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The effect of biochemical energy release on soil temperature

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Heat energy is released into the soil through microbial respiration. The aim of this study is to consider the effect of this energy release upon soil temperature and therefore the feedback on the microbial respiration itself. It is possible to model the relationship between the heat released through microbial respiration and the internal temperature of an isolated system, like a compost heap. Under certain circumstances there are two possible stable equilibria for the temperature of the system. This study also considers the effects of the inclusion of the heat released through microbial respiration upon land surface schemes.