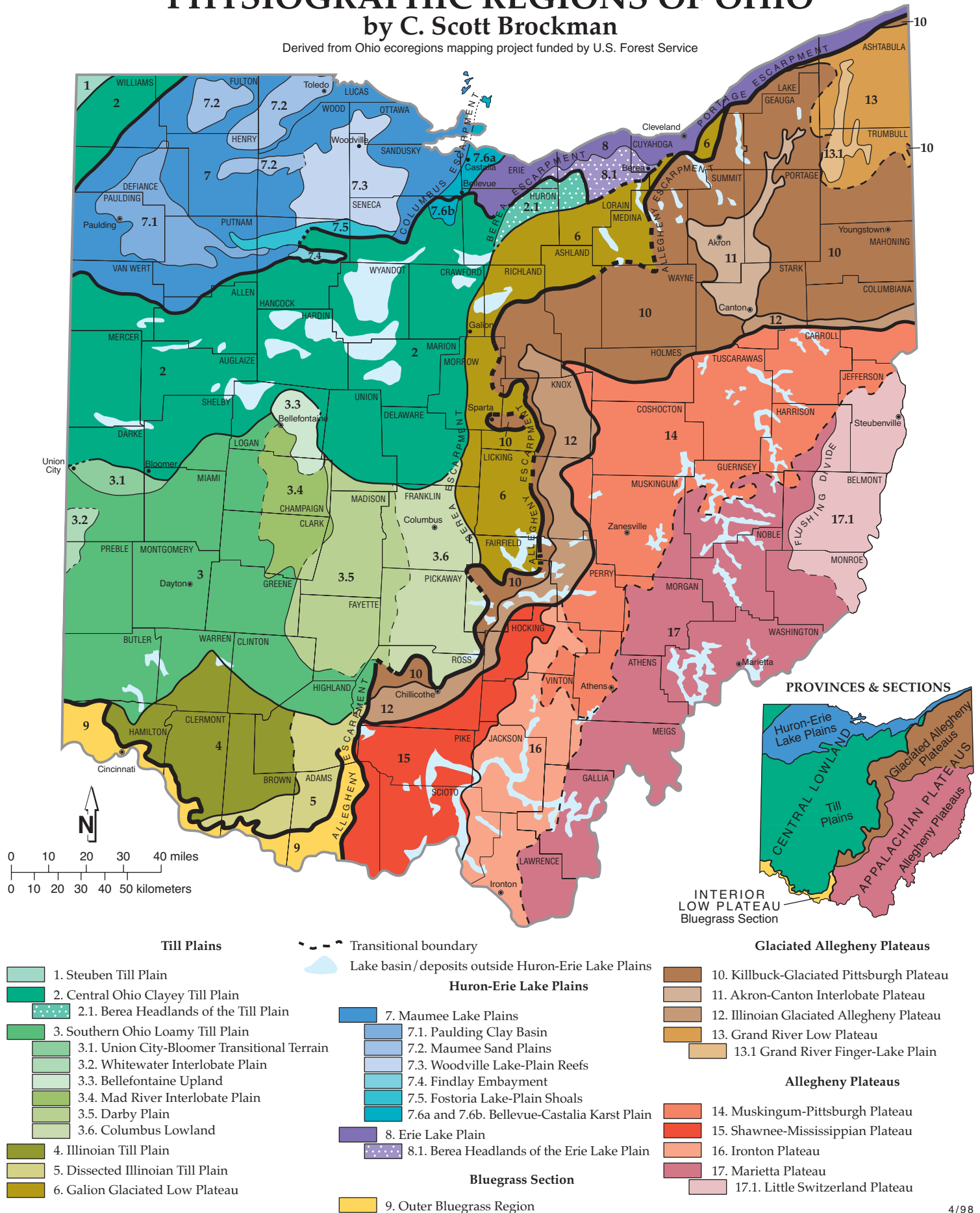


# PHYSIOGRAPHIC REGIONS OF OHIO

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Derived from Ohio ecoregions mapping project funded by U.S. Forest Service



# PHYSIOGRAPHIC REGIONS OF OHIO

| Major Divisions                                  | Provinces | Sections * | DISTINGUISHING CHARACTERISTICS OF REGIONS & DISTRICTS                                                                                                                                                                                                                                                                                                                                                             |  |  | GEOLOGY                                                                                                                                                                                     |  | BOUNDARIES                                                                                                                 |  |
|--------------------------------------------------|-----------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------|--|
|                                                  |           |            | 1. <b>Steuben Till Plain.</b> Hummocky terrain with rolling hills, interspersed flats and closed depressions; wetlands, few streams, deranged drainage; only a small part of the region is in Ohio; elevation 950'-1100', moderately low relief (60')                                                                                                                                                             |  |  | Wisconsinan-age (latest Ice-Age) loamy till from a northern source (Saginaw glacial lobe) over Mississippian-age Coldwater Shale                                                            |  | Southeast: edge of Wabash Moraine                                                                                          |  |
|                                                  |           |            | 2.1. <b>Berea Headlands of the Till Plain.</b> Gently rolling to flat terrain of thin drift descending to Lake Erie; punctuated by more than 20 streamlined "whalebacks" of Berea Sandstone, 0.5 to 2.5 miles long, 30'-60' high; somewhat poorly drained; elevation 800'-1000', low relief (20')                                                                                                                 |  |  | Thin, clayey, medium-lime Wisconsinan-age till over resistant Mississippian-age Berea Sandstone                                                                                             |  | South: limit of Berea Sandstone; elsewhere: Berea Escarpment and/or margin of highest Pleistocene lake                     |  |
|                                                  |           |            | 3. <b>Southern Ohio Loamy Till Plain.</b> Surface of loamy till; end and recessional moraines, commonly associated with boulder belts, between relatively flat-lying ground moraine, cut by steep-valleyed large streams; stream valleys filled with outwash and alternate between broad floodplains and narrows; buried valleys common; elevation 530'-1150', moderate relief (200')                             |  |  | Loamy, high-lime Wisconsinan-age till, outwash, and loess over Lower Paleozoic-age carbonate rocks and, in the east, shales                                                                 |  | East: Berea and Allegheny Escarpments; north: Powell and Union City/Bloomer Moraines; south: limit of Wisconsinan-age till |  |
| Till Plains                                      |           |            | 3.1. <b>Union City-Bloomer Transitional Terrain.</b> Well-defined moraines with low-relief, hummocky ground moraine like the Central Ohio Clayey Till Plain to the north; loamy till with loess cap like Southern Ohio Loamy Till Plain to the south; elevation 920'-1075', moderately low relief (30')                                                                                                           |  |  | North: Bloomer Moraine and limit of loamy till; south: Union City Moraine                                                                                                                   |  |                                                                                                                            |  |
| Huron-Erie Lake Plains                           |           |            | 3.2. <b>Whitewater Interlobate Plain.</b> An upland between two converging glacial lobes with hummocky moraines, moraine complexes, kames, boulder belts, and broad outwash trains/plains; contains highest elevations in Indiana (1257') and in adjacent Ohio counties (1240'); elevation in Ohio 980'-1240', moderate relief (150')                                                                             |  |  | North: limit of Knightstown/Farmersville Moraines and kame fields; east: high, dissected hills draining to Whitewater River                                                                 |  |                                                                                                                            |  |
