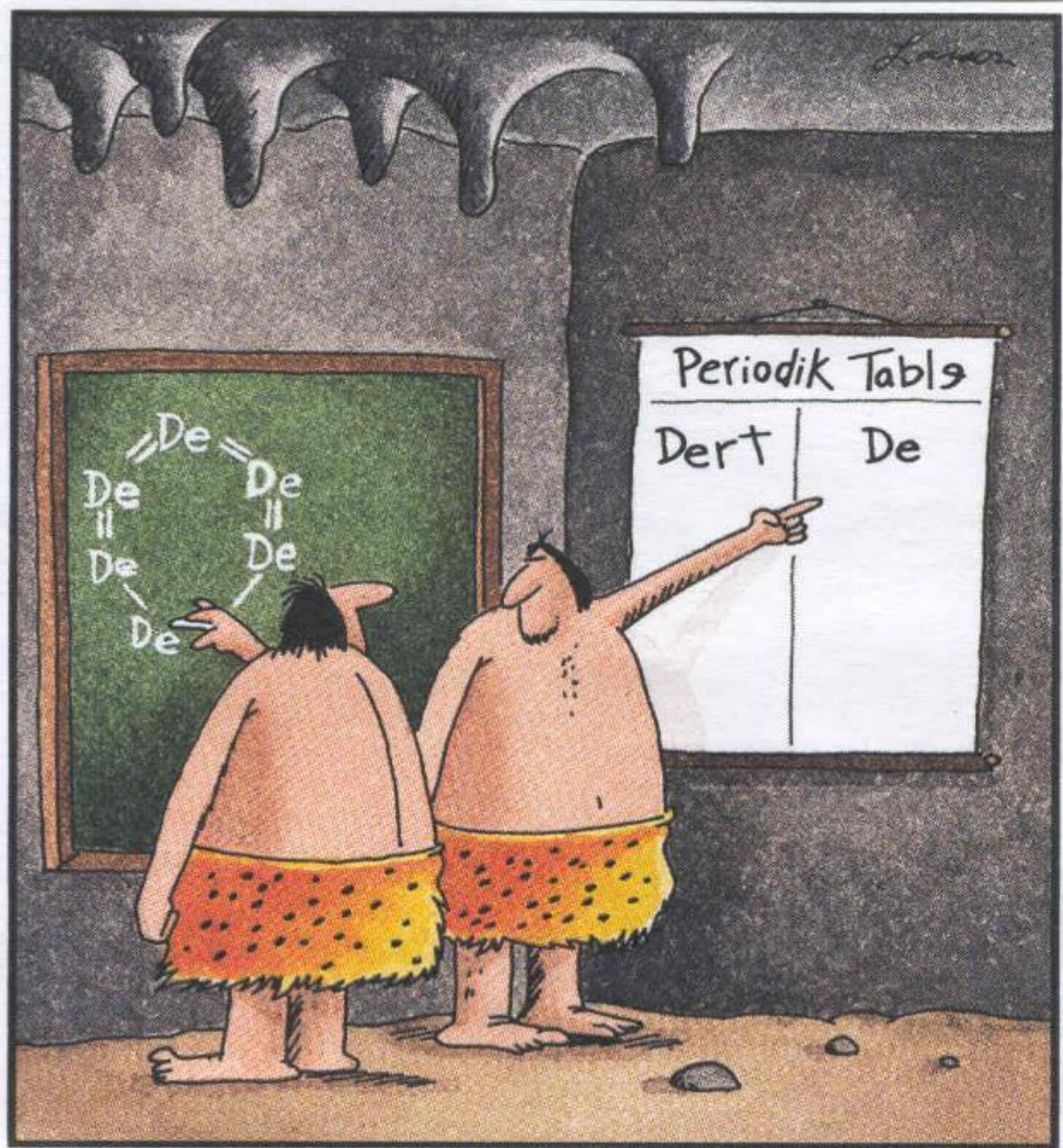


Soils Apps etc. For Forest Management



**Tony Jenkins, USDA-NRCS, Bangor, ME USDA-
Natural Resources Conservation Service**

SOIL INFORMATION



Early chemists describe the first dirt molecule.

