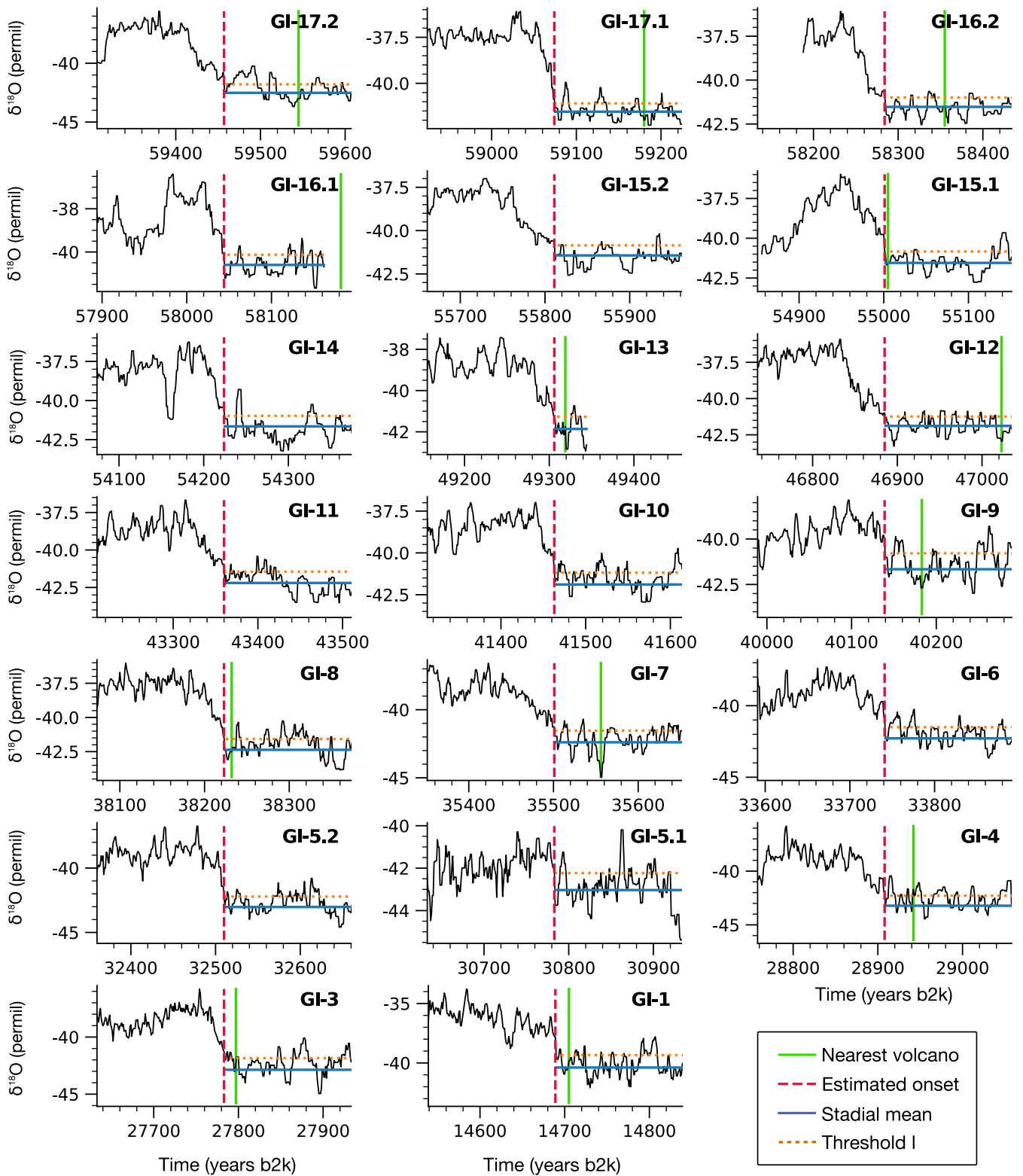


1 **Supplemental Material to: On the Role of Volcanism in**
2 **Dansgaard-Oeschger Cycles**

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6 FIG. S1. Estimated onsets of the DO warming events in the Greenland $\delta^{18}\text{O}$ stack and closest bipolar
 7 volcanic eruptions preceding the events.

