

Wisconsin Geological and Natural History Survey
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 Pleistocene Geology of Chippewa County, Wisconsin
 Plate 1

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Explanation

POSTGLACIAL SEDIMENT

- lp** Sediment of low, wet areas. Peat or slope sediment covering the stream, lake, or glacial sediment indicated by adjacent map units; flat to low-relief surfaces.
- sp** Postglacial stream sediment. Silty sand, sand, and gravelly sand deposited by postglacial streams; commonly contains peat; flat to low-relief floodplains. Mapped only where extensive; present but not shown along most streams.

MELT-WATER-STREAM SEDIMENT

- sc** Meltwater-stream sediment of the Copper Falls Formation. Unit sc: brown to pale brown, sand, gravelly sand, and sandy gravel; typically more gravelly near former ice-margin positions; soil profiles 1 to 1.2 m thick; gently sloping, low-relief outwash plains; deposited by meltwater streams flowing away from the Chippewa Lobe or deposited in valleys by streams flowing off highlands. Contains some slope sediment. Unit scp: brown to pale brown, sandy gravel, gravel, gravelly sand, and sand, moderately to poorly sorted; gently sloping, low-relief plains interrupted by collapse depressions (pits) up to 10 m deep; deposited in outwash plains above isolated blocks of ice as meltwater streams flowed away from the Chippewa Lobe. Unit sch: brown sandy gravel, gravelly sand, and reddish-brown gravelly sandy loam, poorly sorted; chaotic bedding; moderate- to high-relief hummocky surfaces; deposited on surface of Chippewa Lobe by streams and gravity flows; as buried ice melted, original depositional surface was destroyed.
- sm** Meltwater-stream sediment of the Merrill Member of the Lincoln Formation. Brown to pale brown sand, gravelly sand, and sandy gravel, moderately to well sorted; soil profiles 1 to 1.2 m thick; small, isolated, gently sloping terraces above Copper Falls Formation outwash plains; deposited by meltwater streams flowing away from the Chippewa Lobe.
- sr** Meltwater-stream sediment of the River Falls Formation. Yellowish-red, gravelly sandy clay loam, gravelly sandy loam, sandy gravel, and sand; soil profiles up to 5 m thick with B horizons that are clay-cemented in areas; located high in the hilly, stream-dissected landscape or adjacent to bedrock hills; deposited in outwash plains by meltwater streams flowing away from the Superior and Chippewa Lobes, then extensively eroded and weathered. Unit thickness is extremely variable over the irregular Cambrian sandstone surface in the western part of the county; contains some small areas of Cambrian sandstone.

- lcp** Lake sediment of the Copper Falls Formation. Unit lcp: brown, yellowish-brown, to dark gray, laminated silt loam, silty clay loam, and gravelly sand; commonly contains peat; flat to low-relief, poorly drained surfaces; occupies low areas in landscape where glacial ice blocked valleys and formed ice-contact or proglacial lakes. Unit lci: brown, yellowish-brown, to dark gray, laminated silt and silt loam offshore sediment, sandier and more gravelly nearer to former shoreline; flat to broad, convex surfaces are commonly high areas in the moraine landscape; deposited in ice-walled lakes. Rim ridges contain poorly to well sorted sandy gravel, sand, and gravelly sandy loam deposited in nearshore environment.

- gc** Glacial sediment of the Copper Falls Formation. Unit gc: reddish-brown to brown, gravelly sandy loam till, poorly sorted; low- to moderate-relief, rolling to streamlined surfaces deposited subglacially by the Chippewa Lobe. Unit gcf: reddish-brown, gravelly sandy loam till, poorly sorted, commonly draped by 1 to 2 m of poorly sorted, crudely bedded silty gravelly sand deposited in ice-marginal streams; steeply sloping, ramp-like topography influenced by Flambeau Quartzite present at shallow depths beneath the till. Unit gch: reddish-brown to brown, gravelly sandy loam gravity-flow sediment and meltout till, silt loam lake sediment, and sandy gravel meltwater-stream sediment; chaotic bedding; low- to high-relief hummocky surfaces; sediment deposited at the surface of the melting Chippewa Lobe, and sediment later collapsed and flowed as underlying ice melted.
- gm** Glacial sediment of the Merrill Member of the Lincoln Formation. Reddish-brown to brown, gravelly sandy loam to loam till, poorly sorted; moderate-relief, rolling to glacially streamlined surfaces with a more integrated drainage network than found on surfaces of unit gc; deposited subglacially by the Chippewa Lobe. Unit thickness is extremely variable over the irregular Cambrian sandstone surface in the southeastern part of the county; contains some small areas of Cambrian sandstone.
- gr** Glacial sediment of the River Falls Formation. Yellowish-red to reddish-brown, gravelly sandy loam till, poorly sorted; surface is rolling with well integrated stream drainage; no original glacial landforms present; deposited subglacially by the Superior and Chippewa Lobes. Unit thickness is extremely variable over the irregular Cambrian sandstone surface in the western part of the county; contains some small areas of Cambrian sandstone.

