Title: 004 Understand soil variability within the landscape continuum in your soil survey area.

Type: X Skill □ Knowledge

- **Performance Objective:** Trainee will be able to...Anticipate soil property variability on a landscape for use in mapping soils.
- Explain reasons for soil variability.

**Target Proficiency:**
- □ Awareness □ Understanding X Perform w/ Supervision
- □ Apply Independently □ Proficiency, can teach others

**Trainer Preparation:**
- Select an outdoor location with transitional landscape features for field observation of soil variability.

**Special Requirements:**
Initiate an external learning request with a SF-182 in Aglearn for this activity. Instructions and a template are located on the training webpages for OJT modules.

**Prerequisite Modules:**
- 002 Understand the relationship of the factors of soil formation in your soil survey area.
- 012 How to recognize and distinguish map units.

**Notes:**
None

**Authors:**
Shawn McVey

**Approved by:**
Marc Crouch
The Five-Step OJT Cycle for Procedural Training (Skill)
# OJT Module Lesson

**Title:** 004 Understand soil variability within the landscape continuum in your soil survey area.

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle step 1</td>
<td>Trainer and trainee review objectives of module. Trainee should review the attached <em>Understanding Soil Variability.pdf</em>. Trainer discusses with trainee some of the common variable soil properties important to mapping soils in the survey area.</td>
</tr>
<tr>
<td>Cycle step 2</td>
<td>Trainer uses selected outdoor location to demonstrate measurement and comparison of one or more selected soil properties, such as depth to bedrock, depth to a water table, and thickness of a common horizon. Use multiple observations on the landscape as needed.</td>
</tr>
<tr>
<td>Cycle step 3</td>
<td>Trainer coaches trainee as trainee performs Step 2 above on a different soil property. Ask the trainee to explain the observed soil variability in terms of hillslope position and water transport as applicable.</td>
</tr>
<tr>
<td>Cycle step 4</td>
<td>Trainer observes trainee independently compare soil variability for four or five different soil properties. Include different land use and management sites if needed. Ask the trainee to differentiate the soil variability on the landscape. Ask the trainee to explain the observed soil variability in terms of hillslope position and water transport as applicable. The trainee should be able to break down the landscape in his or her explanation of soil variability. If not, have the trainee compare additional soil properties that are based on clear landscape and/or management differences until the trainee is able to anticipate and explain the variability.</td>
</tr>
<tr>
<td>Cycle step 5</td>
<td>Trainer can debrief trainee and address any concerns. Trainer should be clear about which soil properties are important to mapping soils in the survey area.</td>
</tr>
</tbody>
</table>
Title: 004 Understand soil variability within the landscape continuum in your soil survey area.

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainee's learning is measured.</td>
<td>Have the trainee complete the attached quiz below to reinforce the concepts in this module.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply knowledge gained to field work.</td>
<td>The trainee successfully anticipates and explains soil variability common to his or her work area.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SF-182**

Trainee and/or supervisor access Aglearn to verify completion of the module via its SF-182.
1. Regarding similar and dissimilar soils in a map unit:
   A) Dissimilar soils are distinctly different for use and management.
   B) Similar soils are lumped with the named components of a map unit.
   C) Dissimilar soils are identified in soil survey map units.
   D) All of the above.

2. Soil variability is found in which type of soil map unit?
   A) Consociation.
   B) Complex.
   C) Undifferentiated group.
   D) All of the above.

3. Hillslope landscape positions include which of the following?
   A) Summit, noseslope, shoulder, backslope, and thigh slope.
   B) Shoulder, ribslope, backslope, kneeslope, and toeslope.
   C) Summit, shoulder, backslope, footslope, and toeslope.
   D) Shoulder, noseslope, backslope, kneeslope, and toeslope.

4. True or False? Catenas are associations of soils that are linked positionally by hillslope.

5. True or False? Soil property variability is linked to topography and the transport and storage of water across and within the soil profile.