

LANDSLIDE INVENTORY MAP OF THE 2012 SEELEY FIRE AREA, CARBON AND EMERY COUNTIES, UTAH

POLYGON ATTRIBUTE METADATA

This text file describes the attribute metadata in the 2012 Seeley fire area landslide inventory ArcGIS v10 geodatabase. The geodatabase contains landslide attribute information that is not shown on the landslide inventory map. Description of the geodatabase column headings is provided here to assist the user in further understanding and utilizing the geodatabase. The format follows the syntax of ArcGIS domain properties.

ATTRIBUTES COMMON TO BOTH DEPOSIT AND SOURCE

OBJECT ID Field

Object ID (unique polygon identification number automatically generated in ArcMap)

Field Name: objectid
Data Type: Object ID
Alias: OBJECTID
Domain: None

Polygon SHAPE Field

Landslide Deposit/Source Shape (shape geometry automatically generated in ArcMap)

Shape field: Polygon
Field Name: shape
Data Type: Geometry
Alias: SHAPE
Domain: None

SHAPE Area Field

Landslide Deposit/Source Shape Area (shape area automatically generated in ArcMap)

Shape field: Polygon
Field Name: st_area(shape)
Data Type: Double-precision floating-point number
Alias: st_area(shape)
Domain: None

SHAPE Length Field

Landslide Deposit/Source Shape Length (shape length automatically generated in ArcMap)

Shape field: Polygon

Field Name: st_length(shape)
Data type: Double-precision floating-point number
Alias: st_length(shape)
Domain: None

SHAPE Label Field

Map layout labeling field for features keyed to the map explanation and based on material type and movement attributes

Coded Values

Code:	RF	Description:	rock fall
Code:	RS-R	Description:	rock slide, rotational
Code:	RS-T	Description:	rock slide, translational
Code:	DS-R	Description:	debris slide, rotational
Code:	DS-T	Description:	debris slide, translational
Code:	DFL	Description:	debris flow
Code:	ES-R	Description:	earth slide, rotational
Code:	ES-T	Description:	earth slide, translational
Code:	EFL	Description:	earth flow

Field Name: label

Data type: Text

Alias: Label

Domain: None

Category Field

Domain Name: Category

Description: Landslide deposit/source designator

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code:	Source	Description:	Landslide source
Code:	Deposit	Description:	Landslide deposit

Field Name: category

Data Type: Text

Alias: Category

Domain: Yes

Activity Field

Domain Name: Deposit/Source Activity

Description: Deposit and source activity

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code:	Active/Historical	Description:	Active/historical landslide movement
Code:	Dormant/Very Slow Moving	Description:	Dormant/very slow moving landslide
Code:	Source Is Dormant	Description:	Source is dormant
Code:	Dormant/Eroded	Description:	Dormant/eroded landslide

Field Name: activity

Data Type: Text

Alias: Activity

Domain: Yes

Active/Historical: The landslide deposit has documented movement or landslide features observed on aerial photographs or in the field indicative of historical movement. The landslide source shows landslide features observed on aerial photographs or in the field indicative of historical movement.

Dormant/Very Slow Moving: Landslide deposit landforms are fresh or not eroded, but there is no evidence of historical movement. Landslide movement is suspended or at a slow rate preventing development of sharp recognizable features associated with active movement allowing erosion to smooth existing features.

Source Is Dormant: The landslide source landform is fresh or not eroded and there is no evidence of historical activity.

Dormant/Eroded: Landslide deposit landforms are smoothed, subdued, and incised by erosion, but still mappable.

Confidence Field

Domain Name: Deposit/Source Confidence Description: Relative confidence of mapped landslide deposit or source boundary

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: High

Description: High

Code: Moderate

Description: Moderate

Code: Low

Description: Low

Field Name: confidence

Data Type: Text

Alias: Confidence

Domain: Yes

High: The deposit or source boundary is clearly evident and discernable. The deposit or source generally shows features indicative of recent movement.

Moderate: Some, but not entire, deposit or source boundary is clearly evident, other parts may be approximate or gradational. Diagnostic landforms are generally present.

Low: The boundary is difficult to determine and is approximately located, and few diagnostic landforms may be present.

Mapper Field

Domain Name: Deposit/Source Mapper

Description: Name of mapping and attributing geologist

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: REG

Description: Rich Giraud

Code: GNM

Description: Greg McDonald

Field Name: mapper

Data Type: Text

Alias: Mapper

Domain: Yes

Peer Review Field

Domain Name: Deposit/Source Peer Review

Description: Name of peer review geologist

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: REG

Description: Rich Giraud

Code: GNM

Description: Greg McDonald

Field Name: peer_rev

Data Type: Text

Alias: Peer_Rev

Domain: Yes

Comments Field

Domain Name: Deposit/Source Comments

Description: General deposit/source comments

Not a domain; a text field

Field Name: comments

Data Type: Text

Alias: Comments

Domain: No

Revision Date Field

Domain Name: Deposit/Source Revision Date

Description: Revision date for future use to document when updates are made, if applicable