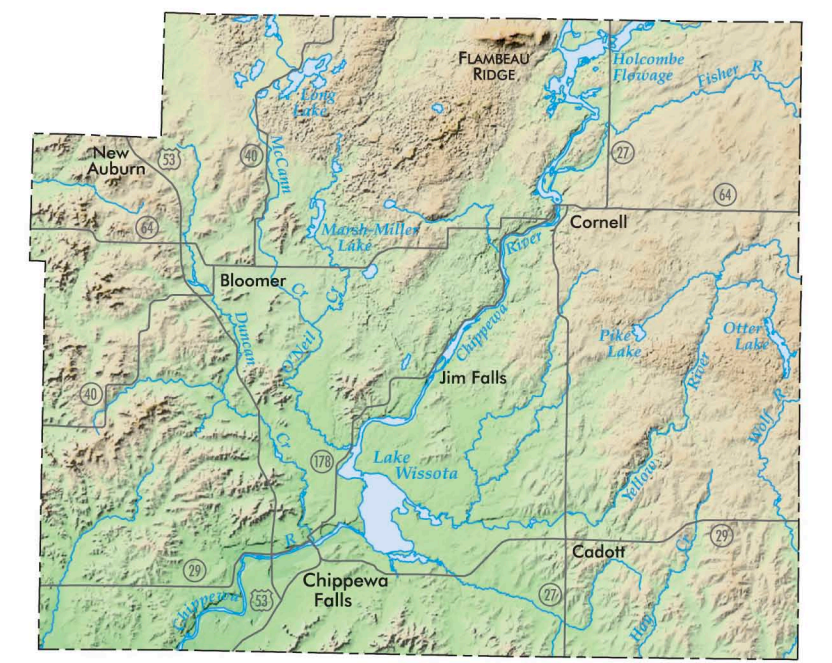
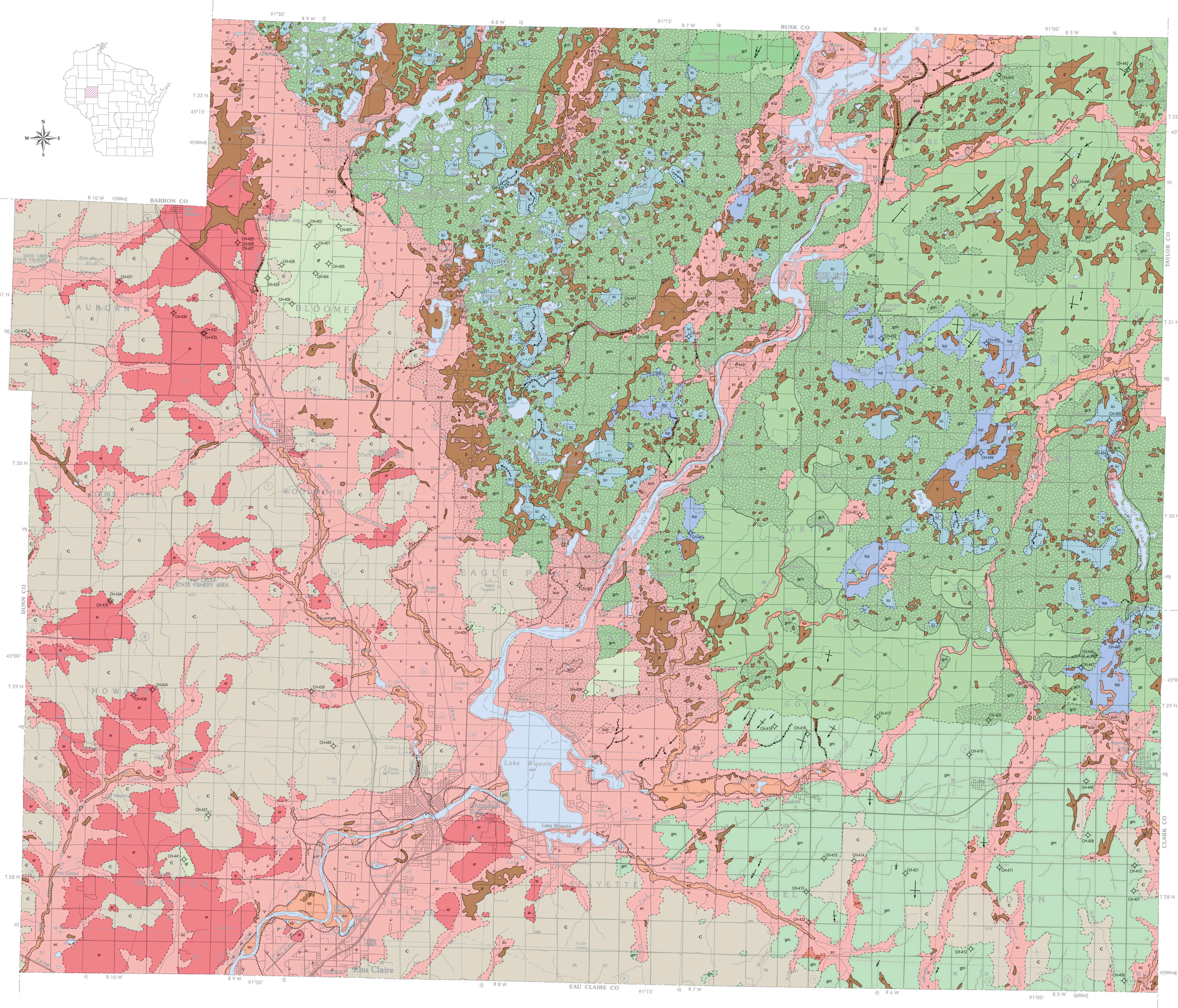
- c** Sand, quartz sandstone, conglomerate, siltstone, and shale of the Mount Simon, Eau Claire, Wonewoc, Lone Rock, St. Lawrence, and Jordan Formations. Contains fine- to coarse-grained, light brown to yellow quartz sand and sandstone, conglomerate, glauconitic sandstone, and white to green siltstone and shale; thinly to thickly bedded; sandstone displays cross-beds and parting lineations; marine brachiopod shells, trilobite casts, and trace fossil burrows are common. Bedrock is exposed at surface or draped by scattered patches of weathered glacial outwash and till up to 2 m thick or windblown sandy silt up to 3 m thick. Topography is stream dissected with local relief up to 100 m.

