

Comments and edits - Earth's Critical Zone and Hydropedology

Abstract

P3418

L14 -Advance

L14 - Delete 'growth'

L15 - instead of 'platform', perspective or concept

L26 - instead of 'are linked', can be addressed

P3419

L1 – remove 'and pedogenesis'

L3 - instead of carriers, vehicles for expression of

P21 – replace 'it is called' with the descriptor

P3420

L23 – change 'coming ...breakthroughs' to 'is becoming united because of the current global concern for the fresh water supply'

And delete "has embraced...relevance" with 'particularly driven by society's need for energy'

P3421

L1 – replace An...fostering' with 'A'

P3424

L12 – replace 'guide.....illustration is the' with 'see their knowledge in a wider context e.g knowledge of soil forming processes can provide...

P3427

L22 – replace 'rock' with lithologic.

P3428

L16 – remove 'may be called' and 'increasingly'

P3429

L17 – replace 'as' with because

P3432

L29 – forcings, not forcing.

P3433

L1 – comment only: When undergrads get 'wind' of soils with 'hot moments' and 'hot-spots' we'll soon solve our student number crisis.

P3435

L20 – after 'interactions' insert 'of processes.

L25 – replace 'while' with whereas

P3436

L4 – after 'detail' insert 'than in a previous study' or 'than in previous studies'

L18 – after 'spectroscopic' add 'mathematical and computational'

P3438

L16 – replace ‘this includes’ with ‘these include’

P3439

3.2 Fundamentals of hydrogeology

Revised this whole section to read:

Fundamental scientific issues of hydrogeology can be considered under four headings (Fig 6):

1. Soil structure and horizonation. These determine flow and transport characteristics in field soil. Hydrogeological studies focus on quantifying soil architecture and its impact on preferential flow across scales
2. Soil catena and distribution pattern. These properties are the first ‘control’ of water movement over the landscape. Hydrogeological studies embrace quantitative soil-landscape relationships and their impact on landscape hydrological processes
3. Soil morphology. Hydrological processes leave signatures in soils. Hydrogeology studies focus on quantitativerecords.
4. Soil functional classification and mapping. These are ‘carriers’ of hydrological properties.....landscape.

L20 & 21 – delete ‘one’

L22 – delete ‘further’

P3440

L7,8 – delete ‘are of essence to’ and replace with ‘is the essential element’

P3441

LL9- hydrologic

P3449

L7,8 – delete ‘on...represent’ replace with ‘delineations representing spatially’

P3453

L12 – Add ‘s’ after DEM

P3455

L20 to 29 – delete ‘soil’ after each of the numbered points from (1) to(7) and also ‘of our soil’

P3459

L23-27 suggest this phrasing neither quickly intermix (cf. atmosphere), nor rapidly move laterally along the landscape (cf. hydrosphere) nor clearly.....changes (biosphere), nor escape.....perturbations (cf lithosphere).

P3460

L1 – ‘formed-in-situ’

L7&8 - remove ‘soil’

Figure 1

Delete An...science. Replace with ‘A vision for soil science’.

I'm not so comfortable with 'outward growth' and 'inward contraction' preferring descriptors such as "narrow perspective" and 'broad or expansive perspective' Adoption of the broad view/perspective will ensure the growth of soil science and recognition of its relevance in many areas of societal need.