Surface Characteristics Tables from the AERMET User’s Guide

Table 3-1. Albedo of Ground Covers by Land Use and Season

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Land-Use | Spring | Summer | Autumn | Winter |
| Water (fresh & salt) | 0.12 | 0.10 | 0.14 | 0.20 |
| Deciduous Forest | 0.12 | 0.12 | 0.12 | 0.50 |
| Coniferous Forest | 0.12 | 0.12 | 0.12 | 0.35 |
| Swamp | 0.12 | 0.14 | 0.16 | 0.30 |
| Cultivated Land | 0.14 | 0.20 | 0.18 | 0.60 |
| Grassland | 0.18 | 0.18 | 0.20 | 0.60 |
| Urban | 0.14 | 0.16 | 0.18 | 0.35 |
| Desert Shrubland | 0.30 | 0.28 | 0.28 | 0.45 |

Table 3-2. Daytime Bowen Ratio by Land Use and Season – Dry Conditions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Land-Use | Spring | Summer | Autumn | Winter |
| Water (fresh and sea) | 0.1 | 0.1 | 0.1 | 2.0 |
| Deciduous Forest | 1.5 | 0.6 | 2.0 | 2.0 |
| Coniferous Forest | 1.5 | 0.6 | 1.5 | 2.0 |
| Swamp | 0.2 | 0.2 | 0.2 | 2.0 |
| Cultivated Land | 1.0 | 1.5 | 2.0 | 2.0 |
| Grassland | 1.0 | 2.0 | 2.0 | 2.0 |
| Urban | 2.0 | 4.0 | 4.0 | 2.0 |
| Desert Shrubland | 5.0 | 6.0 | 10.0 | 10.0 |

Table 3-3. Daytime Bowen Ration by Land Use and Season - Average Moisture

Conditions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Land-Use | Spring | Summer | Autumn | Winter |
| Water (fresh and sea) | 0.1 | 0.1 | 0.1 | 1.5 |
| Deciduous Forest | 0.7 | 0.3 | 1.0 | 1.5 |
| Coniferous Forest | 0.7 | 0.3 | 0.8 | 1.5 |
| Swamp | 0.1 | 0.1 | 0.1 | 1.5 |
| Cultivated Land | 0.3 | 0.5 | 0.7 | 1.5 |
| Grassland | 0.4 | 0.8 | 1.0 | 1.5 |
| Urban | 1.0 | 2.0 | 2.0 | 1.5 |
| Desert Shrubland | 3.0 | 4.0 | 6.0 | 6.0 |

Table 3-4. Daytime Bowen Ratio by Land Use and Season - Wet Conditions

Land-Use Spring Summer Autumn Winter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Land-Use | Spring | Summer | Autumn | Winter |
| Water (fresh and sea) | 0.1 | 0.1 | 0.1 | 0.3 |
| Deciduous Forest | 0.3 | 0.2 | 0.4 | 0.5 |
| Coniferous Forest | 0.3 | 0.2 | 0.3 | 0.3 |
| Swamp | 0.1 | 0.1 | 0.1 | 0.5 |
| Cultivated Land | 0.2 | 0.3 | 0.4 | 0.5 |
| Grassland | 0.3 | 0.4 | 0.5 | 0.5 |
| Urban | 0.5 | 1.0 | 1.0 | 0.5 |
| Desert Shrubland | 1.0 | 1.5 | 2.0 | 2.0 |

Table 3-5. Surface Roughness Length, in Meters, by Land Use and Season

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Land-Use | Spring | Summer | Autumn | Winter |
| Water (fresh and sea) | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| Deciduous Forest | 1.00 | 1.30 | 0.80 | 0.50 |
| Coniferous Forest | 1.30 | 1.30 | 1.30 | 1.30 |
| Swamp | 0.20 | 0.20 | 0.20 | 0.05 |
| Cultivated Land | 0.03 | 0.20 | 0.05 | 0.01 |
| Grassland | 0.05 | 0.10 | 0.01 | 0.001 |
| Urban | 1.00 | 1.00 | 1.00 | 1.00 |
| Desert Shrubland | 0.30 | 0.30 | 0.30 | 0.15 |