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/** ----- Various combinations of weighted factors-----
/** FILE NAME: 12a_Wf_Combos.txt
/** AUTHOR: RENEE SCHICKER
/** CREATED: 07 AUGUST 2009
/** MODIFIED: 07 DECEMBER 2009
/**
/** 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\12_Wghts_of_Ev.txt
/** USES SCRIPT: d:\renee_gis\scripts\checkprogrid.txt
/**
/** INPUT GRIDS: Slopewf Elvtwfw Aspectwf
/** MeanRwf MaxRwf LandCwf
/** Geolwf Soilwf Faultwf
/** Roadswf Riverswf MyBnds
/**
/** PURPOSE: To trial a range of other combinations in the search for the most appropriate
/** model derived from weights of evidence based on the predictor factors used
/** in this study and their relationship with past landslide occurrence. This
/** involves several cases of elimination and assessing what affect the removal
/** of a factor or combination of factors will have on the resulting model.
/**
/** ----- HISTORY -----
/** 07 AUGUST 2009 Script created to make a series of different output maps
/** Based on different combinations of parameters (exclusions)
/** 07 DECEMBER 2009 Changed the SETWINDOW and SETMASK to MyBnds to clip Lake
/** Taupo out of the output.
/** 09 DECEMBER 2009 Added a combination based on Slope, Mean Rain, Land Cover and
/** Geology
/** 31 JANUARY 2010 Figured out significant model: Slope, elevation, aspect, land cover
/** and geology.
/**
/** *****

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&CALL Exclude_1 /* One factor is excluded
&CALL Exclude_2 /* Two or more factors are excluded in a preliminary trial.

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&CALL SIEILCG /* Slope, Elevation, Land Cover, Geology Combos
&CALL SIAvRLCG /* Slope, Mean Monthly Rainfall, Land Cover, Geology Combo
&CALL SAXLG /* Slope, Aspect, Maximum Monthly Rainfall, Land Cover, Geology Combos
&CALL SIEIAsLC /* Slope, Elevation, Aspect, Land Cover Combos
&CALL SIMxLCG /* Slope, Maximum Monthly Rainfall, Land Cover, Geology Combos
&CALL SAXLG /* Slope, Aspect, Max Rain, Land Cover, Geology
&RETURN

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/*****

&ROUTINE SetupGrid

&RUN d:\renee_gis\scripts\checkproggrid.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

/*****

&ROUTINE Exclude_1

&IF [EXIST WfNoSlp1 -GRID] &THEN KILL WfNoSlp1 ALL

&IF [EXIST WfNoElv1 -GRID] &THEN KILL WfNoElv1 ALL

&IF [EXIST WfNoAsp1 -GRID] &THEN KILL WfNoAsp1 ALL

&IF [EXIST WfNoAvR1 -GRID] &THEN KILL WfNoAvR1 ALL

&IF [EXIST WfNoMxR1 -GRID] &THEN KILL WfNoMxR1 ALL

&IF [EXIST WfNoLC1 -GRID] &THEN KILL WfNoLC1 ALL

&IF [EXIST WfNoGeol1 -GRID] &THEN KILL WfNoGeol1 ALL

&IF [EXIST WfNoSoil1 -GRID] &THEN KILL WfNoSoil1 ALL

&IF [EXIST WfNoFlt1 -GRID] &THEN KILL WfNoFlt1 ALL

&IF [EXIST WfNoRds1 -GRID] &THEN KILL WfNoRds1 ALL

&IF [EXIST WfNoRiv1 -GRID] &THEN KILL WfNoRiv1 ALL

&CALL SetupGrid

WfNoSlp1 = (Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

WfNoElv1 = (Slopewf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

WfNoAsp1 = (Slopewf + Elvtnwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

WfNoAvR1 = (Slopewf + Elvtnwf + Aspectwf + MaxRwf + LandCwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

wfNoMxR1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + LandCwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

wfNoLC1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + Geolwf + Soilwf + Faultwf +
Roadswf + Riverswf)

wfNoGeol1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Soilwf + Faultwf +
Roadswf + Riverswf)

wfNoSoil1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Faultwf +
Roadswf + Riverswf)

WfNoFlt1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf +
Roadswf + Riverswf)

WfNoRds1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf +
Faultwf + Riverswf)

WfNoRiv1 = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf +
Faultwf + Roadswf)

SETMASK off

Q

&RETURN

/******

&ROUTINE Exclude_2

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

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

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

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

&CALL SetupGrid

/* Exclude Mean and Max Rain

WfNoRain = (Slopewf + Elvtnwf + Aspectwf + LandCwf + Geolwf + Soilwf + Faultwf + Roadswf +
Riverswf)

/* Exclude Geology and Faults

wfNoQMAP = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Soilwf + Roadswf +
Riverswf)

/* Exclude Lineaments

wfNoLin = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + MaxRwf + LandCwf + Geolwf + Soilwf)

/* Exclude Lineaments and Rain

wfNoLinRn = (Slopewf + Elvtnwf + Aspectwf + LandCwf + Geolwf + Soilwf)

SETMASK off

Q

&RETURN

/******

&ROUTINE SIEILCG

&IF [EXIST M5Vars -GRID] &THEN KILL M5Vars ALL

&IF [EXIST M7VarsAR -GRID] &THEN KILL M7VarsAR ALL

&IF [EXIST M7VarsMR -GRID] &THEN KILL M7VarsMR ALL

&CALL SetupGrid

M5Vars = (Slopewf + Elvtnwf + MeanRwf + LandCwf + Geolwf)

