



<b>setmissval</b>	Set a new missing value
<b>setmissval,newmiss ifile ofile</b>	
<b>setctomiss</b>	Set constant to missing value
<b>setmisstoc</b>	Set missing value to constant
<b>&lt; operator &gt;,c ifile ofile</b>	
<b>setrtomiss</b>	Set range to missing value
<b>setvrange</b>	Set valid range
<b>&lt; operator &gt;,rmin,rmax ifile ofile</b>	

### Arithmetic

<b>expr</b>	Evaluate expressions
<b>expr,instr ifile ofile</b>	
<b>exprf</b>	Evaluate expressions from script file
<b>exprf,filename ifile ofile</b>	

<b>abs</b>	Absolute value
<b>int</b>	Integer value
<b>nint</b>	Nearest integer value
<b>pow</b>	Power
<b>sqr</b>	Square
<b>sqrt</b>	Square root
<b>exp</b>	Exponential
<b>ln</b>	Natural logarithm
<b>log10</b>	Base 10 logarithm
<b>sin</b>	Sine
<b>cos</b>	Cosine
<b>tan</b>	Tangent
<b>asin</b>	Arc sine
<b>acos</b>	Arc cosine
<b>reci</b>	Reciprocal value
<b>&lt; operator &gt; ifile ofile</b>	

<b>addc</b>	Add a constant
<b>subc</b>	Subtract a constant
<b>mulc</b>	Multiply with a constant
<b>divc</b>	Divide by a constant
<b>&lt; operator &gt;,c ifile ofile</b>	

<b>add</b>	Add two fields
<b>sub</b>	Subtract two fields
<b>mul</b>	Multiply two fields
<b>div</b>	Divide two fields
<b>min</b>	Minimum of two fields
<b>max</b>	Maximum of two fields
<b>atan2</b>	Arc tangent of two fields
<b>&lt; operator &gt; ifile1 ifile2 ofile</b>	

<b>monadd</b>	Add monthly time series
<b>monsub</b>	Subtract monthly time series
<b>monmul</b>	Multiply monthly time series
<b>monddiv</b>	Divide monthly time series
<b>&lt; operator &gt; ifile1 ifile2 ofile</b>	

<b>ymonadd</b>	Add multi-year monthly time series
<b>ymonsub</b>	Subtract multi-year monthly time series
<b>ymonmul</b>	Multiply multi-year monthly time series
<b>ymonddiv</b>	Divide multi-year monthly time series
<b>&lt; operator &gt; ifile1 ifile2 ofile</b>	

<b>ydayadd</b>	Add multi-year daily time series
<b>ydaysub</b>	Subtract multi-year daily time series
<b>ydaymul</b>	Multiply multi-year daily time series
<b>ydaydiv</b>	Divide multi-year daily time series
<b>&lt; operator &gt; ifile1 ifile2 ofile</b>	

<b>yhouradd</b>	Add multi-year hourly time series
<b>yhoursub</b>	Subtract multi-year hourly time series
<b>yhourmul</b>	Multiply multi-year hourly time series
<b>yhourdiv</b>	Divide multi-year hourly time series
<b>&lt; operator &gt; ifile1 ifile2 ofile</b>	

<b>muldpm</b>	Multiply with days per month
<b>divdpm</b>	Divide by days per month
<b>muldpy</b>	Multiply with days per year
<b>divdpy</b>	Divide by days per year
<b>&lt; operator &gt; ifile ofile</b>	

#### Statistical values

Available statistical functions	<b>&lt; stat &gt;</b>
minimum	<b>min</b>
maximum	<b>max</b>
sum	<b>sum</b>
mean	<b>mean</b>
average	<b>avg</b>
variance	<b>var, var1</b>
standard deviation	<b>std, std1</b>

<b>consects</b>	Consecutive Timesteps
<b>&lt; operator &gt; ifile ofile</b>	

<b>ens&lt; stat &gt;</b>	Statistical values over an ensemble
<b>&lt; operator &gt; ifiles ofile</b>	
<b>enspctl</b>	Ensemble percentiles
<b>enspctl,p ifiles ofile</b>	

