| Trait              | Outliers removed | Coverage<br>Correction | Transformation applied |
|--------------------|------------------|------------------------|------------------------|
| mCG_global         | 5                | yes                    | none                   |
| mCHG_global        | 3                | yes                    | none                   |
| mCHH_global        | 0                | yes                    | none                   |
| CG_genes           | 7                | yes                    | INT                    |
| CHG_genes          | 3                | no                     | INT                    |
| CHH_genes          | 3                | no                     | INT                    |
| mCG_CDSs           | 3                | no                     | INT                    |
| mCHG_CDSs          | 3                | no                     | INT                    |
| mCHH_CDSs          | 3                | no                     | INT                    |
| mCG_introns        | 5                | no                     | INT                    |
| mCHG_introns       | 3                | no                     | INT                    |
| mCHH_introns       | 3                | no                     | INT                    |
| CG_intergenic      | 5                | yes                    | none                   |
| CHG_intergenic     | 0                | yes                    | none                   |
| CHH_intergenic     | 0                | yes                    | INT                    |
| mCG_TEs            | 2                | no                     | none                   |
| mCHG_TEs           | 0                | no                     | none                   |
| mCHH_TEs           | 0                | no                     | none                   |
| mCG_prom           | 8                | yes                    | none                   |
| mCHG_prom          | 3                | yes                    | none                   |
| mCHH_prom          | 3                | yes                    | none                   |
| CG_genes_more5met  | 5                | yes                    | none                   |
| CHG_genes_more5met | 0                | yes                    | none                   |
| CHH_genes_more5met | 0                | yes                    | none                   |

S4 Table. List of all mean methylation variables used for GWA and climate correlation.

INT: Inverse Normal Transformation