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/** ----- Adjust to 0-100 percent susceptibility range -----
/** FILE NAME:      12b_Adjust_wf.txt
/** AUTHOR:        RENEE SCHICKER
/** CREATED:       27 OCTOBER 2009
/** MODIFIED:      12 JANUARY 2010
/**
/** The scripts may be supplied in a more readily useable format if the work is acknowledged
/** CONTACT:       Renee_Schicker@hotmail.com
/**
/** SCRIPT USED BY:      D:\Renee_GIS\Scripts\29Sept\12_Wghts_ofEv.txt
/** USES SCRIPT:         D:\Renee_GIS\scripts\checkprogrid.txt
/**
/** PURPOSE:            Adjust the weights so that the scale is between 0 and 100% which
/**                      will allow for an easier comparison between outputs. The data is
/**                      first adjusted so the lower value is at zero, then a percentage is
/**                      taken.
/**
/** ----- HISTORY -----
/** 27 OCTOBER 2009      Created.
/** 02 NOVEMBER 2009     Modified following change to geology classification which lead to
/**                      a change in the Weights applied in the weights of evidence.
/** 07 DECEMBER 2009     Changed the SETWINDOW and SETMASK to MyBnds to clip Lake
/**                      Taupo out
/**                      Added the: pWoEAll = int(((awfall / 29.97) * 100) + .5) part to
/**                      attempt to convert weights to a probability range.
/** 12 JANUARY 2010      Convert to percentages in order to then carry out validation process
/**                      in a different script.
/** *****

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&CALL KILL
&CALL Adjust
&CALL Percent
&RETURN

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/*****

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&ROUTINE SETUP
&RUN d:\renee_gis\scripts\checkprogrid.txt
&TYPE set window to MyBnds...
SETWINDOW D:\Renee_GIS\Output_data\Organised\03_DEM\MyBnds
SETMASK D:\Renee_GIS\Output_data\Organised\03_DEM\MyBnds
&TYPE setmask complete
&RETURN

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/*****

```

&ROUTINE Adjust  
&CALL SETUP

/*&CALL All	/* All Factors Considered
/*&CALL NoAsp	/* No Aspect
&CALL NoAvR	/* No Mean Rain
/*&CALL NoElv	/* No Elevation
/*&CALL NoFlt	/* No Faults
/*&CALL NoGeol	/* No Geology
/*&CALL NoLC	/* No Land Cover
/*&CALL NoLin	/* No Roads, Faults, or Rivers
/*&CALL NoLinRain	/* Slope, Elevation, Aspect, Soil, Geology, Land Cover
/*&CALL NoMxR	/* No Max Rain
/*&CALL NoQMap	/* No Geology or Faults
/*&CALL NoRain	/* No Rainfall
/*&CALL NoRds	/* No Roads
/*&CALL NoRiv	/* No Rivers
/*&CALL NoSlp	/* No Slope
/*&CALL NoSoil	/* No Soil
/*&CALL SIAvRLUGe	/* Slope, Av Rain, Land Cover, Geology
/*&CALL SIEIAsLCGe	/* Slope, Elevation, Aspect, Land Cover, Geology
/*&CALL SAsLCMRGe	/* Slope, Aspect, Land Cover, Max Rain, Geology
/*&CALL SAsLCMR	/* Slope, Aspect, Land Cover, Max Rain
/*&CALL SAsLCSMR	/* Slope, Aspect, Land Cover, Soil, Max Rain.
/*&CALL SIMxLCGEI	/* Slope, Max Rain, Land Cover, Geology, Elevation
&CALL SIMxLcGFI	/* Slope, Max Rain, Land Cover, Geology, Faults
&CALL SIMxLCG	/* Slope, Max Rain, Land Cover, Geology
/*&CALL SIMxLCGEISo	/* Slope, Max Rain, Land Cover, Geology, Elevation, Soil
/*&CALL SIMxLCGSo	/* Slope, Max Rain, Land Cover, Geology, Soil
/*&CALL SAXLGEFV	/* Slope, Aspect, Max Rain, Geology, Elevation, Faults, Rivers
/*&CALL SAXLGEV	/* Slope, Aspect, Max Rain, Geology, Elevation, Rivers
/*&CALL SAXLGfV	/* Slope, Aspect, Max Rain, Geology, Faults, Rivers
/*&CALL SAXLGEF	/* Slope, Aspect, Max Rain, Geology, Elevation, Faults
/*&CALL SAXLGf	/* Slope, Aspect, Max Rain, Geology, Faults
/*&CALL SAXLGE	/* Slope, Aspect, Max Rain, Geology, Elevation
/*&CALL SAXLGv	/* Slope, Aspect, Max Rain, Geology, Rivers

SETMASK OFF

Q

&RETURN

/\*\*\*\*\*

&ROUTINE NoAvR

&TYPE Adjusting for LSI with no AvRain wf

&IF [EXIST Awfnoavr1 -GRID] &THEN KILL Awfnoavr1 ALL

Awfnoavr1 = (wfnoavr1 + 18.239999771) /\* makes it 0

&RETURN

&ROUTINE All

&TYPE Adjusting for LSI with All wf

&IF [EXIST Awfall -GRID] &THEN KILL Awfall ALL

&IF [EXIST pWoEAll -GRID] &THEN KILL pWoEAll ALL

