USDA Natural Resources
Conservation Service

Ecological site R023XY666OR
STIPA FESCUE PLAINS 8-10 PZ

Last updated: 4/10/2025
Accessed: 05/21/2025

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Ecological site concept

Currently there is only a draft of the initial concept for this ecological site. The initial concept for this site places it within the Ashy or Loamy Skeletal Mod Deep 10-20 PZ High-Resilience Mountain Big Sagebrush and Idaho Fescue Ecological Site Group. To view the General STM and other information available for this ESG please go to https://edit.jornada.nmsu.edu/catalogs/esg/023X/R023XY906NV

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on Hills and Tablelands at elevations from 4300 to 4800 feet with slopes from 0-5%.

Table 2. Representative physiographic features

Landforms	(1) Tableland > Lava plain (2) Hills > Lava plain
Elevation	1,311–1,463 m
Slope	0–5%

Climatic features

This site is characterized by hot dry summers and cold wet (rain or snow) winters. This site receives between 8-10 inches of precipitation annually, averaging 9. 7 inches.

Table 3. Representative climatic features

Frost-free period (characteristic range)	5 days
Freeze-free period (characteristic range)	34 days
Precipitation total (characteristic range)	229 mm
Frost-free period (actual range)	5 days
Freeze-free period (actual range)	34 days
Precipitation total (actual range)	229 mm
Frost-free period (average)	5 days
Freeze-free period (average)	34 days
Precipitation total (average)	229 mm

