

Figure S1. Tuned vs. untuned $\delta^{13}\text{C}$ values for tusk dentin slabs A) 1169 and 1053 and B) 412. Tuned data from A) are a composite record from 1169 and 1053 based on 0.7 years overlap.

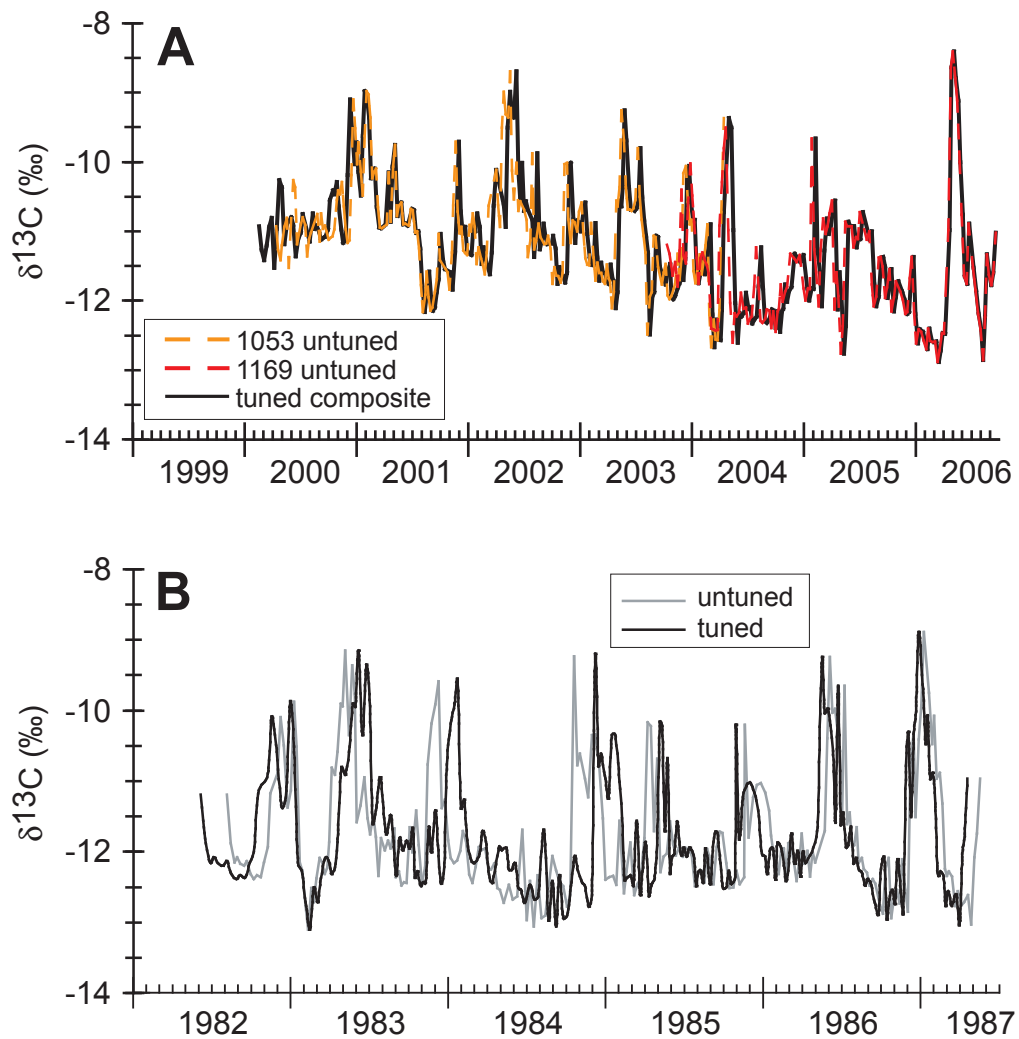


Figure S2. Ordinary least square regressions of rainfall vs NDVI over the intervals of the two tusk profiles. The highest R^2 values occur when rainfall is plotted against NDVI from 14 to 21 days after peak rainfall.

