

Class average values of hydraulic parameters

The table below gives class-average values of the seven hydraulic parameters for the twelve USDA textural classes. Effectively, this table represents the first model of the hierarchical sequence. For the θ_r , θ_s , α , n and K_s parameters, the values have been generated by computing the average values for each textural class. For K_o and L the values were generated by inserting the class average values of θ_r , θ_s , α , n into Model C2 (see Rosetta's help file). This means that K_o and L are based on predicted parameters and may not be very reliable. The values in parenthesis give the one standard deviation uncertainties of the class average values.

| Texture Class | N | --- θ_r --- cm ³ /cm ³ | | --- θ_s --- cm ³ /cm ³ | | --- $\log(\alpha)$ --- log(1/cm) | | --- $\log(n)$ --- log10 | | --- K_s --- log(cm/day) | | --- K_o --- log(cm/day) | | --- L --- | |
|---------------|-----|--|---------|--|---------|-------------------------------------|--------|----------------------------|--------|------------------------------|--------|------------------------------|--------|-------------|--------|
| Clay | 84 | 0.098 | (0.107) | 0.459 | (0.079) | -1.825 | (0.68) | 0.098 | (0.07) | 1.169 | (0.92) | 0.472 | (0.26) | -1.561 | (1.39) |
| C loam | 140 | 0.079 | (0.076) | 0.442 | (0.079) | -1.801 | (0.69) | 0.151 | (0.12) | 0.913 | (1.09) | 0.699 | (0.23) | -0.763 | (0.90) |
| Loam | 242 | 0.061 | (0.073) | 0.399 | (0.098) | -1.954 | (0.73) | 0.168 | (0.13) | 1.081 | (0.92) | 0.568 | (0.21) | -0.371 | (0.84) |
| L Sand | 201 | 0.049 | (0.042) | 0.390 | (0.070) | -1.459 | (0.47) | 0.242 | (0.16) | 2.022 | (0.64) | 1.386 | (0.24) | -0.874 | (0.59) |
| Sand | 308 | 0.053 | (0.029) | 0.375 | (0.055) | -1.453 | (0.25) | 0.502 | (0.18) | 2.808 | (0.59) | 1.389 | (0.24) | -0.930 | (0.49) |
| S Clay | 11 | 0.117 | (0.114) | 0.385 | (0.046) | -1.476 | (0.57) | 0.082 | (0.06) | 1.055 | (0.89) | 0.637 | (0.34) | -3.665 | (1.80) |
| S C L | 87 | 0.063 | (0.078) | 0.384 | (0.061) | -1.676 | (0.71) | 0.124 | (0.12) | 1.120 | (0.85) | 0.841 | (0.24) | -1.280 | (0.99) |
| S loam | 476 | 0.039 | (0.054) | 0.387 | (0.085) | -1.574 | (0.56) | 0.161 | (0.11) | 1.583 | (0.66) | 1.190 | (0.21) | -0.861 | (0.73) |
| Silt | 6 | 0.050 | (0.041) | 0.489 | (0.078) | -2.182 | (0.30) | 0.225 | (0.13) | 1.641 | (0.27) | 0.524 | (0.32) | 0.624 | (1.57) |
| Si Clay | 28 | 0.111 | (0.119) | 0.481 | (0.080) | -1.790 | (0.64) | 0.121 | (0.10) | 0.983 | (0.57) | 0.501 | (0.27) | -1.287 | (1.23) |
| Si C L | 172 | 0.090 | (0.082) | 0.482 | (0.086) | -2.076 | (0.59) | 0.182 | (0.13) | 1.046 | (0.76) | 0.349 | (0.26) | -0.156 | (1.23) |
| Si Loam | 330 | 0.065 | (0.073) | 0.439 | (0.093) | -2.296 | (0.57) | 0.221 | (0.14) | 1.261 | (0.74) | 0.243 | (0.26) | 0.365 | (1.42) |