

CDO Reference Card

Climate Data Operator
Version 1.9.8
October 2019

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<https://code.mpimet.mpg.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 nc1,nc2,nc4,nc4c; F32/F64 for grb2,srv,ext,ieq; 1-24 for grb1,grb2) Add L or B for Little or Big endian byteorder
-f <format>	Outputformat: grb1,grb2,nc1,nc2,nc4,nc4c,srv,ext,ieq
-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> infiles	
sinfo	Short information listed by parameter identifier
sinfon	Short information listed by parameter name
<operator> infiles	
diff	Compare two datasets listed by parameter id
diffn	Compare two datasets listed by parameter name
<operator>[,options] infile1 infile2	
npar	Number of parameters
nlevel	Number of levels
nyear	Number of years
nmon	Number of months
ndate	Number of dates
ntime	Number of timesteps
ngridpoints	Number of gridpoints
ngrids	Number of horizontal grids
<operator> infile	

showformat	Show file format
showcode	Show code numbers
showname	Show variable names
showstdname	Show standard names
showatts	Show all attributes
showattsglob	Show all global attributes
showlevel	Show levels
showltype	Show GRIB level types
showyear	Show years
showmon	Show months
showdate	Show date information
showtime	Show time information
showtimestam	Show timestamp
<operator> infile	
showattribute	Show a global attribute or a variable attribute
showattribute,attribute infile	
showattsvar	Show all variable attributes.
showattsvar[,var_nm] infile	
partab	Parameter table
codetab	Parameter code table
griddes	Grid description
zaxisdes	Z-axis description
vct	Vertical coordinate table
<operator> infile	

File operations

apply	Apply an operator on each input file.
apply,operator infiles	
copy	Copy datasets
cat	Concatenate datasets
<operator> infiles outfile	
tee	Duplicate a data stream
tee,outfile2 infile outfile1	
replace	Replace variables
replace infile1 infile2 outfile	
duplicate	Duplicates a dataset
duplicate[,ndup] infile outfile	
mergegrid	Merge grid
mergegrid infile1 infile2 outfile	
merge	Merge datasets with different fields
mergetime	Merge datasets sorted by date and time
<operator> infiles outfile	
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] infile obase	
splithour	Split hours
splitday	Split days
splitseas	Split seasons
splityear	Split years
splityearmon	Split in years and months
<operator> infile obase	
splitmon	Split months
splitmon[,format] infile obase	
splitsel	Split time selection
splitsel,nsets[,noffset[,nskip]] infile obase	
distgrid	Distribute horizontal grid
distgrid,nx[,ny] infile obase	
collgrid	Collect horizontal grid
collgrid[,nx[,names]] infiles outfile	

Selection

select	Select fields
delete	Delete fields
<i><operator>,params infile outfile</i>	
selmulti	Select multiple fields
delmulti	Delete multiple fields
changemulti	Change identification of multiple fields
<i><operator>,selection-specification infile outfile</i>	
selparam	Select parameters by identifier
delparam	Delete parameters by identifier
<i><operator>,params infile outfile</i>	
selcode	Select parameters by code number
delcode	Delete parameters by code number
<i><operator>,codes infile outfile</i>	
selname	Select parameters by name
delname	Delete parameters by name
<i><operator>,names infile outfile</i>	
selstdname	Select parameters by standard name
<i>selstdname,stdnames infile outfile</i>	
sellevel	Select levels
<i>sellevel,levels infile outfile</i>	
sellevidx	Select levels by index
<i>sellevidx,levidx infile outfile</i>	
selgrid	Select grids
<i>selgrid,grids infile outfile</i>	
selzaxis	Select z-axes
<i>selzaxis,zaxes infile outfile</i>	
selzaxisname	Select z-axes by name
<i>selzaxisname,zaxisnames infile outfile</i>	
selltype	Select GRIB level types
<i>selltype,ltypes infile outfile</i>	
seltabnum	Select parameter table numbers
<i>seltabnum,tabnums infile outfile</i>	
sel timestep	Select timesteps
<i>sel timestep,timesteps infile outfile</i>	
seltime	Select times
<i>seltime,times infile outfile</i>	
selhour	Select hours
<i>selhour,hours infile outfile</i>	
selday	Select days
<i>selday,days infile outfile</i>	
selmonth	Select months
<i>selmonth,months infile outfile</i>	
selyear	Select years
<i>selyear,years infile outfile</i>	
selseason	Select seasons
<i>selseason,seasons infile outfile</i>	
seldate	Select dates
<i>seldate,startdate[,enddate] infile outfile</i>	
selsmon	Select single month
<i>selsmon,month[,nts1[,nts2]] infile outfile</i>	
sellonlatbox	Select a longitude/latitude box
<i>sellonlatbox,lon1,lon2,lat1,lat2 infile outfile</i>	
selindexbox	Select an index box
<i>selindexbox,idx1,idx2,idy1,idy2 infile outfile</i>	
selgridcell	Select grid cells
delgridcell	Delete grid cells
<i><operator>,indexes infile outfile</i>	
samplegrid	Resample grid
<i>samplegrid,factor infile outfile</i>	
selyearidx	Select year by index
<i>selyearidx infile1 infile2 outfile</i>	