```
Awfall = (wfall + 19.540000916)          /* makes it 0
&RETURN
```

```
&ROUTINE NoAsp
&TYPE Adjusting for LSI with no Aspect wf
&IF [EXIST Awfnoasp1 -GRID] &THEN KILL Awfnoasp1 ALL
Awfnoasp1 = (wfnosp1 + 18.190000534)      /* makes it 0
&RETURN
```

```
&ROUTINE NoElv
&TYPE Adjusting for LSI with no Elevation wf
&IF [EXIST Awfnoelv1 -GRID] &THEN KILL Awfnoelv1 ALL
Awfnoelv1 = (wfnelv1 + 19.469999313)     /* makes it 0
&RETURN
```

```
&ROUTINE NoFlt
&TYPE Adjusting for LSI with no Faults wf
&IF [EXIST Awfnoflt1 -GRID] &THEN KILL Awfnoflt1 ALL
Awfnoflt1 = (wfnoflt1 + 18.649999619)    /* makes it 0
&RETURN
```

```
&ROUTINE NoGeol
&TYPE Adjusting for LSI with no Geology wf
&IF [EXIST Awfnogeol1 -GRID] &THEN KILL Awfnogeol1 ALL
Awfnogeol1 = (wfnogeol1 + 16.190000534)  /* makes it 0
&RETURN
```

```
&ROUTINE NoLC
&TYPE Adjusting for LSI with no Land Use wf
&IF [EXIST Awfnolc1 -GRID] &THEN KILL Awfnolc1 ALL
Awfnolc1 = (wfnolc1 + 19.5)              /* already 0
&RETURN
```

```
&ROUTINE NoLin
&TYPE Adjusting for LSI with no Roads, rivers or faults (linear features) wfs
&IF [EXIST Awfnolin -GRID] &THEN KILL Awfnolin ALL
Awfnolin = (wfnolin + 18.11000061)       /* already 0
&RETURN
```

```
&ROUTINE NoLinRain
&TYPE Adjusting for LSI with no linear features or rainfall wfs
&IF [EXIST Awfnolinrn -GRID] &THEN KILL Awfnolinrn ALL
Awfnolinrn = (wfnolinrn + 14.409999847)  /* makes it 0
&RETURN
```

```
&ROUTINE NoMxR
&TYPE Adjusting for LSI with no max rainfall wf
&IF [EXIST Awfnomxr1 -GRID] &THEN KILL Awfnomxr1 ALL
Awfnomxr1 = (wfnomxr1 + 17.510000229)    /* makes it 0
&RETURN
```

```
&ROUTINE NoQMap
&TYPE Adjusting for LSI with no Geology wf or Faults wf
&IF [EXIST Awfnoqmap -GRID] &THEN KILL Awfnoqmap ALL
Awfnoqmap = (wfnqmap + 14.100000381) /* makes it 0
&RETURN
```

```
&ROUTINE NoRain
&TYPE Adjusting for LSI with no Max or Mean rainfall wfs
&IF [EXIST Awfnorain -GRID] &THEN KILL Awfnorain ALL
Awfnorain = (wfnorain + 16.210000992) /* makes it 0
&RETURN
```

