

## Antenna Height Above Average Terrain Calculations -- Results

### Input Data

Latitude **41° 25' 36" North**  
 Longitude **74° 34' 54" West (NAD 27)**

These coordinates convert to NAD 83 coordinates of  
 41° 25' 36.34", North, 74° 34' 52.58" West (NAD 83).

Height of antenna radiation center above mean sea level: **430 meters AMSL**

Number of Evenly Spaced Radials = **360**      0° is referenced to True North

### Results

Calculated HAAT = **167 meters**

Antenna Height Above Average Terrain calculated  
 using 1 km **GLOBE terrain data**

#### Individual "Radial HAAT" Values, in meters

|     |         |      |         |      |         |
|-----|---------|------|---------|------|---------|
| 0°  | 112.0 m | 120° | 249.0 m | 240° | 228.3 m |
| 1°  | 119.9 m | 121° | 250.5 m | 241° | 225.4 m |
| 2°  | 124.4 m | 122° | 251.8 m | 242° | 222.7 m |
| 3°  | 128.2 m | 123° | 253.0 m | 243° | 219.7 m |
| 4°  | 132.3 m | 124° | 253.9 m | 244° | 216.2 m |
| 5°  | 132.6 m | 125° | 254.3 m | 245° | 212.4 m |
| 6°  | 132.3 m | 126° | 254.1 m | 246° | 209.3 m |
| 7°  | 133.0 m | 127° | 253.9 m | 247° | 207.0 m |
| 8°  | 134.8 m | 128° | 253.6 m | 248° | 203.7 m |
| 9°  | 138.8 m | 129° | 253.5 m | 249° | 199.4 m |
| 10° | 143.7 m | 130° | 253.7 m | 250° | 194.9 m |
| 11° | 150.9 m | 131° | 254.4 m | 251° | 191.8 m |
| 12° | 159.4 m | 132° | 255.3 m | 252° | 190.2 m |
| 13° | 168.0 m | 133° | 256.1 m | 253° | 188.8 m |
| 14° | 176.4 m | 134° | 256.8 m | 254° | 186.0 m |
| 15° | 184.4 m | 135° | 257.1 m | 255° | 182.2 m |
| 16° | 191.8 m | 136° | 257.0 m | 256° | 178.8 m |
| 17° | 198.4 m | 137° | 256.1 m | 257° | 175.7 m |
| 18° | 204.6 m | 138° | 254.7 m | 258° | 173.7 m |
| 19° | 209.6 m | 139° | 253.0 m | 259° | 172.1 m |
| 20° | 212.6 m | 140° | 251.5 m | 260° | 168.3 m |
| 21° | 213.5 m | 141° | 250.2 m | 261° | 163.1 m |
| 22° | 212.4 m | 142° | 248.5 m | 262° | 158.9 m |
| 23° | 209.0 m | 143° | 246.4 m | 263° | 155.7 m |
| 24° | 204.1 m | 144° | 244.2 m | 264° | 154.1 m |
| 25° | 196.9 m | 145° | 242.3 m | 265° | 157.9 m |
| 26° | 186.9 m | 146° | 240.7 m | 266° | 162.4 m |
| 27° | 174.1 m | 147° | 239.3 m | 267° | 167.3 m |
| 28° | 159.3 m | 148° | 237.5 m | 268° | 165.9 m |
| 29° | 143.8 m | 149° | 235.3 m | 269° | 158.0 m |