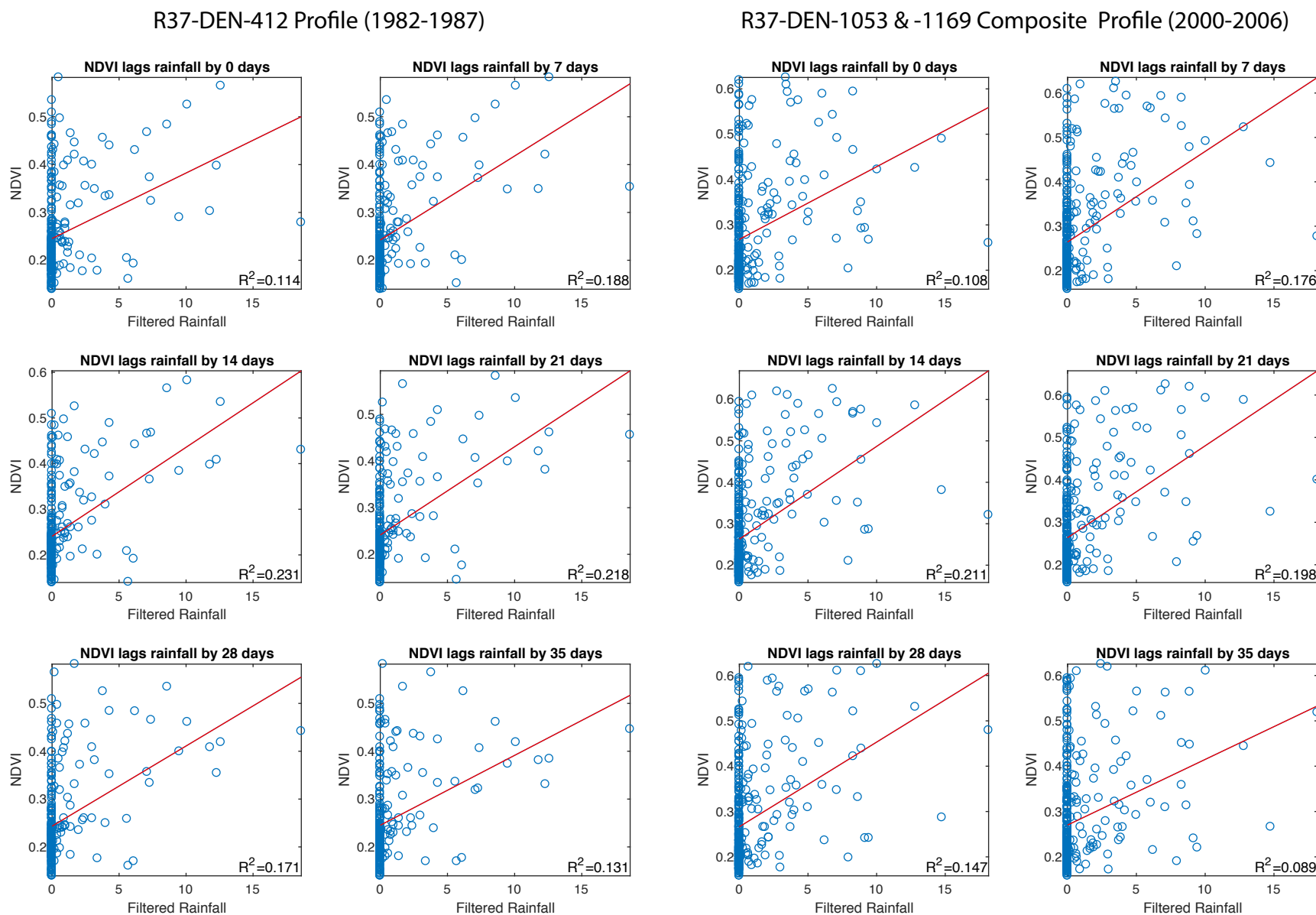


Figure S3. Ordinary least square regressions of NDVI vs $\delta^{13}\text{C}_{\text{dentin}}$ over the intervals of the two tusk profiles. The highest R^2 values occur when NDVI is plotted against $\delta^{13}\text{C}_{\text{dentin}}$ from 14 to 21 days after peak NDVI.

