

# V. - Total Eclipse of the Sun

2002 December 04



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$\Delta T = +64^s.4$   
Globe centred on E 61°8' and S 33°0'

| Circumstances                                    | Time (UT) | Longitude  | Latitude  |
|--|-----------|------------|-----------|
|  | h m       | ° /        | ° /       |
| ⊕ Eclipse begins; first contact with Earth       | 4 51.4    | E 15 27.9  | N 1 56.9  |
| Beginning of northern limit of penumbra          | 5 38.5    | E 13 47.4  | N 24 51.2 |
| Beginning of northern limit of umbra             | 5 50.4    | W 1 38.9   | S 3 47.9  |
| Beginning of centre line; central eclipse begins | 5 50.6    | W 1 44.0   | S 3 55.9  |
| Beginning of southern limit of umbra             | 5 50.7    | W 1 49.1   | S 4 04.0  |
| Beginning of southern limit of penumbra          | 6 39.5    | W 32 46.8  | S 40 30.3 |
| Central eclipse at local apparent noon           | 7 38.7    | E 62 50.3  | S 40 31.7 |
| End of southern limit of penumbra                | 8 22.6    | W 169 59.3 | S 61 14.7 |
| End of southern limit of umbra                   | 9 11.6    | E 142 30.7 | S 28 37.4 |
| End of centre line; central eclipse ends         | 9 11.7    | E 142 25.4 | S 28 30.6 |
| End of northern limit of umbra                   | 9 11.8    | E 142 20.1 | S 28 23.9 |
| End of northern limit of penumbra                | 9 24.0    | E 126 27.1 | N 0 12.0  |
| ⊙ Eclipse ends; last contact with Earth          | 10 11.0   | E 124 38.8 | S 22 44.8 |