

**National Mapping Program
Technical Instructions**

Part 8

Nonvegetative Surface Cover

**Standards for 1:24,000-Scale
Digital Line Graphs and
Quadrangle Maps**

**U.S. Department of the Interior
U.S. Geological Survey
National Mapping Division**

Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 8: Nonvegetative Surface Cover

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Standards for 1:24,000-Scale Digital Line Graphs and Quadrangle Maps
Part 8: Non-Vegetative Surface Cover

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BARREN LAND - Places composed of bare rock, sand, silt, gravel, or other earthen material with little or no vegetation and having limited ability to support life.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Earth Composition	Predominant material
Boulders	Detached rock fragments larger than gravel.
Gravel	Unconsolidated, natural accumulation of rounded rock fragments, consisting predominantly of particles larger than sand but smaller than boulders, having a diameter in the range of 2mm to 256 mm (1/2 inch to 10 inches).
Mud	A slimy, sticky, or slippery mixture of water and silt or clay-sized earth material, with consistency ranging from semi-fluid to soft and plastic.
Rock	Consolidated, naturally formed mass of mineral matter.
Rock Category	Form or nature
Coral	Consolidated skeletal deposits produced by anthozoan polyps.
Lava	Consolidated rock produced by the solidification of molten rock from volcanic eruptions.
Unspecified	The value is not known and is not required
Salt	
Sand	Unconsolidated rock particles that are larger than silt but smaller than gravel
Shell	
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required

Photorevised

Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of BARREN LAND is the extent of the non-vegetated surface.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
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Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If BARREN LAND is within or along open water, and is ≥ 0.2 " along the longest axis, and ≥ 0.05 " along the shortest axis,

Or

If BARREN LAND is composed of sand, and is in areas other than open water, and is not captured as DUNES, FORESHORE, MORaine, PLAYA, or WASH, and is ≥ 1.74 square inches,

Or

If BARREN LAND is composed of lava and is ≥ 0.5 " along the shortest axis,

Or

If the area is captured as DUNES, FORESHORE, MORaine, PLAYA, or WASH,
 Then capture.

Attribute Information

If BARREN LAND is associated with FORESHORE,
 Then Earth Composition = Boulders, Gravel, Mud, Rock, Sand, Shell, or Unspecified.

If BARREN LAND, Earth Composition = Rock, is associated with FORESHORE,
Then Rock Category = Coral or Unspecified.

If BARREN LAND is associated with PLAYA,
Then Earth Composition = Mud, Salt, Sand, or Unspecified.

If BARREN LAND is associated PLAYA, and the PLAYA is an alkali flat,
Then Earth Composition = Salt.

If BARREN LAND is along open water,
Then Earth Composition = Gravel, Sand, or Unspecified.

If BARREN LAND is associated with WASH,
Then Earth Composition = Unspecified.

If BARREN LAND is associated with MORAINE,
Then Earth Composition = Gravel.

If BARREN LAND is associated with DUNES,
Then Earth Composition = Sand.

Source Interpretation Guidelines

All

Graphic

BARREN LAND is only collected if a surface pattern, outline, or composition label appears on the graphic.

Revision - General

Revision - Standard

Revision - Limited

Earth Composition = Unspecified for newly collected BARREN LAND. Retain Earth Composition on existing BARREN LAND.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale


Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

	Symbol#: BARREN_LAND_A001 Dimension: 2
	

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Sand or Unspecified	<u>Area Fill</u> Color: Brown Pattern: USGS 17	N/A

	Symbol#: BARREN_LAND_A002 Dimension: 2
	

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Mud	<u>Area Fill</u> Color: Brown Pattern: USGS 17	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A003
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Gravel	Area Fill Color: Brown Pattern: USGS 22	N/A

Symbol#: BARREN_LAND_A004
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Rock	Area Fill Color: Brown	Label: Color: Black
Rock Category	Lava	Screen: 13%, 120-line at 105°	Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A005
 Dimension: 2

Salt Flat

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Salt	N/A	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A006
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Boulders or Shell	<u>Area Fill</u> Color: Black Pattern: USGS 17	Earth Composition: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A007
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Rock	<u>Area Fill</u> Color: Black Pattern: USGS 17	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25
Rock Category	Unspecified		

Symbol#: BARREN_LAND_A008
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Rock	<u>Area Fill</u> Color: Black Pattern: USGS 17	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25
Rock Category	Coral		

Symbol#: BARREN_LAND_A101
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Gravel or Sand	<u>Area Fill</u> Color: Black Pattern: USGS 17	Earth Composition: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A102
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Unspecified	<u>Area Fill</u> Color: Black Pattern: USGS 17	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Symbol#: BARREN_LAND_A103
 Dimension: 2



<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Earth Composition	Mud	<u>Area Fill</u> Color: Black Pattern: USGS 17	Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

If BARREN LAND has Earth Composition = Sand or Gravel and coincides FORESHORE,
Then resymbolize using A101.

