

CDO Reference Card

Climate Data Operator

Version 2.4.0

February 2024

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<https://code.mpimet.mpg.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 (18/116/132/F32/F64 for nc1,nc2,nc4,nc4c; F32/F64 for grb2,srv,ext,ieg; 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,ieg
-g <grid>	Grid or file name
-h	Grid names: r<NX>x<NY>, n<N>, gme<NI>
-M	Help information for the operators
-m <missval>	Indicate that the I/O streams have missing values
-O	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
-V	Predefined tables: echam4 echam5 mpiom1
-v	Print the version number
-v	Print extra details for some operators
-z szip	Print extra details for some operators
-z szip	SZIP compression of GRIB1 records

Operators

Information

info	Dataset information listed by parameter identifier
infor	Dataset information listed by parameter name
map	Dataset information and simple map
<operator>	infiles
sinfo	Short information listed by parameter identifier
sinfo	Short information listed by parameter name
<operator>	infiles
xsinfo	Extra short information listed by parameter name
xsinfo	Extra short information listed by parameter identifier
<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
showlevel	Show levels
showtype	Show GRIB level types
showyear	Show years
showmon	Show months
showdate	Show date information
showtime	Show time information
showtimestamp	Show timestamp
<operator>	infile
showattribute	Show a global attribute or a variable attribute
showattribute[,attributes]	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 operators on each input file.
apply,operators	infiles
copy	Copy datasets
clone	Clone datasets
cat	Concatenate datasets
<operator>	infiles outfile
tee	Duplicate a data stream
tee,outfile2	infile outfile1
pack	Pack data
pack[,parameter]	infile outfile
unpack	Unpack data
unpack	infile outfile
bitrounding	Bit rounding
bitrounding[,parameter]	infile outfile
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>	[,parameter] 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[,nofiset[,nskip]]	infile obase
splitdate	Splits a file into dates
splitdate	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
<operator>	,parameter infiles outfile
selmulti	Select multiple fields
delmulti	Delete multiple fields
changemulti	Change identification of multiple fields
<operator>	,selection-specification infile outfile
selparam	Select parameters by identifier
delparam	Delete parameters by identifier
<operator>	,parameter infile outfile
selcode	Select parameters by code number
delcode	Delete parameters by code number
<operator>	,codes infile outfile
selname	Select parameters by name
delname	Delete parameters by name
<operator>	,names infile outfile
selstdname	Select parameters by standard name
selstdname,stdnames	infile outfile
sellevel	Select levels
sellevel,levels	infile outfile
sellevidx	Select levels by index
sellevidx,levidx	infile outfile
selgrid	Select grids
selgrid,grids	infile outfile
selzaxis	Select z-axes
selzaxis,zaxes	infile outfile
selzaxisname	Select z-axes by name
selzaxisname,zaxisnames	infile outfile
seltype	Select GRIB level types
seltype,ltypes	infile outfile
seltabnum	Select parameter table numbers
seltabnum,tabnums	infile outfile
sel timestep	Select timesteps
sel timestep,timesteps	infile outfile
seltime	Select times
seltime,times	infile outfile
selhour	Select hours
selhour,hours	infile outfile
selday	Select days
selday,days	infile outfile
selmonth	Select months
selmonth,months	infile outfile
selyear	Select years
selyear,years	infile outfile
selseason	Select seasons
selseason,seasons	infile outfile
seldate	Select dates
seldate,startdate[,enddate]	infile outfile
selmon	Select single month
selmon,month[,nts1[,nts2]]	infile outfile
sel lonlatbox	Select a longitude/latitude box
sel lonlatbox,lon1,lon2,lat1,lat2	infile outfile
selindexbox	Select an index box
selindexbox,idx1,idx2,idy1,idy2	infile outfile
selregion	Select cells inside regions
selregion,regions	infile outfile
selcircle	Select cells inside a circle
selcircle[,parameter]	infile outfile
selgridcell	Select grid cells
delgridcell	Delete grid cells
<operator>	,indices infile outfile

samplegrid	Resample grid
samplegrid,factor	infile outfile
selyearidx	Select year by index
selyearidx	infile1 infile2 outfile
bottomvalue	Extract bottom level
topvalue	Extract top level
<operator>	infile outfile
isosurface	Extract isosurface
isosurface,isovalue	infile outfile

