SUPPLEMENTARY MATERIAL

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Characterization of long-range transported bioaerosols in the Central Mediterranean

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5 Chiara Petroselli,[1] Elena Montalbani[2], Gianandrea La Porta[2], Stefano Crocchianti[2], Beatrice

6 Moroni[2], Chiara Casagrande[2], Elisa Ceci[2], Roberta Selvaggi[2], Bartolomeo Sebastiani[2], Isabella

7 Gandolfi[3], Andrea Franzetti[3], Ermanno Federici[2] and David Cappelletti[2,4]

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17 **Figure SM1 – DREAM8b results for MM site for selected example cases under study**

18 Dust low level concentration (left panel) and meteofields (right panel) for the Mediterranean area

19 (DREAM8b model) for selected example cases under study in the present work.

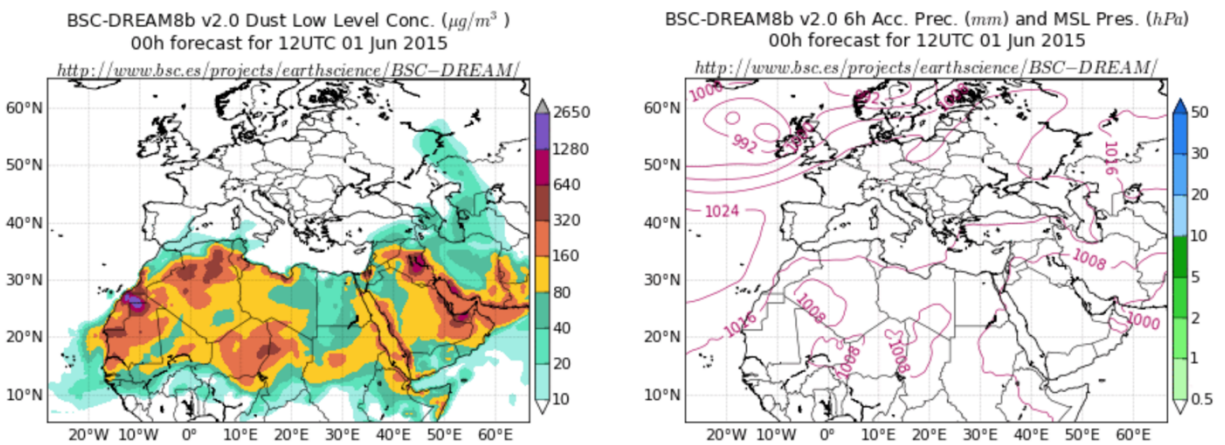20 A) 30 Nov 2014, Intense Saharan (SH) advection.
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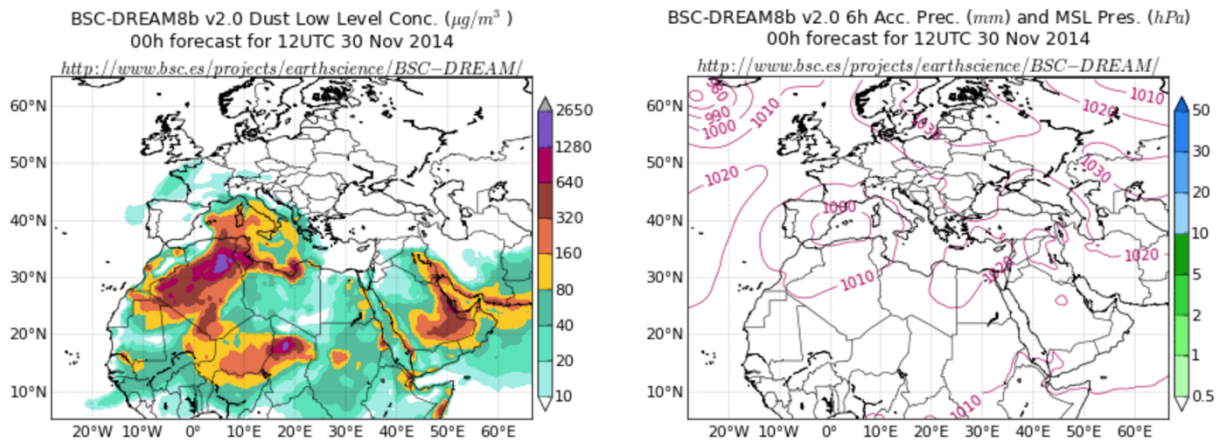
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23 B) 01 Jun 2015, Regional (REG) air mass with a partial influence of Western sectors
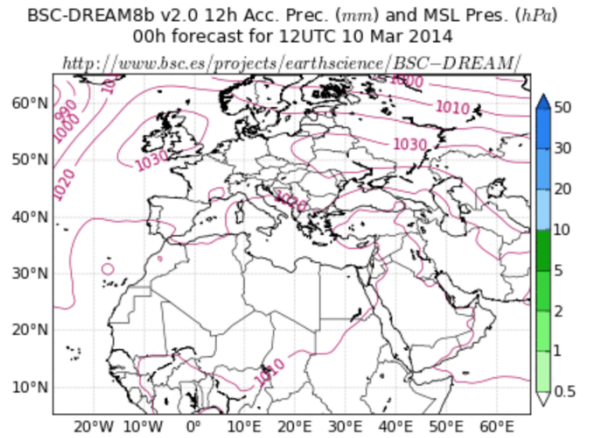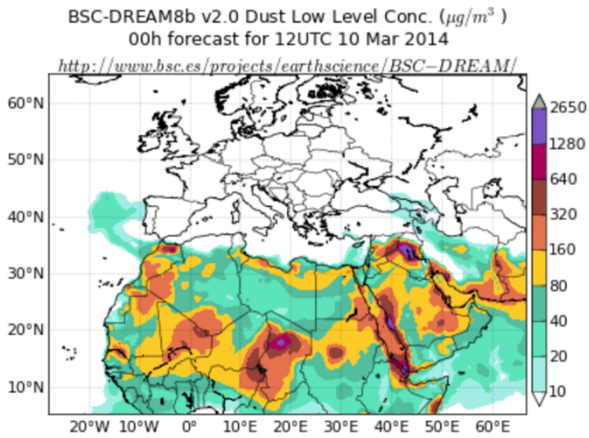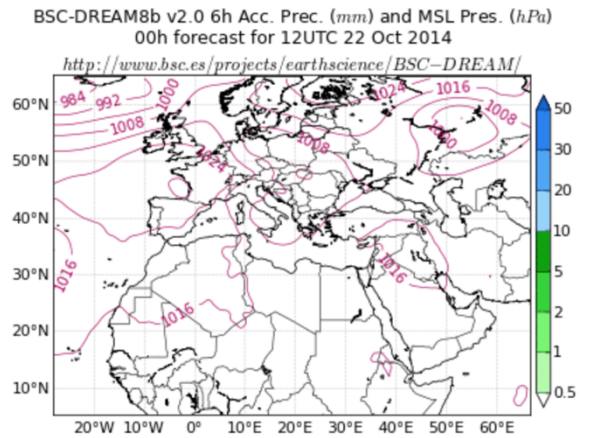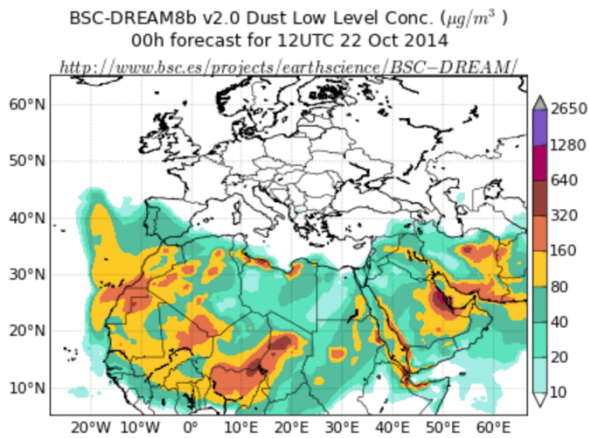24