M7VarsAR = (Slopewf + Elvtnwf + Aspectwf + MeanRwf + LandCwf + Geolwf + Soilwf)

M7VarsMR = (Slopewf + Elvtnwf + Aspectwf + MaxRwf + LandCwf + Geolwf + Soilwf)

SETMASK off

Q

&RETURN

/******

&ROUTINE SIAvRLCG

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&IF [EXIST SlpAvRLUGeolW -GRID] &THEN KILL SlpAvRLUGeolW ALL
&CALL SetupGrid
SlpAvRLUGeolW = (Slopewf + MeanRwf + LandCwf + Geolwf)
SETMASK OFF
Q
&RETURN

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/*****
&ROUTINE SAXLG

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&IF [EXIST WfSAXLGEFV -GRID] &THEN KILL WfSAXLGEFV ALL
&IF [EXIST WfSAXLGEV -GRID] &THEN KILL WfSAXLGEV ALL
&IF [EXIST WfSAXLGFV -GRID] &THEN KILL WfSAXLGFV ALL
&IF [EXIST WfSAXLGEF -GRID] &THEN KILL WfSAXLGEF ALL
&IF [EXIST WfSAXLGF -GRID] &THEN KILL WfSAXLGF ALL
&IF [EXIST WfSAXLGE -GRID] &THEN KILL WfSAXLGE ALL
&IF [EXIST WfSAXLGV -GRID] &THEN KILL WfSAXLGV ALL

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&CALL SetupGrid

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WfSAXLGEFV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Faultwf + Riverswf)
WfSAXLGEV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Riverswf)
WfSAXLGFV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Faultwf + Riverswf)
WfSAXLGEF = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Faultwf)
WfSAXLGF = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Faultwf)
WfSAXLGE = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf)
WfSAXLGV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Riverswf)

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SETMASK off

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Q

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&RETURN

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/*****
&ROUTINE SIEIAsLC

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&IF [EXIST SIEIAsLCGe -GRID] &THEN KILL SIEIAsLCGe ALL
&IF [EXIST SAsLCSMR -GRID] &THEN KILL SAsLCSMR
&IF [EXIST SAsLCMR -GRID] &THEN KILL SAsLCMR
&IF [EXIST SAsLCMRGe -GRID] &THEN KILL SAsLCMRGe
&CALL SetupGrid

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SAsLCSMR = (Slopewf + Aspectwf + LandCwf + Soilwf + MaxRwf)
SAsLCMR = (Slopewf + Aspectwf + LandCwf + MaxRwf)
SAsLCMRGe = (Slopewf + Aspectwf + LandCwf + MaxRwf + Geolwf)

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SIEIAsLCGe = (Slopewf + Elvtnwf + Aspectwf + LandCwf + Geolwf)
SETMASK OFF

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Q

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&RETURN

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/*****
&Routine SIMxLCG

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

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&IF [EXIST SIMxLCGEI -GRID] &THEN KILL SIMxLCGEI ALL
&IF [EXIST SIMxLCGEISo -GRID] &THEN KILL SIMxLCGEISo ALL
&IF [EXIST SIMxLCGSo -GRID] &THEN KILL SIMxLCGSo ALL
&IF [EXIST SIMxLCGFI -GRID] &THEN KILL SIMxLCGFI ALL
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```
&CALL SetupGrid
SIMxLCG = (Slopewf + LandCwf + MaxRwf + Geolwf)
SIMxLCGEI = (Slopewf + LandCwf + MaxRwf + Geolwf + Elvtnwf)
SIMxLCGEISo = (Slopewf + LandCwf + MaxRwf + Geolwf + Elvtnwf + Soilwf)
SIMxLCGSo = (Slopewf + LandCwf + MaxRwf + Geolwf + Soilwf)
SIMxLCGFI = (Slopewf + LandCwf + MaxRwf + Geolwf + Faultwf)
SETMASK OFF
Q
&RETURN
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/*****
&ROUTINE SAXLG
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&IF [EXIST WfSAXLGEFV -GRID] &THEN KILL WfSAXLGEFV ALL
&IF [EXIST WfSAXLGEV -GRID] &THEN KILL WfSAXLGEV ALL
&IF [EXIST WfSAXLGFV -GRID] &THEN KILL WfSAXLGFV ALL
&IF [EXIST WfSAXLGEF -GRID] &THEN KILL WfSAXLGEF ALL
&IF [EXIST WfSAXLGF -GRID] &THEN KILL WfSAXLGF ALL
&IF [EXIST WfSAXLGE -GRID] &THEN KILL WfSAXLGE ALL
&IF [EXIST WfSAXLGV -GRID] &THEN KILL WfSAXLGV ALL
```

```
&CALL SetupGrid

WfSAXLGEFV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Faultwf + Riverswf)
WfSAXLGEV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Riverswf)
WfSAXLGFV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Faultwf + Riverswf)
WfSAXLGEF = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf + Faultwf)
WfSAXLGF = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Faultwf)
WfSAXLGE = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Elvtnwf)
WfSAXLGV = (Slopewf + Aspectwf + MaxRwf + LandCwf + Geolwf + Riverswf)
SETMASK off
Q
&RETURN
```