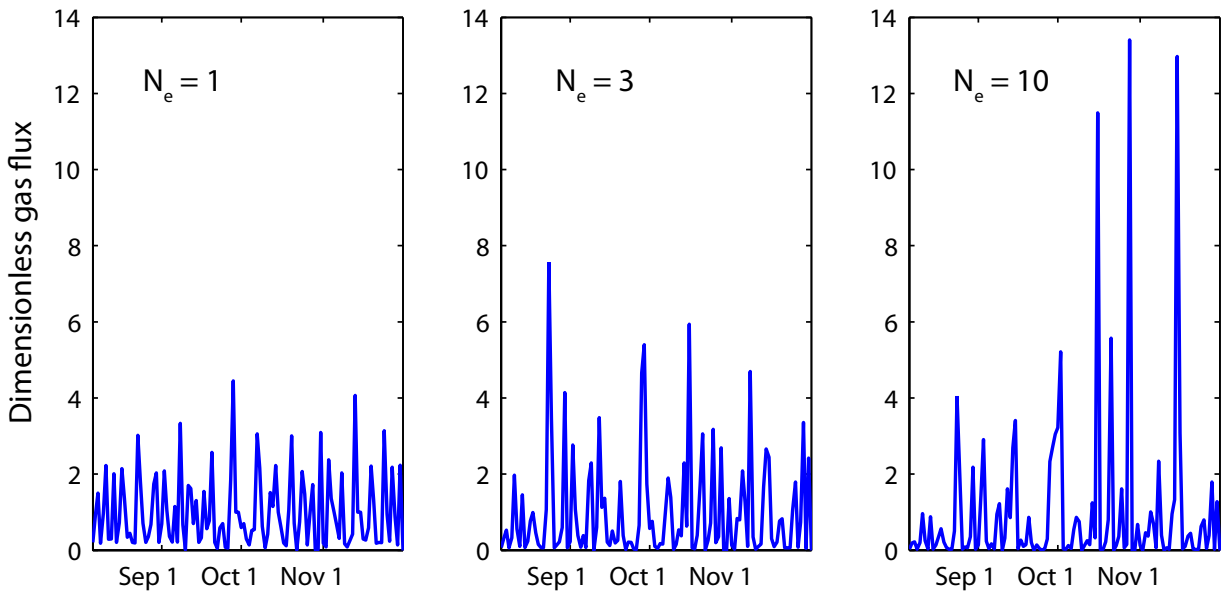


Figure S2: Sensitivity of dimensionless flux to ebullition number, for $N_e = 1, 3$, and 10, in response to the same measured hydrostatic signal shown in Fig. 3 of the main text. The ebullition number is the dimensionless ratio of total sediment strength to hydrostatic variation forcing and is defined in equation (3). Larger values of $N_e$ concentrate the gas flux into fewer, more powerful venting events. The best-fit value for the average of five traps from UML is $N_e = 5$.