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33   C) 10 Mar 2014, Northeastern (NE) air mass
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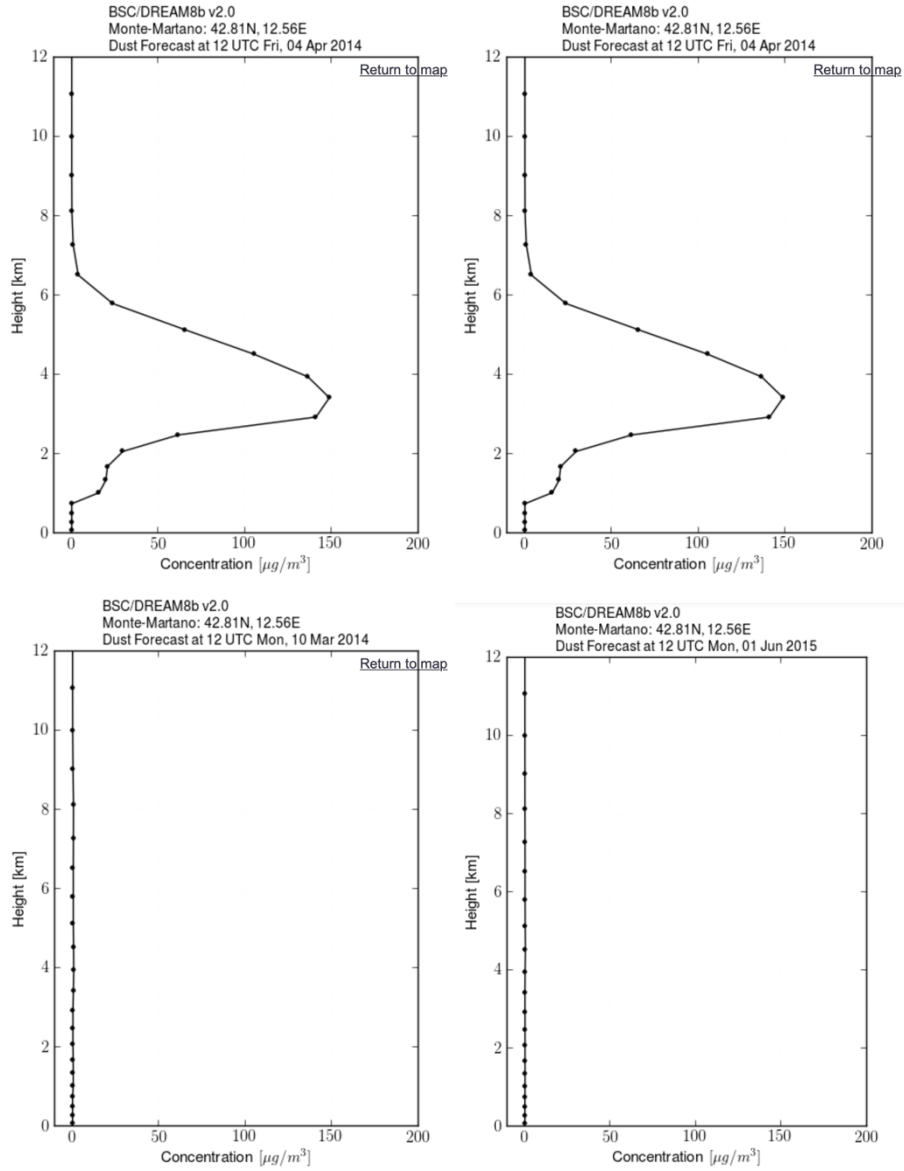38   D) 22 Oct 2014, Northwestern (NW) air mass
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55   **Figure SM2 – Vertical distribution of dust at MM**

