

Interactive
Comment

Interactive comment on “The soil N cycle: new insights and key challenges” by J. W. van Groenigen et al.

U. Pöschl

u.poschl@mpic.de

Received and published: 20 December 2014

With regard to new insights and challenges concerning the nitrogen cycle of soil and terrestrial environments, I would like to draw the authors' and readers' attention to recent studies indicating that cryptogamic covers on soil, rock and plant surfaces may account for nearly half of the biological nitrogen fixation on land (Elbert et al. 2012) and that nitrous acid (HONO) may be similarly important as nitric oxide (NO) for the exchange of reactive nitrogen with the atmosphere (Su et al. 2011; Oswald et al. 2013).

Elbert, W., Weber, B., Burrows, S., Steinkamp, J., Budel, B., Andreae, M. O., and Pöschl, U.: Contribution of cryptogamic covers to the global cycles of carbon and nitro-

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



gen, Nature Geosci, 5, 459-462, 2012.

Su, H., Cheng, Y., Oswald, R., Behrendt, T., Trebs, I., Meixner, F. X., Andreae, M. O., Cheng, P., Zhang, Y., and Pöschl, U.: Soil nitrite as a source of atmospheric HONO and OH radicals, Science, 333, 1616-1618, 2011.

Oswald, R., Behrendt, T., Ermel, M., Wu, D., Su, H., Cheng, Y., Breuninger, C., Moravek, A., Mougin, E., Delon, C., Loubet, B., Pommerening-Röser, A., Sörgel, M., Pöschl, U., Hoffmann, T., Andreae, M. O., Meixner, F. X., and Trebs, I.: HONO Emissions from Soil Bacteria as a Major Source of Atmospheric Reactive Nitrogen, Science, 341, 1233-1235, 10.1126/science.1242266, 2013.

Interactive comment on SOIL Discuss., 1, 623, 2014.

SOIL

1, C384–C385, 2014

Interactive
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