Not a domain; a text field

Field Name: rev_date

Data Type: Date

Alias: Rev_Date

Domain: None

DEPOSIT ATTRIBUTES

Deposit Material Field

Domain Name: Deposit Material

Description: Deposit material type

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: Rock

Description: Rock

Code: Debris

Description: Debris

Code: Earth

Description: Earth

Field Name: d_material
Data Type: Text
Alias: D_Material
Domain: Yes

Material Definitions

Cruden and Varnes (*Cruden, D.M., and Varnes, D.J., 1996, Landslides, types and processes, in Turner, A.K., and Schuster, R.L., editors, Landslides—investigation and mitigation: Washington, D.C., National Academy of Sciences, National Research Council, Transportation Research Board Special Report 247*) term describing the type of material involved in landsliding.

Rock – A hard or firm mass, usually bedrock, that may remain as relatively large, mostly intact blocks; may include deeply weathered rock and semi-consolidated or weakly-cemented Quaternary deposits.

Soil – An aggregate of solid particles, generally of minerals and rocks, that was either transported or formed in place by weathering of rock.

Earth – Subset of soil. Soil dominated by fine-grained materials that may exhibit plasticity and cohesion; 80% or more of the particles are smaller than 2 mm and may exhibit plasticity and cohesion; includes fine-grained colluvial deposits.

Debris – Subset of soil. Accumulations of mostly granular silt, sand, rock fragments, and organic materials. 20% to 80% of particles larger than 2 mm; includes coarse-grained colluvial deposits.

Deposit Movement Type Field

Domain Name: Deposit Movement Type

Description: Landslide movement type associated with mapped deposit

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code: Fall	Description: Fall
Code: Topple	Description: Topple
Code: Slide Rotational	Description: Slide Rotational
Code: Slide Translational	Description: Slide Translational
Code: Spread	Description: Spread
Code: Flow	Description: Flow

Field Name: d_move_type
Data Type: Text
Alias: D_Move_Type
Domain: Yes

Movement Definitions

The Cruden and Varnes terms describing landslide movement types.

Fall – Clast detached without shear then falls, bounces, or rolls.

Topple – Clast has forward rotation out of slope.

Slide Rotational – Curved rupture surface.

Slide Translational – Planar rupture surface.

Spread – Extension of soil or rock mass combined with subsidence of fractured mass into softer underlying material.

Flow – Spatially continuous movement, velocities of displaced mass resemble those of a viscous liquid.

Deposit Name Field

Domain Name: Deposit Name

Description: Material and movement types combined

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code: Rock Fall	Description: Rock Fall
Code: Rock Topple	Description: Rock Topple
Code: Rock Slide Rotational	Description: Rock Slide, Rotational
Code: Rock Slide Translational	Description: Rock Slide, Translational
Code: Rock Spread	Description: Rock Spread
Code: Rock Flow	Description: Rock Flow
Code: Debris Fall	Description: Debris Fall
Code: Debris Topple	Description: Debris Topple
Code: Debris Slide Rotational	Description: Debris Slide, Rotational
Code: Debris Slide Translational	Description: Debris Slide, Translational
Code: Debris Spread	Description: Debris Spread
Code: Debris Flow	Description: Debris Flow
Code: Earth Fall	Description: Earth Fall
Code: Earth Topple	Description: Earth Topple
Code: Earth Slide Rotational	Description: Earth Slide, Rotational
Code: Earth Slide Translational	Description: Earth Slide, Translational
Code: Earth Spread	Description: Earth Spread
Code: Earth Flow	Description: Earth Flow

Field Name: d_name

Data Type: Text

Alias: D_Name

Domain: Yes

Deposit Landform Field

Domain Name: Deposit Landform

Description: Haskins and others (1998) landform name that most closely matches Cruden and Varnes (1996) nomenclature

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code: Fall-Prone Slope, Talus	Description: Fall-Prone Slope, Talus
Code: Topple-Prone Slope, Talus	Description: Topple-Prone Slope, Talus
Code: Rotational Slide	Description: Rotational Slide
Code: Translational Block Slide	Description: Translational Block Slide
Code: Lateral Spread	Description: Lateral Spread
Code: Translational Debris Slide	Description: Translational Debris Slide
Code: Debris Flow	Description: Debris Flow
Code: Fall-Prone Slope	Description: Fall-Prone Slope
Code: Topple-Prone Slope	Description: Topple-Prone Slope
Code: Earth Spread	Description: Earth Spread
Code: Earth Flow	Description: Earth Flow

Field Name: d_landform
 Data Type: Text
 Alias: D_Landform
 Domain: Yes

Cruden and Varnes Landslide Name

Rock Fall
 Rock Topple
 Rock Slide Rotational
 Rock Slide Translational
 Rock Spread
 Rock Flow
 Debris Fall
 Debris Topple
 Debris Slide Rotational
 Debris Slide Translational
 Debris Spread
 Debris Flow
 Earth Fall
 Earth Topple
 Earth Slide Rotational
 Earth Slide Translational
 Earth Spread
 Earth Flow