56   Examples of vertical distribution of dust transported at the MM site during two SH intrusions

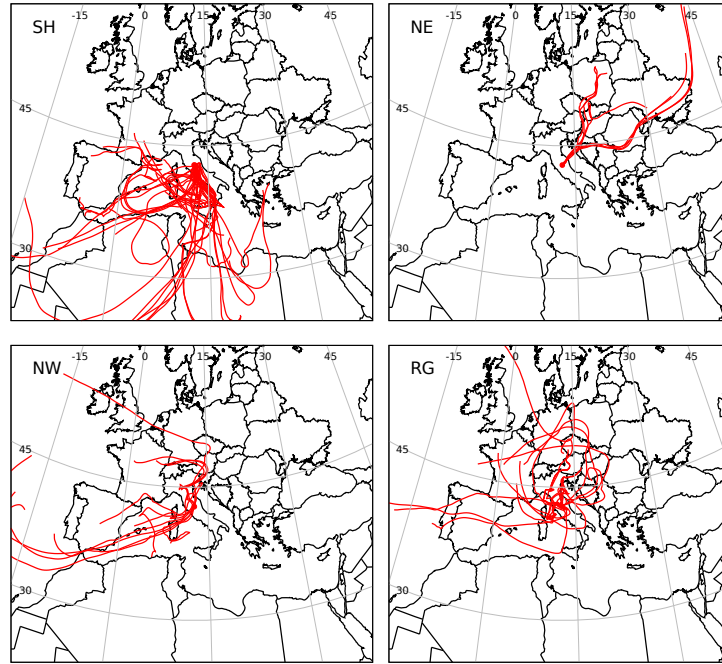57   (upper panels) and REG (lower lefthand panel) and NE (lower righthand panel) cases.

