

EGU2020-12113

<https://doi.org/10.5194/egusphere-egu2020-12113>

EGU General Assembly 2020

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## Soils in the urban critical zone - Analyse of anthropogenic pressures and current proposals to preserve soil functions and ecosystem services

**Beatrice Bechet**<sup>1</sup>, Laure Beaudet<sup>2</sup>, Philippe Branchu<sup>3</sup>, Patrice Cannavo<sup>4</sup>, Cécile Delolme<sup>5</sup>, Liliane Jean-Soro<sup>6</sup>, Thierry Lebeau<sup>7</sup>, Cécile Le Guern<sup>8</sup>, Fabienne Marseille<sup>9</sup>, and Christophe Schwartz<sup>10</sup>

<sup>1</sup>GERS-LEE, Univ Gustave Eiffel, IFSTTAR, Bouguenais, France ([beatrice.bechet@ifsttar.fr](mailto:beatrice.bechet@ifsttar.fr))

<sup>2</sup>EPHor, INH, Angers, France ([Laure.Beaudet@agrocampus-ouest.fr](mailto:Laure.Beaudet@agrocampus-ouest.fr))

<sup>3</sup>CEREMA, Trappes, France ([Philippe.Branchu@cerema.fr](mailto:Philippe.Branchu@cerema.fr))

<sup>4</sup>EPHor, INH, Angers, France ([patrice.cannavo@agrocampus-ouest.fr](mailto:patrice.cannavo@agrocampus-ouest.fr))

<sup>5</sup>Univ Gustave Eiffel, Marne la Vallée, France ([cecile.delolme@univ-paris-est.fr](mailto:cecile.delolme@univ-paris-est.fr))

<sup>6</sup>GERS-LEE, Univ Gustave Eiffel, IFSTTAR, Bouguenais, France ([liliane.jean-soro@ifsttar.fr](mailto:liliane.jean-soro@ifsttar.fr))

<sup>7</sup>UMR 6112 (LPG), Université de Nantes, Nantes, France ([thierry.lebeau@univ-nantes.fr](mailto:thierry.lebeau@univ-nantes.fr))

<sup>8</sup>BRGM, Nantes, France ([c.leguern@brgm.fr](mailto:c.leguern@brgm.fr))

<sup>9</sup>CEREMA, Lyon, France ([fabienne.marseille@cerema.fr](mailto:fabienne.marseille@cerema.fr))

<sup>10</sup>UMR 1120 (LSE) Université de Lorraine-INRAE, Nancy, France ([christophe.schwartz@univ-lorraine.fr](mailto:christophe.schwartz@univ-lorraine.fr))

By 2017, the book "Soils within cities" (Levin et al., 2017) is moving away from the pedologist's description of urban soils to a broader understanding of urban soils, including the functions and the services they provide. This approach, which complements the naturalistic description of the soil, corresponds to the approach derived from the millennium ecosystems assessment (Morel et al., 2015; Walter et al., 2015). It is considered to be relatively anthropocentric and thus favours the integration of the soil in the urban socio-ecosystem.

Considering the soil by both its pedogenesis and functioning in ecosystems induces taking into account the dynamics of this system, but raises, with regard to the literature on urban soils, the existing lack to qualify and quantify the processes of genesis and evolution, especially in relation to ongoing climate change (Baveye et al., 2016). On the other hand, the description of soil ecosystem services (regulation, provisioning, cultural services) immediately reveals the interdependence of soil biophysicochemical processes with those occurring in the hydrosphere, the atmosphere and the biosphere (Adhikari and Hartemink, 2016). In this respect, the soil plays an interface role, but is deeply disturbed in urban areas.

The objective of the communication will be to review the status of urban soil in the "urban critical zone" concept. Through methodologies and results from projects implemented in French major cities that have enabled the development of databases, we will review the classification of these atypical soils and the changes in their properties and functions. Through the definition of the services they provide, we will propose a more integrated vision of this compartment of the urban

ecosystem, by specifying the forcing caused by its interface position, but also the opportunities of improvement foreseen by the development of solutions for revegetation and de-sealing. We will see how the timeframe of soil evolution in urban zones can influence the data collection of soil parameters and mapping.