| Bluegrass Section                                |           |            | 3.3. <b>Bellefontaine Upland.</b> Moderately high relief (250') dissected topography with moraine complexes, boulder belts, high-gradient major streams, caves and sinkholes; few glacial depressions/kettles compared to surrounding areas; elevation 1100'-1549', includes highest elevation in Ohio (Campbell Hill, 1549')                                                                                     |  |  | North: areas with hilltops above 1200'; elsewhere: hilltops above about 1300'                                                                                                               |  |                                                                                                                            |  |
| INT. LOW PLATEAUS                                |           |            | 3.4. <b>Mad River Interlobate Plain.</b> Area between two major converging glacial lobes with extensive outwash, outwash terraces, and bordering moraines; springs and cool, ground-water-fed surface waters; elevation 800'-1350', moderate relief (200')                                                                                                                                                        |  |  | East and north: rear edge of Cable Moraine Complex; south: outwash to Clifton Gorge; west: western edge of Mad River Outwash                                                                |  |                                                                                                                            |  |
| Glaciated Allegheny (Southern New York) Plateaus |           |            | 3.5. <b>Darby Plain.</b> Moderately low relief (25'), broadly hummocky ground moraine with several broad, indistinct recessional moraines; between hummocks are broad, poorly drained swales which held wet prairies/meadows in pioneer days; few large streams; elevation 750'-1100'                                                                                                                             |  |  | South and west: front of Reesville and rear of Cable Moraines; north: Powell Moraine; east: increasing eastward slope (see 3.6)                                                             |  |                                                                                                                            |  |
| Allegheny (Kanawha) Plateaus                     |           |            | 3.6. <b>Columbus Lowland.</b> Lowland surrounded in all directions by relative uplands, having a broad regional slope toward the Scioto Valley; many larger streams; elevation 600'-850' (950' near Powell Moraine), moderately low relief (25')                                                                                                                                                                  |  |  | North: Powell Moraine; east and south: Berea and/or Allegheny Escarpments; west: flatter and higher Darby Plain                                                                             |  |                                                                                                                            |  |
| APPALACHIAN HIGHLANDS                            |           |            | 4. <b>Illinoian Till Plain.</b> Rolling ground moraine of older till generally lacking ice-constructional features such as moraines, kames, and eskers; many buried valleys; modern valleys alternating between broad floodplains and bedrock gorges; elevation 600'-1100', moderately low relief (50')                                                                                                           |  |  | North: Wisconsinan glacial margin (Cuba and Hartwell Moraines); elsewhere: limit of common till-covered hillslopes                                                                          |  |                                                                                                                            |  |
|                                                  |           |            | 5. <b>Dissected Illinoian Till Plain.</b> Hilly former till plain in which glacial deposits have been eroded from many valley sides; relatively high stream density; elevation 600'-1340', moderate relief (200')                                                                                                                                                                                                 |  |  | East: maximum glacial margin; elsewhere: limit of general absence of till on hillslopes                                                                                                     |  |                                                                                                                            |  |
|                                                  |           |            | 6. <b>Galion Glaciated Low Plateau.</b> Rolling upland transitional between the gently rolling Till Plain and the hilly Glaciated Allegheny Plateau; mantled with thin to thick drift; elevation 800'-1400', moderate relief (100')                                                                                                                                                                               |  |  | North: limit of Berea Sandstone; west: Berea Escarpment; south and east: Allegheny Escarpment                                                                                               |  |                                                                                                                            |  |
