SOIL

SOIL BRAINPOP

WEATHERING BRAINPOP

- Regolith: layer of weathered rock fragments that covers most of the earth's surface

- Bedrock: solid, unweathered rock that lies beneath the regolith
    - 2 types of bedrock: solid and broken

SOIL

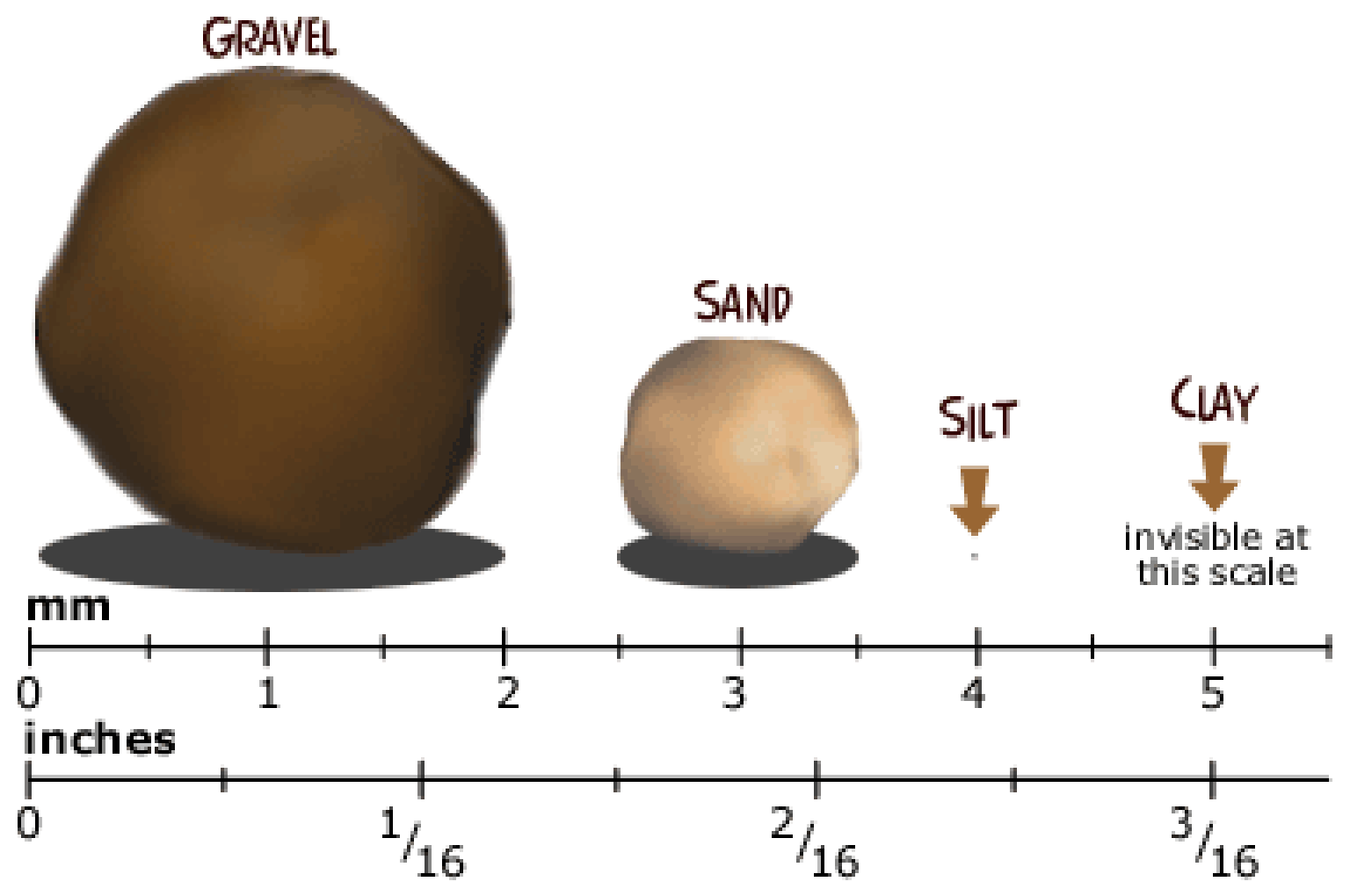
- Made of a mixture of weathered rock particles and organic material (humus).
  - Humus: plant or animal material; dark colored.
  - **Most organic matter in soil comes from plants!**