Conditional selection

ifthen	If then
ifnotthen	If not then
<i><operator> infile1 infile2 outfile</i>	

ifthenelse	If then else
<i>ifthenelse infile1 infile2 infile3 outfile</i>	

ifthen	If then constant
ifnotthen	If not then constant
<i><operator>,c infile outfile</i>	

reducegrid	Reduce input file variables to locations, where mask
<i>reducegrid,mask[,limitCoordsOutput] infile outfile</i>	

Comparison

eq	Equal
ne	Not equal
le	Less equal
lt	Less than
ge	Greater equal
gt	Greater than
<i><operator> infile1 infile2 outfile</i>	

eqc	Equal constant
nec	Not equal constant
lec	Less equal constant
ltc	Less than constant
gec	Greater equal constant
gtc	Greater than constant
<i><operator>,c infile outfile</i>	

Modification

setattribute	Set attributes
<i>setattribute,attributes infile outfile</i>	

setpartabp	Set parameter table
setpartabn	Set parameter table
<i><operator>,table[,convert] infile outfile</i>	

setcodetab	Set parameter code table
<i>setcodetab,table infile outfile</i>	

setcode	Set code number
<i>setcode,code infile outfile</i>	

setparam	Set parameter identifier
<i>setparam,param infile outfile</i>	

setname	Set variable name
<i>setname,name infile outfile</i>	

setunit	Set variable unit
<i>setunit,unit infile outfile</i>	

setlevel	Set level
<i>setlevel,level infile outfile</i>	

setltype	Set GRIB level type
<i>setltype,ltype infile outfile</i>	

setdate	Set date
<i>setdate,date infile outfile</i>	

settime	Set time of the day
<i>settime,time infile outfile</i>	

setday	Set day
<i>setday,day infile outfile</i>	

setmon	Set month
<i>setmon,month infile outfile</i>	

setyear	Set year
<i>setyear,year infile outfile</i>	

settimeunits	Set time units
<i>settimeunits,units infile outfile</i>	

settaxis	Set time axis
<i>settaxis,date,time[,inc] infile outfile</i>	

settbounds	Set time bounds
<i>settbounds,frequency infile outfile</i>	

setreftime	Set reference time
<i>setreftime,date,time[,units] infile outfile</i>	

setcalendar	Set calendar
<i>setcalendar,calendar infile outfile</i>	

shifttime	Shift timesteps
<i>shifttime,sval infile outfile</i>	

chcode	Change code number
chcode,oldcode,newcode[,...] infile outfile	
chparam	Change parameter identifier
chparam,oldparam,newparam,... infile outfile	
chname	Change variable or coordinate name
chname,oldname,newname,... infile outfile	
chunit	Change variable unit
chunit,oldunit,newunit,... infile outfile	
chlevel	Change level
chlevel,oldlev,newlev,... infile outfile	
chlevelc	Change level of one code
chlevelc,code,oldlev,newlev infile outfile	
chlevelv	Change level of one variable
chlevelv,name,oldlev,newlev infile outfile	

setgrid	Set grid
setgrid,grid infile outfile	
setgridtype	Set grid type
setgridtype,gridtype infile outfile	
setgridarea	Set grid cell area
setgridarea,gridarea infile outfile	
setgridmask	Set grid mask
setgridmask,gridmask infile outfile	

setzaxis	Set z-axis
setzaxis,zaxis infile outfile	
genlevelbound:	Generate level bounds
genlevelbounds[,zbot[,ztop]] infile outfile	

invertlat	Invert latitudes
invertlat infile outfile	

invertlev	Invert levels
invertlev infile outfile	

shiftx	Shift x
shifty	Shift y
<operator>,jnshift_i,jyclic_i,jcoord_i infile outfile	

