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Supplement of

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Erdenebayar Munkhtsetseg et al.

Correspondence to: Erdenebayar Munkhtsetseg (munkhtsetseg.e@seas.num.edu.mn)

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Anthropogenic Dust Emissions due to Livestock Trampling in a Mongolian Temperate Grassland

Erdenebayar Munkhtsetseg¹, Masato Shinoda², Masahide Ishizuka³, Masao Mikami⁴, Reiji Kimura⁵, and George Nikolich⁶

¹School of Applied Sciences and Engineering, National University of Mongolia, Ulaanbaatar, Mongolia

²Graduate School of Environmental Studies, Nagoya University, Nagoya, Japan

³Kagawa University, Takamatsu, Japan

⁴Meteorological Research Institute, Tsukuba, Japan

⁵Arid Land Research Center, Tottori University, Tottori, Japan

⁶Desert Research Institute, Nevada University, Las Vegas, USA

Correspondence to: E.Munkhtsetseg (munkhtsetseg.e@seas.num.edu.mn)

Supplement 1. Measured dust emissions inside DOS (see Figure 3a)

| u_* , ms^{-1} | Measured dust emissions, $\mu\text{gm}^2\text{s}^{-1}$ | | | | | | | | | |
|--------------------------|--|-------|-------|-------|-------|---------------|--------|-------|--------|---------|
| | F_{REF} | | | | | $F_{N_{250}}$ | | | | |
| | 0.44 | 0.54 | 0.64 | 0.73 | 0.82 | 0.44 | 0.54 | 0.64 | 0.73 | 0.82 |
| | 7.75 | 14.87 | 9.95 | 17.14 | 13.71 | 86.76 | 73.70 | 32.08 | 141.49 | 110.21 |
| | 7.58 | 16.11 | 9.60 | 25.77 | 32.44 | 5.92 | 125.49 | 87.57 | 677.31 | 928.18 |
| | 17.08 | 16.47 | 20.31 | 58.69 | 83.07 | 4.41 | 40.24 | 21.06 | 370.49 | 709.59 |
| | 6.88 | 16.62 | 9.22 | 28.64 | 23.24 | 7.18 | 120.81 | 72.79 | 571.93 | 1292.03 |
| | 12.21 | 15.00 | 7.32 | 39.68 | 32.53 | | | | | |
| | 19.59 | 26.07 | 11.60 | 79.69 | 37.85 | | | | | |
| | 2.07 | 4.51 | 2.54 | 23.12 | 38.46 | | | | | |
| Mean | 10.5 | 15.7 | 10.1 | 39.0 | 37.3 | 26.1 | 90.1 | 53.4 | 440.3 | 760.0 |
| SD | 6.2 | 6.3 | 5.4 | 22.6 | 22.0 | 40.5 | 40.6 | 31.9 | 236.4 | 495.3 |

Supplement 2. Measured dust emissions along the transect line (see Figure 3b)

| u_* , ms^{-1} | Measured dust emissions, $\mu\text{g m}^{-2} \text{s}^{-1}$ | | | | | | | | | |
|--------------------------|---|-------|--------|--------|-------|---------------|-------|--------|---------|-------|
| | $F_{N_{201}}$ | | | | | $F_{N_{241}}$ | | | | |
| | 0.44 | 0.54 | 0.64 | 0.73 | 0.82 | 0.44 | 0.54 | 0.64 | 0.73 | 0.82 |
| 2.07 | 9.10 | 9.36 | 268.38 | 569.14 | 1.89 | 4.37 | 8.50 | 412.38 | 1469.22 | |
| 2.4 | 5.45 | 4.51 | 247.47 | 477.52 | 6.34 | 15.92 | 12.9 | 124.73 | 165.94 | |
| 1.97 | 5.06 | 4.19 | 215.55 | 433.93 | 72.99 | 14.31 | 7.07 | 24.52 | 23.24 | |
| 2.71 | 5.67 | 5.85 | 97.96 | 641.01 | 1.82 | 2.51 | 2.49 | 50.45 | 131.55 | |
| 2.97 | 9.64 | 7.49 | 229.35 | 648.04 | 5.67 | 20.25 | 13.4 | 153.83 | 143.61 | |
| 4.09 | 11.62 | 10.44 | 222.24 | 452.61 | 1.99 | 8.14 | 6.04 | 42.57 | 55.1 | |
| 2.94 | 5.68 | 6.42 | 146.43 | 223.69 | 1.97 | 7.37 | 7.06 | 191.46 | 899.14 | |
| 3.21 | 14.28 | 12.41 | 160.77 | 365.88 | 4.01 | 29.91 | 19.13 | 246.65 | 551.89 | |
| 2.75 | 6.13 | 5.15 | 217.09 | 533.54 | 6.83 | 11.98 | 7.16 | 26.54 | 31.83 | |
| 2.73 | 5.61 | 4.85 | 85.18 | 177.24 | 2.26 | 8.52 | 6.12 | 137.08 | 596.04 | |
| 2.37 | 8.57 | 12.44 | 276.89 | 450.74 | 3.31 | 18.58 | 33.96 | 300.54 | 923.68 | |
| 3.41 | 9.2 | 7.78 | 170.03 | 728.82 | 5.25 | 17.48 | 15.43 | 213.66 | 1042.76 | |
| 3.81 | 8.02 | 17.81 | 308.82 | 712.61 | 4.08 | 27.73 | 29.94 | 432.75 | 1472.39 | |
| 3.76 | 8.9 | 11.64 | 259.24 | 597.8 | 8.05 | 44.2 | 42.09 | 433.13 | 1592.87 | |
| 31.04 | 48.44 | 15.28 | 244.37 | 354.01 | 30.71 | 53.14 | 26.27 | 143.26 | 180.92 | |
| 5.52 | 13.13 | 9.85 | 145.49 | 210.6 | 3.56 | 12.87 | 6.02 | 47.52 | 107.3 | |
| 8.4 | 14.43 | 15.37 | 261.1 | 661.45 | 5.7 | 10.29 | 5.31 | 16.61 | 10.14 | |
| 18.14 | 36.23 | 20 | 79.97 | 93.23 | 3.62 | 39.83 | 33.47 | 369.67 | 365.11 | |
| 3.56 | 8.09 | 7.07 | 48.61 | 46.17 | 4.98 | 15.48 | 9.29 | 62.39 | 56.63 | |
| 6.06 | 30.54 | 57.19 | 330.62 | 253.18 | 1.98 | 15.89 | 14.71 | 319.52 | 1221.66 | |
| 10.36 | 57.89 | 6.34 | 109.65 | 81.43 | 8.08 | 27.42 | 15.96 | 262.56 | 1604.88 | |
| 4.69 | 6.57 | 3.77 | 18.18 | 36.43 | | | | | | |
| 2.15 | 2.52 | 2.71 | 90.26 | 136.25 | | | | | | |
| 1.58 | 2.94 | 2.34 | 90.37 | 197.62 | | | | | | |
| 1.2 | 3.64 | 2.12 | 33.32 | 115.36 | | | | | | |
| Mean | 5.4 | 13.5 | 10.5 | 174.3 | 367.9 | 8.8 | 19.3 | 15.3 | 191 | 602.2 |
| SD | 6.4 | 14.3 | 10.9 | 91 | 228.4 | 15.9 | 13.4 | 11.3 | 143.2 | 590.6 |