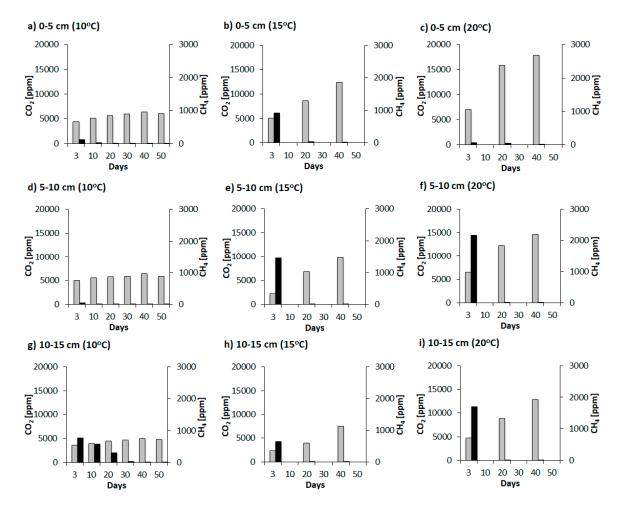


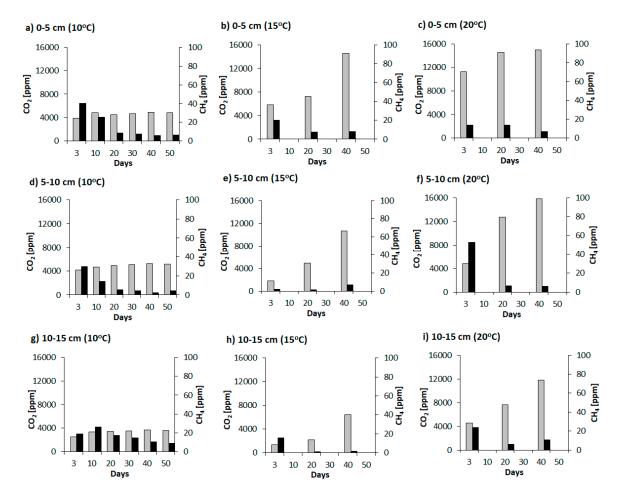


## **Supplementary Materials**

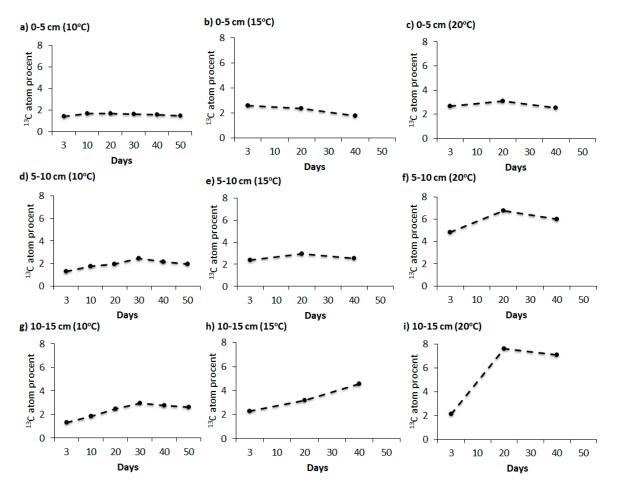
## **Supplementary figures:**



**Figure S1.** Changes in concentration of CH<sub>4</sub> (black) and CO<sub>2</sub> (grey) over time, in the different sediment layers and at different temperatures (He+<sup>13</sup>CH<sub>4</sub>).



**Figure S2.** Changes in concentration of CH<sub>4</sub> (black) and CO<sub>2</sub> (grey) over time, in the different sediment layers and at different temperatures (He).



**Figure S3.** Change of <sup>13</sup>C AP over time for incubations conducted at different temperatures in the 0-5, 5-10 and 10-15 cm sediment layers (He+<sup>13</sup>CH<sub>4</sub>).