Conditional selection

ifthen	If then
ifnotthen	If not then
<operator>	infile1 infile2 outfile
ifthenelse	If then else
ifthenelse	infile1 infile2 infile3 outfile
ifthen	If then constant
ifnotthen	If not then constant
<operator>	,c infile outfile
reducegrid	Reduce input file variables to locations, where mask
reducegrid,mask[,limitCoordsOutput]	infile outfile

Comparison

eq	Equal
ne	Not equal
le	Less equal
lt	Less than
ge	Greater equal
gt	Greater than
<operator>	infile1 infile2 outfile
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 infile outfile
ymoneq	Compare time series with Equal
ymonne	Compare time series with NotEqual
ymonle	Compare time series with LessEqual
ymonlt	Compares if time series with LessThan
ymonge	Compares if time series with GreaterEqual
ymongt	Compares if time series with GreaterThan
<operator>	infile1 infile2 outfile

Modification

setattribute	Set attributes
setattribute,attributes	infile outfile
setpartabp	Set parameter table
setpartabn	Set parameter table
<operator>	,table[,convert] infile outfile

setcodetab	Set parameter code table
setcodetab,table	infile outfile
setcode	Set code number
setcode,code	infile outfile
setparam	Set parameter identifier
setparam,param	infile outfile
setname	Set variable name
setname,name	infile outfile
setunit	Set variable unit
setunit,unit	infile outfile
setlevel	Set level
setlevel,level	infile outfile
setltype	Set GRIB level type
setltype,ltype	infile outfile
setmaxsteps	Set max timesteps
setmaxsteps,maxsteps	infile outfile

setdate	Set date
setdate,date	infile outfile
settime	Set time of the day
settime,time	infile outfile
setday	Set day
setday,day	infile outfile
setmon	Set month
setmon,month	infile outfile

setyear	Set year
setyear,year	infile outfile
setunits	Set time units
setunits,units	infile outfile

settaxis	Set time axis
settaxis,date,time[,inc]	infile outfile
settbounds	Set time bounds
settbounds,frequency	infile outfile
setreftime	Set reference time
setreftime,date,time[,units]	infile outfile

setcalendar	Set calendar
setcalendar,calendar	infile outfile
shifttime	Shift timesteps
shifttime,shift	Value infile outfile

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>	,,ishift[,cyclic[,coord[,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

vertfillmiss	Vertical filling of missing values
vertfillmiss[,parameter]	infile outfile

timfillmiss	Temporal filling of missing values
timfillmiss[,parameter]	infile outfile

setgridcell	Set the value of a grid cell
setgridcell,parameter	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

dayadd	Add daily time series
daysub	Subtract daily time series
daymul	Multiply daily time series
daydiv	Divide daily time series
<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

yearadd	Add yearly time series
yearsub	Subtract yearly time series
yearmul	Multiply yearly time series
yeardiv	Divide yearly 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
yseassub	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

mulcoslat	Multiply with the cosine of the latitude
divcoslat	Divide by cosine of the latitude
<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	infile outfile

consects	Consecutive Timesteps
<operator>	infile outfile

vars<stat>	Statistical values over all variables
<operator>	infile outfile

ens<stat>	Statistical values over an ensemble
ensskew	Ensemble skewness
enskurt	Ensemble kurtosis
ensmedian	Ensemble median
<operator>	infiles outfile
enspctl	Ensemble percentiles
enspctl,p	infiles outfile

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

enscrps	Ensemble CRPS and decomposition
enscrps rfile	infiles outfilebase
ensbrs	Ensemble Brier score
ensbrs,x rfile	infiles outfilebase

fld<stat>	Statistical values over a field
<operator>	infile outfile
fldint	Field integral
<operator>	,weights infile outfile
fldskew	Field skewness
fldkurt	Field kurtosis
fldmedian	Field median
fldcount	Field count
<operator>	infile outfile
fldpctl	Field percentiles
fldpctl,p	infile outfile

zon<stat>	Zonal statistical values
<operator>	infile outfile
zonmean[,zonaldeg]	infile outfile

zonskew	Zonal skewness
zonkurt	Zonal kurtosis
zonmedian	Zonal median
<operator>	infile outfile
zonpctl	Zonal percentiles
zonpctl,p	infile outfile

mer<stat>	Meridional statistical values
merskew	Meridional skewness
merkurt	Meridional kurtosis
mermedian	Meridional median
<operator>	infile outfile
merpctl	Meridional percentiles
merpctl,p	infile outfile

gridbox<stat>	Statistical values over grid boxes
gridboxskew	Gridbox skewness
gridboxkurt	Gridbox kurtosis
gridboxmedian	Gridbox median
<operator>	,nx,ny infile outfile