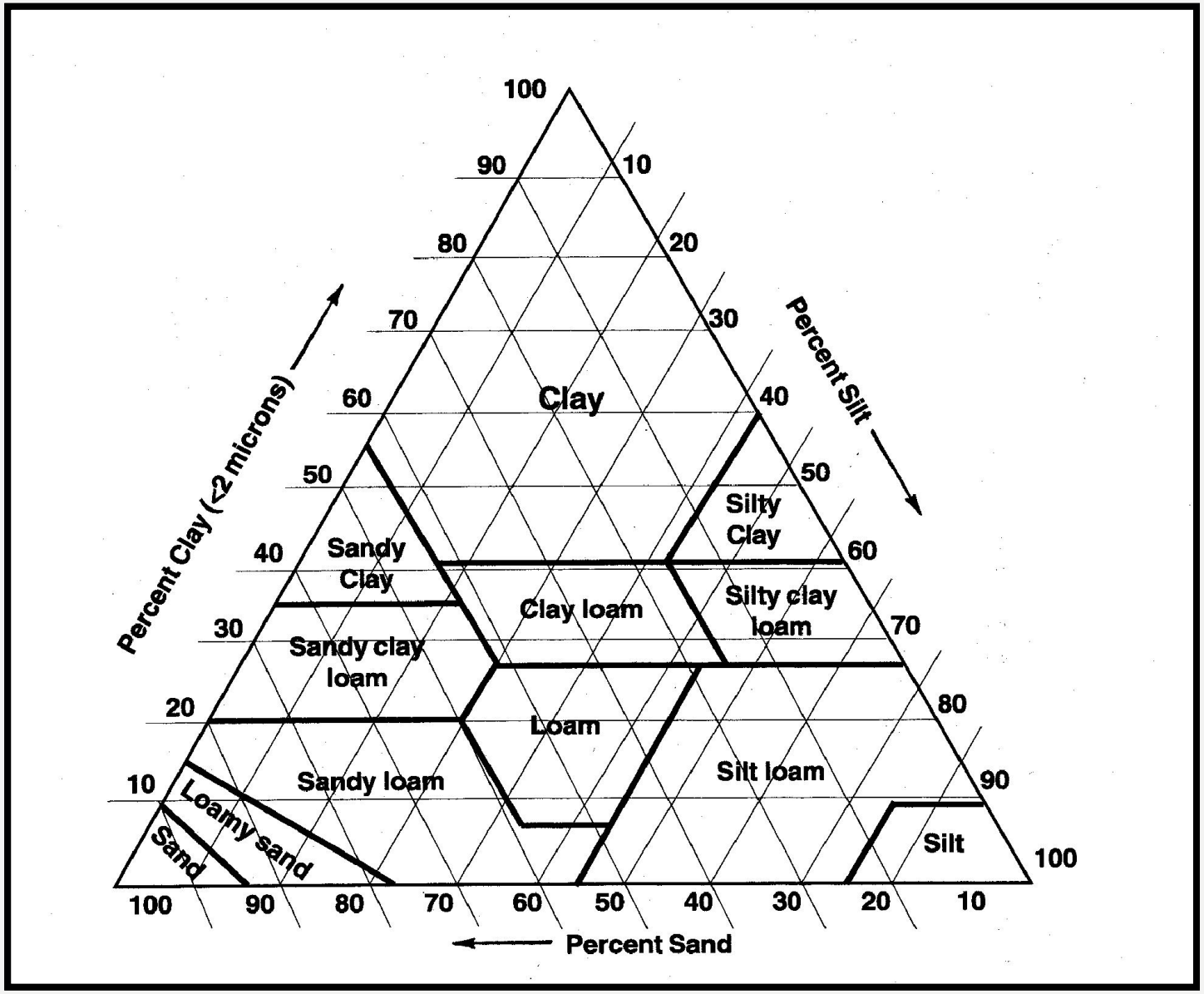
SOIL - MOSTLY SAND, CLAY OR SILT PARTICLES
SOIL TEXTURE IS DETERMINED BY PARTICLE SIZE

- Clay: smallest particle size (less than .002 mm); weathered from rocks containing feldspar or aluminum.

- Silt: Medium particle size (.002 mm - .06 mm); often found around river banks, river beds or lake beds.

- Sand: largest particle size (.06 mm – 2 mm); weathered from rocks containing quartz.