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60 **Figure SM3 – Back Trajectory analysis for the 50m (upper panel) and 1000m (lower panel)**
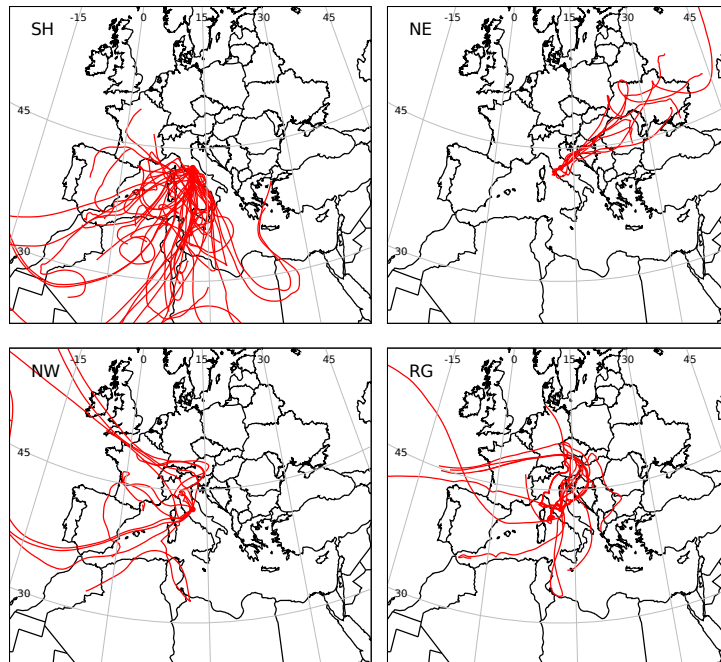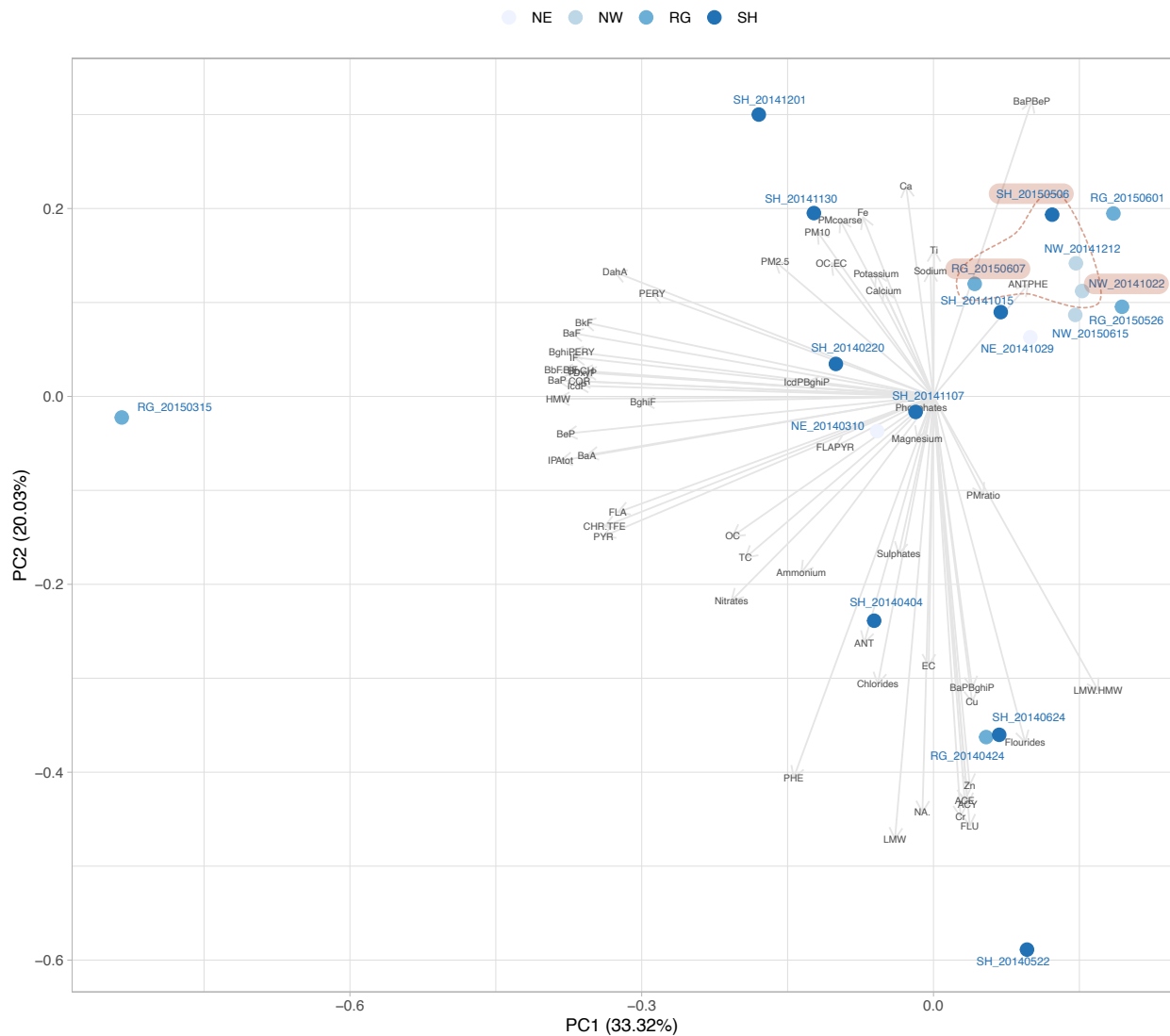
61 **endpoints**

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Figure SM4 – PCA analysis on chemical variables determined for the various air samples.

Principal Component analysis of the 19 cases (in blue) under study, exploting chemical variables (in black) as determined in the present work. The first 2 PC are reported, which describe >50% of the total variance. See text for discussion.