<b>ensrkhistspace</b>	Ranked Histogram averaged over time
<b>ensrkhisttime</b>	Ranked Histogram averaged over space
<b>ensroc</b>	Ensemble Receiver Operating characteristics
<b>&lt; operator &gt; obsfile ensfiles ofile</b>	

<b>enscrps</b>	Ensemble CRPS and decomposition
<b>enscrps rfile ifiles ofilebase</b>	
<b>ensbrs</b>	Ensemble Brier score
<b>ensbrs,x rfile ifiles ofilebase</b>	

<b>fld&lt; stat &gt;</b>	Statistical values over a field
<b>&lt; operator &gt; ifile ofile</b>	
<b>fldpctl</b>	Field percentiles
<b>fldpctl,p ifile ofile</b>	

<b>zon&lt; stat &gt;</b>	Zonal statistical values
<b>&lt; operator &gt; ifile ofile</b>	
<b>zonpctl</b>	Zonal percentiles
<b>zonpctl,p ifile ofile</b>	

<b>mer&lt; stat &gt;</b>	Meridional statistical values
<b>&lt; operator &gt; ifile ofile</b>	
<b>merpctl</b>	Meridional percentiles
<b>merpctl,p ifile ofile</b>	

<b>gridbox&lt; stat &gt;</b>	Statistical values over grid boxes
<b>&lt; operator &gt;,nx,ny ifile ofile</b>	

<b>vert&lt; stat &gt;</b>	Vertical statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>timsel&lt; stat &gt;</b>	Time range statistical values
<b>&lt; operator &gt;,nsets[,nofset[,nskip]] ifile ofile</b>	

<b>timselfctl</b>	Time range percentiles
<b>timselfctl,p,nsets[,nofset[,nskip]] ifile1 ifile2 ifile3 ofile</b>	

<b>run&lt; stat &gt;</b>	Running statistical values
<b>&lt; operator &gt;,nts ifile ofile</b>	

<b>runpctl</b>	Running percentiles
<b>runpctl,p,nts ifile1 ofile</b>	

<b>tim&lt; stat &gt;</b>	Statistical values over all timesteps
<b>&lt; operator &gt; ifile ofile</b>	

<b>timepctl</b>	Time percentiles
<b>timepctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>hour&lt; stat &gt;</b>	Hourly statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>hourpctl</b>	Hourly percentiles
<b>hourpctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>day&lt; stat &gt;</b>	Daily statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>daypctl</b>	Daily percentiles
<b>daypctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>mon&lt; stat &gt;</b>	Monthly statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>monpctl</b>	Monthly percentiles
<b>monpctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>yearmonmean ifile ofile</b>	
--------------------------------	--

<b>year&lt; stat &gt;</b>	Yearly statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>yearpctl</b>	Yearly percentiles
<b>yearpctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>seas&lt; stat &gt;</b>	Seasonal statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>seaspctl</b>	Seasonal percentiles
<b>seaspctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>yhour&lt; stat &gt;</b>	Multi-year hourly statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>yday&lt; stat &gt;</b>	Multi-year daily statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>ydaypctl</b>	Multi-year daily percentiles
<b>ydaypctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>ymon&lt; stat &gt;</b>	Multi-year monthly statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>ymonpctl</b>	Multi-year monthly percentiles
<b>ymonpctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>yseas&lt; stat &gt;</b>	Multi-year seasonal statistical values
<b>&lt; operator &gt; ifile ofile</b>	

<b>yseaspctl</b>	Multi-year seasonal percentiles
<b>yseaspctl,p ifile1 ifile2 ifile3 ofile</b>	

<b>ydrun&lt; stat &gt;</b>	Multi-year daily running statistical values
<b>&lt; operator &gt;,nts ifile ofile</b>	

<b>ydrunpctl</b>	Multi-year daily running percentiles
<b>ydrunpctl,p,nts ifile1 ifile2 ifile3 ofile</b>	