|                                                  |           |            | 7. <b>Maumee Lake Plains.</b> Flat-lying Ice-Age lake basin with beach ridges, bars, dunes, deltas, and clay flats; contained the former Black Swamp; slightly dissected by modern streams; elevation 570'-800', very low relief (5')                                                                                                                                                                             |  |  | Northeast: Lake Erie; elsewhere: margin of highest Pleistocene lake                                                                                                                         |  |                                                                                                                            |  |
|                                                  |           |            | 7.1. <b>Paulding Clay Basin.</b> Nearly flat lacustrine plain; most clayey of all Lake Plain subregions; low-gradient, highly meandering streams; easily ponded soils; elevation 700'-725', extremely low relief (less than 5')                                                                                                                                                                                   |  |  | Northeast: subdued ("drowned") remnant of Defiance Moraine; elsewhere: limit of lacustrine clay                                                                                             |  |                                                                                                                            |  |
|                                                  |           |            | 7.2. <b>Maumee Sand Plains.</b> Lacustrine plain mantled by sand; includes low dunes, inter-dunal pans, beach ridges, and sand sheets of glacial lakeshores; well to poorly drained; elevation 600'-800', very low relief (10')                                                                                                                                                                                   |  |  | Limit of sandy deposits and/or low dunes                                                                                                                                                    |  |                                                                                                                            |  |
|                                                  |           |            | 7.3. <b>Woodville Lake-Plain Reefs.</b> Very low relief (10') lacustrine plain with low dunes and lake-margin features, punctuated by more than 75 ancient bedrock reefs rising 10' to 40' above the level of the plain and ranging in area from 0.1 to 3.0 square miles; the oblong reefs are thinly draped with drift; elevation 600'-775'                                                                      |  |  | Limit of thinly mantled Lockport Dolomite (Bowling Green Fault to the west and the Defiance Moraine to the south)                                                                           |  |                                                                                                                            |  |
|                                                  |           |            | 7.4. <b>Findlay Embayment.</b> Very low relief (10'), broadly rolling lacustrine plain; embayment of ancestral Lake Erie in which relatively coarse lacustrine sediments collected; elevation 775'-800'                                                                                                                                                                                                           |  |  | West: 775' beach ridge; north: Defiance Moraine; south: margin of highest Pleistocene lake level                                                                                            |  |                                                                                                                            |  |
|                                                  |           |            | 7.5. <b>Fostoria Lake-Plain Shoals.</b> Portion of the Defiance Moraine lightly eroded by shallow Lake Maumee with low north-south trending hillocks and shallow, closed depressions; many sandy areas; elevation 750'-825', low relief, decreasing westward (10'-15')                                                                                                                                            |  |  | South and east: unmodified Defiance Moraine; elsewhere: very low-relief lake plain                                                                                                          |  |                                                                                                                            |  |
|                                                  |           |            | 7.6a and 7.6b. <b>Bellevue-Castalia Karst Plain.</b> Hummocky plain of rock knobs and numerous sinkholes, large solution features, and caves; large springs; thinly mantled by drift; region straddles both Lake Plain (7.6a) and Till Plain (7.6b); 7.6a has greatest relief of any Lake Plain region (25'); elevation 570'-825'                                                                                 |  |  | Limit of thinly mantled Columbus and Delaware Limestones, which is marked in the west by the Columbus Escarpment                                                                            |  |                                                                                                                            |  |