GRAVEL
SAND
SILT
CLAY
invisible at this scale
mm
0
1
2
3
4
5
inches
0
1/16
2/16
3/16


100
90
80
70
60
50
40
30
20
10
Percent Clay (<2 microns)
Percent Silt
Percent Sand
Clay
Silty Clay
Sandy Clay
Clay loam
Silty clay loam
Sandy clay loam
Loam
Silt loam
Sandy loam
Loamy sand
Sand
Silt

READING A SOIL PYRAMID

- What is the name of soil that is
- 30 % Clay
- 50 % Silt
- 20% Sand

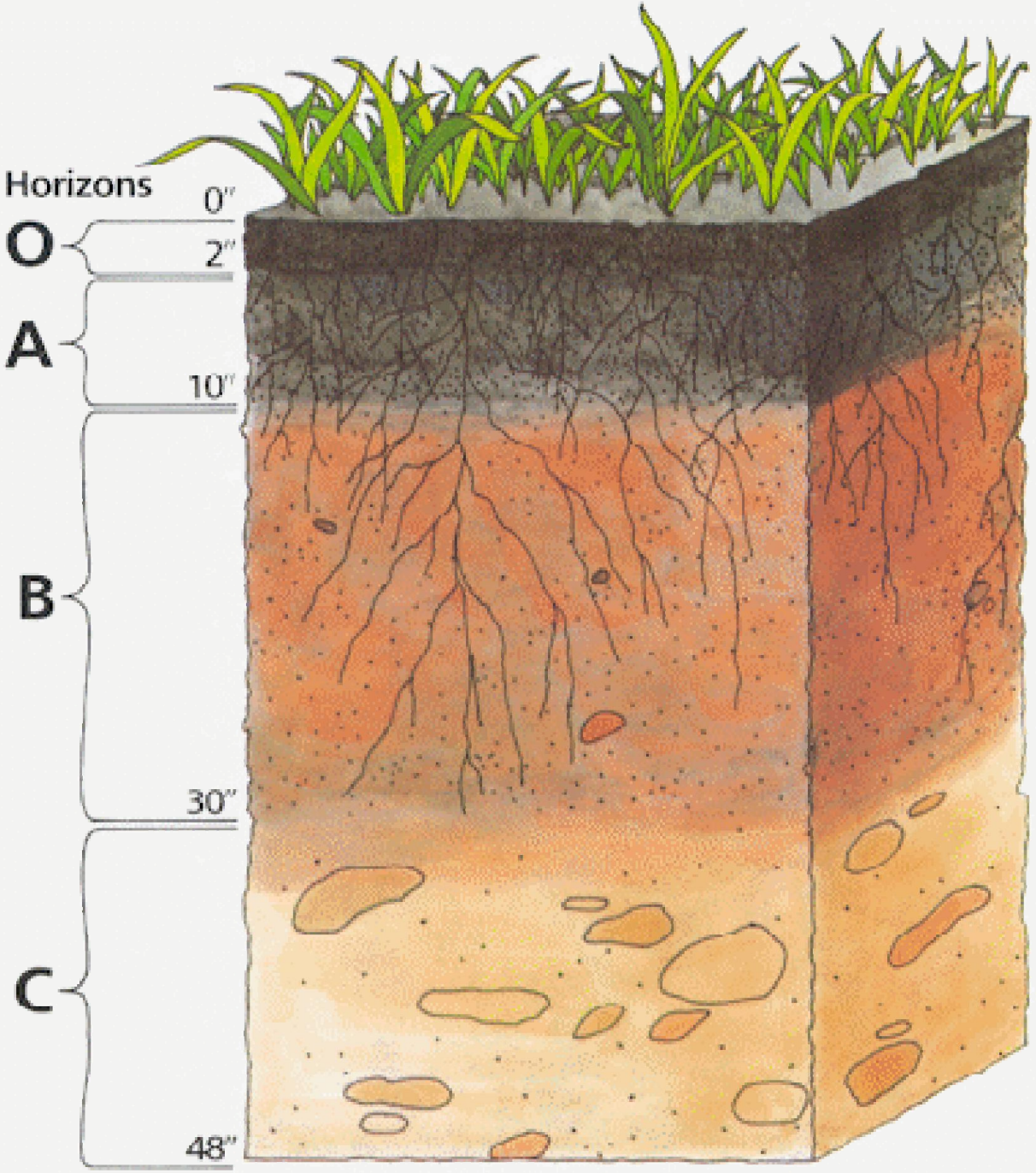
- What is the name of soil that is
- 20 % Clay
- 40 % Silt
- 40% Sand

SOIL PROFILE

- Cross section in which layers (a.k.a. horizons) of soil and bedrock can be seen

THREE HORIZONS

- A horizon: consists of topsoil (mostly sand and some clay) rich in humus (O horizon) and leached soil deficient in humus and minerals.
- B horizon: subsoil reddish brown in color; made mostly of clay; rich in minerals and nutrients
- C horizon: deepest layer; consists of broken and solid, unweathered bedrock.


Horizons
0″
O
2″
A
10″
B
30″
C
48″

CLIMATE DETERMINES THE TYPE OF SOIL FOUND IN AN AREA.

