

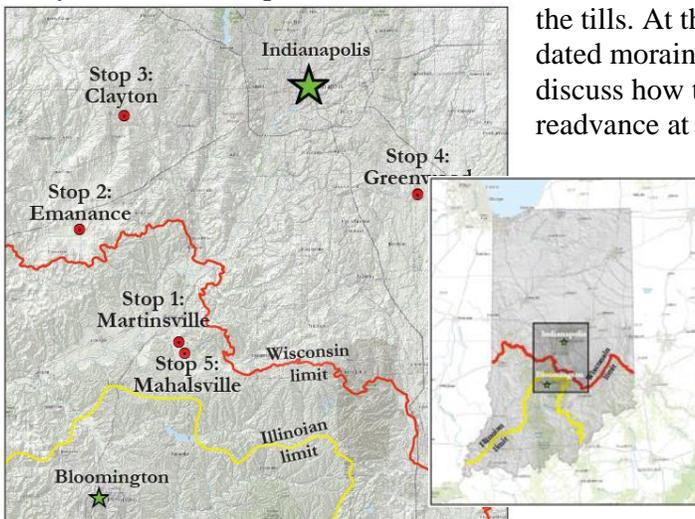
## First Announcement

# 57<sup>th</sup> Midwestern Friends of the Pleistocene

- Date:** May 20-2, 2017
- Host:** Indiana Geological Survey, Indiana University, Bloomington
- Leaders:** Henry Loope, G. William Monaghan, and Jose Luis Antinao Rojas
- Title:** At the edge of the Laurentide Ice Sheet: Stratigraphy and Chronology of Glacial Deposits in Central Indiana.
- Cost (est.)** \$ 110
- Headquarters:** Hyatt Place, Bloomington, Indiana
- Questions:** Please contact Bill Monaghan (gmonagha@indiana.edu)

The chronology and stratigraphy of the Laurentide Ice Sheet (LIS) related to the Last Glacial Maximum (LGM) has been studied in detail across Illinois and Ohio, but has been only sketchily presented for Indiana. Much of the chronology and stratigraphy of the LIS was developed during the 1950s and 1960s when researchers like Bill Wayne and Ansel Gooding published about events related to the so-called “Terminal Moraine” (*sensu* Leverett and Taylor, 1915). These publications focused on the age of the “Terminal Moraine”, as well as interstades described by Gooding and Wayne. Most of the chronology for these events, however, derive from 1950-60s when radiocarbon dating errors were commonly in the 100s of years—not necessarily wrong but imprecise. Although research about the LGM continued in the 1980s and 1990s (e.g., Ned Bleuer) only limited data about the LGM in Indiana was published and seldom synthesized into a regional picture. Moreover, chronology continued to rely on standard <sup>14</sup>C dating and AMS methods were rarely applied.

More recently, the Indiana Geological Survey has focused on developing a chronology of LGM events based on more up to date methods (i.e., AMS and OSL). We established a more precise chronology for the advance and retreat of the Laurentide Ice Sheet (LIS) during the LGM by using previously reported <sup>14</sup>C ages, new AMS or OSL dates from classic sections, and new ages from recently discovered sections or from solid-earth cores. Our Saturday’s trip will focus on the chronology and stratigraphy for the advance(s) and retreat(s) of the LIS between 28 and 20 ka in central Indiana (Stops 1-4 on map). The underlying discussion for the trip will be—what these data tell us about stratigraphy, ice marginal processes, and LIS dynamics during the LGM. Among other stops, we will visit the two-till Clayton section (Stop 3), which include outwash and organic-rich lacustrine deposits that occur between the tills. At the end of Saturday’s trip, we will visit an OSL dated moraine/outwash morphosequence (Stop 4), and discuss how the age of this moraine relates to the retreat and readvance at noted at the Clayton section.



A half-day trip on Sunday morning focuses on Illinoian outwash (stop 5). We will discuss when it was deposited and how this outwash differs from that of the Wisconsin. Stop 5 suggests that Illinoian outwash may have been >70 m thick and completely filled the White valley. By LGM time, the Illinoian outwash had been eroded from the valley and Wisconsin outwash was mainly deposited on bedrock in the valley bottom.