|                                                  |           |            | 8. <b>Erie Lake Plain.</b> Edge of very low-relief (10') Ice-Age lake basin separated from modern Lake Erie by shoreline cliffs; major streams in deep gorges; elevation 570'-800'                                                                                                                                                                                                                                |  |  | North: Lake Erie; south: margin of highest Pleistocene lake                                                                                                                                 |  |                                                                                                                            |  |
|                                                  |           |            | 8.1 <b>Berea Headlands of the Erie Lake Plain.</b> Portion of the Erie Lake Plain underlain by resistant Berea Sandstone; several large sandstone headlands jut into the Ice-Age lake basin; contains several streamlined "whalebacks" of Berea Sandstone, 0.5 to 2.0 miles long, 20'-35' high; poorly drained; elevation 670'-800', very low relief (10')                                                        |  |  | North: portion of Lake Plain underlain by soft shales; south: margin of highest Pleistocene lake                                                                                            |  |                                                                                                                            |  |
|                                                  |           |            | 9. <b>Outer Bluegrass Region.</b> Moderately high relief (300') dissected plateau of carbonate rocks; in east, caves and other karst features relatively common; in west, thin, early drift caps narrow ridges; elevation 455'-1120'                                                                                                                                                                              |  |  | Eastern segment: maximum glacial margin and high eastern ridges capped by noncarbonate rocks; connected by Ohio River bluffs to western segment which is bounded by nondissected till plain |  |                                                                                                                            |  |
|                                                  |           |            | 10. <b>Killbuck-Glaciated Pittsburgh Plateau.</b> Ridges and flat uplands generally above 1200', covered with thin drift and dissected by steep valleys; valley segments alternate between broad drift-filled and narrow rock-walled reaches; elevation 600'-1505', moderate relief (200')                                                                                                                        |  |  | West and north: resistant sandstones of the Allegheny and Portage Escarpments; south and east: Wisconsinan glacial margin                                                                   |  |                                                                                                                            |  |
|                                                  |           |            | 11. <b>Akron-Canton Interlobate Plateau.</b> Hummocky area between two converging glacial lobes dominated by kames, kame terraces, eskers, kettles, kettle lakes, and bogs/fens; deranged drainage with many natural lakes; elevation 900'-1200', moderate relief (200')                                                                                                                                          |  |  | Limit of common, sandy ice-contact features and deposits                                                                                                                                    |  |                                                                                                                            |  |
|                                                  |           |            | 12. <b>Illinoian Glaciated Allegheny Plateau.</b> Dissected, rugged hills; loess and older drift on ridgetops, but absent on bedrock slopes; dissection similar to unglaciated regions of the Allegheny Plateau; elevation 600'-1400', moderate relief (200')                                                                                                                                                     |  |  | North and west: Wisconsinan glacial margin; south and east: Illinoian (maximum) glacial margin                                                                                              |  |                                                                                                                            |  |