```
&ROUTINE NoRds
&TYPE Adjusting for LSI with no Roads wf
&IF [EXIST Awfnords1 -GRID] &THEN KILL Awfnords1 ALL
Awfnords1 = (wfnords1 + 19.62000084) /* already 0
&RETURN
```

```
&ROUTINE NoRiv
&TYPE Adjusting for LSI with no Rivers wf
&IF [EXIST Awfnoriv1 -GRID] &THEN KILL Awfnoriv1 ALL
Awfnoriv1 = (wfnoriv1 + 19.670000076) /* makes it 0
&RETURN
```

```
&ROUTINE NoSlp
&TYPE Adjusting for LSI with no Slope wf
&IF [EXIST Awfnoslp1 -GRID] &THEN KILL Awfnoslp1 ALL
Awfnoslp1 = (wfnoslp1 + 18.61000061) /* already 0
&RETURN
```

```
&ROUTINE NoSoil
&TYPE Adjusting for LSI with no Soil wf
&IF [EXIST Awfnosoil1 -GRID] &THEN KILL Awfnosoil1 ALL
Awfnosoil1 = (wfnosoil1 + 17.36000061)/* already 0
&RETURN
```

```
&ROUTINE SIaVRLUGe
&TYPE Adjusting for LSI with Slope, Av. Rain, Land Cover and Geology
&IF [EXIST AwSIaVRLUGe -GRID] &THEN KILL AwSIaVRLUGe ALL
AwSIaVRLUGe = (slpavrlugeolw + 12.2)
&RETURN
```

```
&ROUTINE SIEIAsLCGe
&TYPE Adjusting for LSI with Slope,Elevation, Aspect, Land Cover and Geology
&IF [EXIST AwSIEIAsLCGe -GRID] &THEN KILL AwSIEIAsLCGe ALL
AwSIEIAsLCGe = (SIEIAsLCGe + 11.57)
&RETURN
```