|     |         |      |         |      |         |
|-----|---------|------|---------|------|---------|
| 30° | 126.8 m | 150° | 233.1 m | 270° | 150.0 m |
| 31° | 108.2 m | 151° | 231.4 m | 271° | 142.0 m |
| 32° | 90.9 m  | 152° | 230.5 m | 272° | 137.5 m |
| 33° | 79.3 m  | 153° | 230.6 m | 273° | 133.4 m |
| 34° | 73.6 m  | 154° | 231.1 m | 274° | 128.9 m |
| 35° | 71.7 m  | 155° | 231.2 m | 275° | 124.2 m |
| 36° | 75.8 m  | 156° | 230.5 m | 276° | 120.1 m |
| 37° | 89.1 m  | 157° | 229.2 m | 277° | 115.8 m |
| 38° | 111.3 m | 158° | 228.2 m | 278° | 111.1 m |
| 39° | 135.8 m | 159° | 227.3 m | 279° | 106.7 m |
| 40° | 156.8 m | 160° | 226.3 m | 280° | 103.8 m |
| 41° | 173.5 m | 161° | 224.7 m | 281° | 102.0 m |
| 42° | 186.9 m | 162° | 223.1 m | 282° | 100.2 m |
| 43° | 197.6 m | 163° | 221.9 m | 283° | 97.9 m  |
| 44° | 205.4 m | 164° | 220.9 m | 284° | 96.4 m  |
| 45° | 210.4 m | 165° | 219.0 m | 285° | 95.6 m  |
| 46° | 213.2 m | 166° | 215.7 m | 286° | 95.5 m  |
| 47° | 214.4 m | 167° | 211.1 m | 287° | 93.6 m  |
| 48° | 214.6 m | 168° | 207.9 m | 288° | 90.2 m  |
| 49° | 213.8 m | 169° | 207.1 m | 289° | 86.9 m  |
| 50° | 212.5 m | 170° | 207.8 m | 290° | 84.3 m  |
| 51° | 211.0 m | 171° | 208.3 m | 291° | 81.4 m  |
| 52° | 209.9 m | 172° | 205.9 m | 292° | 78.1 m  |
| 53° | 209.1 m | 173° | 202.3 m | 293° | 73.7 m  |
| 54° | 208.5 m | 174° | 197.7 m | 294° | 70.1 m  |
| 55° | 208.2 m | 175° | 194.7 m | 295° | 67.0 m  |
| 56° | 208.0 m | 176° | 193.7 m | 296° | 63.8 m  |
| 57° | 208.3 m | 177° | 191.0 m | 297° | 60.1 m  |
| 58° | 208.5 m | 178° | 187.3 m | 298° | 56.0 m  |
| 59° | 208.7 m | 179° | 183.6 m | 299° | 52.2 m  |
| 60° | 208.8 m | 180° | 182.2 m | 300° | 48.8 m  |
| 61° | 208.6 m | 181° | 181.0 m | 301° | 45.8 m  |
| 62° | 208.3 m | 182° | 180.0 m | 302° | 43.6 m  |
| 63° | 207.6 m | 183° | 179.6 m | 303° | 42.2 m  |
| 64° | 206.6 m | 184° | 178.1 m | 304° | 41.2 m  |
| 65° | 205.4 m | 185° | 174.8 m | 305° | 40.5 m  |
| 66° | 204.0 m | 186° | 169.7 m | 306° | 39.6 m  |
| 67° | 203.0 m | 187° | 165.3 m | 307° | 38.3 m  |
| 68° | 202.5 m | 188° | 165.2 m | 308° | 36.7 m  |
| 69° | 202.2 m | 189° | 164.3 m | 309° | 35.2 m  |
| 70° | 202.2 m | 190° | 161.1 m | 310° | 34.3 m  |
| 71° | 202.6 m | 191° | 157.3 m | 311° | 33.8 m  |
| 72° | 203.1 m | 192° | 154.3 m | 312° | 33.7 m  |
| 73° | 203.4 m | 193° | 151.0 m | 313° | 34.3 m  |
| 74° | 203.9 m | 194° | 145.0 m | 314° | 36.2 m  |
| 75° | 204.3 m | 195° | 137.4 m | 315° | 39.3 m  |
| 76° | 204.9 m | 196° | 130.6 m | 316° | 42.8 m  |
| 77° | 205.6 m | 197° | 125.2 m | 317° | 47.2 m  |
| 78° | 206.4 m | 198° | 120.4 m | 318° | 52.8 m  |
| 79° | 207.6 m | 199° | 115.6 m | 319° | 59.9 m  |
| 80° | 208.9 m | 200° | 110.1 m | 320° | 68.3 m  |
| 81° | 210.2 m | 201° | 102.9 m | 321° | 77.7 m  |
| 82° | 211.9 m | 202° | 92.9 m  | 322° | 88.7 m  |
| 83° | 214.1 m | 203° | 79.5 m  | 323° | 101.6 m |
| 84° | 215.6 m | 204° | 63.0 m  | 324° | 115.2 m |
| 85° | 216.8 m | 205° | 45.8 m  | 325° | 127.4 m |
| 86° | 217.5 m | 206° | 30.7 m  | 326° | 136.5 m |
| 87° | 218.1 m | 207° | 21.2 m  | 327° | 141.0 m |
| 88° | 218.7 m | 208° | 19.3 m  | 328° | 140.0 m |
| 89° | 219.6 m | 209° | 24.6 m  | 329° | 135.2 m |
| 90° | 221.5 m | 210° | 33.7 m  | 330° | 130.6 m |
| 91° | 223.5 m | 211° | 44.3 m  | 331° | 128.3 m |
| 92° | 225.3 m | 212° | 55.5 m  | 332° | 129.0 m |
| 93° | 226.7 m | 213° | 67.3 m  | 333° | 130.7 m |
| 94° | 227.5 m | 214° | 81.2 m  | 334° | 132.9 m |