Haskins and others Landform Name

Fall-Prone Slope, Talus
 Topple-Prone Slope, Talus
 Rotational Slide
 Translational Block Slide
 Lateral Spread
 Lateral Spread
 Fall-Prone Slope
 Topple-Prone Slope
 Rotational Slide
 Translational Debris Slide
 Lateral Spread
 Debris Flow
 Fall-Prone Slope
 Topple-Prone Slope
 Rotational Slide
 Translational Block Slide
 Earth Spread
 Earth Flow

Haskins and others (*Haskins, D.M., Correll, C.S., Foster, R.A., Chatoian, J.M., Fincher, J.M., Strenger S., Keys, J.E., Maxwell, J.R., and King, T. 1998, A geomorphic classification system: USDA Forest Service, Washington, D.C., 110 p.*) developed a U.S. Forest Service landslide geomorphic classification system based on landforms. The deposit landform domain is included primarily for the U.S. Forest Service, which may prefer the landform name over the Cruden and Varnes nomenclature.

Deposit Historical Movement Fields

Domain Name: Deposit H Move

Description: Dates of aerial photography or direct field observation where historical landslide movement is evident

Not a domain; a text field

Field Name: d_h_move1, d_h_move2, d_h_move3
 Data Type: Short Integer
 Alias: D_H_Move1, D_H_Move2, D_H_Move3
 Domain: Yes

Historical Landslide Movement Definition

These fields provide an indication of historical landslide activity by listing the date of aerial photography where landslide movement is evident based on aerial photography observation. If the date 1938 is listed, recent landslide movement features are evident in 1938 aerial photography. If the dates 1965 and 1984 are listed, recent landslide movement features are evident in both 1965 and 1984 aerial photography, suggesting reactivation between 1965 and 1984. The dates of aerial photography include 1938, 1965, 1976, 1981, 1984, 1991, 1992, 1997, 2004, 2006, 2009, and 2011. Fire-related debris flows, active in 2012, are also included based on field observations. Most 2012 deposits only covered part of the mapped alluvial fan. Slow moving landslides may have historical movement that is not recognizable on aerial photography; therefore, this field only documents landslides where historical movement is evident on aerial photography. The aerial photography used for mapping is referenced in the map explanation.

Deposit Thickness Field

Domain Name: Deposit Thickness

Description: Estimate of landslide deposit thickness as less than or greater than 10 feet

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: <10

Description: Thickness less than 10 feet

Code: >10

Description: Thickness greater than 10 feet

Field Name: d_thickness

Data Type: Text

Alias: D_Thickness

Domain: Yes

Deposit Movement Direction Field

Domain Name: Deposit Movement Direction

Description: General movement direction of mapped landslide

Domain Properties

Field Type: Short Integer

Domain Type: Range

Minimum value: 1 degree

Maximum value: 360 degrees

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

No coded values as domain properties are azimuth range of numbers.

Field Name: d_move_dir

Data Type: Short Integer

Alias: D_Move_Dir

Domain: Yes

Deposit Geologic Unit Fields

Domain Name: Deposit Geologic Unit

Description: Primary geologic unit(s) involved in landsliding

Domain Properties

Field Type: Text

Domain Type: Coded Values

Split Policy: Default Value

Merge Policy: Default Value

Coded Values

Code: North Horn

Description: Tertiary-Cretaceous North Horn Formation

Code: Price River

Description: Cretaceous Price River Formation

Code: Castlegate

Description: Cretaceous Castlegate Sandstone

Code: Blackhawk

Description: Cretaceous Blackhawk Formation

Code: Star Point

Description: Cretaceous Star Point Sandstone

Code: Mancos

Description: Cretaceous Mancos Shale

Field Name: d_geologic_unit1, d_geologic_unit2
Data Type: Text
Alias: D_Geologic_Unit1, D_Geologic_Unit2
Domain: Yes

Deposit Geologic Unit Definition

These fields provide an estimate of the geologic unit(s) involved in landsliding based on geologic maps and field observations. If the landslide deposit involves more than two units, the two most significant units are listed.

SOURCE ATTRIBUTES

Source Name Field

Domain Name: Source Name

Description: Landslide source name

Domain Properties

Field Type: Text
Domain Type: Coded Values
Split Policy: Default Value
Merge Policy: Default Value

Coded Values

Code: Main Scarp

Description: Main scarp

Code: Outcrop

Description: Outcrop

Code: Cliff Band

Description: Cliff band

Code: Debris-flow Source

Description: Debris-flow source

Code: Channel/Debris Flow

Description: Channel/debris flow

Field Name: s_name

Data Type: Text

Alias: S_Name

Domain: Yes