|                                                  |           |            | 13. <b>Grand River Low Plateau.</b> Gently rolling ground and end moraine having thin to thick drift; poorly drained areas and wetlands relatively common; elevation 760'-1200', low relief (20') except near Grand River Valley (200')                                                                                                                                                                           |  |  | North: Portage Escarpment; south and west: Defiance Moraine; southeast: increasing relief from proximity of buried Pennsylvanian-age sandstones                                             |  |                                                                                                                            |  |
|                                                  |           |            | 13.1. <b>Grand River Finger-Lake Plain.</b> Very low relief (10') lake deposits in steep-sided troughs (200' relief) within the Grand River Low Plateau; cut by glacial and stream erosion; extensive wetlands; elevation 800'-900'                                                                                                                                                                               |  |  | Margins of steeply sloping troughs containing the Grand River and parts of Rock and Mosquito Creeks                                                                                         |  |                                                                                                                            |  |
|                                                  |           |            | 14. <b>Muskingum-Pittsburgh Plateau.</b> Moderately high to high relief (300'-600') dissected plateau having broad major valleys that contain outwash terraces, and tributaries with lacustrine terraces; medium-grained bedrock sequences coarser than those in Marietta Plateau (17) but finer than those in Ironton Plateau (16); remnants of ancient Teays-age drainage system uncommon; elevation 650'-1400' |  |  | North and west: maximum glacial margin; southeast: transition to finer grained bedrock; southwest: transition to coarser grained bedrock                                                    |  |                                                                                                                            |  |
|                                                  |           |            | 15. <b>Shawnee-Mississippian Plateau.</b> High relief (400'-800'), highly dissected plateau of coarse and fine grained rock sequences; most rugged area in Ohio; remnants of ancient lacustrine clay-filled Teays drainage system are extensive in lowlands, absent in uplands; elevation 490'-1340'                                                                                                              |  |  | North: Maximum glacial margin; west: carbonate bedrock; east: limit of Mississippian-age bedrock                                                                                            |  |                                                                                                                            |  |
|                                                  |           |            | 16. <b>Ironton Plateau.</b> Moderately high relief (300') dissected plateau; coarser grained coal-bearing rock sequences more common than in other regions of the Allegheny Plateau; common lacustrine clay-filled Teays Valley remnants; elevation 515'-1060'                                                                                                                                                    |  |  | West: limit of common Pennsylvanian-age bedrock; north and east: gradation to finer rock sequences                                                                                          |  |                                                                                                                            |  |
|                                                  |           |            | 17. <b>Marietta Plateau.</b> Dissected, high-relief (generally 350', to 600' near Ohio River) plateau; mostly fine-grained rocks; red shales and red soils relatively common; landslides common; remnants of ancient lacustrine clay-filled Teays drainage system common; elevation 515'-1400'                                                                                                                    |  |  | North and west: transition to medium-grained Lower Conemaugh rocks; east: Flushing Divide                                                                                                   |  |                                                                                                                            |  |
|                                                  |           |            | 17.1. <b>Little Switzerland Plateau.</b> Highly dissected, high-relief (generally 450', to 750' along Ohio River) plateau; mostly fine-grained rocks; red shales and red soils relatively common; landslides common; high-gradient shale-bottomed streams subject to flash flooding; no remnants of ancient Teays drainage system; elevation 540'-1400'                                                           |  |  | North: transition to medium-grained rocks; west and south: Flushing Divide; east: Ohio River                                                                                                |  |                                                                                                                            |  |

\* Section names modified from Fenneman (1938, 1946).