Relationship of properties to formation factors.

- Soil forming factors
 - climate
 - parent material
 - topography (relief)
 - biologic (vegetation)
 - time
 - Soil properties
 - texture
 - drainage
 - fertility
 - depth (to rock)
 - *water holding capacity
 - *strength
-
- ```
graph LR; A[parent material] --> B[texture]; C[topography (relief)] --> D[drainage]; E[biologic (vegetation)] --> F[depth (to rock)];
```





## Topics:

1. Mobile soil survey info
2. Discussion of LiDAR products
3. Other NRCS items of interest to forestry

## Soil map options

- Web Soil Survey
  - Best source if available
- SoilWeb App
  - Handy with phone
  - Limited interpretive data
  - Not supported on Apple IOS 11+
- Google Earth
  - With KML/Z file downloads for soil survey



# Web Soil Survey

USDA United States Department of Agriculture  
Natural Resources Conservation Service

## Web Soil Survey

Home About Soils Help Contact Us

You are here: Web Soil Survey Home

Search  
Enter Keyword   
All NRCS Sites


Browse by Subject

- Soils Home
- National Cooperative Soil Survey (NCSS)
- Archived Soil Surveys
- Status Maps
- Official Soil Series Descriptions (OSD)
- Soil Series

The simple yet powerful way to access and use soil data.

**START WSS**

**Welcome to Web Soil Survey (WSS)**



Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has

I Want To...


- **Start Web Soil Survey (WSS)**
- **Know Web Soil Survey Requirements**
- **Know Web Soil Survey operation hours**
- **Find what areas of the U.S. have soil data**
- **Find information by topic**
- **Know how to hyperlink from**

# Soil Survey Information Resources for Maine

- [Web Soil Survey](#)
- [Soil Web App](#)
- [Streaming Soil Info Google Earth App](#)
- [National Soil Survey Laboratory data](#)

\*\*\*Phone demo\*\*\*





LiDAR data and  
imagery options:  
Scale and  
resolution in all  
3 dimensions.