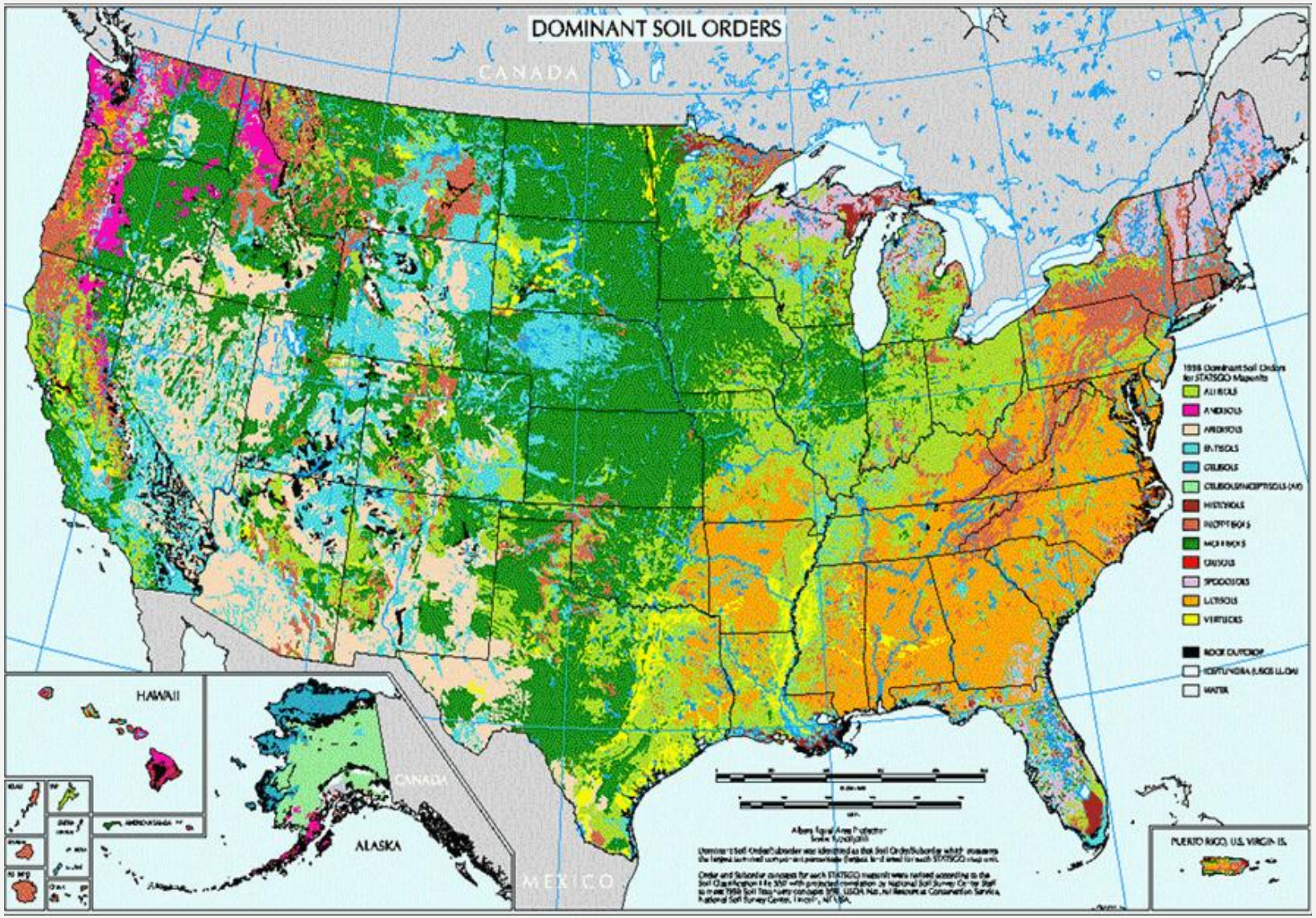
- Humid, tropical climates: Thick O horizon→**laterite** (acidic soil).

- Desert climates: thin soil consisting mostly of regolith

TEMPERATE CLIMATES:

Pedalfur: found in areas E. of Mississippi River that receive more than 65 cm of rain a year; mostly clay, quartz and iron; acidic

Pedocal: found in areas W. of Mississippi River in areas receiving less than 65 cm of rain a year; contains Ca, less acidic, very fertile


DOMINANT SOIL ORDERS
CANADA
HAWAII
ALASKA
CANADA
MEXICO
PUERTO RICO, U.S. VIRGIN IS.
WATER

- Soil on a mountain or hill is usually thin and of poor quality. This is because rainwater runs down and washes it away.

Mountain Soil

NC SOIL

- North Carolina's main soil type is Cecil
- Cecil is found above granitic rock
- Has a thick red subsoil