```
&ROUTINE SAsLCMRGe
& TYPE Adjusting for LSI with SLOPE, ASPECT, LAND COVER, MAX RAIN, GEOLOGY
&IF [EXIST AWSAsLCMRGe -GRID] &THEN KILL AWSAsLCMRGe ALL
```

AWSAsLCMRGe = (saslcmrge + 13.91)  
&RETURN

&ROUTINE SAsLCMR  
& TYPE Adjusting for LSI with SLOPE, ASPECT, LAND COVER, MAX RAIN  
&IF [EXIST AWSAsLCMR -GRID] &THEN KILL AWSAsLCMR ALL  
AWSAsLCMR = (Saslcmr + 6.34)  
&RETURN

&ROUTINE SAsLCSMR  
& TYPE Adjusting for LSI with SLOPE, ASPECT, LAND COVER, SOIL, MAX RAIN  
&IF [EXIST AWSAsLCSMR -GRID] &THEN KILL AWSAsLCSMR ALL  
AWSAsLCSMR = (saslcsmr + 10.13)  
&RETURN

&ROUTINE SIMxLCGEI  
&TYPE Adjusting for LSI with SLOPE, MAX RAIN, LAND COVER, GEOLOGY, ELEVATION  
&IF [EXIST AWSIMxLCGEI -GRID] &THEN KILL AWSIMxLCGEI ALL  
AWSIMxLCGEI = (SIMxLCGEI + 12.25)  
&RETURN

&ROUTINE SIMxLcGFI  
&TYPE Adjusting for LSI with SLOPE, MAX RAIN, LAND COVER, GEOLOGY, FAULTS  
&IF [EXIST AWSIMxLcGFI -GRID] &THEN KILL AWSIMxLcGFI ALL  
AWSIMxLcGFI = (SIMxLcGFI + 13.7)  
&RETURN

&ROUTINE SIMxLCG  
&TYPE Adjusting for LSI with SLOPE, MAX RAIN, LAND COVER, GEOLOGY  
&IF [EXIST AWSIMxLCG -GRID] &THEN KILL AWSIMxLCG ALL  
AWSIMxLCG = (SIMxLCG + 12.56)  
&RETURN

&ROUTINE SIMxLCGEISo  
&TYPE Adjusting for LSI with SLOPE, MAX RAIN, LAND COVER, GEOLOGY, ELEVATION, SOIL  
&IF [EXIST AWSIMxLCGES -GRID] &THEN KILL AWSIMxLCGES ALL  
AWSIMxLCGES = (SIMxLCGEISo + 15.09)  
&RETURN

&ROUTINE SIMxLCGSo  
&TYPE Adjusting for LSI with SLOPE, MAX RAIN, LAND COVER, GEOLOGY, SOIL  
&IF [EXIST AWSIMxLCGS -GRID] &THEN KILL AWSIMxLCGS ALL  
AWSIMxLCGS = (SIMxLCGSo + 15.09)  
&RETURN

&ROUTINE SAXLGEFV  
&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology, Elevation, Faults and Rivers  
&IF [EXIST AwSAXLGEFV -GRID] &THEN KILL AwSAXLGEFV ALL  
AwSAXLGEFV = (WfSAXLGEFV + 15.78) /\* makes it 0

&RETURN

&ROUTINE SAXLGEV

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology, Elevation and Rivers

&IF [EXIST AwSAXLGEV -GRID] &THEN KILL AwSAXLGEV ALL

AwSAXLGEV = (wfSAXLGEV + 13.69) /\* makes it 0

&RETURN

&ROUTINE SAXLGfV

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology, Faults and Rivers

&IF [EXIST AwSAXLGfV -GRID] &THEN KILL AwSAXLGfV ALL

AwSAXLGfV = (wfSAXLGfV + 15.71) /\* makes it 0

&RETURN

&ROUTINE SAXLGEF

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology, Elevation and Faults

&IF [EXIST AwSAXLGEF -GRID] &THEN KILL AwSAXLGEF ALL

AwSAXLGEF = (wfSAXLGEF + 15.12) /\* makes it 0

&RETURN

&ROUTINE SAXLGF

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology and Faults

&IF [EXIST AwSAXLGF -GRID] &THEN KILL AwSAXLGF ALL

AwSAXLGF = (wfSAXLGF + 15.05) /\* makes it 0

&RETURN

&ROUTINE SAXLGE

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology and Elevation

&IF [EXIST AwSAXLGE -GRID] &THEN KILL AwSAXLGE ALL

AwSAXLGE = (wfSAXLGE + 13.6) /\* makes it 0

&RETURN

&ROUTINE SAXLGV

&TYPE Adjusting for LSI with Slope, Aspect, Max Rain, Land Cover, Geology and Rivers

&IF [EXIST AwSAXLGV -GRID] &THEN KILL AwSAXLGV ALL

AwSAXLGV = (wfSAXLGV + 13.78) /\* already 0

&RETURN

/\*\*\*\*\*

&ROUTINE Percent

WORKSPACE D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Percent\_form

&CALL SETUP

&CALL All\_In

&CALL 1\_Excluded

&CALL COMBOS\_1

&CALL COMBOS\_2

&CALL COMBOS\_3

&CALL COMBOS\_4

SETMASK OFF

Q

WORKSPACE D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev

&RETURN

/\*\*\*\*\*\*

&ROUTINE All\_In

/\* All parameters included

pWoEAll = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\awfall / 29.97) \* 100) + .5)

&RETURN

&ROUTINE 1\_Excluded

/\* Exclude one parameter

pWoENoAsp = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoasp1 / 28.28) \* 100) + .5)

pWoENoAvR = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoavr1 / 26.78) \* 100) + .5)

pWoENoElv = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoelv1 / 29.14) \* 100) + .5)

pWoENoFlt = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoflt1 / 28.37) \* 100) + .5)

pWoENoMxR = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnomxr1 / 26) \* 100) + .5)

pWoENoRds = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnords1 / 29.83) \* 100) + .5)

pWoENoRiv = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoriv1 / 29.89) \* 100) + .5)

pWoENoSlp = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoslp1 / 28.47) \* 100) + .5)

pWoENoLndU = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnolc1 / 29.06) \* 100) + .5)

pWoENoSoil = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnosoil1 / 26.54) \* 100) + .5)

pWoENoGeol = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnogeol1 / 25.57) \* 100) + .5)

&RETURN

/\*\*\*\*\*\*

&ROUTINE COMBOS\_1

/\* Exclude faults, roads, rivers

pWoENoLin = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnolin / 27.44) \* 100) + .5)

/\* Exclude faults, roads, rivers, max and mean rainfall

pWoENoLinRn = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnolinrn / 20.14) \* 100) + .5)

/\* Exclude geology and faults

pWoENoQMap = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnoqmap / 22.74) \* 100) + .5)

/\* Exclude max or mean rainfall

pWoENoRain = int(((D:\Renee\_GIS\Output\_data\Organised\12\_Wghts\_of\_Ev\Awfnorain / 23.06) \* 100) + .5)