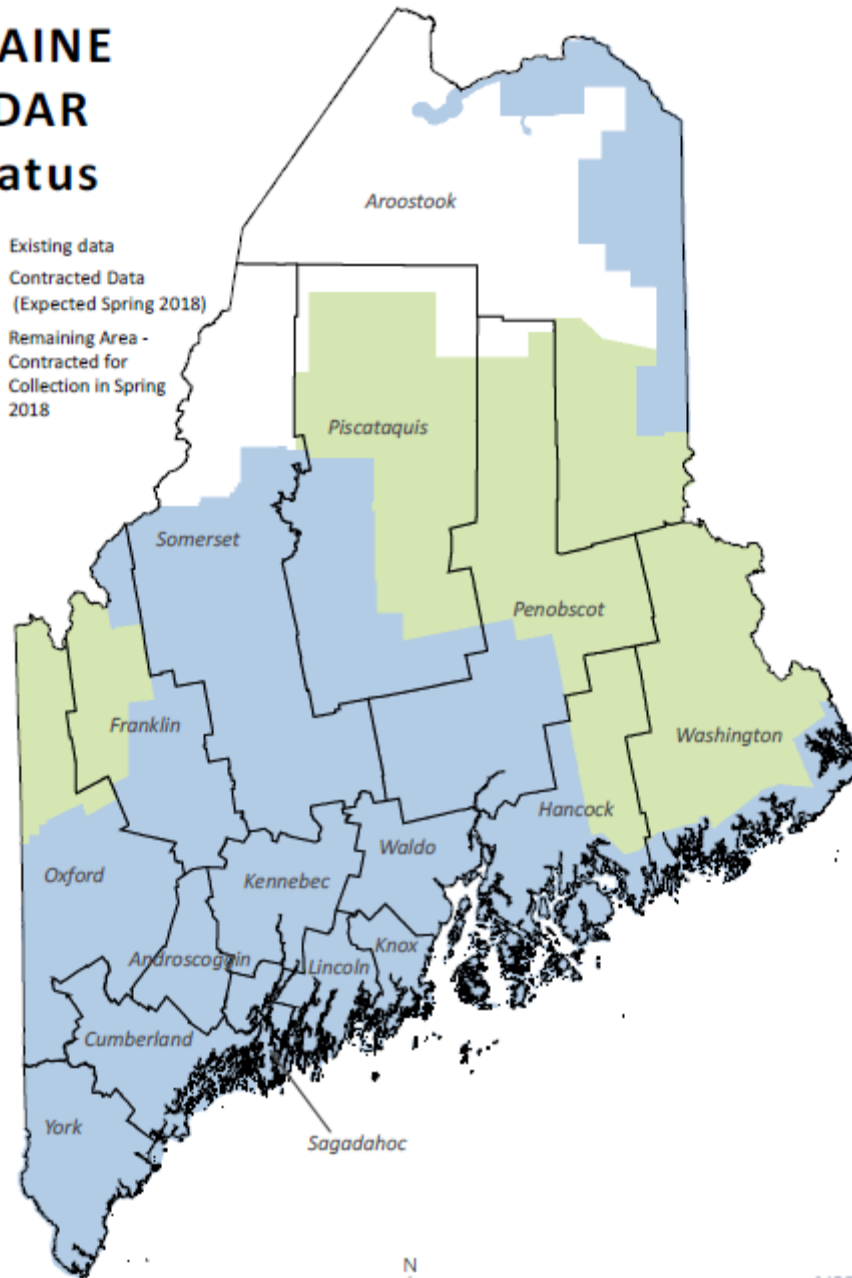






# MAINE LiDAR Status

- Existing data
- Contracted Data  
(Expected Spring 2018)
- Remaining Area -  
Contracted for  
Collection in Spring  
2018



0 17.5 35 70 Miles





## LiDAR Links for Maine:

### Elevation Discovery

App: <http://www.maine.gov/geolib/ediscovery/site/index.html> - allows user to download dem grid files

### Imagery Discovery

App: <https://www1.maine.gov/geolib/imgdiscovery/site/index.html> - allows user to download tiles of High Resolution Leaf Off Imagery 2012-2016 (not full state)

Other Maine Data: <https://geolibrary-maine.opendata.arcgis.com/#> - new service, still in the process of moving data.

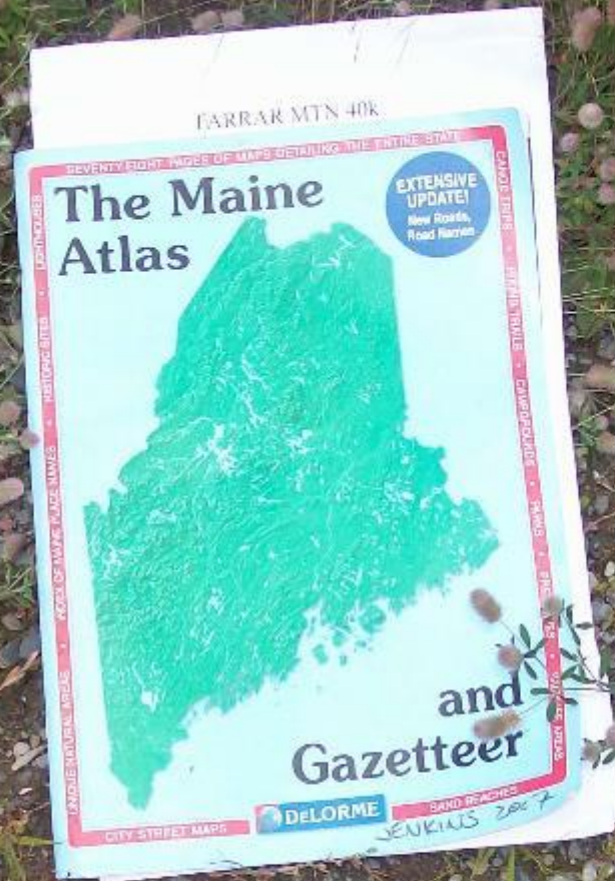
MEGIS Data Catalog: <http://www.maine.gov/megis/catalog/> - older service, has some 2ft contours, but hasn't been updated for awhile.