maskregion	Mask regions
maskregion,regions infile outfile	

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

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

enlarge	Enlarge fields
enlarge,grid infile outfile	

setmissval	Set a new missing value
setmissval,newmiss infile outfile	
setctomiss	Set constant to missing value
setmisstoc	Set missing value to constant
<operator>,c infile outfile	

setrtomiss	Set range to missing value
setvrange	Set valid range
<operator>,rmin,rmax infile outfile	

setmisstonn	Set missing value to nearest neighbor
setmisstonn infile outfile	
setmisstodis	Set missing value to distance-weighted average
setmisstodis[,neighbors] infile outfile	

Arithmetic

expr	Evaluate expressions
expr,instr infile outfile	
exprf	Evaluate expressions script
exprf,filename infile outfile	
aexpr	Evaluate expressions and append results
aexpr,instr infile outfile	
aexprf	Evaluate expression script and append results
aexprf,filename infile outfile	

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
atan	Arc tangent
reci	Reciprocal value
not	Logical NOT
<operator> infile outfile	

addc	Add a constant
subc	Subtract a constant
mulc	Multiply with a constant
divc	Divide by a constant
minc	Minimum of a field and a constant
maxc	Maximum of a field and a constant
<operator>,c infile outfile	

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> infile1 infile2 outfile	

monadd	Add monthly time series
monsub	Subtract monthly time series
monmul	Multiply monthly time series
monddiv	Divide monthly time series
<operator> infile1 infile2 outfile	

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> infile1 infile2 outfile	

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> infile1 infile2 outfile	

ymonadd	Add multi-year monthly time series
ymonsub	Subtract multi-year monthly time series
ymonmul	Multiply multi-year monthly time series
ymonddiv	Divide multi-year monthly time series
<operator> infile1 infile2 outfile	

yseasadd	Add multi-year seasonal time series
yseasub	Subtract multi-year seasonal time series
yseasmul	Multiply multi-year seasonal time series
yseasdiv	Divide multi-year seasonal time series
<operator> infile1 infile2 outfile	

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> infile outfile	

Statistical values

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

timcumsum	Cumulative sum over all timesteps
timcumsum	<i>< operator ></i> infile outfile
consects	Consecutive Timesteps
consects	<i>< operator ></i> infile outfile
vars < stat >	Statistical values over all variables
vars	<i>< operator ></i> infile outfile
ens < stat >	Statistical values over an ensemble
ens	<i>< operator ></i> infiles outfile
enspctl	Ensemble percentiles
enspctl	<i>enspctl,p</i> infiles outfile
ensrkhistspace	Ranked Histogram averaged over time
ensrkhisttime	Ranked Histogram averaged over space
ensroc	Ensemble Receiver Operating characteristics
ensroc	<i>< operator ></i> obsfile ensfiles outfile
enscrps	Ensemble CRPS and decomposition
enscrps	<i>enscrps</i> rfile infiles outfilebase
ensbrs	Ensemble Brier score
ensbrs	<i>ensbrs,x</i> rfile infiles outfilebase
fld < stat >	Statistical values over a field
fld	<i>< operator ></i> ,weights infile outfile
fldpctl	Field percentiles
fldpctl	<i>fldpctl,p</i> infile outfile
zon < stat >	Zonal statistical values
zon	<i>< operator ></i> infile outfile
zonpctl	Zonal percentiles
zonpctl	<i>zonpctl,p</i> infile outfile
mer < stat >	Meridional statistical values
mer	<i>< operator ></i> infile outfile
merpctl	Meridional percentiles
merpctl	<i>merpctl,p</i> infile outfile
gridbox < stat >	Statistical values over grid boxes
gridbox	<i>< operator ></i> ,nx,ny infile outfile
vert < stat >	Vertical statistical values
vert	<i>< operator ></i> ,weights infile outfile
timsel < stat >	Time range statistical values
timsel	<i>< operator ></i> ,nsets[,noffset[,nskip]] infile outfile
timselfpctl	Time range percentiles
timselfpctl	<i>timselfpctl,p,nsets[,noffset[,nskip]]</i> infile1 infile2 infile3 outfile
run < stat >	Running statistical values
run	<i>< operator ></i> ,nts infile outfile
runpctl	Running percentiles
runpctl	<i>runpctl,p,nts</i> infile outfile
tim < stat >	Statistical values over all timesteps
tim	<i>< operator ></i> infile outfile
timpctl	Time percentiles
timpctl	<i>timpctl,p</i> infile1 infile2 infile3 outfile
hour < stat >	Hourly statistical values
hour	<i>< operator ></i> infile outfile
hourpctl	Hourly percentiles
hourpctl	<i>hourpctl,p</i> infile1 infile2 infile3 outfile
day < stat >	Daily statistical values
day	<i>< operator ></i> infile outfile
daypctl	Daily percentiles
daypctl	<i>daypctl,p</i> infile1 infile2 infile3 outfile