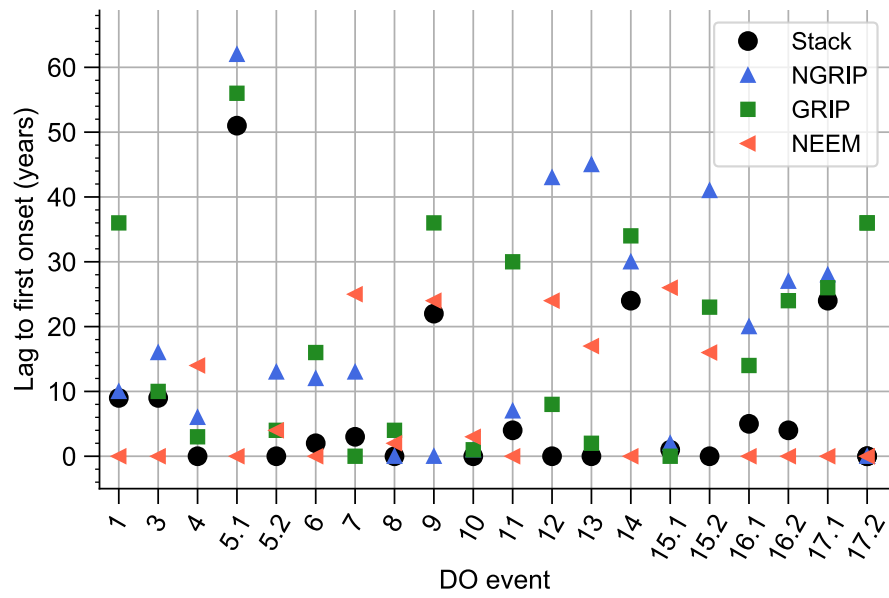


FIG. S2. DO event onsets estimated from the isotope stack and individual ice cores. Shown is the lag of individual onset estimates relative to the earliest onset estimate.

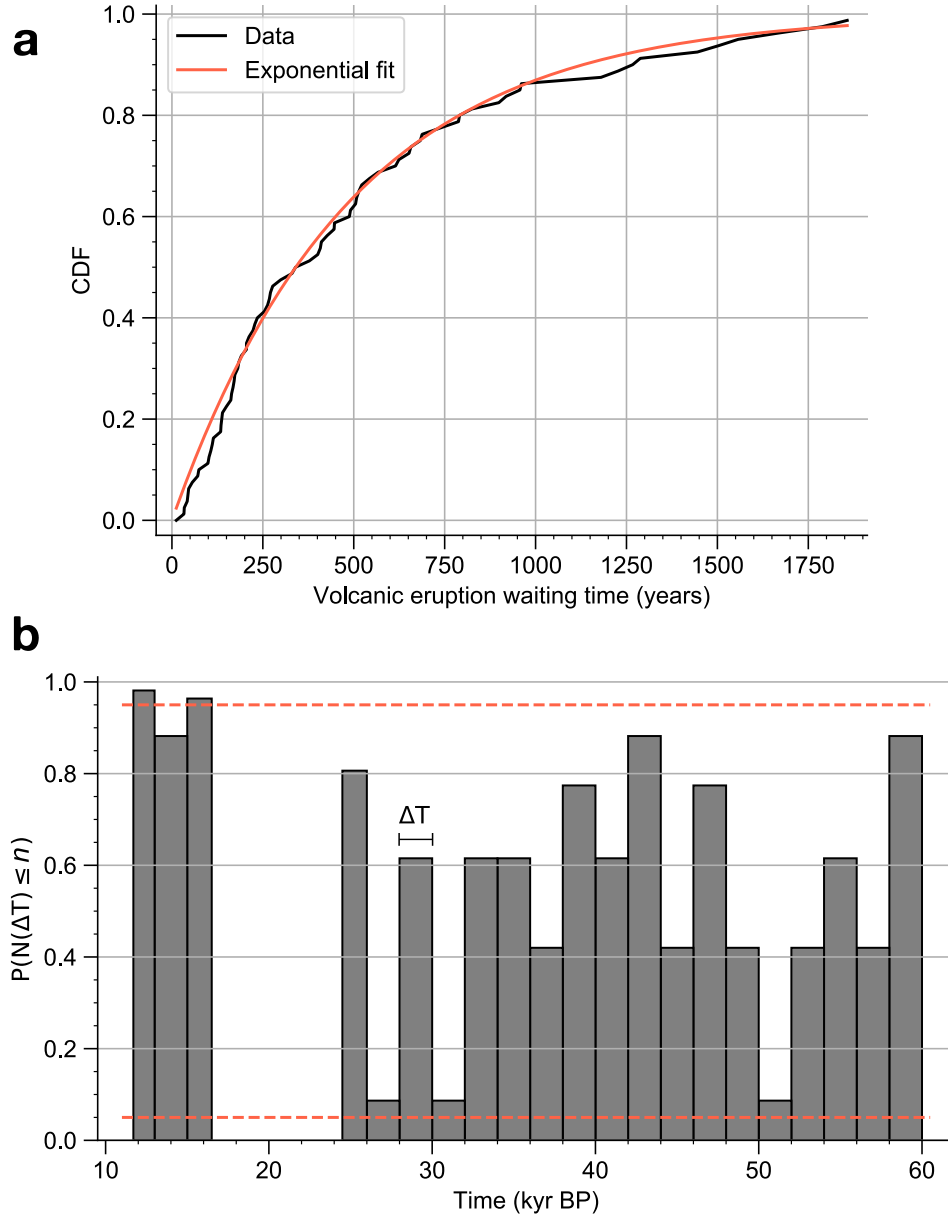


FIG. S3. a) Empirical distribution function of the bipolar volcano waiting times, compared to a fit with an exponential distribution. b) Probabilities to find less or equal than the n observed volcanic eruptions in contiguous intervals of ΔT years for a Poisson process with $\lambda = 2.0348$. The time interval ΔT has been chosen to be 2 kyr, except at the boundaries of the data. The red dashed lines indicate $P = 0.95$ and $P = 0.05$. Thus, if the data fall outside these margins, we can reject the null hypothesis at 90% confidence in a two-tailed test. However, at this confidence we expect 2.1 false positives due to the testing of 21 independent hypothesis.