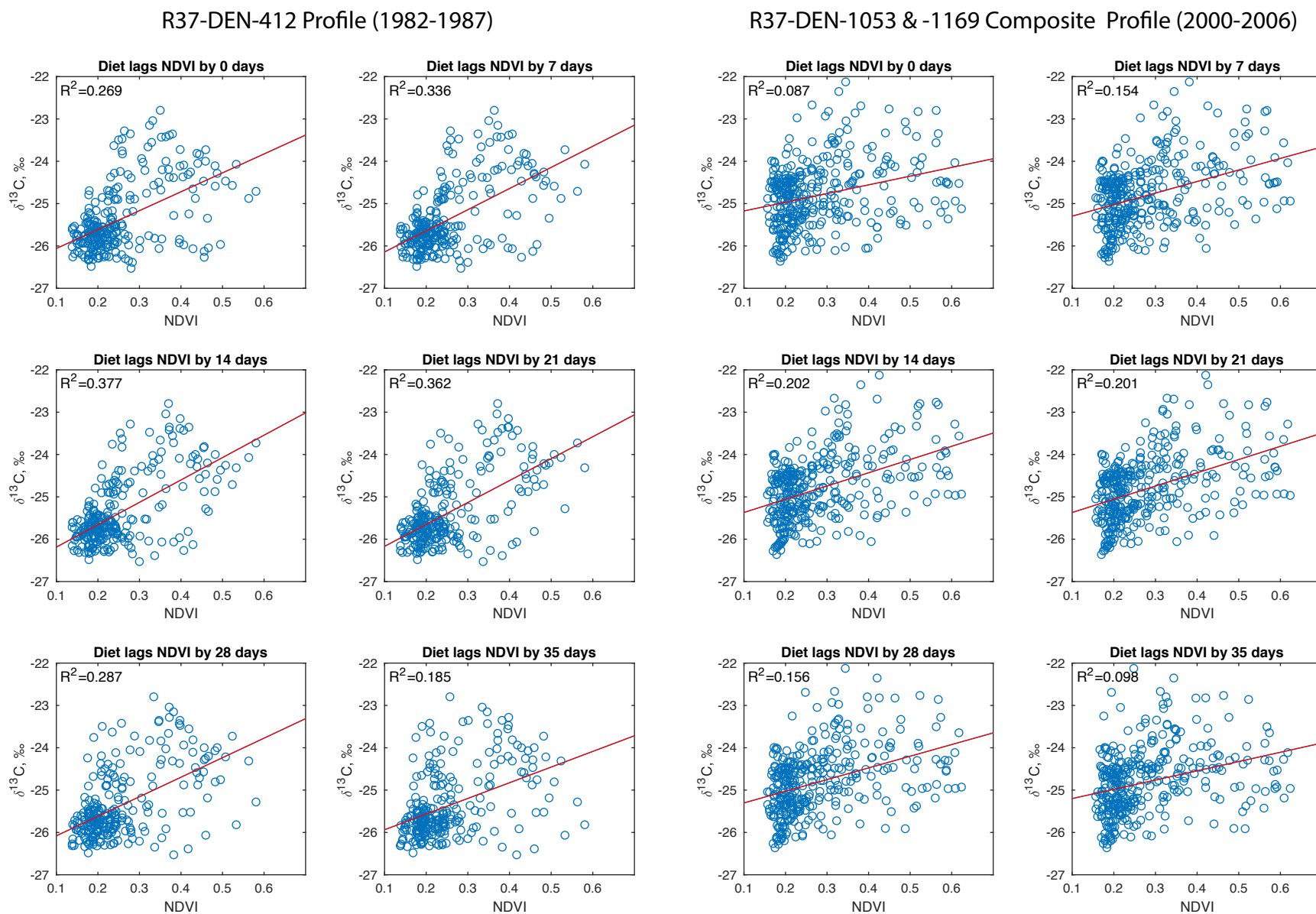


Figure S4. Ordinary least square regressions of $\delta^{13}\text{C}_{\text{dentin}}$ vs. $\delta^{18}\text{O}_{\text{dentin}}$ over the intervals of the two tusk profiles. There is no clear change in correlation as lag times for $\delta^{18}\text{O}_{\text{dentin}}$ are introduced.

