

WATER QUALITY CHARACTERISTICS OF RIVER SUSWA D/S MOTHRAWALA, DEHRADUN

| Month | pH | BOD mg/L | COD mg/L | Total Coliform (MPN/100 mL) | Temp °C | DO mg/L | Alkalinity CaCO ₃ mg/L | Chlori des mg/L | Calcium as Cl mg/L | Magnesium as Mg mg/L | Hardness as CaCO ₃ mg/L | TDS mg/L |
|-------------|-----------|-------------|-------------|--------------------------------------|------------|------------|---|-----------------------|--------------------------|----------------------------|--|-------------|
| 2022 | | | | | | | | | | | | |
| Jan | 7.18 | 24 | 96 | > 1600 | 18 | 3.4 | 207 | 40 | 270 | 170 | 440 | 485 |
| Feb | 7.01 | 22 | 90 | > 1600 | 15 | 3.6 | 312 | 35 | 309 | 102 | 411 | 410 |
| Mar | 7.20 | 24 | 98 | > 1600 | 19 | 3.4 | 262 | 40 | 268 | 40 | 308 | 432 |
| 2021 | | | | | | | | | | | | |
| Jan | 7.6 | 28 | 106 | > 1600 | 18 | 2.8 | 310 | 45 | 250 | 45 | 295 | 620 |
| Feb | 7.28 | 26 | 94 | > 1600 | 19 | 3.4 | 352 | 40 | 310 | 40 | 350 | 369 |
| Mar | 8.01 | 28 | 84 | > 1600 | 21 | 3.2 | 400 | 35 | 320 | 50 | 370 | 380 |
| Apr | 7.4 | 26 | 80 | > 1600 | 22 | 3.2 | 430 | 40 | 320 | 77 | 397 | 530 |
| May | 7.52 | 24 | 76 | > 1600 | 27 | 3.0 | 370 | 35 | 280 | 50 | 330 | 501 |
| June | 7.73 | 26 | 104 | > 1600 | 27 | 3.2 | 350 | 30 | 354 | 68 | 422 | 511 |
| July | 7.90 | 29 | 116 | > 1600 | 20 | 3.0 | 360 | 40 | 310 | 56 | 366 | 494 |
| Aug | 7.11 | 24 | 96 | > 1600 | 20 | 3.6 | 245 | 34 | 230 | 123 | 353 | 281 |
| Sept | 7.6 | 25 | 102 | > 1600 | 25 | 3.8 | 245 | 30 | 282 | 76 | 358 | 258 |
| Oct | 7.90 | 22 | 86 | > 1600 | 24 | 4.0 | 315 | 45 | 310 | 48 | 358 | 494 |
| Nov | 8.1 | 26 | 78 | > 1600 | | 3.0 | 330 | 42 | 330 | 110 | 440 | 378 |
| Dec | 6.91 | 25 | 76 | > 1600 | 22 | 2.4 | 350 | 46 | 350 | 110 | 460 | 480 |
| 2020 | | | | | | | | | | | | |
| Jan | 8.1 | 26 | 104 | >1600 | 8.1 | 26 | 240 | 25 | 180 | 120 | 300 | 380 |
| Feb | 8.34 | 28 | 112 | >1600 | 18 | 4.0 | 260 | 30 | 210 | 150 | 360 | 368 |
| Mar | 8.11 | 26 | 94 | > 1600 | 20 | 3.6 | 270 | 32 | 220 | 120 | 340 | 376 |
| Apr | 7.6 | 1 | 4 | 40 | 19 | 8.6 | 85 | 9 | 60 | 45 | 105 | 238 |
| May | 8.13 | 29 | 116 | > 1600 | 19 | 3.6 | 395 | 30 | 255 | 135 | 390 | 387 |
| June | 6.67 | 26 | 110 | > 1600 | 20 | 3.8 | 360 | 27.5 | 200 | 150 | 350 | 255 |
| July | 7.59 | 30 | 124 | > 1600 | 21 | 2.8 | 365 | 25 | 145 | 130 | 275 | 448 |
| Aug | 7.65 | 32 | 128 | > 1600 | 23 | 2.6 | 230 | 25 | 162 | 100 | 262 | 288 |
| Sept | 8.3 | 26 | 106 | > 1600 | 26 | 4.0 | 306 | 22 | 125 | 93 | 218 | 428 |
| Oct | 7.9 | 28 | 112 | > 1600 | 25 | 3 | 360 | 40 | 302 | 85 | 387 | 712 |
| Nov | 7.64 | 26 | 104 | > 1600 | 24 | 3.6 | 552 | 37 | 278 | 113 | 391 | 749 |
| Dec | 7.0 | 27 | 108 | > 1600 | 22 | 3.0 | 344 | 65 | 258 | 57 | 315 | 650 |
| Average | 7.75 | 25.42 | 101.83 | 40.00 | 20.43 | 5.72 | 313.92 | 30.63 | 199.58 | 108.17 | 307.75 | 439.92 |
| Min-Max | 6.67-8.34 | 1-32 | 4-128 | 40-40 | 8.1-26 | 2.6-26 | 85-552 | 9-65 | 60-302 | 45-150 | 105-391 | 238-749 |
| 2019 | | | | | | | | | | | | |
| Jan | 8.15 | 26 | 86 | >1600 | 18 | 2.8 | 240 | 25 | 164 | 126 | 290 | 328 |