#### Correlation and co.

<b>fldcor</b>	Correlation in grid space
<b>fldcor ifile1 ifile2 ofile</b>	

<b>timcor</b>	Correlation over time
<b>timcor ifile1 ifile2 ofile</b>	

<b>fldcovar</b>	Covariance in grid space
<b>fldcovar ifile1 ifile2 ofile</b>	

<b>timcovar</b>	Covariance over time
<b>timcovar ifile1 ifile2 ofile</b>	

#### Regression

<b>regres</b>	Regression
<b>regres ifile ofile</b>	

<b>detrend</b>	Detrend
<b>detrend ifile ofile</b>	

<b>trend</b>	Trend
<b>trend ifile ofile1 ofile2</b>	

<b>subtrend</b>	Subtract trend
<b>subtrend ifile1 ifile2 ifile3 ofile</b>	

#### EOFs

<b>eof</b>	Calculate EOFs in spatial or time space
<b>eoftime</b>	Calculate EOFs in time space
<b>eofspatial</b>	Calculate EOFs in spatial space
<b>eof3d</b>	Calculate 3-Dimensional EOFs in time space
<b>&lt; operator &gt;,neof ifile ofile1 ofile2</b>	

<b>eofcoeff</b>	Calculate principal coefficients of EOFs
<b>eofcoeff ifile1 ifile2 obase</b>	

#### Interpolation

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

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

<b>remap</b>	SCRIP grid remapping
<b>remap,grid,weights ifile ofile</b>	

<b>remapeta</b>	Remap vertical hybrid level
<b>remapeta,vct[,oro] ifile ofile</b>	

<b>ml2pl</b>	Model to pressure level interpolation
<b>ml2pl,plevels ifile ofile</b>	
<b>ml2hl</b>	Model to height level interpolation
<b>ml2hl,hlevels ifile ofile</b>	

<b>intlevel</b>	Linear level interpolation
<b>intlevel,levels ifile ofile</b>	

<b>intlevel3d</b>	Linear level interpolation onto a 3d vertical coordinate
<b>intlevelx3d</b>	like intlevel3d but with extrapolation
<b>&lt; operator &gt;,icoordinate ifile1 ifile2 ofile</b>	

<b>inttime</b>	Interpolation between timesteps
<b>inttime,date,time[,inc] ifile ofile</b>	

<b>intntime</b>	Interpolation between timesteps
<b>intntime,n ifile ofile</b>	

<b>intyear</b>	Interpolation between two years
<b>intyear,years ifile1 ifile2 obase</b>	

#### Transformation

<b>sp2gp</b>	Spectral to gridpoint
<b>sp2gpl</b>	Spectral to gridpoint (linear)
<b>gp2sp</b>	Gridpoint to spectral
<b>gp2spl</b>	Gridpoint to spectral (linear)
<b>&lt; operator &gt; ifile ofile</b>	
<b>sp2sp</b>	Spectral to spectral
<b>sp2sp,trunc ifile ofile</b>	

<b>dv2uv</b>	Divergence and vorticity to U and V wind
<b>dv2uvl</b>	Divergence and vorticity to U and V wind (linear)
<b>uv2dv</b>	U and V wind to divergence and vorticity
<b>uv2dvl</b>	U and V wind to divergence and vorticity (linear)
<b>dv2ps</b>	D and V to velocity potential and stream function
<b>&lt; operator &gt; ifile ofile</b>	

#### Import /Export

<b>import_binary</b>	Import binary data sets
<b>import_binary ifile ofile</b>	

<b>import_cmsaf</b>	Import CM-SAF HDF5 files
<b>import_cmsaf ifile ofile</b>	

<b>import_amsr</b>	Import AMSR binary files
<b>import_amsr ifile ofile</b>	

<b>input</b>	ASCII input
<b>input,grid ofile</b>	

<b>inputsrv</b>	SERVICE ASCII input
<b>inputext</b>	EXTRA ASCII input
<b>&lt; operator &gt; ofile</b>	

<b>output</b>	ASCII output
<b>output ifiles</b>	
<b>outputf</b>	Formatted output
<b>outputf,format,nelem ifiles</b>	
<b>outputint</b>	Integer output
<b>outputsrv</b>	SERVICE ASCII output
<b>outputtext</b>	EXTRA ASCII output
<b>&lt; operator &gt; ifiles</b>	