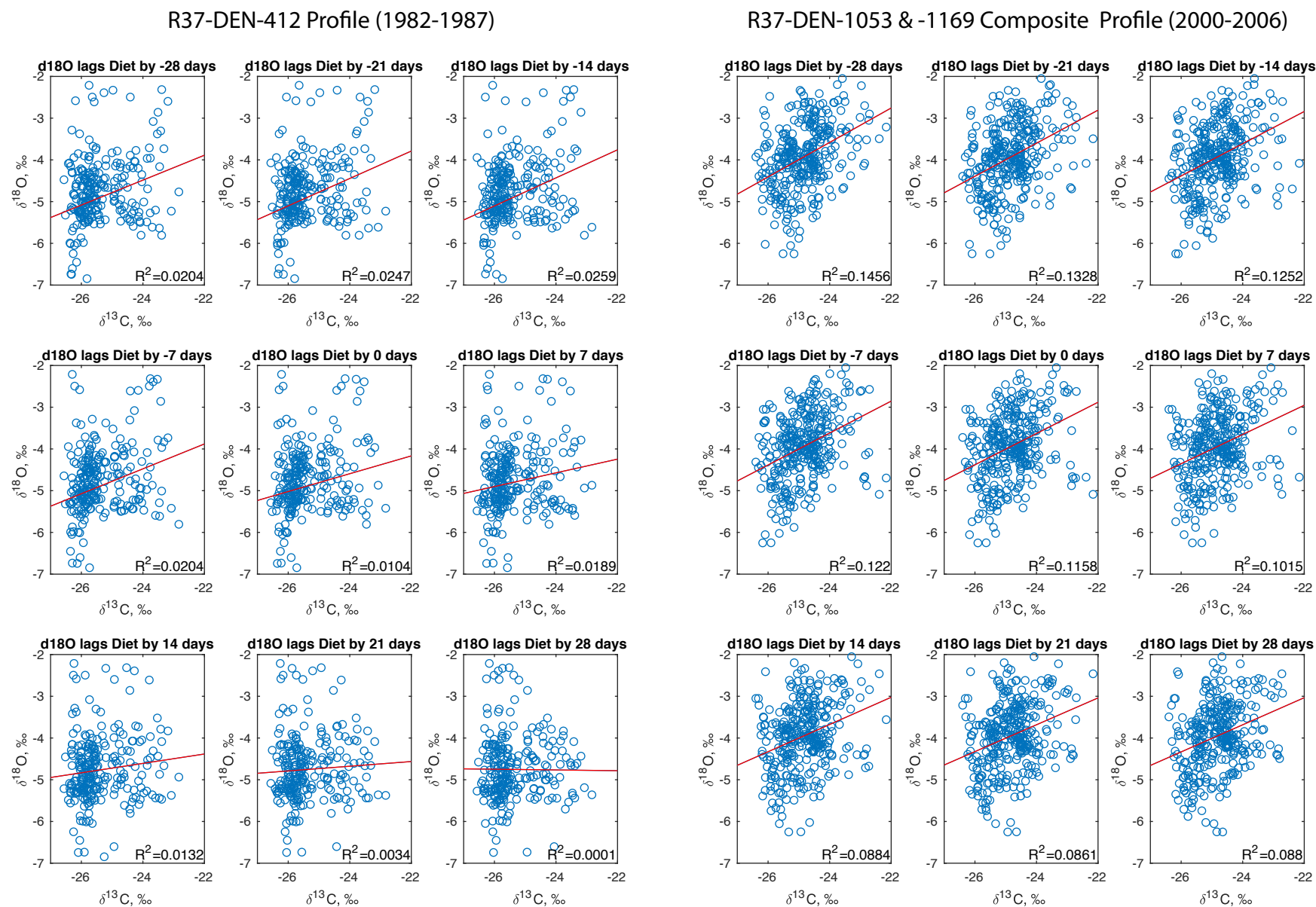


Figure S5. Ordinary least square regressions of NDVI vs. $\delta^{18}\text{O}_{\text{dentin}}$ over the intervals of the two tusk profiles. There is no clear change in correlation as lag times for $\delta^{18}\text{O}_{\text{dentin}}$ are introduced.