| | | | | | | | | | | | | |
|-------------|-----------|-------|---------|---------|-------|---------|---------|-------|---------|--------|---------|---------|
| Feb | 7.85 | 28 | 110 | >1600 | 18 | 3 | 280 | 27 | 200 | 140 | 340 | 390 |
| Mar | 7.52 | 1 | 4 | 170 | 20 | 9.4 | 86 | 7 | 48 | 44 | 92 | 136 |
| Apr | 7.84 | 28 | 112 | >1600 | 19 | 3 | 260 | 24 | 196 | 124 | 320 | 372 |
| May | 7.79 | 30 | 120 | >1600 | 20 | 2.6 | 278 | 25 | 200 | 148 | 348 | 410 |
| June | 7.84 | 26 | 126 | >1600 | 20 | 2.8 | 290 | 30 | 230 | 128 | 358 | 430 |
| July | 7.86 | 25 | 118 | >1600 | 19 | 3 | 270 | 22 | 220 | 100 | 320 | 390 |
| Aug | 6.89 | 27 | 120 | >1600 | 20 | 2.6 | 274 | 26 | 222 | 102 | 324 | 392 |
| Sept | 6.94 | 26 | 120 | >1600 | 22 | 2.8 | 260 | 25 | 220 | 80 | 300 | 400 |
| Oct | 8.05 | 28 | 124 | >1600 | 20 | 2.8 | 280 | 28 | 234 | 78 | 312 | 415 |
| Nov | 8.1 | 26 | 116 | >1600 | 20 | 3.0 | 284 | 33 | 236 | 74 | 310 | 344 |
| Dec | 8.23 | 28 | 124 | >1600 | 18 | 2.2 | 268 | 30 | 230 | 56 | 286 | 328 |
| Average | 7.76 | 24.92 | 106.67 | 170.00 | 19.50 | 3.33 | 255.83 | 25.17 | 200.00 | 100.00 | 300.00 | 361.25 |
| Min-Max | 6.89-8.23 | 1-30 | 4-126 | 170-170 | 18-22 | 2.2-9.4 | 86-290 | 7-33 | 48-236 | 44-148 | 92-358 | 136-430 |
| 2018 | | | | | | | | | | | | |
| Jan | 7.84 | 32 | 156 | >1600 | 16 | 2.8 | 344 | 32 | 220 | 180 | 400 | 472 |
| Feb | 7.91 | 36 | 172 | >1600 | 16 | 2.2 | 328 | 30 | 220 | 160 | 380 | 438 |
| Mar | 7.88 | 34 | 134 | >1600 | 19 | 2.4 | 320 | 35 | 250 | 120 | 370 | 452 |
| Apr | 7.82 | 36 | 142 | >1600 | 19 | 2.2 | 322 | 35 | 260 | 130 | 390 | 460 |
| May | 7.79 | 32 | 128 | >1600 | 20 | 2 | 298 | 30 | 256 | 120 | 376 | 428 |
| June | 7.82 | 34 | 132 | >1600 | 20 | 2.4 | 312 | 35 | 258 | 110 | 368 | 448 |
| July | 7.66 | 32 | 128 | >1600 | 20 | 3 | 290 | 30 | 244 | 136 | 380 | 432 |
| Aug | 7.86 | 34 | 118 | >1600 | 20 | 2.6 | 260 | 34 | 186 | 92 | 278 | 398 |
| Sept | 7.82 | 32 | 110 | >1600 | 20 | 2.4 | 254 | 32 | 168 | 100 | 268 | 405 |
| Oct | 7.81 | 34 | 128 | >1600 | 19 | 2.6 | 270 | 30 | 200 | 148 | 348 | 417 |
| Nov | 8.15 | 32 | 136 | >1600 | 18 | 2 | 264 | 35 | 184 | 134 | 318 | 380 |
| Dec | 8.21 | 30 | 124 | >1600 | 18 | 2.4 | 260 | 30 | 180 | 130 | 310 | 344 |
| Average | 7.88 | 33.17 | 134.00 | | 18.75 | 2.42 | 293.50 | 32.33 | 218.83 | 130.00 | 348.83 | 422.83 |
| Min-Max | 7.66-8.21 | 30-36 | 110-172 | | 16-20 | 2-3 | 254-344 | 30-35 | 168-260 | 92-180 | 268-400 | 344-472 |

