

Hydrol. Earth Syst. Sci. Discuss., editor comment EC1
<https://doi.org/10.5194/hess-2021-457-EC1>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.



Comment on hess-2021-457

Christian Stamm (Editor)

Editor comment on "High-resolution erosion susceptibility data for agricultural lands of Finland" by Timo A. Räsänen et al., Hydrol. Earth Syst. Sci. Discuss.,
<https://doi.org/10.5194/hess-2021-457-EC1>, 2021

```
\begin{document}
```

```
{\parindent0pt % disables indentation for all the text between { and }
```

```
Comments hess-2021-457\\
```

```
Dear authors,\\
```

```
I list a number of more general and detailed issues. \\
```

```
General aspects:\\
```

```
\begin{description}
```

```
\item[Language:] In general, the text is easy to read. Still, sometimes there are issues  
with the grammar such as missing articles (e.g., L. 19, 34 - 35).
```

```
\item[Typos:] There are are few instances with misspellings (e.g., L. 38, 218).
```

```
\end{description}
```

```
Detailed comments:\\
```

```
\begin{description}
```

```
\item[L. 48:] Strange sentence. What does \textit{implementation through natural  
constraints} mean?
```

```
\item[L. 132 - 133:] How was the LS factor linked to the actual parcels? How do upslope  
fields influence downslope parcels?
```

```
\item[L. 133:] What is the empirical basis for the claim that sink filling increases the  
errors? Sinks in a DEM can be real (and should be accounted for) or can be artifacts. Why  
did you not distinguish between the two situations?
```

```
\item[L. 162:] According to my knowledge, the RUSLE model does conceptually not  
account for sub-surface transport through tile-drains. Nevertheless, you compare RUSLE  
simulations to empirical data of the sum of surface and subsurface sediment transport.  
Should that not be reflected in a conceptual modification of the RUSLE model including a  
model parameter accounting for the split between surface and subsurface transport?
```

```
Additionally, the subsurface flow can induce mobilisation of soil particles also within the
```

soil profile, especially in the vicinity of subsurface drains because of the disturbances of the soil profile due to the installation of the drains. How is this accounted for?

\item[L. 274 (Tab. 4):] Please provide the number of observation years and the standard deviation of the measured erosion.

\item[L. 303 - 304:] Are these novel findings?

\item[L. 318 - 319 (Fig. 4):] The high resolution DEM only affects the the LS factor, doesn't it? Hence, only this map should make any difference to previous estimates, shouldn't it?

\item[L. 349 (Fig. 6):] To which degree are these findings novel?

\item[L. 353:] Replace \textit{high field area} by \textit{areas with a large fraction of arable land} (or similar).

\item[L. 357 - 358:] Is that statement not trivial given the definition of the EMI index?

\item[L. 445 - 446:] Where is the evidence that it was indeed the lack of high resolution risk maps that prevented the implemented of targeted measures?

\item[L. 448 - 452:] The four bullet points seem rather similar to me. Can you more precisely explain what the differences are?

\item[L. 454 - 456:] Is this a novel result?

\item[L. 458 - 460:] This seems to be quite standard knowledge, or am I wrong?

\item[L. 471 - 472:] Given that you have access to actually crop management data, it should be straight forward to assess the effects such modification in practice, shouldn't it?

\item[L. 477 - 478:] Where is the evidence for that? It is a frequently used arguments by natural scientists that improved model will enhance management, but which evidence demonstrates the validity of the claim?

\item[L. 481:] The previous erosion risk estimates were rather similar (see L. 384 - 389). So in which sense has the understanding of erosion risk considerably been improved?

\item[L. 487 - 488:] What do you mean by considering erosion risk across multiple scales? What does it mean from a scientific point of view, what does it mean in practice?

\item[L. 489 - 490:] Which aspect provides new opportunities for analysing the P- and C cycle given the similarity of previous erosion estimates?

\item[L. 491 - 492:] Where can one see this demonstration? The manuscript does not compare how policies or planning has changed due to the new erosion risk map.

\end{description}

Sincerely \\\

Dr. Christian Stamm
Editor HESS
}

\end{document}