

## ***Interactive comment on “World’s soils are under threat” by L. Montanarella et al.***

**L. Montanarella et al.**

dominique.arrouays@orleans.inra.fr

Received and published: 16 February 2016

We appreciate the comments of this reviewer.

The reviewer has a general comment about the degree of confidence that should be placed in the regional assessments of the severity of degradation. To address this we would suggest the following change:

P. 8, l13-18:

Original: 4. The regional assessments in the SWSR report frequently base their evaluations on studies from the 1990s based on observations made in the 1980s or earlier. We must improve our knowledge about the current state and trend of the soil condition. An initial emphasis should be on improving observation systems to monitor our progress in achieving the three priorities outlined above.

C761

Suggested revision: 4. The regional assessments in the SWSR report frequently base their evaluations on studies from the 1990s based on observations made in the 1980s or earlier. The lack of current data causes significant uncertainty in our assessments of soil threats at the regional scale. We must improve our knowledge about the current state and trend of the soil condition. An initial emphasis should be on improving observation systems to monitor our progress in achieving the three priorities outlined above.

The reviewer’s comments on waterlogging are appreciated. We suggest the following change to address the comment:

Original: P5. L. 25-26 and P6. L 1-2

The specific threats to soil function considered in the report are erosion, compaction, acidification, contamination, sealing, salinization, waterlogging, nutrient imbalance (i.e. both nutrient deficiency and nutrient excess), and losses of soil organic carbon and of biodiversity.

Suggested change: The specific threats to soil function considered in the report are erosion, compaction, acidification, contamination, sealing, salinization, waterlogging, nutrient imbalance (i.e. both nutrient deficiency and nutrient excess), and losses of soil organic carbon and of biodiversity. Several threats (e.g. waterlogging, salinization) have both natural and human-induced causes; our focus was on human-induced changes to the state and trend of the threats.

Specific changes suggested by reviewer: p. 6, l. 22-25: Original: Warming-induced changes in soil temperature and moisture regimes may increase the soil organic carbon (SOC) decomposition rate and the intensification of the risks of erosion and desertification can accelerate climate change.

Suggested change: Warming-induced changes in soil temperature and moisture regimes may increase the soil organic carbon (SOC) decomposition rate and in-

C762

tensify the risks of erosion and desertification. P5, L. 2-6: Original: The development of specific measures appropriate for adoption by local decision-makers requires multi-level, interdisciplinary initiatives by many stakeholders – partnerships are therefore essential. In recognition of this, the Global Soil Partnership (GSP) ([www.fao.org/globalsoilpartnership](http://www.fao.org/globalsoilpartnership)) was established by members of the Food and Agriculture Organization of the United Nations (FAO).

The reviewer questions the link between the local decision-making required and the high-level work of the GSP. Suggested change: Insert p. 8, l. 18 (after numbered paragraph 4) As a next step, the ITPS is drafting Voluntary Guidelines on Sustainable Soil Management that will begin to bridge the gap between the local decision-making required for implementation of sustainable soil management and the high-level governance work of the GSP.

Our thanks again to the reviewers and editorial staff at SOIL.

---

Interactive comment on SOIL Discuss., 2, 1263, 2015.