Also:

<https://viewer.nationalmap.gov/basic/>

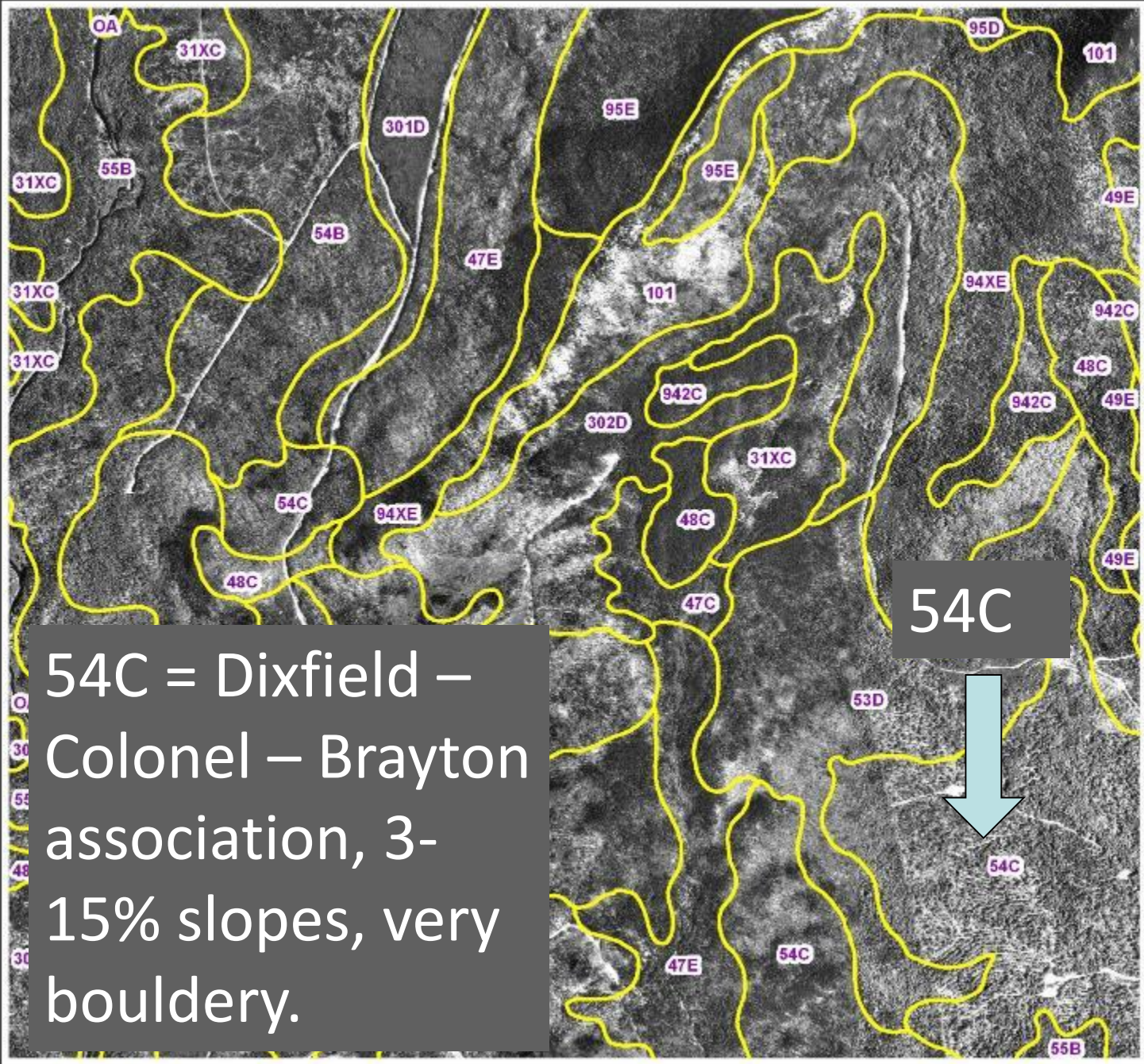
This site allows point cloud downloads (rather than bare-earth dems). Why? Can create derivatives for canopy height.





