What explains Homo sapiens' huge brains? Ancient climate change played a role

Climate change may have contributed to the increase in the brain size of human ancestors, a new study suggests. A researcher from Washington University in St. Louis analyzing the impact of climate change on early humans has found that it likely led to "dramatic" increases in brain size and intelligence nearly a million years ago.

During severe glacial phases, Professor Bruce Petersen found that "positive assortative mating" (PAM) — the tendency for animals to choose mates more similar to themselves — increased in the ancestors of Homo sapiens. This increase was due to the rising importance of commodities like fire, food, and shelter.

Petersen explored how climate change may have contributed to the increase in hominin brain size. Their paper focused on hominin evolution between 300,000 and 700,000 years ago — a period marked by sharp increases in both absolute and relative brain size, as well as significant behavioral developments in areas like language capacity.

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The paper explores how climate change, assortative mating, and parental cooperation could have sped up the evolution of complex cognition in Middle Pleistocene humans. The researchers explained that a set of "home-produced family public goods," including fire, shelter, conversation, and child training, became critical for survival, especially during severe glacial phases, to prevent cold-related deaths from hypothermia.

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