**LANDFORM-INTERPRETATION-RULES**

(@RULE= R\_alluvial\_fan

 (@LHS=

 (Is (LF\_topographic\_form\_PE) ("fan-shaped","semi-circular"))

 (Is (LF\_drainage\_pattern\_PE) ("dichotomic"))

 (Is (LF\_phototone\_intensity\_PE) ("light gray","medium gray"))

 (Is (LF\_gully\_density\_PE) ("none","few"))

 (Is (LF\_vegetation\_density\_PE) ("none","sparse"))

 (Is (LF\_drainage\_texture\_PE) ("coarse"))

 (Is (LF\_gully\_shape\_PE) ("V-shaped","U-shaped","longitudinal"))

 (Is (LF\_phototone\_texture\_PE) ("uniform","interlaced"))

 (Is (LF\_vegetation\_type\_PE) ("grass","reeds","shurbs"))

 (Is (LF\_geomorphic\_process\_GM) ("fluvial","fluvial deposition"))

 (Is (LF\_landuse\_landcover\_PE) ("barren","cultivated","natural cover"))

 (Is (LF\_topographic\_curvature\_PE) ("plain","concave radially and convex transversely"))

 (Is (LF\_climate\_type\_GM) ("arid"))

 )

 (@HYPO= H\_alluvial\_fan)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Logically is an alluvial fan.,\

@OK";))

 )

)

(@RULE= R\_delta

 (@LHS=

 (Is (LF\_topographic\_form\_PE) ("delta outline","arc","estuarine","bird's foot",\

"flat surface with a slight slope toward the water"))

 (Is (LF\_drainage\_pattern\_PE) ("dichotomic","channels","dendritic"))

 (Is (LF\_phototone\_intensity\_PE) ("light gray","medium gray"))

 (Is (LF\_gully\_density\_PE) ("none","few associated only with exposed,\

 eroded delta formations"))

 (Is (LF\_vegetation\_density\_PE) ("dense"))

 (Is (LF\_drainage\_texture\_PE) ("fine"))

 (Is (LF\_gully\_shape\_PE) ("none"))

 (Is (LF\_phototone\_texture\_PE) ("uniform","interlaced"))

 (Is (LF\_vegetation\_type\_PE) ("grass","reeds","shurbs"))

 (Is (LF\_geomorphic\_process\_GM) ("fluvial","fluvial deposition"))

 (Is (LF\_landuse\_landcover\_PE) ("natural","natural cover","developed"))

 (Is (LF\_topographic\_curvature\_PE) ("plain","concave radially and convex transversely"))

 (Is (LF\_climate\_type\_GM) ("humid"))

 )

 (@HYPO= H\_delta)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Logically is a Delta.,@OK";\

))

 )

)

(@RULE= R\_meander\_flood\_plain

 (@LHS=

 (Is (LF\_topographic\_form\_PE) ("flat level plains"))

 (Is (LF\_drainage\_pattern\_PE) ("braided","meanders","channels","anastomotic",\

"yazoo","broad meanders"))

 (Is (LF\_phototone\_intensity\_PE) ("light gray","medium gray","dark gray",\

"dull gray","bright gray"))

 (Is (LF\_gully\_density\_PE) ("none","few"))

 (Is (LF\_vegetation\_density\_PE) ("dense"))

 (Is (LF\_drainage\_texture\_PE) ("coarse"))

 (Is (LF\_gully\_shape\_PE) ("U-shaped"))

 (Is (LF\_phototone\_texture\_PE) ("complex"))

 (Is (LF\_vegetation\_type\_PE) ("rich agricultural soils","grass","reeds",\

"shurbs"))

 (Is (LF\_geomorphic\_process\_GM) ("fluvial","fluvial deposition"))

 (Is (LF\_landuse\_landcover\_PE) ("cultivated","natural cover of dense vegetation"))

 (Is (LF\_topographic\_curvature\_PE) ("flat"))

 (Is (LF\_climate\_type\_GM) ("humid"))

 )

 (@HYPO= H\_meander\_flood\_plain)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Logically is a meander flood plain.,\

@OK";))

 )

)

(@RULE= LF\_Arid\_Limestone\_PE

 (@LHS=

 (Is (topographic\_form) ("karst"))

 (Is (drainage\_pattern) ("dendritic"))

 (Is (drainage\_texture) ("medium","fine"))

 (Is (phototone\_intensity) ("light"))

 (Is (phototone\_texture) ("uniform"))

 (Is (gully\_density) ("few"))

 (Is (vegetation\_type) ("shrubby"))

 (Is (vegetation\_density) ("none","little"))

 (Is (landuse\_landcover) ("barren"))

 (Is (topographic\_curvature) ("table rocks"))

 )

 (@HYPO= H\_LF\_Arid\_Limestone)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Logically is a Arid Limestone,\

@OK";))

 (CreateObject (object\_LF\_Arid\_Limestone\_PE) (|LF\_Arid\_Limestone\_PE|))

 (Show ("Arid Limestone") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_Humid\_Limestone\_PE

 (@LHS=

 (Is (topographic\_form) ("karst"))

 (Is (drainage\_pattern) ("internal"))

 (Is (phototone\_intensity) ("gray"))

 (Is (phototone\_texture) ("mottled"))

 (Is (gully\_shape) ("short"))

 (Is (gully\_density) ("few"))