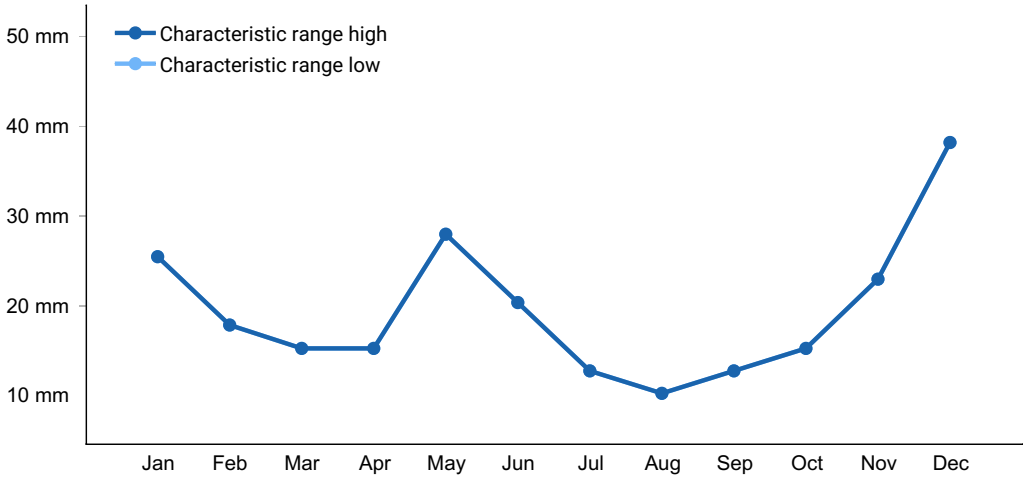


Figure 1. Monthly precipitation range

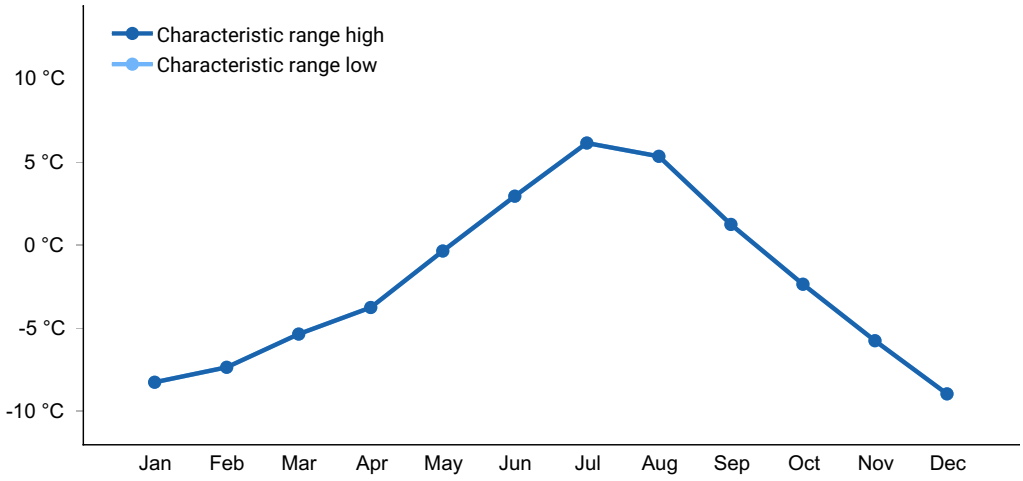


Figure 2. Monthly minimum temperature range

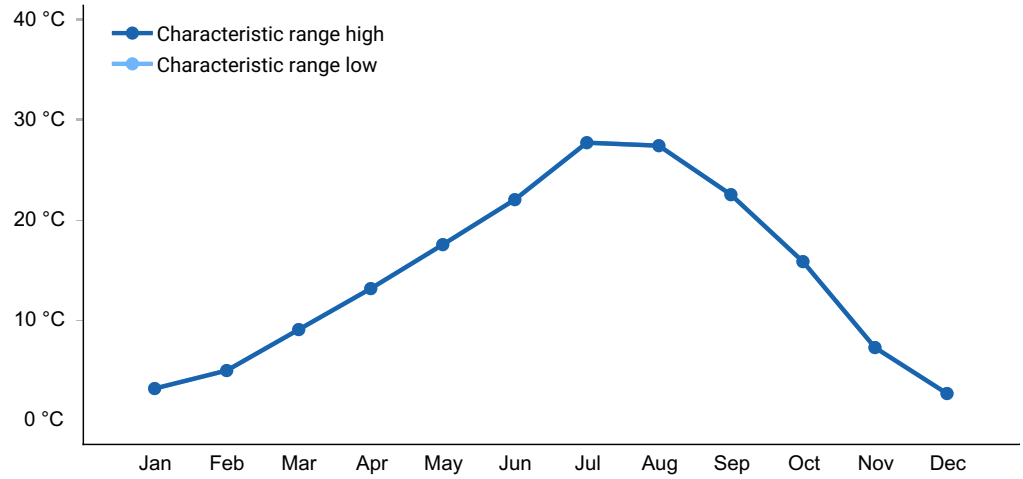


Figure 3. Monthly maximum temperature range

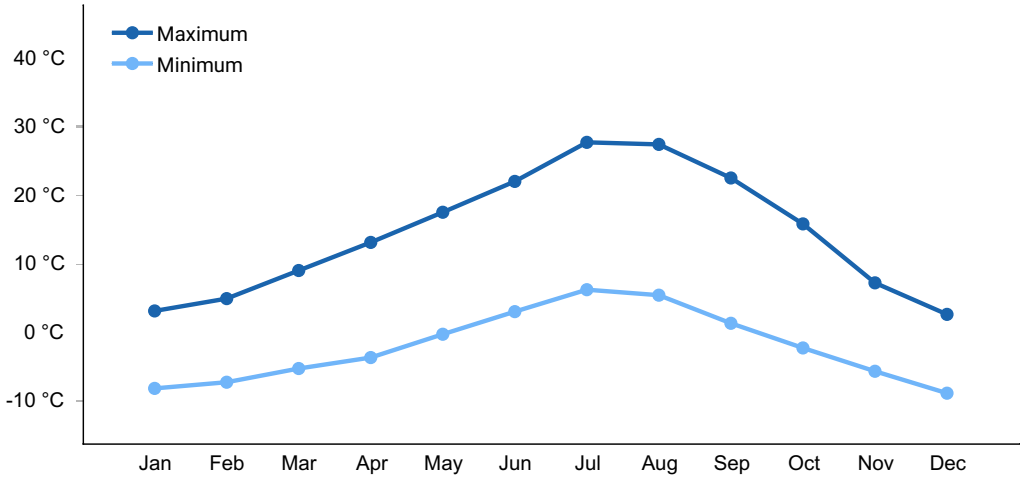


Figure 4. Monthly average minimum and maximum temperature

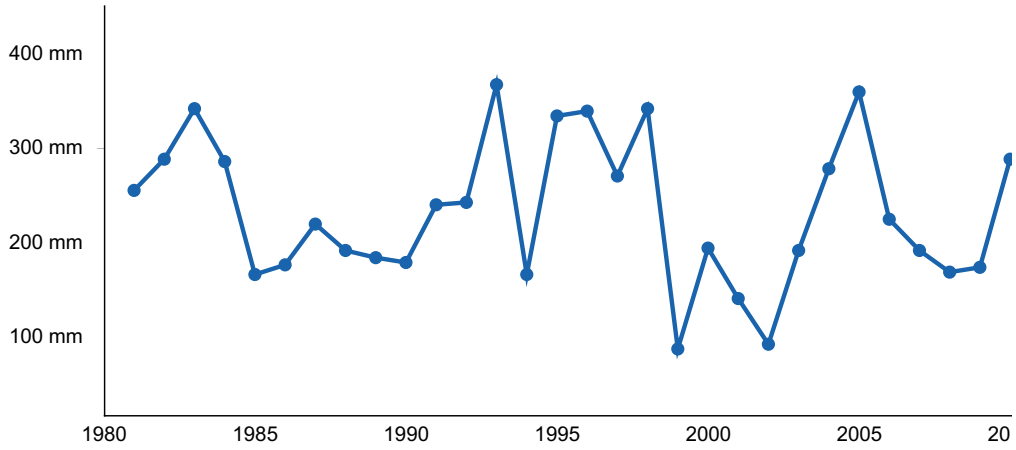


Figure 5. Annual precipitation pattern

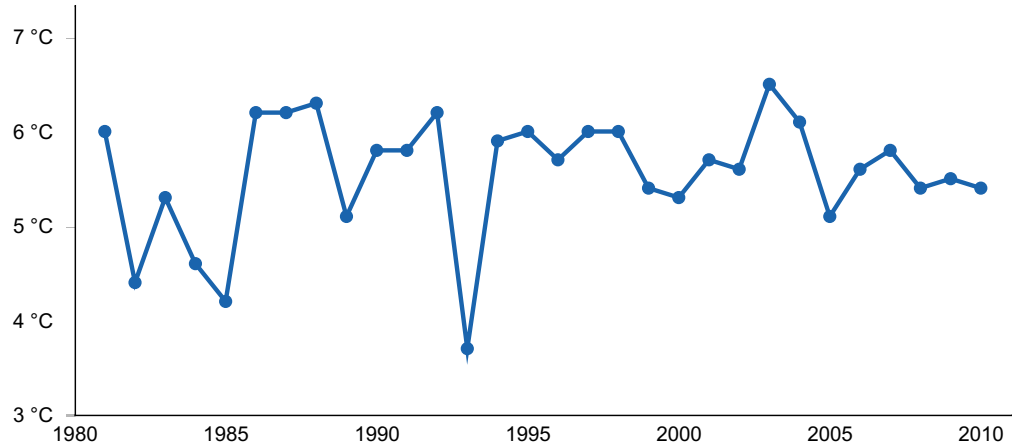


Figure 6. Annual average temperature pattern

Climate stations used

- (1) BROTHERS [USC00351067], Brothers, OR

Influencing water features

No water features are associated with this site.

Soil features

The soils of this site are mod deep, well drained to excessively well drained with a loamy fine sand texture . They are formed from eolian sand over residuum. Permeability is moderately rapid.

Soils correlated to this site are Wegert.

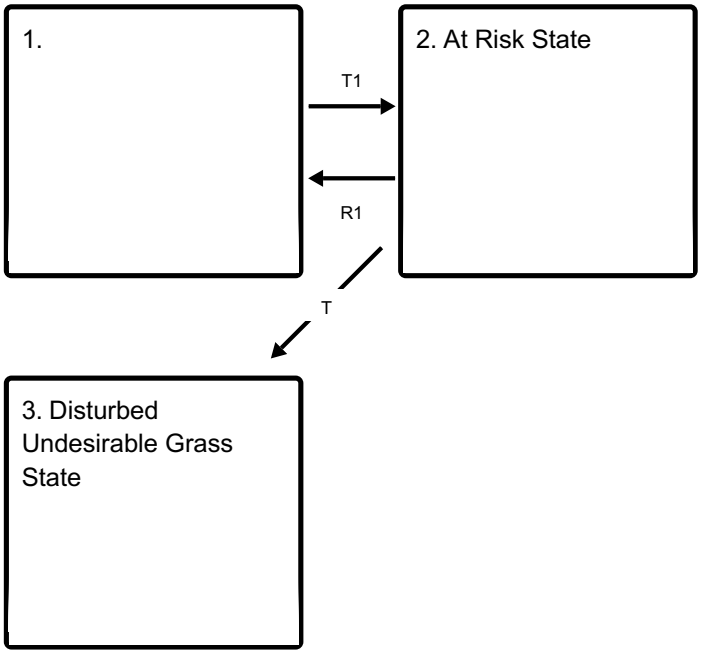
Table 4. Representative soil features

Parent material	(1) Eolian sands (2) Residuum–basalt
Surface texture	(1) Loamy fine sand
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderately rapid
Depth to restrictive layer	56–71 cm

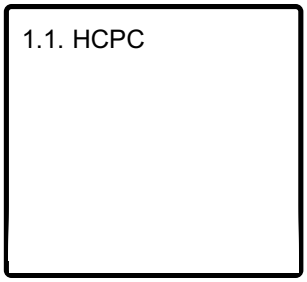
Ecological dynamics

State and transition model

Ecosystem states



State 1 submodel, plant communities



State 1

Community 1.1
HCPC

This site is dominated by Mountain big sagebrush with 10% cover and an understory of perennial grasses with 40% needle-and-thread and 15% Idaho fescue.

State 2
At Risk State

Mountain big sagebrush dominates site with 10% cover. Squirreltail becomes dominant and displaces Idaho fescue. Needle-and-thread remains but has dropped to <10% cover.

Characteristics and indicators. FEID has decreased and been replaced by ELEL4

State 3
Disturbed Undesirable Grass State

This site has mountain big sagebrush with 10% cover. Desirable perennial grasses have been replaced by bottlebrush squirreltail

Transition T1
State 1 to 2

Improper levels of grazing cause a decrease in desired perennial grasses.

Restoration pathway R1
State 2 to 1

Transition T
State 2 to 3

Additional community tables

Contributors

Kyle Hansen

Approval

Kendra Moseley, 4/10/2025

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	05/21/2025
Approved by	Kendra Moseley
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

   _____

7. **Amount of litter movement (describe size and distance expected to travel):**

   _____

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

   _____

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

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10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment**

and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:

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17. **Perennial plant reproductive capability:**
