

The Holocene Thermal Maximum, II: the mid-Holocene alternative

The warmest part of the Holocene has been called the Holocene Hypsithermal, the Holocene Climatic Optimum, and (perhaps most clearly) the Holocene Thermal Maximum. As with the name, the timing of this warmest part of the Holocene has been the subject of diverse views. Part I of this pair of pages showed the view from Greenland ice cores, of which a majority (but not all) suggest greatest warmth early in the Holocene between 7,200 and 10,700 years BP. Figure 7 of Kaufman et al. (2004) suggests that data from across the northernmost Arctic support that view.

An alternate view emerges if one considers records, largely pollen records, from slightly farther south, in northern Canada and northern Europe. The records at right are a selection from those slightly more southerly locations; A, C, D, and E represent compilations from multiple records. The pink fields show that the warmest periods of these records all post-date 8.2 ka, they collectively range from 1.1 to 8.2 ka, and they all include the interval from 4.0 to 5.6 ka. Thus these records suggest a Holocene Thermal Maximum in the middle of the Holocene, rather than the early Holocene peak scene in Part I of this pair.

Sources:

- A. Trajectory 4 in Figures 1 and 5 of Marquer et al., 2014, *QSR* 90, 199-216.
- B. Figure 7 of Giesecke et al., 2008, *QSR* 27, 1296-1308.
- C. Figure 4 of Davis et al., 2003, *QSR* 22, 1701-1716.
- D. Figures 4 and 5 of Mauri et al., 2015, *QSR* 112, 109-127.
- E. Figure 7 of Kaufman et al., 2004, *QSR* 23, 529-560.
- F. Short and Nichols, 1977, as summarized in Figure 4h of Kaufman et al., 2004, *QSR* 23, 529-560.
- G. Rühland, 2001, as shown in Figure 4c of Kaufman et al., 2004, *QSR* 23, 529-560.

