CDO Reference Card

Climate Data Operators
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https://code.zmaw.de/projects/cdo

Syntax

cdo   [Options]   Operator1 [−Operator2 [−OperatorN]]

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
-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>
-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)
-O		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 *<table>*		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

info	Dataset information listed by parameter identifier
infon	Dataset information listed by parameter name
map	Dataset information and simple map
<operator> ifiles	

sinfo	Short information listed by parameter identifier
sinfon	Short information listed by parameter name
<operator> ifiles	

diff	Compare two datasets listed by parameter id
diffn	Compare two datasets listed by parameter name
<operator> ifile1 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
<operator> ifile	

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
showmon	Show months
showdate	Show date information
showtime	Show time information
showtimestamp	Show timestamp
<operator> ifile	

File operations

copy	Copy datasets
cat	Concatenate datasets
<operator> ifiles ofile	

replace	Replace variables
replace ifile1 ifile2 ofile	

duplicate	Duplicates a dataset
duplicate[*,ndup*] ifile ofile	

mergegrid	Merge grid
mergegrid ifile1 ifile2 ofile	

merge	Merge datasets with different fields
mergetime	Merge datasets sorted by date and time
<operator> ifiles ofile	

splitcode	Split code numbers
splitparam	Split parameter identifiers
splitname	Split variable names
splitlevel	Split levels
splitgrid	Split grids
splitzaxis	Split z-axes
splittabnum	Split parameter table numbers
<operator>[*,params*] ifile obase	

splithour	Split hours
splitday	Split days
splitseas	Split seasons
splityear	Split years
splityearmon	Split in years and months
<operator> ifile obase	

splitmon	Split months
splitmon[*,format*] ifile obase	

splitsel	Split time selection
splitsel,*nsets[,noffset[,nskip]]* ifile obase	

distgrid	Distribute horizontal grid
distgrid,*nx[,ny]* ifile obase	

collgrid	Collect horizontal grid
collgrid[*,names*] ifiles ofile	

Selection

select	Select fields
delete	Delete fields
<operator>,*params* ifiles ofile	

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

selparam	Select parameters by identifier
delparam	Delete parameters by identifier
<operator>,*params* ifile ofile	

selcode	Select parameters by code number
delcode	Delete parameters by code number
<operator>,*codes* ifile ofile	

selname	Select parameters by name
delname	Delete parameters by name
<operator>,*names* ifile ofile	

selstdname	Select parameters by standard name
selstdname,*stdnames* ifile ofile	

sellevel	Select levels
sellevel,*levels* ifile ofile	

sellevidx	Select levels by index
sellevidx,*levidx* ifile ofile	

selgrid	Select grids
selgrid,*grids* ifile ofile	

selzaxis	Select z-axes
selzaxis,*zaxes* ifile ofile	

selzaxisname	Select z-axes by name
selzaxisname,*zaxisnames* ifile ofile	

selltype	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* ifile ofile	

selhour	Select hours
selhour,*hours* ifile ofile	

selday	Select days
selday,*days* ifile ofile	

selmon	Select months
selmon,*months* ifile ofile	

selyear	Select years
selyear,*years* ifile ofile	

selseas	Select seasons
selseas,*seasons* ifile ofile	

seldate	Select dates
seldate,*date1[,date2]* 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,*idx1,idx2,idy1,idy2* ifile ofile	

Conditional selection

ifthen	If then
ifnotthen	If not then
<operator> ifile1 ifile2 ofile	

ifthenelse	If then else
ifthenelse ifile1 ifile2 ifile3 ofile	

ifthenc	If then constant
ifnotthenc	If not then constant
<operator>,*c* ifile ofile	

Comparison

eq	Equal
ne	Not equal
le	Less equal
lt	Less than
ge	Greater equal
gt	Greater than
<operator> ifile1 ifile2 ofile	

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

setpartabp	Set parameter table
setpartabn	Set parameter table
<operator>,*table[,convert]* ifile ofile	