If BARREN LAND has Earth Composition = Unspecified and coincides FORESHORE,
Then resymbolize using A102.

If BARREN LAND has Earth Composition = Mud and coincides FORESHORE,
Then resymbolize using A103.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Bagnet, MO (Sand areas along STREAM/RIVER)
Buxton, NC (Sand area along SEA/OCEAN)
Clear Lake, OR (Lava area shown with screen, label and outline)
Copalis Crossing, WA (FORESHORE labelled "Mud")
Corral Canyon, UT (Mud flat)
Garcon Point, FL (FORESHORE with composition unspecified, labeled "Tidal Flat")
Mount Tom, CA (MORAINES)
Point Hope, AK 15K (Gravel and sand BEACHES)
Port Miller (D-2), AK (FORESHORE labeled "Sand and Gravel")
Saddle Mountain, CO (WASH with sand pattern)
Smith Well, NV (Dry LAKE/POND with sand pattern)
Split Mountain, CA (MORAINES)
State Line Peak, NV-CA (Dry LAKE/POND with unspecified composition)
St. Augustine, FL (FORESHORE labeled "Sand")
Vail, AZ (WASH with sand pattern)
Wardview, LA (Sand areas along STREAM/RIVER)

BEACH - The gently sloping shore which is washed by waves, usually composed of sand and pebbles.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99

DELINEATION

The limit of **BEACH** is the extent of the area identified by the name.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
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Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional		< 0.05"	
2-dimensional		≥ 0.05"	

Special Conditions:

DATA EXTRACTION

Capture Conditions

If BEACH is named,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

The feature BEACH is included in the GNIS feature class "beach". According to GNIS, beach may be described by about 22 generics. GNIS maintains a list of feature classes and related generics. Contact GNIS for more information.

If BEACH is represented as a 1-dimensional basic feature object,
Then capture coincident with the shoreline for the length of the actual sand or gravel area.

If a 2-dimensional BEACH is captured,
Then also capture BARREN LAND.

Graphic

If BEACH does not have the sand or gravel symbolization,
Then capture as a 1-dimensional basic feature object coincident with the shoreline for a logical length.

Revision - General

Revision - Standard

Revision - Limited

Do not revise. Retain existing features.

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

<u>NAM</u>	Symbol#: BEACH_L001 Dimension: 1
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<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric)	N/A	Name: Color: Black Style: UI CAPS or C/lc Size: 6-18 Spacing: 0

<u>NAM</u>	Symbol#: BEACH_A001 Dimension: 2
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<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric)	N/A	Name: Color: Black Style: UI CAPS or C/lc Size: 6-18 Spacing: 0

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Beachey Point (B-3), AK (Gravel BEACHES and delta)
Biddeford, ME (Named 1-D and 2-D BEACHES)
Captiva, FL (Sanibel Island shell BEACH)
Chatahoula Bay, LA (Shell BEACH labeled but not symbolized)
Chicago Loop, IL (Lakeshore BEACHES)
Dune Acres, IN (BEACH adjacent to DUNES, Indiana Dunes National Lakeshore)
Haleiwa, HI (Names 2-D BEACHES)
Keaau Ranch, HI (BEACH at Haena 500 feet long)
Kenai (A-5), AK 1:63360 (Unnamed 2-D BEACH)
Kenai (C-4), AK 1:63360 (Unnamed 2-D BEACH)
Kennebunkport, ME (Named 1-D BEACH)
Point Hope (B-3), AK (Gravel BEACHES)
Waiane, HI (Mauna Lahilahi Beach Park)

DUNES - Hills or ridges of sand piled up by the wind.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Name	Proper name, specific term, or expression
(Alphanumeric)	Length Value: 99
Unspecified	The value is not known and is not required
Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of DUNES is the extent of the area of sand hills or ridges.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
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Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If DUNES is ≥ 0.5 " along the shortest axis,
Or
If DUNES is named,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

The feature DUNES is not a GNIS feature class. According to GNIS, Sand Dunes is included in the GNIS feature class "area", and Sand Dune is included in the GNIS feature class "summit". However, not all GNIS "summits" or "areas" can be classified as the feature DUNES. GNIS maintains a list of feature classes and related generics. Contact GNIS for more information.