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Figure SM5 – Boxplot distribution of relative abundance of bacterial genera.
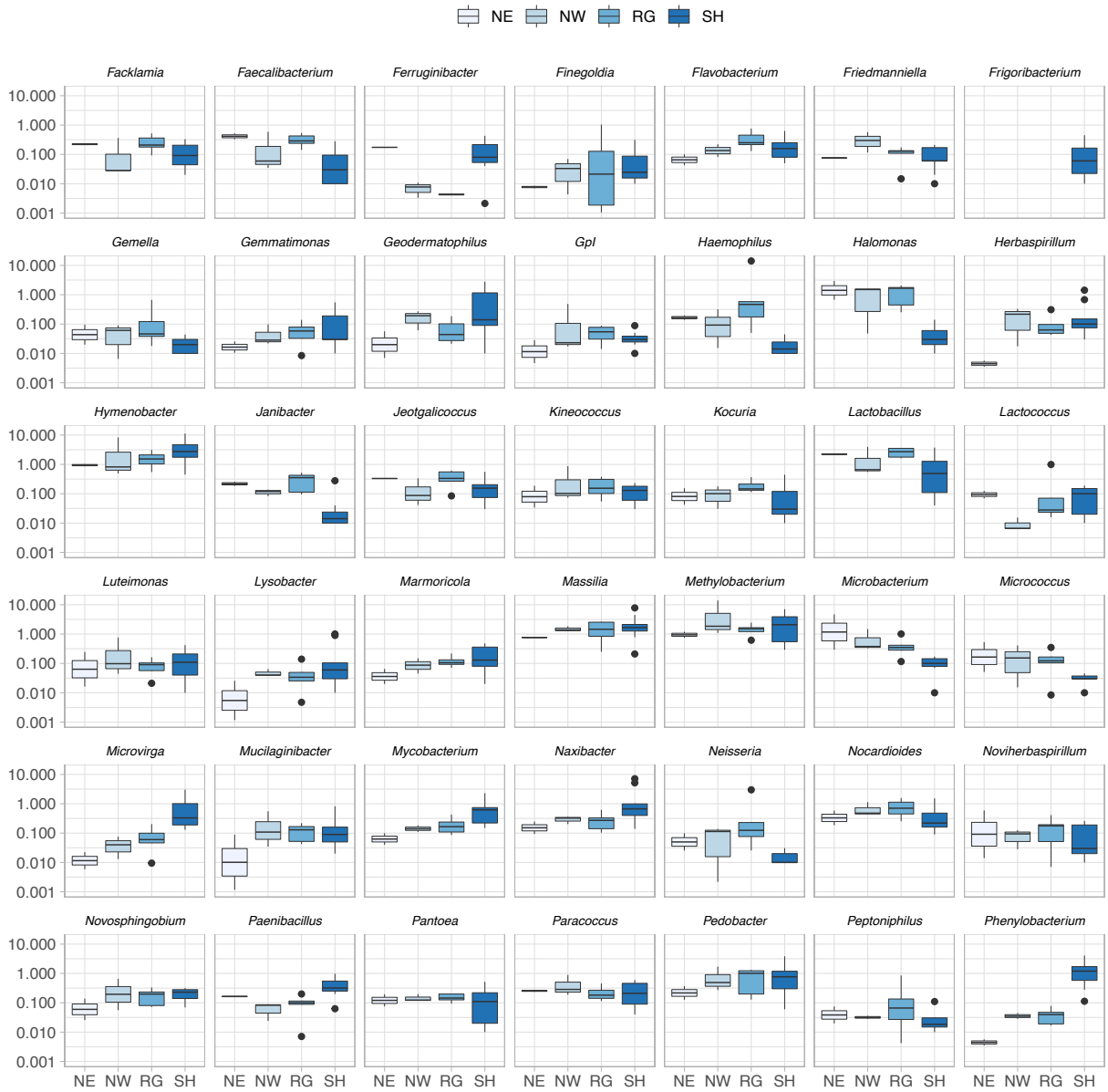
73   The relative abundance of 116 genera, whose abundance was higher than 0.5%, are reported in

74   a boxplot form for the various air mass origins (NE, NW,RG,SH) individuated in the present