|      |         |      |         |      |         |
|------|---------|------|---------|------|---------|
| 95°  | 229.4 m | 215° | 98.1 m  | 335° | 133.8 m |
| 96°  | 231.0 m | 216° | 117.7 m | 336° | 130.6 m |
| 97°  | 232.4 m | 217° | 138.0 m | 337° | 120.0 m |
| 98°  | 233.5 m | 218° | 158.1 m | 338° | 103.4 m |
| 99°  | 234.3 m | 219° | 177.4 m | 339° | 86.1 m  |
| 100° | 234.8 m | 220° | 196.1 m | 340° | 73.5 m  |
| 101° | 234.4 m | 221° | 212.8 m | 341° | 66.7 m  |
| 102° | 233.7 m | 222° | 225.6 m | 342° | 62.0 m  |
| 103° | 232.6 m | 223° | 234.1 m | 343° | 57.0 m  |
| 104° | 233.3 m | 224° | 239.3 m | 344° | 53.6 m  |
| 105° | 235.9 m | 225° | 243.9 m | 345° | 52.7 m  |
| 106° | 238.6 m | 226° | 250.1 m | 346° | 50.8 m  |
| 107° | 240.5 m | 227° | 257.8 m | 347° | 50.0 m  |
| 108° | 241.2 m | 228° | 265.3 m | 348° | 51.4 m  |
| 109° | 242.1 m | 229° | 271.4 m | 349° | 53.0 m  |
| 110° | 243.1 m | 230° | 276.1 m | 350° | 54.6 m  |
| 111° | 244.4 m | 231° | 279.8 m | 351° | 56.7 m  |
| 112° | 244.9 m | 232° | 282.3 m | 352° | 60.0 m  |
| 113° | 245.0 m | 233° | 283.0 m | 353° | 64.3 m  |
| 114° | 245.2 m | 234° | 280.7 m | 354° | 70.1 m  |
| 115° | 245.2 m | 235° | 274.4 m | 355° | 76.9 m  |
| 116° | 245.4 m | 236° | 263.8 m | 356° | 83.0 m  |
| 117° | 245.7 m | 237° | 251.8 m | 357° | 89.2 m  |
| 118° | 246.5 m | 238° | 240.9 m | 358° | 96.6 m  |
| 119° | 247.7 m | 239° | 232.9 m | 359° | 104.3 m |

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