```

/* Only includes slope, mean rainfall, land use/land cover and geology
pWoESIAvRLUGe = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSlAvRLUGe /
17.16) * 100) + .5)
&RETURN
/*****

&ROUTINE COMBOS_2
/* SLOPE, ASPECT, LAND COVER, MAX RAIN, GEOLOGY
PwSAsLCMRGe = ((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSAsLCMRGe / 19.26)
* 100)

/* SLOPE, ASPECT, LAND COVER, MAX RAIN
PwSAsLCMR = ((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSAsLCMR / 10.36) *
100)

/* SLOPE, ASPECT, LAND COVER, SOIL, MAX RAIN
PwSAsLCSMR = ((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSAsLCSMR / 15.68) *
100)

/* SLOPE, ELEVATION, ASPECT, LAND COVER, GEOLOGY
PWSIEIAsLCGe = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSIEIAsLCGe /
15.77) * 100) + .5)
&RETURN
/*****

&ROUTINE COMBOS_3

pWSAXLGEFV = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGEFV / 22.87)
* 100) + .5)
pWSAXLGEV = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGEV / 20.04) *
100) + .5)
pWSAXLGFV = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGFV / 22.01) *
100) + .5)
pWSAXLGEF = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGEF / 22) *
100) + .5)
pWSAXLGF = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGF / 21.14) *
100) + .5)
pWSAXLGE = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGE / 19.74) *
100) + .5)
pWSAXLGV = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AwSAXLGV / 19.34) *
100) + .5)
&RETURN

/*****

&ROUTINE COMBOS_4

PwSIMxLcGFI = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSIMxLcGFI / 19.45)
* 100) + .5)
PwSIMxLCG = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSIMxLCG / 17.57) *
100) + .5)

```



```
PwSIMxLCGES = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSIMxLCGES /
22.19) * 100) +.5)
PwSIMxLCGS = int(((D:\Renee_GIS\Output_data\Organised\12_Wghts_of_Ev\AWSIMxLCGS / 21.4) *
100) +.5)
&RETURN
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/*****
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```
&ROUTINE KILL
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```
/* Kill all intermediate files
```

```
&IF [EXIST Awfall -GRID] &THEN KILL Awfall ALL
```

```
&IF [EXIST Awfnoavr1 -GRID] &THEN KILL Awfnoavr1 ALL
```

```
&IF [EXIST Awfnomxr1 -GRID] &THEN KILL Awfnomxr1 ALL
```

```
&IF [EXIST Awfnorain -GRID] &THEN KILL Awfnorain ALL
```

```
&IF [EXIST Awfnoflt1 -GRID] &THEN KILL Awfnoflt1 ALL
```

```
&IF [EXIST Awfnoriv1 -GRID] &THEN KILL Awfnoriv1 ALL
```

```
&IF [EXIST Awfnords1 -GRID] &THEN KILL Awfnords1 ALL
```

```
&IF [EXIST Awfnoelv1 -GRID] &THEN KILL Awfnoelv1 ALL
```

```
&IF [EXIST Awfnoasp1 -GRID] &THEN KILL Awfnoasp1 ALL
```

```
&IF [EXIST Awfnoslp1 -GRID] &THEN KILL Awfnoslp1 ALL
```

```
&IF [EXIST Awfnosoil1 -GRID] &THEN KILL Awfnosoil1 ALL
```

```
&IF [EXIST Awfnogeol1 -GRID] &THEN KILL Awfnogeol1 ALL
```

```
&IF [EXIST Awfnolc1 -GRID] &THEN KILL Awfnolc1 ALL
```

```
&IF [EXIST Awfnolin -GRID] &THEN KILL Awfnolin ALL
```

```
&IF [EXIST Awfnoqmap -GRID] &THEN KILL Awfnoqmap ALL
```

```
&IF [EXIST Awfnolinrn -GRID] &THEN KILL Awfnolinrn ALL
```

```
&RETURN
```

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/*****
```