CDO Reference Card

Climate Data Operator
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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,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 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
cinfo	Compact 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`	

xsinfo	Extra short information listed by parameter name
xsinfop	Extra short information listed by parameter identifi
<*operator*> `infiles`	

diff	Compare two datasets listed by parameter id
diffn	Compare two datasets listed by parameter name
<*operator*>*[,parameter]* `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
showltype	Show GRIB level types
showyear	Show years
showmon	Show months
showdate	Show date information
showtime	Show time information
showtimestam	Show timestamp
showchunkspec	Show chunk specification
showfilter	Show filter specification
<*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`	

setchunkspec	Specify chunking
setchunkspec,*parameter* `infile outfile`	

setfilter	Specify filter
setfilter,*parameter* `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
merge `infiles outfile`	
mergetime	Merge datasets sorted by date and time
mergetime*[,options]* `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[,noffset[,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*[,parameter]* `infiles outfile`	

Selection

select	Select fields
delete	Delete fields
<*operator*>,*parameter* `infiles outfile`	

selmulti	Select multiple fields
delmulti	Delete multiple fields
changemulti	Change identication 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`	
selltype	Select GRIB level types
selltype,*ltypes* `infile outfile`	
seltabnum	Select parameter table numbers
seltabnum,*tabnums* `infile outfile`	

seltimestep	Select timesteps
seltimestep,*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`	
selsmon	Select single month
selsmon,*month[,nts1[,nts2]]* `infile outfile`	

sellonlatbox	Select a longitude/latitude box
sellonlatbox,*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`	

seltimeidx	Select timestep by index
seltimeidx `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`	

ifthenc	If then constant
ifnotthenc	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`	

yseaseq	Compare time series with Equal
yseasne	Compare time series with NotEqual
yseasle	Compare time series with LessEqual
yseaslt	Compares if time series with LessThan
yseasge	Compares if time series with GreaterEqual
yseasgt	Compares if time series with GreaterThan
<*operator*> `infile1 infile2 outfile`	

Modification

setattribute	Set attributes
delattribute	Delete attributes
<*operator*>,*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	
settunits	Set time units
settunits,*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,*shiftValue* 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	
setprojparams	Set proj params
setprojparams,*projparams* infile outfile	

setzaxis	Set z-axis
setzaxis,*zaxis* infile outfile	
genlevelbounds	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*>,¡nshift¿,¡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
setmiss	Set missing values
<*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
mondiv	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
ymondiv	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 space
ensrkhisttime	Ranked Histogram averaged over time
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 statistics
<*operator*> infile outfile	
zonmean[,*zonaldes*] infile outfile	
zonskew	Zonal skewness
zonkurt	Zonal kurtosis
zonmedian	Zonal median
<*operator*> infile outfile	
zonpctl	Zonal percentiles
zonpctl,*p* infile outfile	

mer<*stat*>	Meridional statistics
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 statistics
<*operator*>,*weights* `infile outfile`

timsel<*stat*> Time range statistics
<*operator*>,*nsets*[,*noffset*[,*nskip*]] `infile outfile`

timselpctl Time range percentiles
timselpctl,*p*,*nsets*[,*noffset*[,*nskip*]] `infile1 infile2 infile3 outfile`

run<*stat*> Running statistics
<*operator*>,*nts* `infile outfile`

runpctl Running percentiles
runpctl,*p*,*nts* `infile outfile`

tim<*stat*> Statistical values over all timesteps
timminidx Index of time minimum
timmaxidx Index of time maximum
<*operator*> `infile outfile`

timpctl Time percentiles
timpctl,*p* `infile1 infile2 infile3 outfile`

hour<*stat*> Hourly statistics
<*operator*> `infile outfile`

hourpctl Hourly percentiles
hourpctl,*p* `infile1 infile2 infile3 outfile`

day<*stat*> Daily statistics
<*operator*>[,*parameter*] `infile outfile`

daypctl Daily percentiles
daypctl,*p* `infile1 infile2 infile3 outfile`

mon<*stat*> Monthly statistics
<*operator*>[,*parameter*] `infile outfile`

monpctl Monthly percentiles
monpctl,*p* `infile1 infile2 infile3 outfile`

yearmonmean Yearly mean from monthly data
yearmonmean `infile outfile`

year<*stat*> Yearly statistics
yearminidx Index of yearly minimum
yearmaxidx Index of yearly maximum
<*operator*>[,*parameter*] `infile outfile`

yearpctl Yearly percentiles
yearpctl,*p* `infile1 infile2 infile3 outfile`

seas<*stat*> Seasonal statistics
<*operator*> `infile outfile`

seaspctl Seasonal percentiles
seaspctl,*p* `infile1 infile2 infile3 outfile`

yhour<*stat*> Multi-year hourly statistics
<*operator*> `infile outfile`

dhour<*stat*> Multi-day hourly statistics
<*operator*> `infile outfile`

dminute<*stat*> Multi-day by the minute statistics
<*operator*> `infile outfile`

yday<*stat*> Multi-year daily statistics
<*operator*> `infile outfile`

ydaypctl Multi-year daily percentiles
ydaypctl,*p* `infile1 infile2 infile3 outfile`

ymon<*stat*> Multi-year monthly statistics
<*operator*> `infile outfile`

ymonpctl Multi-year monthly percentiles
ymonpctl,*p* `infile1 infile2 infile3 outfile`

yseas<*stat*> Multi-year seasonal statistics
<*operator*> `infile outfile`

yseaspctl Multi-year seasonal percentiles
yseaspctl,*p* `infile1 infile2 infile3 outfile`

ydrun<*stat*> Multi-year daily running statistics
<*operator*>,*nts*[,*rm=c*] `infile outfile`

ydrunpctl Multi-year daily running percentiles
ydrunpctl,*p*,*nts*[,*rm=c*[,*pm=r8*]] `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`

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`

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 coordin
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,*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
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`

sealevelpressu	Sea level pressure
gheight	Geopotential height on full-levels
gheight_half	Geopotential height on half-levels
air_density	Air density
<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`	