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
settime,*time* ifile ofile	
setday	Set day
setday,*day* ifile ofile	
setmon	Set month
setmon,*month* ifile ofile	
setyear	Set year
setyear,*year* ifile ofile	
settunits	Set time units
settunits,*units* ifile ofile	
settaxis	Set time axis
settaxis,*date,time[,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	
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	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	
setgridtype	Set grid type
setgridtype,*gridtype* ifile ofile	
setgridarea	Set grid cell area
setgridarea,*gridarea* ifile ofile	

setzaxis	Set z-axis
setzaxis,*zaxis* ifile ofile	
genlevelbounds	Generate level bounds
genlevelbounds[*,zbot[,ztop]]* ifile ofile	

Operator	Description	Syntax
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 |
| **invertlev** ifile ofile | |

| **maskregion** | Mask regions |
| **maskregion**,*regions* 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* ifile ofile | |

setmissval	Set a new missing value
setmissval,*newmiss* ifile ofile	
setctomiss	Set constant to missing value
setmisstoc	Set missing value to constant
<*operator*>,*c* ifile ofile	
setrtomiss	Set range to missing value
setvrange	Set valid range
<*operator*>,*rmin,rmax* ifile ofile	

Arithmetic

expr	Evaluate expressions
expr,*instr* ifile ofile	
exprf	Evaluate expressions script
exprf,*filename* ifile ofile	
aexpr	Evaluate expressions and append results
aexpr,*instr* ifile ofile	
aexprf	Evaluate expression script and append results
aexprf,*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
<*operator*> ifile ofile	

addc	Add a constant
subc	Subtract a constant
mulc	Multiply with a constant
divc	Divide by a constant
<*operator*>,*c* ifile ofile	

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
<*operator*> ifile1 ifile2 ofile	

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monadd	Add monthly time series
monsub	Subtract monthly time series
monmul	Multiply monthly time series
mondiv	Divide monthly time series
<*operator*> ifile1 ifile2 ofile	

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
<*operator*> ifile1 ifile2 ofile	

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
<*operator*> ifile1 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
<*operator*> ifile1 ifile2 ofile	

yseasadd	Add multi-year seasonal time series
yseassub	Subtract multi-year seasonal time series
yseasmul	Multiply multi-year seasonal time series
yseasdiv	Divide multi-year seasonal time series
<*operator*> ifile1 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
<*operator*> ifile ofile	

Statistical values

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

| **consects** | Consecutive Timesteps |
| <*operator*> ifile ofile | |

ens<*stat*>	Statistical values over an ensemble
<*operator*> ifiles ofile	
enspctl	Ensemble percentiles
enspctl,*p* ifiles ofile	

ensrkhistspace	Ranked Histogram averaged over time
ensrkhisttime	Ranked Histogram averaged over space
ensroc	Ensemble Receiver Operating characteristics
<*operator*> obsfile ensfiles ofile	

enscrps	Ensemble CRPS and decomposition
enscrps rfile ifiles ofilebase	
ensbrs	Ensemble Brier score
ensbrs,*x* rfile ifiles ofilebase	

fld<*stat*>	Statistical values over a field
<*operator*> ifile ofile	
fldpctl	Field percentiles
fldpctl,*p* ifile ofile	

zon<*stat*>	Zonal statistical values
<*operator*> ifile ofile	
zonpctl	Zonal percentiles
zonpctl,*p* ifile ofile	

mer<*stat*>	Meridional statistical values
<*operator*> ifile ofile	
merpctl	Meridional percentiles
merpctl,*p* ifile ofile	

| **gridbox**<*stat*> | Statistical values over grid boxes |
| <*operator*>,*nx,ny* ifile ofile | |

| **vert**<*stat*> | Vertical statistical values |
| <*operator*> ifile ofile | |

| **timsel**<*stat*> | Time range statistical values |
| <*operator*>,*nsets[,noffset[,nskip]]* ifile ofile | |