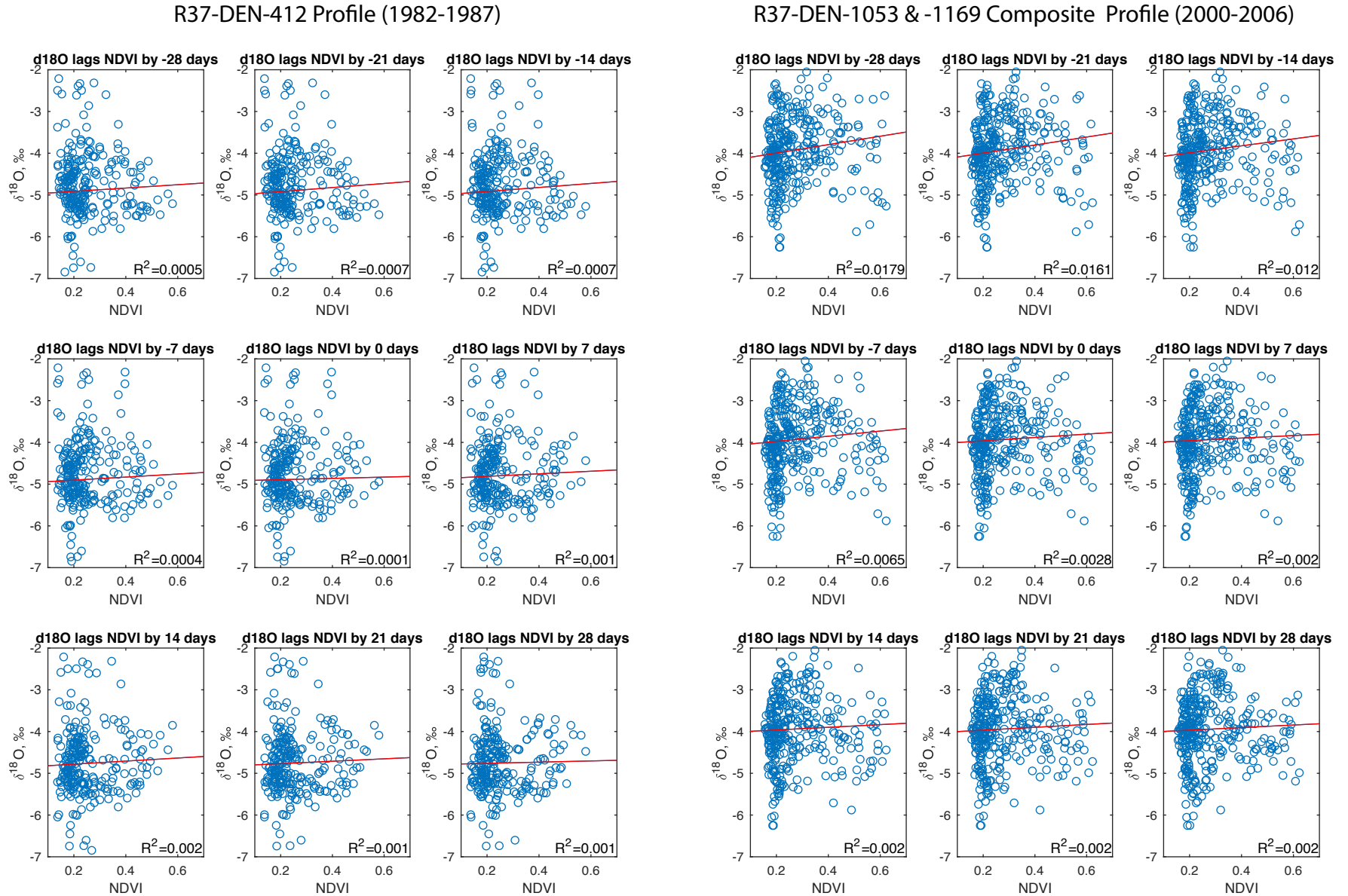


Figure S6. Ordinary least square regressions of rainfall vs. $\delta^{18}\text{O}_{\text{dentin}}$ over the intervals of the two tusk profiles. There is no clear change in correlation as lag times for $\delta^{18}\text{O}_{\text{dentin}}$ are introduced.

R37-DEN-412 Profile (1982-1987)

R37-DEN-1053 & -1169 Composite Profile (2000-2006)

