

## ***Interactive comment on “Microstructure and hydraulic properties of biological soil crusts on sand dunes: a comparison between arid and temperate climates” by T. Fischer et al.***

**T. Fischer et al.**

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Comment #1 of referee #2: p12713, Line 17: ‘both’ refers to I and II. Move in the text to make this clearer.

response to comment #1: We rewrote this sentence. Now it reads like; "The mechanism of redirecting water has been reported to consist of the following run-off generating components: (I) physico-chemical surface properties such as water repellency or inhibited wettability, and (II) slow water infiltration (Yair, 1990, Kidron et al., 1999, Fischer et al., 2010). In addition, (III) water storage by the BSCs has been reported to reduce water infiltration into the rooting zone of vascular plants (Ram and Aaron,

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2007)."

Comment #2 of referee #2: p12719, 17: Reword sentence to begin: Decreasing infiltration along the catena at

response to comment #2: Done

Comment #3 of referee #2: p12720, line 11: Nonsensical at present –insert ‘differences’ after ‘Insignificant’

response to comment #3: Done

Comment #4 of referee #2: p127120, line 21/22: Unclear - meaning the dust distribution within the BSCs? That is gradation in dust concentration does not follow decrease in crust cover? Re-word.

response to comment #4: No, we mean the spatial distribution of dust deposition on a dune scale, not within the BSCs. Gradation in dust deposition does not follow decrease nor increase in crust cover. We rewrote the text: "However, deposition of fine-grain material - which might have contributed to the fine-grain material in the crust - is relatively low at the Nizzana site. Within the dune field, Littmann (1997) did not find a correlation between the amount of dust deposited and the distribution of BSC.“

Comment #5 of referee #2: p127121, line 2/3: Needs rewording - poorly and confusingly expressed at present. Reword as: To ensure the . . . . water to be supplied ...

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response to comment #5: Done

Comment #6 of referee #2: p127121, line 18 et seq.: Reword / reorder - nonsensical at present ‘at the arid site’ and ‘superimposed in the wrong parts of the sentence. Intended meaning: ... along the catena at the arid site the influence of ..... were superimposed.

response to comment #6: Done

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Comment #7 of referee #2: p127121, line 23/24/25. Reword start of / order of sentence:  
It is hypothesized that under temperate conditions

response to comment #7: Done

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