| **timselpctl** | Time range percentiles |
| **timselpctl**,*p,nsets[,noffset[,nskip]]* ifile1 ifile2 ifile3 ofile | |

| **run**<*stat*> | Running statistical values |
| <*operator*>,*nts* ifile ofile | |

| **runpctl** | Running percentiles |
| **runpctl**,*p,nts* ifile ofile | |

| **tim**<*stat*> | Statistical values over all timesteps |
| <*operator*> ifile ofile | |

| **timpctl** | Time percentiles |
| **timpctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **hour**<*stat*> | Hourly statistical values |
| <*operator*> ifile ofile | |

| **hourpctl** | Hourly percentiles |
| **hourpctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **day**<*stat*> | Daily statistical values |
| <*operator*> ifile ofile | |

| **daypctl** | Daily percentiles |
| **daypctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **mon**<*stat*> | Monthly statistical values |
| <*operator*> ifile ofile | |

| **monpctl** | Monthly percentiles |
| **monpctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **yearmonmean** | Yearly mean from monthly data |
| **yearmonmean** ifile ofile | |

| **year**<*stat*> | Yearly statistical values |
| <*operator*> ifile ofile | |

| **yearpctl** | Yearly percentiles |
| **yearpctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **seas**<*stat*> | Seasonal statistical values |
| <*operator*> ifile ofile | |

| **seaspctl** | Seasonal percentiles |
| **seaspctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **yhour**<*stat*> | Multi-year hourly statistical values |
| <*operator*> ifile ofile | |

| **yday**<*stat*> | Multi-year daily statistical values |
| <*operator*> ifile ofile | |

| **ydaypctl** | Multi-year daily percentiles |
| **ydaypctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **ymon**<*stat*> | Multi-year monthly statistical values |
| <*operator*> ifile ofile | |

| **ymonpctl** | Multi-year monthly percentiles |
| **ymonpctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **yseas**<*stat*> | Multi-year seasonal statistical values |
| <*operator*> ifile ofile | |

| **yseaspctl** | Multi-year seasonal percentiles |
| **yseaspctl**,*p* ifile1 ifile2 ifile3 ofile | |

| **ydrun**<*stat*> | Multi-year daily running statistical values |
| <*operator*>,*nts* ifile ofile | |

| **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** ifile1 ifile2 ifile3 ofile | |

EOFs

eof	Calculate EOFs in spatial or time space
eoftime	Calculate EOFs in time space
eofspatial	Calculate EOFs in spatial space
eof3d	Calculate 3-Dimensional EOFs in time space
<*operator*>,*neof* ifile ofile1 ofile2	

| **eofcoeff** | Calculate principal coefficients of EOFs |
| **eofcoeff** ifile1 ifile2 obase | |

Interpolation

remapbil	Bilinear interpolation
remapbic	Bicubic interpolation
remapdis	Distance-weighted average remapping
remapnn	Nearest neighbor remapping
remapcon	First order conservative remapping
remapcon2	Second order conservative remapping
remaplaf	Largest area fraction remapping
<*operator*>,*grid* ifile ofile	

genbil	Generate bilinear interpolation weights
genbic	Generate bicubic interpolation weights
gendis	Generate distance-weighted average remap weights
gennn	Generate nearest neighbor remap weights
gencon	Generate 1st order conservative remap weights
gencon2	Generate 2nd order conservative remap weights
genlaf	Generate largest area fraction remap weights
<*operator*>,*grid* ifile ofile	

| **remap** | SCRIP grid remapping |
| **remap**,*grid,weights* ifile ofile | |

| **remapeta** | Remap vertical hybrid level |
| **remapeta**,*vct[,oro]* ifile ofile | |

ml2pl	Model to pressure level interpolation
ml2pl,*plevels* ifile ofile	
ml2hl	Model to height level interpolation
ml2hl,*hlevels* ifile ofile	

| **intlevel** | Linear level interpolation |
| **intlevel**,*levels* ifile ofile | |

intlevel3d	Linear level interpolation onto a 3d vertical coordina
intlevelx3d	like intlevel3d but with extrapolation
<*operator*>,*icoordinate* ifile1 ifile2 ofile	

