**Surface fluxes – analysis of Fluxnet data  
Answer sheet**

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| --- | --- |
| Student 1 (name) |  |
| Student 2 (name) |  |

# Exercise part 1

1. Analysis of background variables. Describe for three variables the typical yearly cycle and compare that between the three sites. Try to explain your findings.

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| --- | --- | --- |
| Variable | **Typical yearly cycle  (+ explanation)** | **Comparison between sites  (+ explanation)** |
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|  |  |  |

2. Typical values for daily mean surface energy balance terms (e.g. ‘summer’ means roughly the average value for all summers in the plot)

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| --- | --- | --- | --- | --- | --- | --- |
| **Site** | **Loobos** | | **Horstermeer** | | **Rollesbroich** | |
|  | **summer** | **winter** | **summer** | **winter** | **summer** | **winter** |
| net radiation (Wm-2) |  |  |  |  |  |  |
| sensible heat flux (Wm-2) |  |  |  |  |  |  |
| latent heat flux (Wm-2) |  |  |  |  |  |  |

3. Explanation of variations between years

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| --- | --- | --- |
| **Site** | **Flux** | **Variation and explanation** |
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4. Partitioning through the year

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| --- | --- |
| **Site** | **Findings on partitioning (+ explanation)** |
| **Loobos** |  |
| **Horstermeer** |  |
| **Rollesbroich** |  |

5. Reference ET vs. actual ET

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| --- | --- |
| **Site** | **Findings on reference ET vs. actual ET (+ explanation)** |
| **Loobos** |  |
| **Horstermeer** |  |
| **Rollesbroich** |  |

# Exercise part 2

6. Carbon-related fluxes. Consider the typical yearly cycle, compare the sites. Finally, compare the values for GPP and NEE explicitly.

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| --- | --- | --- |
| Variable | **Typical yearly cycle  (+ explanation)** | **Comparison between sites  (+ explanation)** |
| NEE |  |  |
| GPP |  |  |
| respiration |  |  |
| NEE vs GPP |  |  |

7. Light response curve for each site

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| --- | --- | --- | --- |
| **Site** | **Initial light-use efficiency (umol/J)** | **Maximum assimilation rate (umol/m2/s)** | **Plot** |
| **Loobos** |  |  |  |
| **Horstermeer** |  |  |  |
| **Rollesbroich** |  |  |  |

Comparison between the sites

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8. Water use efficiency (WUE)

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| **Site** | **Initial WUE (at low fluxes) (umol/J)** | **WUE at maximum fluxes (umol/J)** | **Plot** |
| **Loobos** |  |  |  |
| **Horstermeer** |  |  |  |
| **Rollesbroich** |  |  |  |

Comparison between the sites

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| --- |
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