mon < stat >	Monthly statistical values
mon	<i>< operator ></i> infile outfile
monpctl	Monthly percentiles
monpctl	<i>monpctl,p</i> infile1 infile2 infile3 outfile
yearmonmean	Yearly mean from monthly data
yearmonmean	<i>yearmonmean</i> infile outfile
year < stat >	Yearly statistical values
yearminidx	Yearly minimum indices
yearmaxidx	Yearly maximum indices
year	<i>< operator ></i> infile outfile
yearpctl	Yearly percentiles
yearpctl	<i>yearpctl,p</i> infile1 infile2 infile3 outfile
seas < stat >	Seasonal statistical values
seas	<i>< operator ></i> infile outfile
seaspctl	Seasonal percentiles
seaspctl	<i>seaspctl,p</i> infile1 infile2 infile3 outfile
yhour < stat >	Multi-year hourly statistical values
yhour	<i>< operator ></i> infile outfile
dhour < stat >	Multi-day hourly statistical values
dhour	<i>< operator ></i> infile outfile
yday < stat >	Multi-year daily statistical values
yday	<i>< operator ></i> infile outfile
ydaypctl	Multi-year daily percentiles
ydaypctl	<i>ydaypctl,p</i> infile1 infile2 infile3 outfile
ymon < stat >	Multi-year monthly statistical values
ymon	<i>< operator ></i> infile outfile
ymonpctl	Multi-year monthly percentiles
ymonpctl	<i>ymonpctl,p</i> infile1 infile2 infile3 outfile
yseas < stat >	Multi-year seasonal statistical values
yseas	<i>< operator ></i> infile outfile
yseaspctl	Multi-year seasonal percentiles
yseaspctl	<i>yseaspctl,p</i> infile1 infile2 infile3 outfile
ydrun < stat >	Multi-year daily running statistical values
ydrun	<i>< operator ></i> ,nts infile outfile
ydrunpctl	Multi-year daily running percentiles
ydrunpctl	<i>ydrunpctl,p,nts</i> infile1 infile2 infile3 outfile

Correlation and co.

fldcor	Correlation in grid space
fldcor	<i>fldcor</i> infile1 infile2 outfile
timcor	Correlation over time
timcor	<i>timcor</i> infile1 infile2 outfile
fldcovar	Covariance in grid space
fldcovar	<i>fldcovar</i> infile1 infile2 outfile
timcovar	Covariance over time
timcovar	<i>timcovar</i> infile1 infile2 outfile

Regression

regres	Regression
regres	<i>regres[,equal]</i> infile outfile
detrend	Detrend
detrend	<i>detrend[,equal]</i> infile outfile
trend	Trend
trend	<i>trend[,equal]</i> infile outfile1 outfile2
subtrend	Subtract trend
subtrend	<i>subtrend</i> infile1 infile2 infile3 outfile

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 infile outfile1 outfile2	
eofcoeff	Calculate principal coefficients of EOFs
eofcoeff infile1 infile2 obase	