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

intyear	Interpolation between two years	
intyear,*years* `ifile1 ifile2 obase`		

Transformation

sp2gp	Spectral to gridpoint	
sp2gpl	Spectral to gridpoint (linear)	
gp2sp	Gridpoint to spectral	
gp2spl	Gridpoint to spectral (linear)	
<operator> `ifile ofile`		
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	U and V wind to divergence and vorticity (linear)	
dv2ps	D and V to velocity potential and stream function	
<operator> `ifile ofile`		

Import/Export

import_binary	Import binary data sets	
import_binary `ifile ofile`		
import_cmsaf	Import CM-SAF HDF5 files	
import_cmsaf `ifile ofile`		
import_amsr	Import AMSR binary files	
import_amsr `ifile ofile`		
input	ASCII input	
input,*grid* `ofile`		
inputsrv	SERVICE ASCII input	
inputext	EXTRA ASCII input	
<operator> `ofile`		
output	ASCII output	
output `ifiles`		
outputf	Formatted output	
outputf,*format[,nelem]* `ifiles`		
outputint	Integer output	
outputsrv	SERVICE ASCII output	
outputext	EXTRA ASCII output	
<operator> `ifiles`		
outputtab	Table output	
outputtab,*params* `ifiles ofile`		

Miscellaneous

gradsdes	GrADS data descriptor file	
gradsdes[,*mapversion*] `ifile`		
after	ECHAM standard post processor	
after `ifiles ofile`		
bandpass	Bandpass filtering	
bandpass,*fmin,fmax* `ifile ofile`		
lowpass	Lowpass filtering	
lowpass,*fmax* `ifile ofile`		
highpass	Highpass filtering	
highpass,*fmin* `ifile ofile`		
gridarea	Grid cell area	
gridweights	Grid cell weights	
<operator> `ifile ofile`		
smooth9	9 point smoothing	
smooth9 `ifile ofile`		
setvals	Set list of old values to new values	
setvals,*oldval,newval[,...]* `ifile ofile`		
setrtoc	Set range to constant	
setrtoc,*rmin,rmax,c* `ifile ofile`		
setrtoc2	Set range to constant others to constant2	
setrtoc2,*rmin,rmax,c,c2* `ifile ofile`		

timsort	Sort over the time	
timsort `ifile ofile`		
const	Create a constant field	
const,*const,grid* `ofile`		
random	Create a field with random numbers	
random,*grid[,seed]* `ofile`		
stdatm	Create values for pressure and temperature for hydro	
stdatm,*levels* `ofile`		
rotuvb	Backward rotation	
rotuvb,*u,v,...* `ifile ofile`		
mastrfu	Mass stream function	
mastrfu `ifile ofile`		
sealevelpressure	Sea level pressure	
sealevelpressure `ifile ofile`		
adisit	Potential temperature to in-situ temperature	
adisit[,*pressure*] `ifile ofile`		
adipot	In-situ temperature to potential temperature	
adipot `ifile ofile`		
rhopot	Calculates potential density	
rhopot[,*pressure*] `ifile ofile`		
histcount	Histogram count	
histsum	Histogram sum	
histmean	Histogram mean	
histfreq	Histogram frequency	
<operator>,*bounds* `ifile ofile`		
sethalo	Set the left and right bounds of a field	
sethalo,*lhalo,rhalo* `ifile ofile`		
wct	Windchill temperature	
wct `ifile1 ifile2 ofile`		
fdns	Frost days where no snow index per time period	
fdns `ifile1 ifile2 ofile`		
strwin	Strong wind days index per time period	
strwin[,*v*] `ifile ofile`		
strbre	Strong breeze days index per time period	
strbre `ifile ofile`		
strgal	Strong gale days index per time period	
strgal `ifile ofile`		
hurr	Hurricane days index per time period	
hurr `ifile ofile`		
fillmiss	Fill missing values	
fillmiss `ifile ofile`		
fillmiss2	Fill missing values	
fillmiss2[,*maxiter*] `ifile ofile`		