remap<stat>	Remaps source points to target cells
remapskew	Remap skewness
remapkurt	Remap kurtosis
remapmedian	Remap median
<operator>	,grid infile outfile

vert<stat>	Vertical statistical values
<operator>	,weights infile outfile

timsel<stat>	Time range statistical values
<operator>	,noffset[,nskip]] infile outfile

timselfpctl	Time range percentiles
timselfpctl,p,nsets[,noffset[,nskip]]	infile1 infile2 infile3 outfil

run<stat>	Running statistical values
<operator>	,nts infile outfile

runpctl	Running percentiles
runpctl,p,nts	infile outfile

tim<stat>	Statistical values over all timesteps
<operator>	infile outfile

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

Correlation and co.

fldcor	Correlation in grid space
fldcor infile1 infile2 outfile	
timcor	Correlation over time
timcor infile1 infile2 outfile	
fldcovar	Covariance in grid space
fldcovar infile1 infile2 outfile	
timcovar	Covariance over time
timcovar infile1 infile2 outfile	

Regression

regres	Regression
regres[,equal] infile outfile	
detrend	Detrend
detrend[,equal] infile outfile	
trend	Trend
trend[,equal] infile outfile1 outfile2	
addtrend	Add trend
subtrend	Subtract trend
< operator > [,equal]	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
remapbil.grid infile outfile	
genbil	Generate bilinear interpolation weights
genbil.grid[,map3d] infile outfile	
remapbic	Bicubic interpolation
remapbic.grid infile outfile	
genbic	Generate bicubic interpolation weights
genbic.grid[,map3d] infile outfile	
remapnn	Nearest neighbor remapping
remapnn.grid infile outfile	
gennn	Generate nearest neighbor remap weights
gennn.grid[,map3d] infile outfile	
remapdis	Distance weighted average remapping
remapdis.grid[,neighbors] infile outfile	
gendis	Generate distance weighted average remap weights
gendis.grid[,neighbors[,map3d]] infile outfile	
remapcon	First order conservative remapping
remapcon.grid infile outfile	
gencon	Generate 1st order conservative remap weights
gencon.grid[,map3d] 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	
m12pl	Model to pressure level interpolation
m12pl,plevels infile outfile	
m12hl	Model to height level interpolation
m12hl,hlevels infile outfile	
ap2pl	Air pressure to pressure level interpolation
ap2pl,plevels infile outfile	
gh2hl	Geometric height to height level interpolation
gh2hl,hlevels infile outfile	
intlevel	Linear level interpolation
intlevel.parameter infile outfile	
intlevel3d	Linear level interpolation onto a 3D vertical coordina
intlevelx3d	like intlevel3d but with extrapolation
< operator > ,tgtcoordinate	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 > [,type—trunc]	infile outfile
sp2sp	Spectral to spectral
sp2sp,truncate 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_amrs	Import AMSR binary files
import_amrs infile outfile	
input	ASCII input
input.grid[,zaxis] outfile	
inputsrv	SERVICE ASCII input
inputext	EXTRA ASCII input
< operator >	outfile
output	ASCII output
output infiles	
outputf	Formatted output
outputf,format[,nelem] infiles	
outputint	Integer output
outputsrv	SERVICE ASCII output
outputext	EXTRA ASCII output
< operator >	infiles
outputtab	Table output
outputtab.parameter 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
gridarea[,radius] infile outfile	
gridweights	Grid cell weights
gridweights infile outfile	

smooth	Smooth grid points
smooth[,options] infile outfile	
smooth9	9 point smoothing
smooth9 infile outfile	

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	
gridcellindex	Get grid cell index from lon/lat point
gridcellindex[,parameter] infile	
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 hydr
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	
mrotuvb	Backward rotation of MPIOM data
mrotuvb infile1 infile2 outfile	
mastrfu	Mass stream function
mastrfu infile outfile	
pressure_half	Pressure on half-levels
pressure	Pressure on full-levels
delta_pressure	Pressure difference of half-levels
< operator >	infile outfile
sealevelpressur	Sea level pressure
gheight	Geopotential height on full-levels
gheight_half	Geopotential height on half-levels
< operator >	infile outfile
adisit	Potential temperature to in-situ temperature
adipot	In-situ temperature to potential temperature
< operator > [,pressure]	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 bounds of a field
sethalo[,parameter] 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	
verifygrid	Verify grid coordinates
verifygrid infile	
hpdegrade	Degrade healpix
hpupgrade	Upgrade healpix
<operator>[,parameter 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	