#### Miscellaneous

<b>gradsdes1</b>	GrADS data descriptor file (version 1 GRIB map)
<b>gradsdes2</b>	GrADS data descriptor file (version 2 GRIB map)
<b>&lt; operator &gt; ifile</b>	

<b>bandpass</b>	Bandpass filtering
<b>bandpass,fmin,fmax ifile ofile</b>	
<b>lowpass</b>	Lowpass filtering
<b>lowpass,fmax ifile ofile</b>	
<b>highpass</b>	Highpass filtering
<b>highpass,fmin ifile ofile</b>	

<b>gridarea</b>	Grid cell area
<b>gridweights</b>	Grid cell weights
<b>&lt; operator &gt; ifile ofile</b>	

<b>smooth9</b>	9 point smoothing
<b>smooth9 ifile ofile</b>	

<b>setvals</b>	Set list of old values to new values
<b>setvals,oldval,newval[,...] ifile ofile</b>	
<b>setrtoc</b>	Set range to constant
<b>setrtoc,rmin,rmax,c ifile ofile</b>	
<b>setrtoc2</b>	Set range to constant others to constant2
<b>setrtoc2,rmin,rmax,c,c2 ifile ofile</b>	

<b>timsort</b>	Sort over the time
<b>timsort ifile ofile</b>	

<b>const</b>	Create a constant field
<b>const,const,grid ofile</b>	
<b>random</b>	Create a field with random numbers
<b>random,grid[,seed] ofile</b>	
<b>stdatm</b>	Create values for pressure and temperature for hydro
<b>stdatm,levels ofile</b>	

<b>rotuvb</b>	Backward rotation
<b>rotuvb,u,v,... ifile ofile</b>	

<b>mastrfu</b>	Mass stream function
<b>mastrfu ifile ofile</b>	

<b>adisit</b>	Potential temperature to in-situ temperature
<b>adisit[,pressure] ifile ofile</b>	

<b>rhopot</b>	Calculates potential density
<b>rhopot[,pressure] ifile ofile</b>	

<b>histcount</b>	Histogram count
<b>histsum</b>	Histogram sum
<b>histmean</b>	Histogram mean
<b>histfreq</b>	Histogram frequency
<b>&lt; operator &gt;,bounds ifile ofile</b>	

<b>sethalo</b>	Set the left and right bounds of a field
<b>sethalo,lhalo,rhalo ifile ofile</b>	

<b>wct</b>	Windchill temperature
<b>wct ifile1 ifile2 ofile</b>	

<b>fdns</b>	Frost days where no snow index per time period
<b>fdns ifile1 ifile2 ofile</b>	

<b>strwin</b>	Strong wind days index per time period
<b>strwin[,v] ifile ofile</b>	

<b>strbre</b>	Strong breeze days index per time period
<b>strbre ifile ofile</b>	

<b>strgal</b>	Strong gale days index per time period
<b>strgal ifile ofile</b>	

<b>hurr</b>	Hurricane days index per time period
<b>hurr ifile ofile</b>	

#### Climate indices

<b>eca_cdd</b>	Consecutive dry days index per time period
<b>eca_cdd[,R] ifile ofile</b>	

<b>eca_cfd</b>	Consecutive frost days index per time period
<b>eca_cfd ifile ofile</b>	

<b>eca_csu</b>	Consecutive summer days index per time period
<b>eca_csu[,T] ifile ofile</b>	

<b>eca_cwd</b>	Consecutive wet days index per time period
<b>eca_cwd[,R] ifile ofile</b>	

<b>eca_cwdi</b>	Cold wave duration index wrt mean of reference period
<b>eca_cwdi[,nday[,T]] ifile1 ifile2 ofile</b>	

<b>eca_cwfi</b>	Cold-spell days index wrt 10th percentile of reference period
<b>eca_cwfi[,nday] ifile1 ifile2 ofile</b>	

