|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Figure | Volume  ratio | Bowen coefficient | Transmitted solar radiation to bottom layer | Average error surface layer (K) | Max error surface layer (K) | Average error bottom layer (K) | Max error bottom layer (K) |
| 1 | Conic assumption  (V\_hypo = 4.2\*V\_epi) | Calculated with Hanna's correlation (0.22) | 0% of incident radiation | 2.8 | 14.2 | -2.8 | -8.7 |
| 2 | V\_hypo = 1.55\*V\_epi | Calculated with Hanna's correlation (0.22) | 0% of incident radiation | 3.0 | 11.6 | -1.5 | -7.0 |
| 3 | V\_hypo = 0.95\*V\_epi | Calculated with Hanna's correlation (0.22) | 0% of incident radiation | 3.1 | 10.8 | -0.7 | -5.9 |
| 4 | V\_hypo = 0.95\*V\_epi | Double of Hanna's correlation (0.44) | 0% of incident radiation | 2.4 | 9.8 | -0.9 | -5.9 |
| 5 | V\_hypo = 0.95\*V\_epi | Double of Hanna's correlation (0.44) | 2% of incident radiation | 2.5 | 9.6 | 2.0 | -1.2 |

**Effect of volume ratio**







