

## ***Interactive comment on “The past, present, and future of soils and human health studies” by E. C. Brevik and T. J. Sauer***

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The authors present a nice summary of human health studies. The paper is well written and well referenced. I include a few editorial comments and some suggestions on things that could be highlighted a bit more, specifically the role of dust as one of the key human-soil-health interactions in arid and semiarid systems. I also think the conclusion statement could be strengthened with clear concise identification of perceived high priority research needs in bulleted statements – something that could serve as the basis of a white paper to funding agencies highlighting the need to fund soil-health related research.

P53 L25 – the sentence that begins with “These recognitions. . .” is awkward as written

C4

– consider rephrasing

P58 L12 – change remained to remains

P60 – first paragraph – this is really interesting and has substantial implications for modifying the way we typically consider nutrient budgets. There has been interesting working by Driscoll and others along these lines for example focused on N budgets/cycling in the Chesapeake Bay system that would be good to include here. Would also be nice to include a statement or two about how this highlights human-soil interactions and the idea of the Anthropocene and human induced global soil change – see the recent paper by Bacon et al in SSSAJ.

P60 L25 – I am biased by my location in an arid environment – but one the largest human health risks in the US Southwest and arid parts of California is dust exposure – but via increased risk of asthma as well as exposure microbial agents such as Valley Fever, a soil borne pathogen. Given that that >30% of the earth’s surface is arid to semiarid systems the role of dust deserves a bit more discussion.

P62 L10 – it would be good to include a reference to work by J. Tabor and others focused on the soil ecology of the Valley Fever pathogen that thrives only in specific sets of soil properties –

P62 L27 – I think the word likely can be deleted from this sentence – it is well accepted now in the latest IPCC report that changes in atm. CO<sub>2</sub> are definitively driving climate change.

P64 – in the conclusion section – consider strengthening this with bullet points of key research foci that need to be addressed – eg setting this up so it could be used as a call to funding agencies highlighting in brief high impact statements why this area of research should be funded and/or the need to include soil scientists on panels involved with human-environment-health interactions.