delparam	Delete parameters by identifier	
<pre><operator>,par</operator></pre>	ams ifile ofile	
selcode	Select parameters by code number	
delcode	Delete parameters by code number	
< operator >, cod	es ifile ofile	
selname	Select parameters by name	
delname	Delete parameters by name	
<pre><operator>,nan</operator></pre>	mes ifile ofile	
selstdname	Select parameters by standard name	
	names ifile ofile	
sellevel		
sellevel, levels if		
	Select levels by index	
sellevidx, levidx ifile ofile		
selgrid		
selgrid, grids ifile ofile		
selzaxis	Select z-axes	
selzaxis,zaxes ifile ofile		
selltype	Select GRIB level types	
selltype,ltypes ifile ofile		
seltabnum	Select parameter table numbers	
seltabnum,tabnums ifile ofile		

seltimestep	Select timesteps	
seltimestep, tim	nesteps 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 if	ile ofile	
selseas	Select seasons	
selseas,seasons	ifile ofile	
seldate	Select dates	
seldate,date1[,d	ate2] ifile ofile	
selsmon	Select single month	
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,idz	x1,idx2,idy1,idy2 ifile ofile	

Conditional selection

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
ifnotthenc	If not then constant
<pre><operator>,c ifile ofile</operator></pre>	

${\bf Comparison}$

eq	Equal
ne	Not equal
le	Less equal
lt	Less than
ge	Greater equal
gt	Greater than
< operator > ifi	le1 ifile2 ofile
eqc	Equal constant
eqc nec	Equal constant Not equal constant
-	*
nec	Not equal constant
nec lec	Not equal constant Less equal constant
nec lec ltc	Not equal constant Less equal constant Less than constant
nec lec ltc gec	Not equal constant Less equal constant Less than constant Greater equal constant Greater than constant

Modification

setpartab	Set parameter table	
setpartab, table ifile ofile		
setcode	Set code number	
setcode, code ifile 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 ifile 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	file 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 i	file ofile	
chcode	Change code number	
chcode, oldcode,	newcode[,] ifile ofile	

chcode	Change code number	
chcode,oldcode,newcode[,] ifile ofile		
chparam	Change parameter identifier	
chparam,oldparam,newparam, ifile ofile		
chname	Change variable name	
chname,oldname,newname, ifile ofile		
chunit	Change variable unit	
chunit,oldunit,newunit, ifile ofile		
chlevel		
chlevel,oldlev,newlev, ifile ofile		
	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		

setgridtype	Set grid type
setgridtype,gri	dtype ifile ofile
setgridarea	Set grid cell area
setgridarea,grid	darea ifile ofile
setzaxis	Set z-axis
cotzavie zavie i	file ofile

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

invertlat	Invert latitudes
invertlat ifile	ofile

Invert levels

invertlev ifile ofile		
maskregion	Mask regions	
maskregion,reg	ions ifile ofile	

invertlev

masklonlatbox	Mask a longitude/latitude box
masklonlatbox	lon1,lon2,lat1,lat2 ifile ofile
maskindexbox	Mask an index box
maskindexbox.	idx1.idx2.idv1.idv2 ifile ofile

setclonlatbox	Set a longitude/latitude box to constant
setclonlatbox, a	c,lon1,lon2,lat1,lat2 ifile ofile
setcindexbox	Set an index box to constant
cotaindovhov a	idv1 idv2 idv1 idv2 ifile ofile

enlarge	Enlarge fields
enlarge grid if	ile ofile

setmissval	Set a new missing value	
setmissval, newmiss ifile ofile		
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>< operator > .rmin.rmax ifile ofile</pre>		

Arithmetic

Arithmetic		
expr	Evaluate expressions	
expr,instr ifile	ofile	
exprf	Evaluate expressions from script file	
exprf,filename i	file 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>< operator > 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 > ifile1 ifile2 ofile</pre>		
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</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><operator> ifile1 ifile2 ofile</operator></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		
${f enspctl}, p \ {f ifile}$	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	
<pre><operator> ifile ofile</operator></pre>			
merpctl Meridional percentiles			
merpctl,p ifile	e 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 of	ile	
detrend	Detrend	
detrend ifile ofile		
trend	Trend	
trend ifile ofile1 ofile2		
subtrend	Subtract trend	
subtrend ifile1 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>< operator > ,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>< operator > ,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 >,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	
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outputs outputs EXTRA ASCII output outputs EXTRA ASCII output Ascillaneous Miscellaneous Mis	•		
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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 > 111</pre></pre></pre>	1100	
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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
Dandpass Bandpass filtering Dandpass, min, max first of the bandpass, min, max first of the bandpass, min, max first of the bandpass, min, max first of the lowpass Lowpass filtering Dowpass Lowpass filtring Lowpass Lowpass filtring Lowpass filtring Lowpass filtring Lowpass filtring Lowpass f	~	- \	eca_cwd Consecutive wet days index per time period
bandpass, finin, finax if ile of ile lowpass Loopass filtering lowpass Loopass filtering lowpass Loopass filtering lowpass Loopass filtering lowpass, finin, filte of ile lighpass filtering lighpass filte			eca_cwd[,R] ifile ofile
concept Cold-spass International periods	-		eca_cwdi Cold wave duration index wrt mean of reference pe
lowpass_fmax fifle of fife			
highpass, finitile offile gridarea Grid cell area gridweights Grid cell weights coperators 'ifile offile smooth9 grib in smoothing smooth) if it offile setvals Set list of old values to new values setvals. Odval.newval	•		coa cwfi Cold enall days index wrt 10th percentile of referen
Second S			
gridweights Grid cell area gridweights Grid cell weights control till of tile smooth file of the smooth file of the sectors Set list of old values to new values sectors. Set list of old values to new values sectors. Set range to constant others to constant sectors. Set range to set time period sectors. Set time period sectors. Set time period sectors.			
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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	
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eca_tx90p	Very warm days percent wrt 90th percentile of reference period	
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