Climate indices

eca_cdd	Consecutive dry days index per time period	
eca_cdd[,*R*] `ifile ofile`		
eca_cfd	Consecutive frost days index per time period	
eca_cfd `ifile ofile`		
eca_csu	Consecutive summer days index per time period	
eca_csu[,*T*] `ifile ofile`		
eca_cwd	Consecutive wet days index per time period	
eca_cwd[,*R*] `ifile ofile`		
eca_cwdi	Cold wave duration index wrt mean of reference per	
eca_cwdi[,*nday[,T]*] `ifile1 ifile2 ofile`		
eca_cwfi	Cold-spell days index wrt 10th percentile of referenc	
eca_cwfi[,*nday*] `ifile1 ifile2 ofile`		
eca_etr	Intra-period extreme temperature range	
eca_etr `ifile1 ifile2 ofile`		
eca_fd	Frost days index per time period	
eca_fd `ifile ofile`		

eca_gsl	Growing season length index	
eca_gsl[,*nday[,T[,fland]]]* `ifile1 ifile2 ofile`		
eca_hd	Heating degree days per time period	
eca_hd[,*T1[,T2]*] `ifile ofile`		
eca_hwdi	Heat wave duration index wrt mean of reference period	
eca_hwdi[,*nday[,T]*] `ifile1 ifile2 ofile`		
eca_hwfi	Warm spell days index wrt 90th percentile of reference period	
eca_hwfi[,*nday*] `ifile1 ifile2 ofile`		
eca_id	Ice days index per time period	
eca_id `ifile ofile`		
eca_r75p	Moderate wet days wrt 75th percentile of reference period	
eca_r75p `ifile1 ifile2 ofile`		
eca_r75ptot	Precipitation percent due to R75p days	
eca_r75ptot `ifile1 ifile2 ofile`		
eca_r90p	Wet days wrt 90th percentile of reference period	
eca_r90p `ifile1 ifile2 ofile`		
eca_r90ptot	Precipitation percent due to R90p days	
eca_r90ptot `ifile1 ifile2 ofile`		
eca_r95p	Very wet days wrt 95th percentile of reference period	
eca_r95p `ifile1 ifile2 ofile`		
eca_r95ptot	Precipitation percent due to R95p days	
eca_r95ptot `ifile1 ifile2 ofile`		
eca_r99p	Extremely wet days wrt 99th percentile of reference period	
eca_r99p `ifile1 ifile2 ofile`		
eca_r99ptot	Precipitation percent due to R99p days	
eca_r99ptot `ifile1 ifile2 ofile`		
eca_pd	Precipitation days index per time period	
eca_pd,*x* `ifile ofile`		
eca_r10mm	Heavy precipitation days index per time period	
eca_r20mm	Very heavy precipitation days index per time period	
<operator> `ifile ofile`		
eca_rr1	Wet days index per time period	
eca_rr1[,*R*] `ifile ofile`		
eca_rx1day	Highest one day precipitation amount per time period	
eca_rx1day[,*mode*] `ifile ofile`		
eca_rx5day	Highest five-day precipitation amount per time period	
eca_rx5day[,*x*] `ifile ofile`		
eca_sdii	Simple daily intensity index per time period	
eca_sdii[,*R*] `ifile ofile`		
eca_su	Summer days index per time period	
eca_su[,*T*] `ifile ofile`		
eca_tg10p	Cold days percent wrt 10th percentile of reference period	
eca_tg10p `ifile1 ifile2 ofile`		
eca_tg90p	Warm days percent wrt 90th percentile of reference period	
eca_tg90p `ifile1 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	
eca_tn90p `ifile1 ifile2 ofile`		
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	
eca_tx90p `ifile1 ifile2 ofile`		