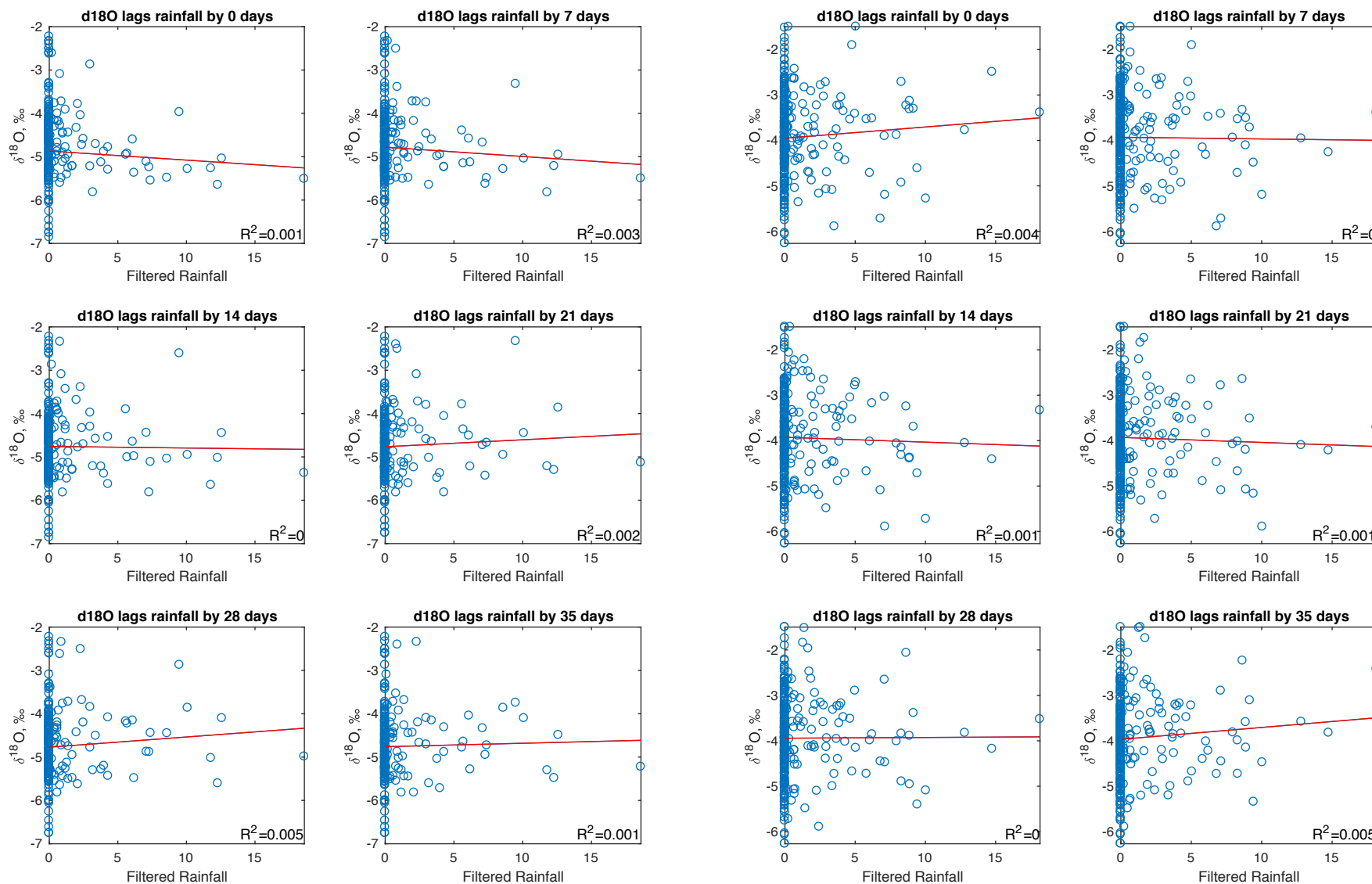
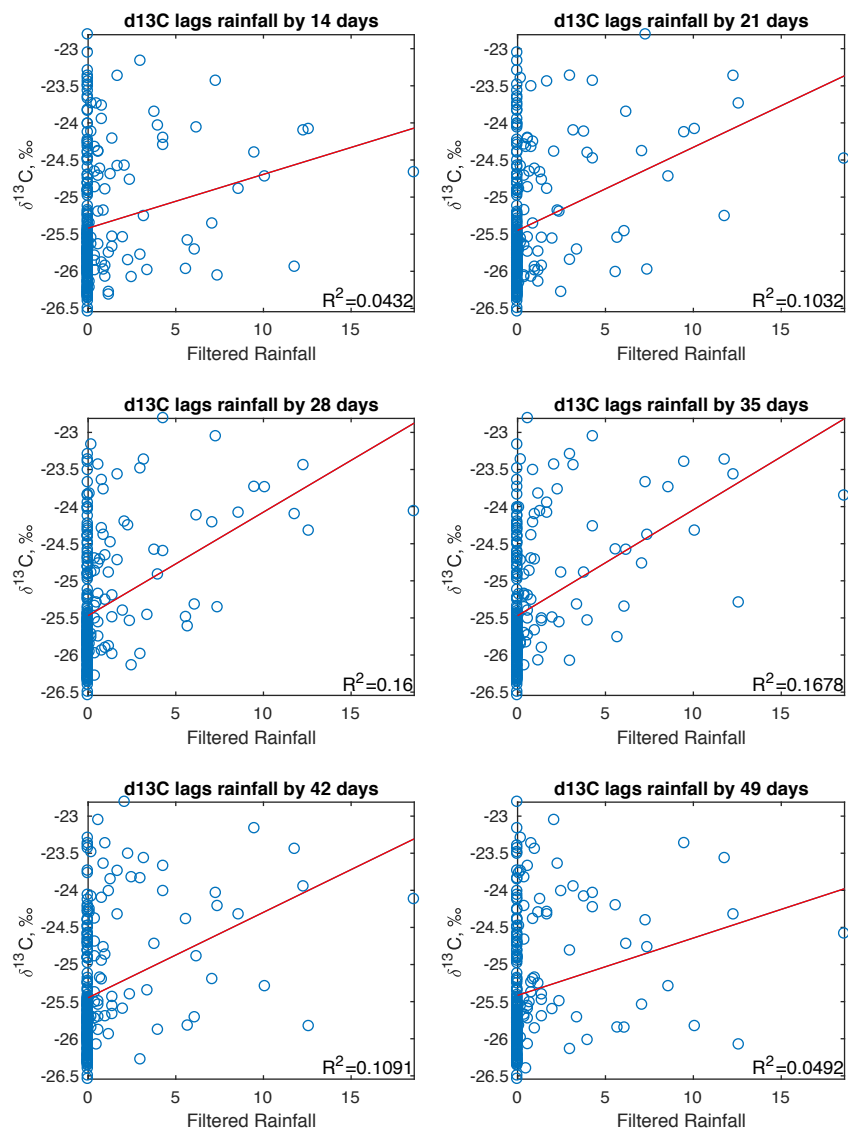


Figure S7. Ordinary least square regressions of rainfall vs. $\delta^{13}\text{C}_{\text{dentin}}$ over the intervals of the two tusk profiles. The highest R^2 values occur when rainfall is plotted against $\delta^{13}\text{C}_{\text{dentin}}$ from 28 to 35 days after peak rainfall.