<b>eca_etr</b>	Intra-period extreme temperature range
<b>eca_etr ifile1 ifile2 ofile</b>	

<b>eca_fd</b>	Frost days index per time period
<b>eca_fd ifile ofile</b>	

<b>eca_gsl</b>	Growing season length index
<b>eca_gsl[,nday[,T[,fland]]] ifile1 ifile2 ofile</b>	

<b>eca_hd</b>	Heating degree days per time period
<b>eca_hd[,T1[,T2]] ifile ofile</b>	

<b>eca_hwdi</b>	Heat wave duration index wrt mean of reference period
<b>eca_hwdi[,nday[,T]] ifile1 ifile2 ofile</b>	

<b>eca_hwfi</b>	Warm spell days index wrt 90th percentile of reference period
<b>eca_hwfi[,nday] ifile1 ifile2 ofile</b>	

<b>eca_id</b>	Ice days index per time period
<b>eca_id ifile ofile</b>	

<b>eca_r75p</b>	Moderate wet days wrt 75th percentile of reference period
<b>eca_r75p ifile1 ifile2 ofile</b>	

<b>eca_r75ptot</b>	Precipitation percent due to R75p days
<b>eca_r75ptot ifile1 ifile2 ofile</b>	

<b>eca_r90p</b>	Wet days wrt 90th percentile of reference period
<b>eca_r90p ifile1 ifile2 ofile</b>	

<b>eca_r90ptot</b>	Precipitation percent due to R90p days
<b>eca_r90ptot ifile1 ifile2 ofile</b>	

<b>eca_r95p</b>	Very wet days wrt 95th percentile of reference period
<b>eca_r95p ifile1 ifile2 ofile</b>	

<b>eca_r95ptot</b>	Precipitation percent due to R95p days
<b>eca_r95ptot ifile1 ifile2 ofile</b>	

<b>eca_r99p</b>	Extremely wet days wrt 99th percentile of reference period
<b>eca_r99p ifile1 ifile2 ofile</b>	

<b>eca_r99ptot</b>	Precipitation percent due to R99p days
<b>eca_r99ptot ifile1 ifile2 ofile</b>	

<b>eca_pd</b>	Precipitation days index per time period
<b>eca_pd,x ifile ofile</b>	
<b>eca_r10mm</b>	Heavy precipitation days index per time period
<b>eca_r20mm</b>	Very heavy precipitation days index per time period
<b>&lt; operator &gt; ifile ofile</b>	

<b>eca_rr1</b>	Wet days index per time period
<b>eca_rr1[,R] ifile ofile</b>	

<b>eca_rx1day</b>	Highest one day precipitation amount per time period
<b>eca_rx1day[,mode] ifile ofile</b>	

<b>eca_rx5day</b>	Highest five-day precipitation amount per time period
<b>eca_rx5day[,x] ifile ofile</b>	

<b>eca_sdii</b>	Simple daily intensity index per time period
<b>eca_sdii[,R] ifile ofile</b>	

<b>eca_su</b>	Summer days index per time period
<b>eca_su[,T] ifile ofile</b>	

<b>eca_tg10p</b>	Cold days percent wrt 10th percentile of reference period
<b>eca_tg10p ifile1 ifile2 ofile</b>	

<b>eca_tg90p</b>	Warm days percent wrt 90th percentile of reference period
<b>eca_tg90p ifile1 ifile2 ofile</b>	

<b>eca_tn10p</b>	Cold nights percent wrt 10th percentile of reference period
<b>eca_tn10p ifile1 ifile2 ofile</b>	

<b>eca_tn90p</b>	Warm nights percent wrt 90th percentile of reference period
<b>eca_tn90p ifile1 ifile2 ofile</b>	

<b>eca_tr</b>	Tropical nights index per time period
<b>eca_tr[,T] ifile ofile</b>	

<b>eca_tx10p</b>	Very cold days percent wrt 10th percentile of reference period
<b>eca_tx10p ifile1 ifile2 ofile</b>	

<b>eca_tx90p</b>	Very warm days percent wrt 90th percentile of reference period
<b>eca_tx90p ifile1 ifile2 ofile</b>	