GLACIAL SEDIMENT

- pc** Precambrian metamorphic, metasedimentary, and igneous rock-gneiss, schist, amphibolite, Flambeau quartzite and metaconglomerate, granite, and diabase. Uppermost 1 to 10 m of rocks other than quartzite and metaconglomerate is commonly altered chemically to greenish clay. Most outcrops are at river level along the major rivers and downstream from dams.

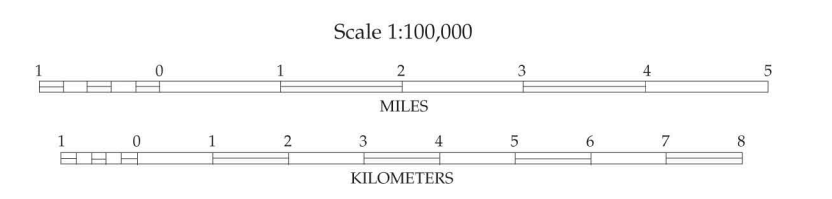
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Shaded-relief map of Chippewa County.

- Symbols**
- Contact. Solid where position shown on map is generally within 0.1 km of the actual position; dashed where the position shown may be more than 0.1 km from actual position.
 - Esker
 - Tunnel-channel margin
 - Axis of small meltwater-stream channel. Arrow indicates water-flow direction.
 - Drumlin. Length of line is proportional to length of drumlin axis.
 - Glacial striation with arrow pointing in ice-flow direction. Dot marks location of measurement.
 - Stream-cut bank
 - Ice-marginal ridge
 - Major ice-contact face
 - Rim of ice-walled-lake plain
 - Direction of meltwater flow as indicated by modern surface slope and flow features observed on aerial photographs.
 - Test-hole location and WGNHS Geologic Log number



This map is an interpretation of the data available at the time of preparation. Every reasonable effort has been made to ensure that this interpretation conforms to sound scientific and cartographic principles; however, the map should not be used to guide site-specific decisions without verification. Proper use of the map is the sole responsibility of the user.

The base map was constructed from U.S. Geological Survey digital line graph files (1990, scale 1:100,000) and modified by the Wisconsin Department of Natural Resources (1992) and the Wisconsin Geological and Natural History Survey (2000).

Cartography by D.L. Patterson.

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PLATE 1. PLEISTOCENE GEOLOGIC MAP OF CHIPPEWA COUNTY, WISCONSIN.