If DUNES is captured,
Then also capture BARREN LAND.

Graphic

Areas labeled Shifting Sand or Sand Dunes should be captured as DUNES. Extensive areas or groups of separate areas in close proximity are often intermittently labeled, so pattern and labels must both be considered to determine the extent of the feature.

USGS maps prior to 1981 depict shifting sand with the "broken" (screened) sand pattern USGS 17A. Areas with this pattern should be collected as DUNES.

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

NAM

Sand
Dunes

Symbol#: DUNES_A001
 Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
Name	(Alphanumeric) or Unspecified	N/A	<p>Label: Color: Black Style: UL CAPS or C/lc Size: 6-14 Spacing: 0-25</p> <p>Name: Color: Black Style: UI CAPS or C/lc Size: 6-16 Spacing: 0-32</p>

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Alcatraz Island, NV (Sand DUNES)
Battlefield Point, NV (Sand DUNES)
Big Dune, NV (Sand DUNES and name "Big Dune")
Fandango Canyon, OR (Sand DUNES)
Fifteenmile Lake, NM (Shifting sand - orthophotomap)
Fourmile Flat, NV (Sand DUNES)
Floyd SE, NM (Sand DUNES)
Gabbs, NV (Sand DUNES)
Garton Lake, NM (Shifting sand - orthophotomap)
Lakeside, OR (Sand DUNES in Oregon Dunes National Recreation Area)
Mohawk Mountains SE, AZ (Sand DUNES)
Monahans SE, TX (Shifting sand in Monahans Sand Hills State Park)
North of Port Isabel NW, TX (Shifting sand DUNES on Padre Island)
Notrees NW, TX (Shifting sand and name "Kermit Sand Hill")
Wheeler Ranch, TX (Shifting sand)

MORaine - An accumulation of earth and stones carried and deposited by a glacier.

ATTRIBUTE/ATTRIBUTE VALUE LIST

Photorevision Category	Whether or not a feature was added or modified as part of a photorevision assignment
Not Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that included field checks, if required
Photorevised	Feature was compiled from aerial photographs and other sources as part of a revision assignment that did not include field checks

DELINEATION

The limit of a MORaine is the edge of the glacial deposit.

REPRESENTATION RULES

Feature Object Representation, Composition, and Relationship Table

RELATIONSHIPS	INSTANCES (CARDINALITY)	WITH OBJECT
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Representation Conditions

KIND OF FEATURE OBJECT	AREA	SHORTEST	LONGEST
0-dimensional			
1-dimensional			
2-dimensional	> 0		

Special Conditions:

DATA EXTRACTION

Capture Conditions

If MORaine is not vegetated and is ≥ 0.01 " along the shortest axis and ≥ 0.25 " along the longest axis,
Then capture.

Attribute Information

Source Interpretation Guidelines

All

Although moraines exist in all areas where glaciers are or have been active, for National Mapping Division purposes, only those that are in areas with recent or active glaciation will be captured as MORaine. They must have no vegetation and can be either within or outside of an active glacier. If an area name includes the descriptor "moraine", but does not meet capture conditions for MORaine, then see features in the Named Landforms Theme for proper classification.

If MORaine is captured,
Then also capture BARREN LAND.

Graphic

MORaine and a gravel BEACH have both been symbolized by the gravel pattern (USGS 22).
Neither feature is labeled. The distinction will be made by form and location.

Revision - General

Revision - Standard

Revision - Limited

DATA EXTRACTION OR PRODUCT GENERATION at 1:24,000 scale

Inclusion Conditions

All required

Generalization

PRODUCT GENERATION at 1:24,000 scale

Symbolization

Symbol#: MORaine_A001
Dimension: 2

<u>Attribute</u>	<u>Value</u>	<u>Symbol Specs</u>	<u>Type Specs</u>
N/A	N/A	N/A	N/A

Conflict Detection and Resolution

Conflict detection and resolution rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Names and Labels

Selection and placement rules are being developed. Additions and modifications to the rule set will continue until all features are completed.

Selection

TBD

Placement

TBD

EXAMPLES

Anchorage (B-8) SE & SW, AK (Named unsymbolized MORaine)
Logan Pass, MY (Symbolized MORAINES)
Longs Peak, CO (Named unsymbolized MORAINES)
Mt. Ranier East, WA (Symbolized MORAINES)