Interpolation

remapbil	Bilinear interpolation
genbil	Generate bilinear interpolation weights
<operator>,grid infile outfile	
remapbic	Bicubic interpolation
genbic	Generate bicubic interpolation weights
<operator>,grid infile outfile	
remapnn	Nearest neighbor remapping
gennn	Generate nearest neighbor remap weights
<operator>,grid infile outfile	
remapdis	Distance-weighted average remapping
remapdis,grid[,neighbors] infile outfile	
gendis	Generate distance-weighted average remap weights
gendis,grid infile outfile	
remapcon	First order conservative remapping
gencon	Generate 1st order conservative remap weights
<operator>,grid infile outfile	
remapcon2	Second order conservative remapping
gencon2	Generate 2nd order conservative remap weights
<operator>,grid infile outfile	
remaplaf	Largest area fraction remapping
genlaf	Generate largest area fraction remap weights
<operator>,grid infile outfile	
remap	Grid remapping
remap,grid,weights infile outfile	
remapeta	Remap vertical hybrid level
remapeta,vct[,oro] infile outfile	
ml2pl	Model to pressure level interpolation
ml2pl,plevels infile outfile	
ml2hl	Model to height level interpolation
ml2hl,hlevels infile outfile	
ap2pl	Air pressure to pressure level interpolation
ap2pl,plevels infile outfile	
ap2hl	Air pressure to height level interpolation
ap2hl,hlevels infile outfile	
intlevel	Linear level interpolation
intlevel,levels infile outfile	
intlevel3d	Linear level interpolation onto a 3d vertical coordinate
intlevelx3d	like intlevel3d but with extrapolation
<operator>,icoordinate infile1 infile2 outfile	
inttime	Interpolation between timesteps
inttime,date,time[,inc] infile outfile	
intntime	Interpolation between timesteps
intntime,n infile outfile	
intyear	Interpolation between two years
intyear,years infile1 infile2 obase	

Transformation

sp2gp	Spectral to gridpoint
gp2sp	Gridpoint to spectral
<operator>[,gridtype] infile outfile	
sp2sp	Spectral to spectral
sp2sp,trunc infile outfile	
dv2ps	D and V to velocity potential and stream function
dv2ps infile outfile	

dv2uv	Divergence and vorticity to U and V wind
uv2dv	U and V wind to divergence and vorticity
<operator>[,gridtype] infile outfile	
fourier	Fourier transformation
fourier,epsilon infile outfile	

Import/Export

import_binary	Import binary data sets
import_binary infile outfile	
import_cmsaf	Import CM-SAF HDF5 files
import_cmsaf infile outfile	
import_amsr	Import AMSR binary files
import_amsr infile outfile	
input	ASCII input
input,grid[,zaxis] outfile	
inputsrv	SERVICE ASCII input
inputtext	EXTRA ASCII input
<operator> outfile	
output	ASCII output
output infiles	
outputf	Formatted output
outputf,format[,nelem] infiles	
outputint	Integer output
outputsrv	SERVICE ASCII output
outputtext	EXTRA ASCII output
<operator> infiles	
outputtab	Table output
outputtab,params infiles outfile	
gmtxyz	GMT xyz format
gmtcells	GMT multiple segment format
<operator> infile	

Miscellaneous

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

const	Create a constant field
const, const, grid	outfile
random	Create a field with random numbers
random, grid, [seed]	outfile
topo	Create a field with topography
topo, [grid]	outfile
seq	Create a time series
seq, start, end, [inc]	outfile
stdatm	Create values for pressure and temperature for hydrostatic atmosphere
stdatm, levels	outfile
timsort	Sort over the time
timsort infile	outfile
uvDestag	Destaggering of u/v wind components
uvDestag, u, v, [-/+0.5, -/+0.5]	infile outfile
rotuvNorth	Rotate u/v wind to North pole.
projuvLatLon	Cylindrical Equidistant projection
<operator>, u, v	infile outfile
rotuvb	Backward rotation
rotuvb, u, v, ...	infile outfile
mastrfu	Mass stream function
mastrfu infile	outfile
sealevelpressure	Sea level pressure
sealevelpressure infile	outfile
adisit	Potential temperature to in-situ temperature
adisit, [pressure]	infile outfile
adipot	In-situ temperature to potential temperature
adipot infile	outfile
rhopot	Calculates potential density
rhopot, [pressure]	infile outfile
histcount	Histogram count
histsum	Histogram sum
histmean	Histogram mean
histfreq	Histogram frequency
<operator>, bounds	infile outfile
sethalo	Set the left and right bounds of a field
sethalo, lhalo, rhalo	infile outfile
wct	Windchill temperature
wct infile1 infile2	outfile
fdns	Frost days where no snow index per time period
fdns infile1 infile2	outfile
strwin	Strong wind days index per time period
strwin, [v]	infile outfile
strbre	Strong breeze days index per time period
strbre infile	outfile
strgal	Strong gale days index per time period
strgal infile	outfile
hurr	Hurricane days index per time period
hurr infile	outfile
cmorlite	CMOR lite
cmorlite, table, [convert]	infile outfile

NCL

uv2vr_cfd	U and V wind to relative vorticity
uv2dv_cfd	U and V wind to divergence
<operator>, [u, v, boundOpt, outMode]	infile outfile