**Supplementary Files**

**Supplementary Table 1.** Israeli soil classification and description.

**Supplementary Table 2.** XRD mineralogical data for Core LK12-22.

**Supplementary Table 3.** XRD mineralogical data for soils in the Tzalmon and Amud valleys.

**Supplementary Table 4.** XRF counting data (cps) for Core LK12-22 at 10-mm resolution.

**Supplementary Table 5.** XRF counting data (cps) for core interval 1271–1410 mm at 1 mm.

**Supplementary Figure 1.** Sampling locations of surface sediments

**Supplementary Figure 2.** High-resolution images of the core. Boundaries between different lithologic units are indicated.