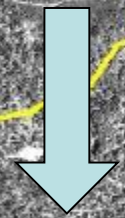
Soil Surveys:  
How to deal  
with multi-  
component soil  
map units.





54C = Dixfield – Colonel – Brayton association, 3-15% slopes, very bouldery.

54C

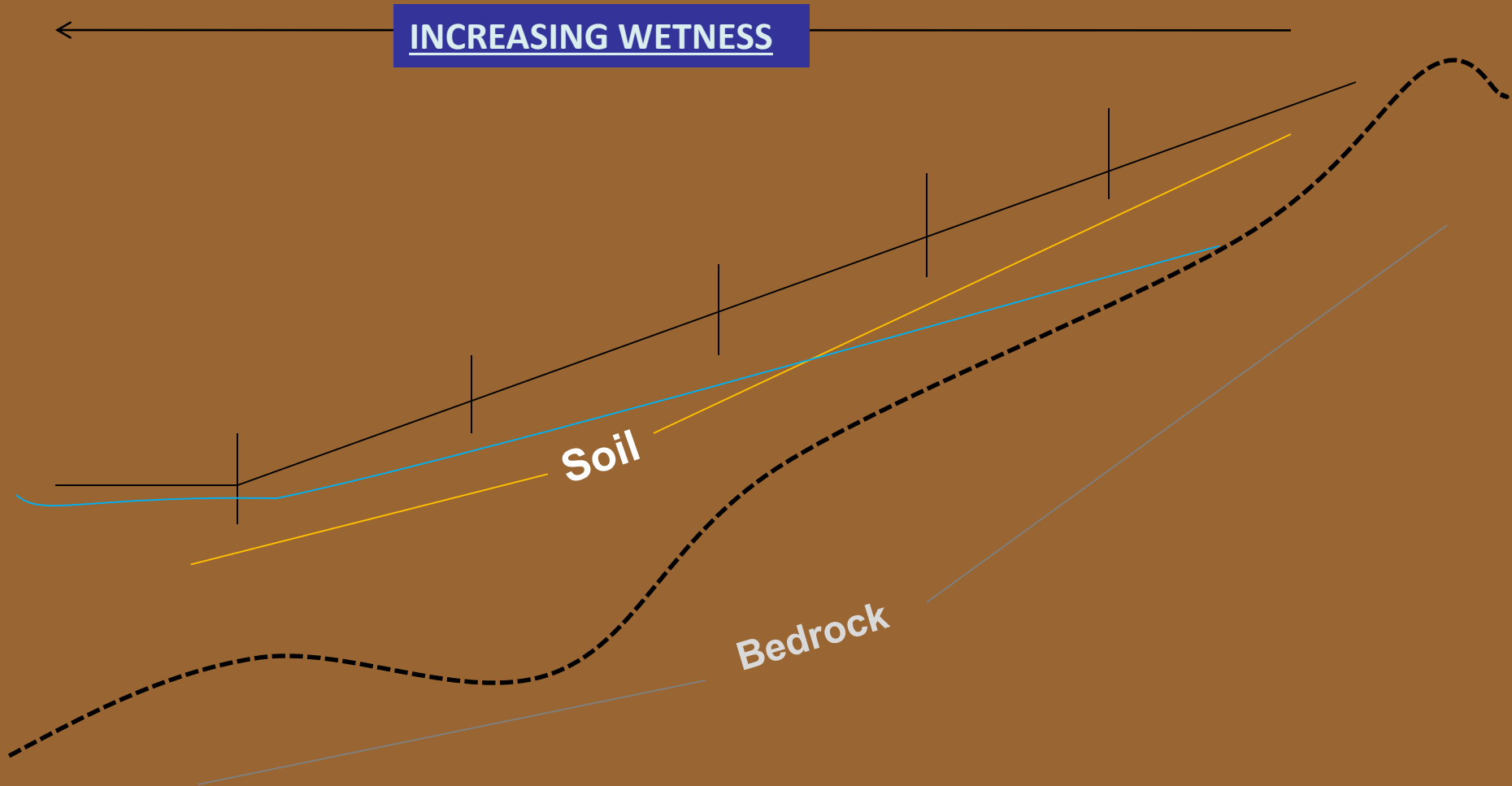


54C



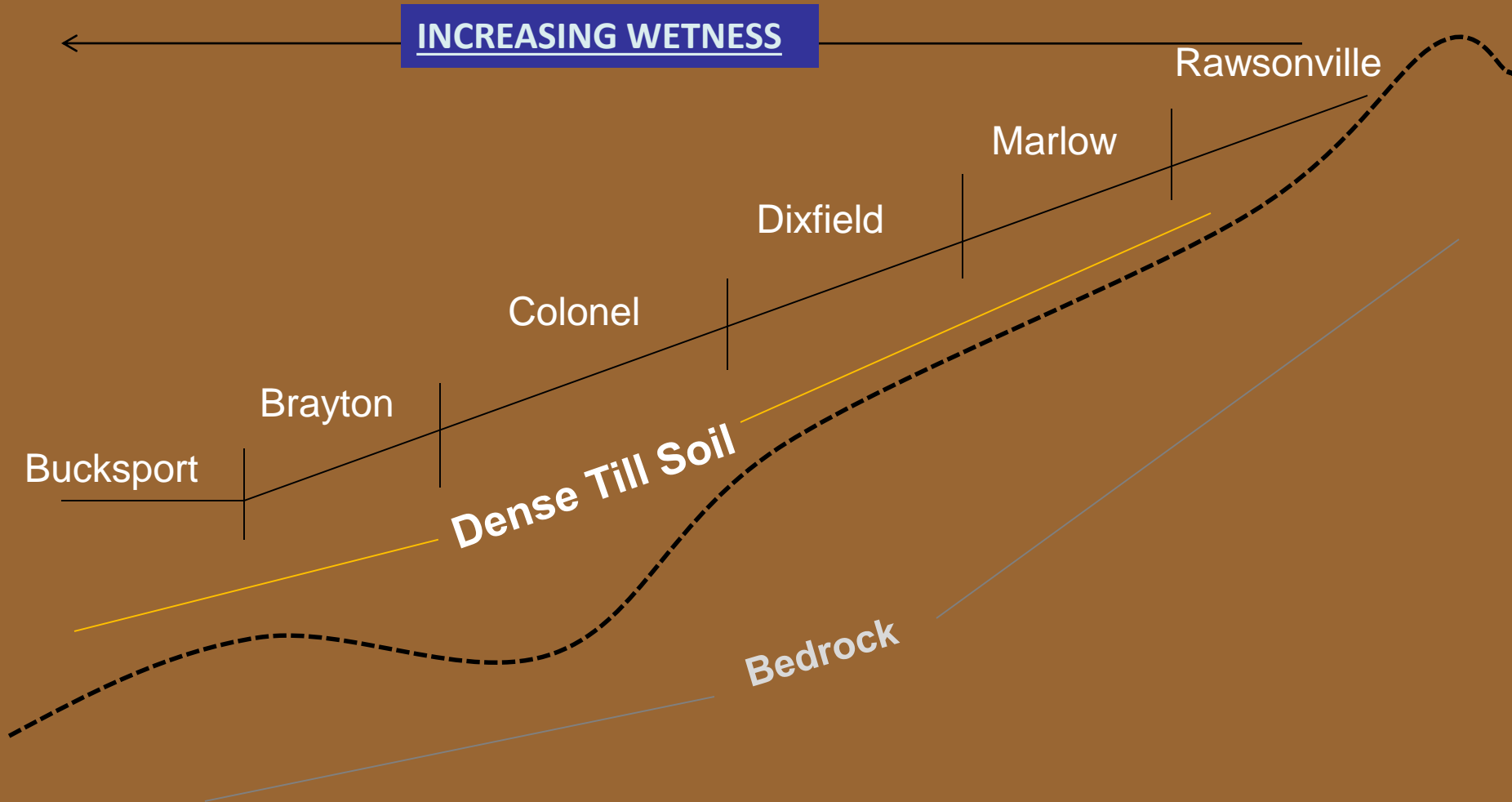