 (Is (vegetation\_type) ("small woodlots"))

 (Is (vegetation\_density) ("none","little"))

 (Is (landuse\_landcover) ("cultivated"))

 (Is (topographic\_curvature) ("rounded sinkholes"))

 )

 (@HYPO= H\_LF\_Humid\_Limestone)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Logically is a Humid Limestone,\

@OK";))

 (CreateObject (object\_LF\_Humid\_Limestone\_PE) (|LF\_Humid\_Limestone\_PE|))

 (Show ("Humid Limestone") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_Humid\_Sandstone\_PE

 (@LHS=

 (Is (topographic\_form) ("massive","bold"))

 (Is (drainage\_pattern) ("dendritic"))

 (Is (drainage\_texture) ("coarse"))

 (Is (phototone\_intensity) ("light"))

 (Is (phototone\_texture) ("banded"))

 (Is (gully\_shape) ("v-shaped"))

 (Is (gully\_density) ("few"))

 (Is (vegetation\_type) ("forested"))

 (Is (vegetation\_density) ("little"))

 (Is (landuse\_landcover) ("agricultural"))

 (Is (topographic\_curvature) ("steep slopes"))

 )

 (@HYPO= H\_LF\_Humid\_Sandstone)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Logically is a Humid Sandstone,\

@OK";))

 (CreateObject (object\_LF\_Humid\_Sandstone\_PE) (|LF\_Humid\_Sandstone\_PE|))

 (Show ("Humid Sandstone") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_Humid\_Limestone\_PE2

 (@LHS=

 (Is (topographic\_form) ("karst"))

 (Is (drainage\_pattern) ("internal"))

 (Is (phototone\_texture) ("mottled"))

 (Is (vegetation\_type) ("small woodlots"))

 )

 (@HYPO= H\_LF\_Humid\_Limestone)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Possibly is a Humid Limestone,\

@OK";))

 (CreateObject (object\_LF\_Humid\_Limestone\_PE2) (|LF\_Humid\_Limestone\_PE2|))

 (Show ("Humid Limestone") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_Humid\_Sandstone\_PE2

 (@LHS=

 (Is (topographic\_form) ("massive","bold"))

 (Is (drainage\_pattern) ("dendritic"))

 (Is (phototone\_texture) ("banded"))

 (Is (vegetation\_type) ("forested"))

 )

 (@HYPO= H\_LF\_Humid\_Sandstone)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Possibly is a Humid Sandstone,\

@OK";))

 (CreateObject (object\_LF\_Humid\_Sandstone\_PE2) (|LF\_Humid\_Sandstone\_PE2|))

 (Show ("Humid Sandstone") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_Humid\_Shale\_PE2

 (@LHS=

 (Is (topographic\_form) ("smooth"))

 (Is (drainage\_pattern) ("dendritic"))

 (Is (phototone\_texture) ("mottled"))

 (Is (vegetation\_type) ("forested"))

 )

 (@HYPO= H\_LF\_Humid\_Shale)

 (@RHS=

 (Execute ("Message") (@STRING="@TEXT=Possibly is a Humid Shale,\

@OK";))

 (CreateObject (object\_LF\_Humid\_Shale\_PE2) (|LF\_Humid\_Shale\_PE2|))

 (Show ("Humid Shale") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("ControlSession") (@STRING="@STOP";))

 )

)

(@RULE= LF\_beach\_PE\_2

 (@LHS=

 (Is (topographic\_form) ("hummocky"))

 (Is (drainage\_pattern) ("none"))

 (Is (phototone\_intensity) ("bright"))

 (Is (vegetation\_type) ("barren","natural cover"))

 )

 (@HYPO= h\_beach)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Possibly,it is Beach Dune. (The Landform was proved by LF\_beach\

\_PE\_2),@OK";))

 )

)

(@RULE= LF\_beach\_PE

 (@LHS=

 (Is (topographic\_form) ("hummocky"))

 (Is (drainage\_pattern) ("none"))

 (Is (phototone\_intensity) ("bright"))

 (Is (gully\_density) ("none"))

 (Is (vegetation\_type) ("barren","natural cover"))

 )

 (@HYPO= h\_beach)

 (@RHS=

 (Execute ("MESSAGE") (@STRING="@TEXT=Certainly, it is Beach Dune. (The Landform was proved by LF\_beach\

\_dune\_PE.),@OK";))

 (CreateObject (object\_beach\_dune) (beach\_dune))

 (Show ("beach\_dune") (@KEEP=TRUE;@WAIT=TRUE;))

 (Execute ("CONTROLSESSION") (@ATOMID=STRING;@STRING="@STOP";))

 )

)

(@RULE= LF\_beach\_GM

 (@LHS=

 (Is (climate) ("humid","arid"))

 (Is (geomorphic\_process) ("deposition"))

 )

 (@HYPO= h\_beach)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Possibly, it is Beach Dune. (The Landform was proved by LF\_beac\

h\_GM.),@OK";))

 )

)

(@RULE= LF\_beach\_GM

 (@LHS=

 (Is (climate) ("humid","arid"))

 (Is (geomorphic\_process) ("deposition"))

 )

 (@HYPO= h\_beach)

 (@RHS=

 (Execute ("message") (@STRING="@TEXT=Possibly, it is Beach. (The Landform was proved by LF\_beach\_GM.\

),@OK";))

 )

)