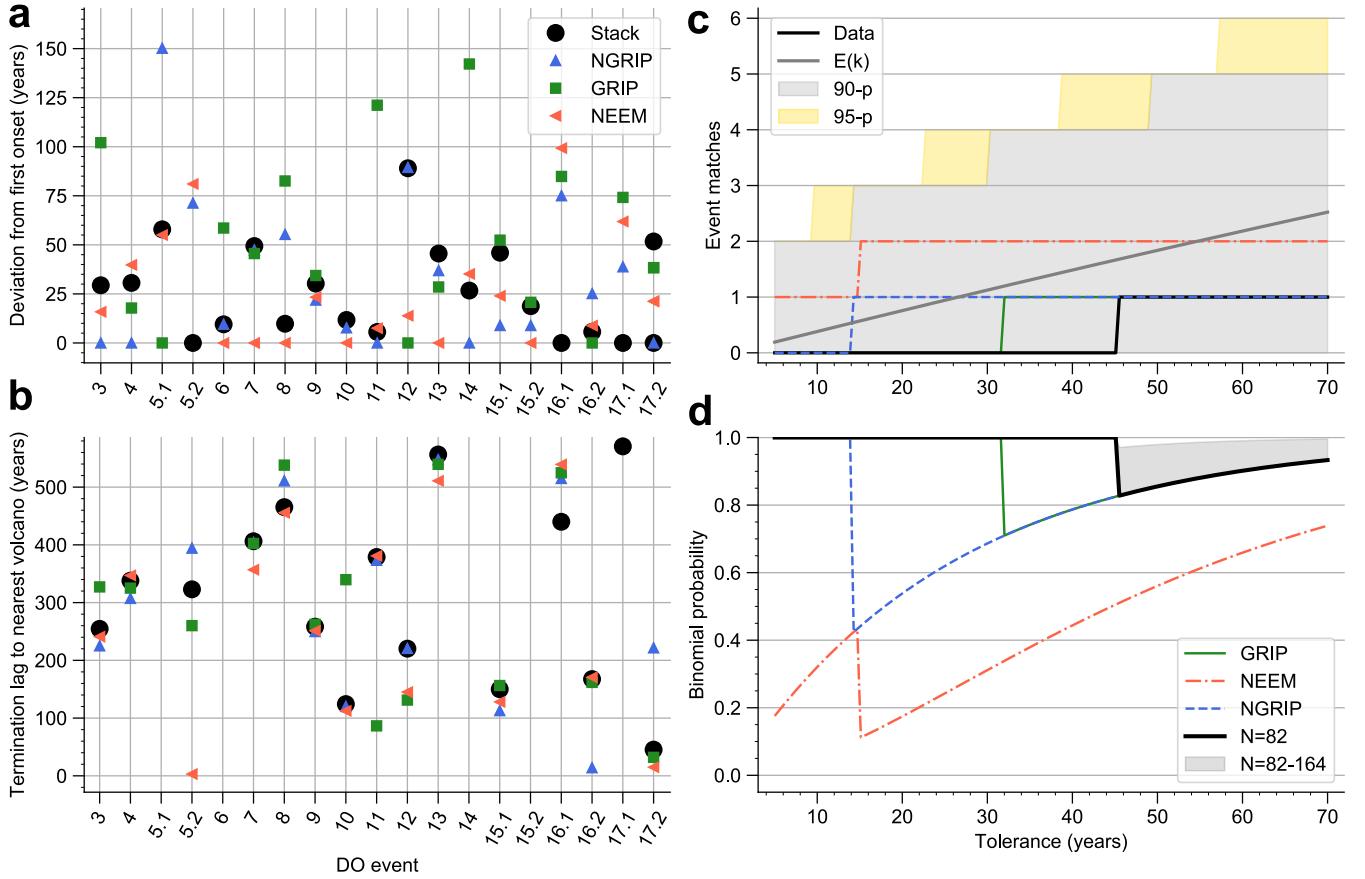


FIG. S4. Comparison of the terminations of DO interstadials with the closest preceding bipolar volcanic eruptions. a) DO interstadial terminations estimated from the stack and different ice cores using the piecewise-linear method from Lohmann and Ditlevsen, *Clim. Past* 15, 1771 (2019). Shown is the lag relative to the earliest termination. b) Lag of the individual DO terminations to the nearest volcanic eruption in the stack and different ice cores. c) Number of event matches for the terminations as a function of the tolerance, compared to the expectation value as well as 90% and 95% confidence bands of the null hypothesis. d) Probability to observe at least as many event matches as in the data under the null hypothesis. The thick black line shows the results for the stack terminations and the Poisson null hypothesis using $\lambda = N/\Delta T$ with $N = 82$. The gray shading gives indicates the indicates the range of probabilities when doubling N from $N = 82$ to $N = 164$. Results for the terminations from individual cores with $N = 164$ are also shown.