R37-DEN-412 Profile (1982-1987)



R37-DEN-1053 & -1169 Composite Profile (2000-2006)

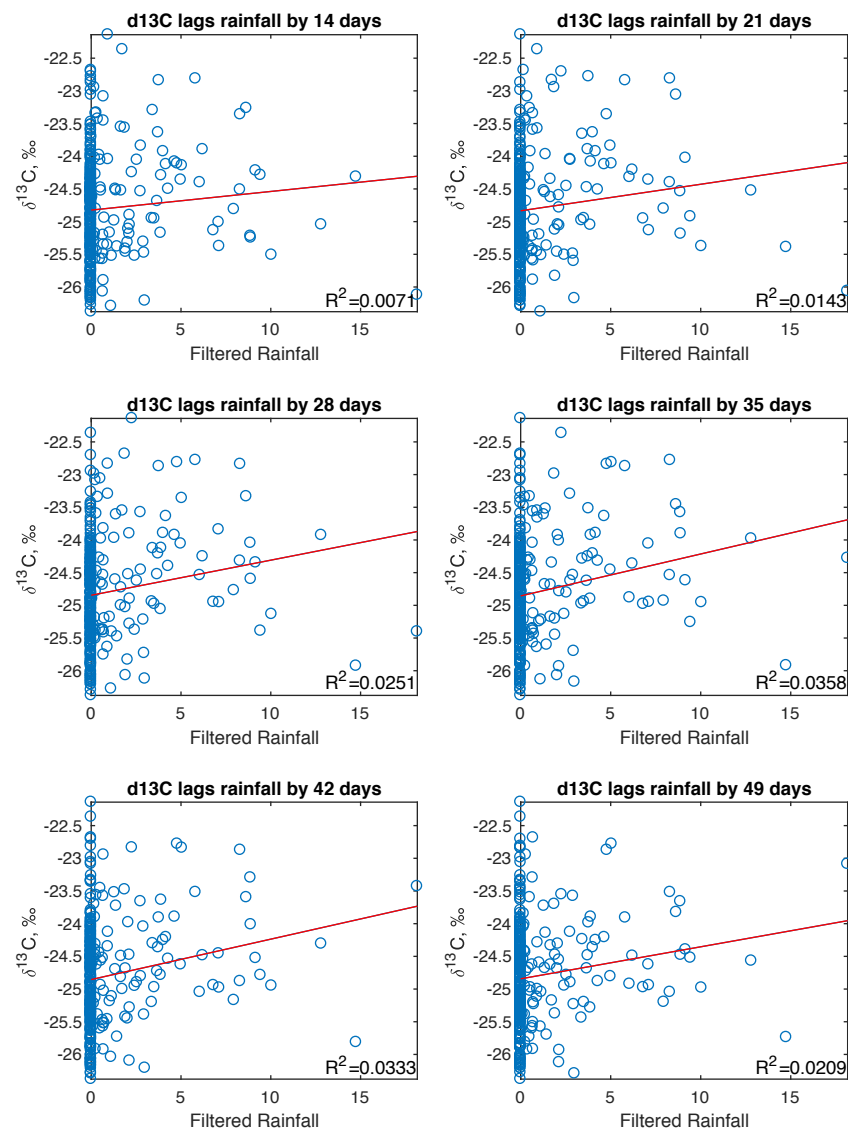


Figure S8. Growth rates derived from measurement of second-order increment thicknesses are plotted as 5 pt. (orange) and 10 pt. (maroon) running means versus A) rainfall and B) NDVI from tusk dentin slab 1053. Tusk dentin ages are untuned, where each increment represents seven days. Increment thickness data are given in Table S1.