# Catena Concept for Soils

-within a parent material: sequence of soils by landform (along a slope)-



# Catena Concept for Soils

-sequence of soils along a slope-





Rawsonville





# Marlow





Dixfield





Colonel







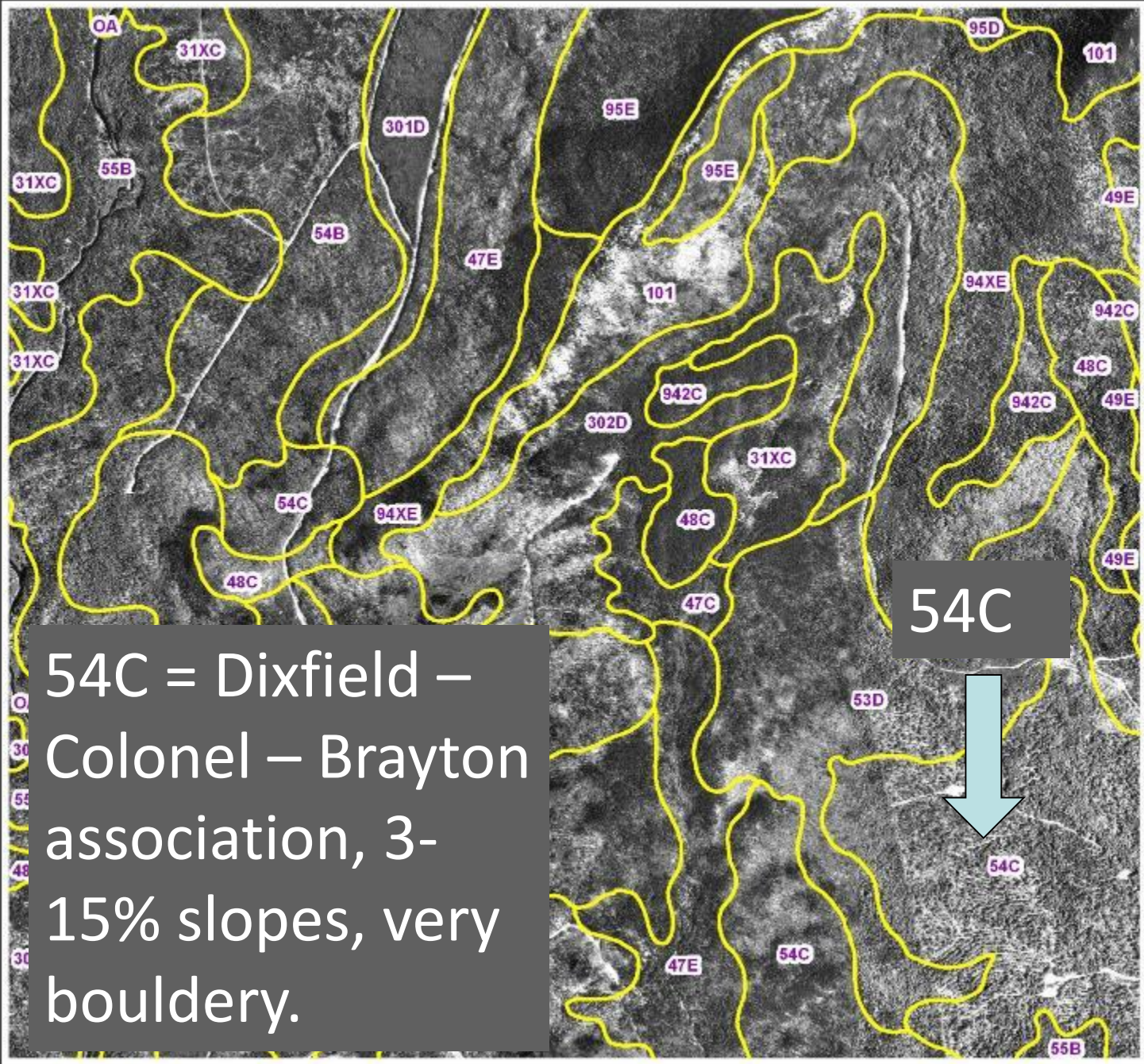
Hydric Soils:  
Brayton Series



A dense forest scene with numerous thin, vertical tree trunks. The ground is covered in a thick layer of ferns, some green and some yellowed, along with fallen branches and leaves. Sunlight filters through the canopy, creating dappled light on the forest floor. A dark grey rectangular box is overlaid on the bottom left corner of the image.