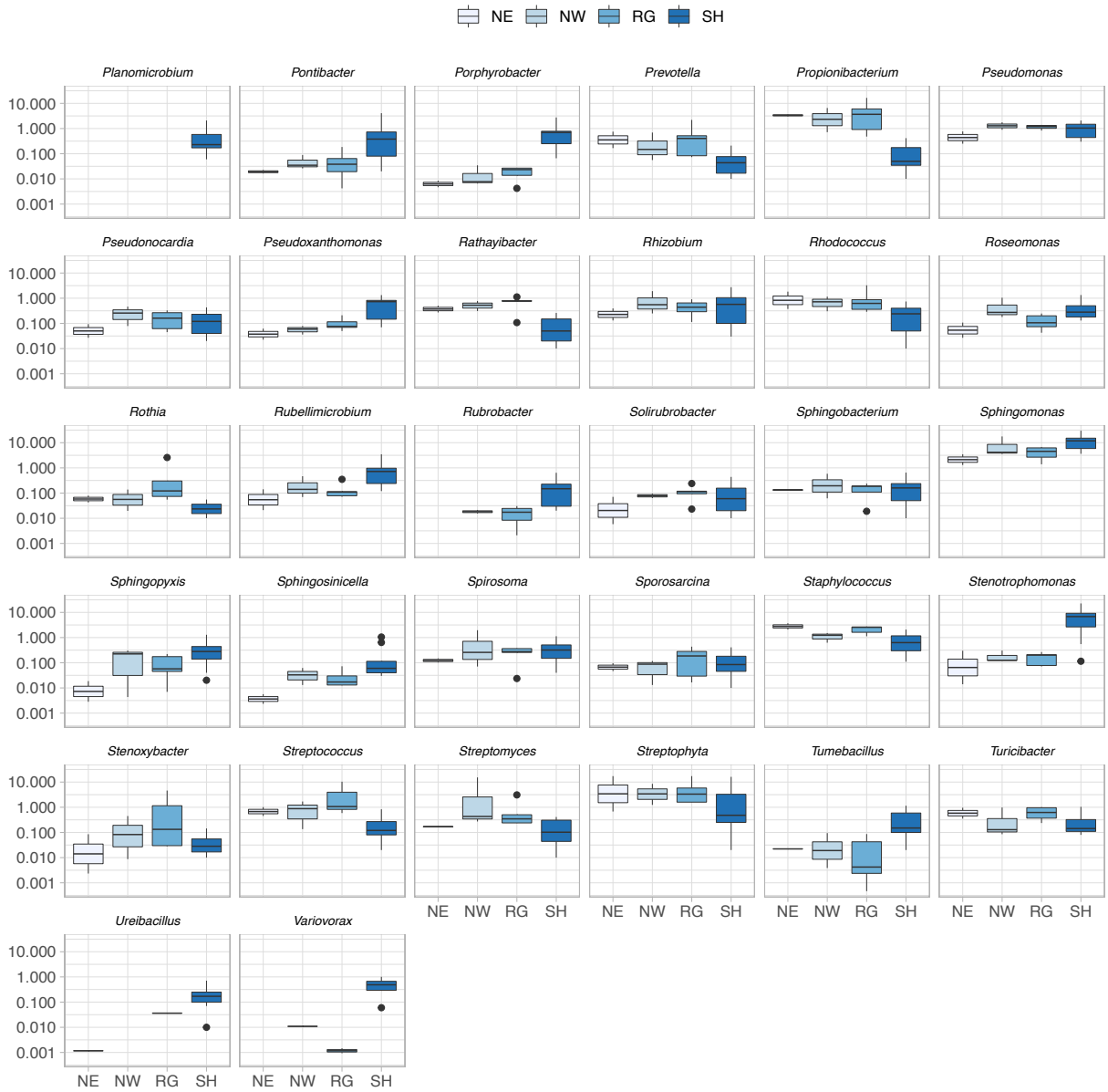75   analysis.

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77   Cont.next page

Figure SM5 (continued)

Figure SM5 (continued)