**Supplemental Figure Captions**

**Figure S1**. Detailed comparison of timing between Cariaco Basin paleoclimate and 14C excursions relative to Lake Suigetsu and Hulu Cave (considered here as changes in MRA), focusing on the period of the Younger Dryas cold event. (**upper**) 550 nm reflectance from Cariaco sediments, showing periods of greater windiness (down) and greater rainfall (up). (**middle**) Cariaco Basin (blue) versus Lake Suigetsu (green) and Hulu Cave (red) age-age plots. (**lower**) Cariaco Basin (blue) versus Lake Suigetsu (green) and Hulu Cave (red) 14C plots. Reduced Cariaco MRA appears as lower 14C ages but higher 14C. Lake Suigetsu data represent atmospheric values, whereas Cariaco data are corrected with a constant 420 ± 50 14C yrs MRA and Hulu data have a constant DCF correction of 450 ± 70 14C yrs. These uncertainties are propagated into the plotted error bars.

**Figure S2**. Same as for Figure S1, but focusing on the period surrounding Heinrich Event 1.

**Figure S3**. Same as for Figures S1 and S2, but focusing on the period surrounding Heinrich Event 2.

**Figure S4**. Same as for Figures S1-S3, but focusing on the period surrounding Heinrich Event 3.

**Figure S5**. Same as for Figures S1-S4, but focusing on the period following Heinrich Event 4.

**Figure S6**. Same as for Figures S1-S5, but focusing on the period following Heinrich Event 5.

**Figure S7**. Same as for Figures S1-S6, but focusing on a period between Heinrich Events, characterized by increased Cariaco MRA (reduced 14C).