



Figure 1. N_2O mixing ratio, N_2O bulk nitrogen isotopic composition, and Ca^{2+} concentrations that represent the mineral dust content, measured in the TALDICE (Schilt et al., 2010a), EDC (Schilt et al., 2010b), EDML (Fischer et al., 2019), and Vostok (Miteva et al., 2007) ice cores. Because of its low dust content, the TALDICE record in black is considered to represent the true atmospheric N_2O levels (see Sect. 3.2.2). Stars correspond to samples affected by in situ production and represent the total N_2O measured, i.e., atmospheric N_2O + in situ N_2O . Grey boxes mark the dust-rich sections of the EDC ice core corresponding to the Last Glacial Maximum (LGM), the Marine Isotope Stage (MIS) 4 and 6 cold periods.