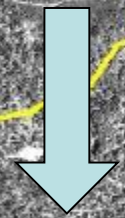
Bucksport





54C = Dixfield – Colonel – Brayton association, 3-15% slopes, very bouldery.

54C



54C

80

100



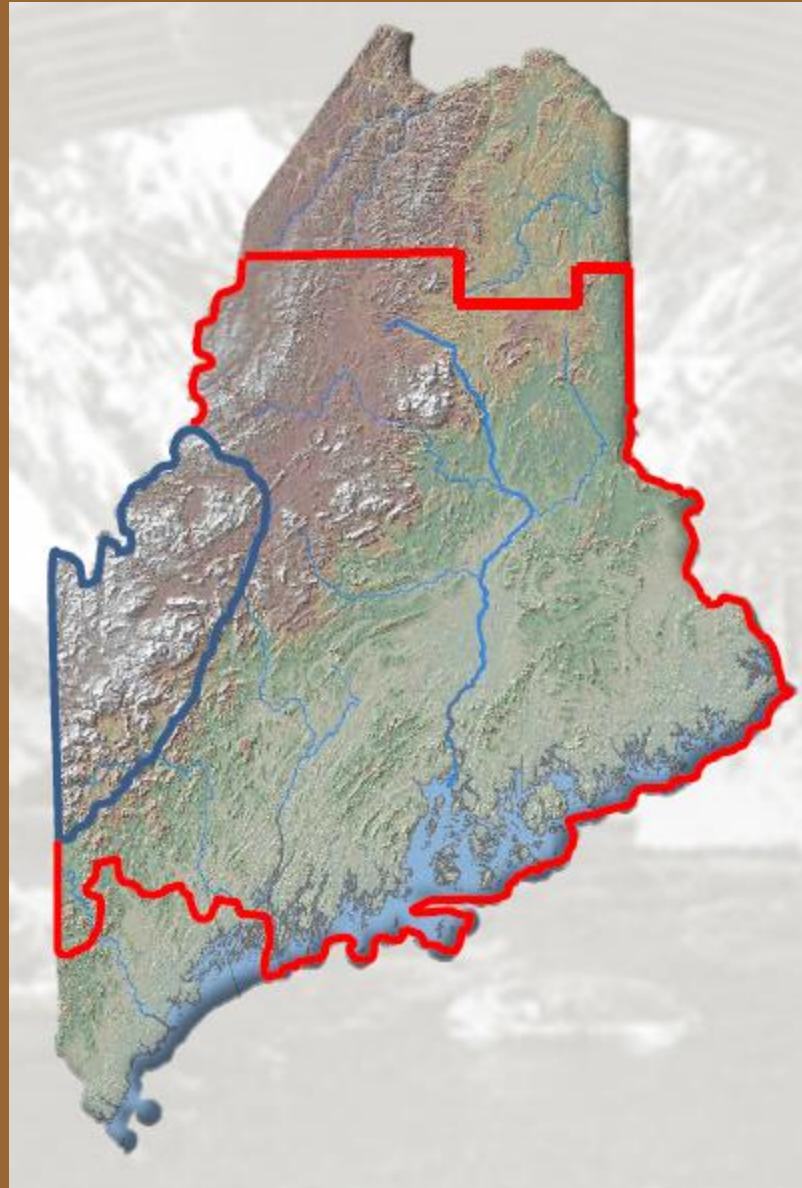
Deconstructing  
Dixfield – Colonel  
– Brayton  
association, 3-  
15% slopes, very  
bouldery.



NRCS-TNC  
Aquatic  
Connectivity  
Project

Replacing  
culverts that  
are AOP  
barriers

Focus on  
forestlands.



Questions?