WATER QUALITY CHARACTERISTICS OF RIVER GANGA AFTER CONFLUENCE OF RIVER SONG NEAR SATYANARAYAN TEMPLE D/S RAIWALA, DEHRADUN

| Month | pH | BOD mg/L | COD mg/L | Total Coliform (MPN/100 mL) | Temp °C | DO mg/L | Alkalinity CaCO ₃ mg/L | Chlorides mg/L | Calcium as Cl mg/L | Magnesium as Mg mg/L | Hardness as CaCO ₃ mg/L | TDS mg/L |
|-------------|------|----------|----------|-----------------------------|---------|---------|-----------------------------------|----------------|--------------------|----------------------|------------------------------------|----------|
| 2022 | | | | | | | | | | | | |
| Jan | 7.20 | 1.4 | 6 | 58 | 18 | 9.4 | 224 | 14 | 230 | 40 | 270 | 262 |
| Feb | 7.60 | 1.4 | 6 | 63 | 17 | 9.4 | 212 | 14 | 210 | 48 | 258 | 255 |
| Mar | 7.90 | 1.4 | 6 | 58 | 19 | 10.2 | 210 | 12 | 186 | 64 | 250 | 312 |
| 2021 | | | | | | | | | | | | |
| Jan | 7.8 | 1.6 | 8 | 120 | 18 | 10 | 120 | 12 | 125 | 45 | 170 | 416 |
| Feb | 8.0 | 1.8 | 6 | 110 | 18 | 9.6 | 91 | 10 | 45 | 43 | 88 | 69 |
| Mar | 8.0 | 1.6 | 6 | 94 | 23 | 9.8 | 96 | 9 | 44 | 40 | 84 | 86 |
| Apr | 7.96 | 1.4 | 6 | 110 | 23 | 8.2 | 245 | 15 | 195 | 70 | 265 | 235 |
| May | 7.9 | 1.2 | 6 | 94 | 25 | 9.4 | 250 | 9 | 200 | 30 | 230 | 312 |
| June | 7.95 | 1 | 4 | 46 | | 9 | 200 | 9 | 198 | 22 | 220 | 264 |
| July | 7.05 | 1.4 | 6 | 94 | 24 | 9.6 | 72 | 13 | 60 | 20 | 80 | 82 |
| Aug | 7.40 | 1.8 | 6 | 84 | | 9.2 | 190 | 8 | 190 | 50 | 240 | 250 |
| Sept | 7.95 | 1.6 | 6 | 70 | | 9.6 | 55 | 11 | 40 | 30 | 70 | 112 |
| Oct | 8.16 | 1.4 | 6 | 84 | | 9.0 | 184 | 13 | 195 | 30 | 225 | 262 |
| Nov | 8.3 | 1.4 | 6 | 70 | | 9.0 | 175 | 11 | 178 | 78 | 256 | 392 |
| Dec | 7.63 | 1.2 | 4 | 63 | 17 | 9.2 | 180 | 12 | 180 | 30 | 210 | 277 |
| 2020 | | | | | | | | | | | | |
| Jan | 7.8 | 1 | 4 | 90 | 17 | 10.2 | 84 | 8 | 44 | 32 | 76 | 120 |
| Feb | 8.44 | 1 | 6 | 90 | 17 | 10 | 85 | 12 | 68 | 46 | 114 | 236 |
| Mar | 7.94 | 1.2 | 6 | 80 | 20 | 10.8 | 100 | 9 | 85 | 51 | 136 | 279 |
| Apr | 8.2 | 1.2 | 6 | 80 | 20 | 10.6 | 110 | 10 | 60 | 22 | 82 | 236 |
| May | 7.5 | 1 | 6 | 70 | 19 | 8.4 | 120 | 10 | 80 | 75 | 155 | 213 |
| June | 7.75 | 1.2 | 6 | 60 | 20 | 8.6 | 256 | 9.5 | 148 | 110 | 258 | 254 |
| July | 8 | 1.2 | 6 | 70 | 22 | 8.8 | 169 | 17 | 118 | 83 | 201 | 262 |
| Aug | 7.6 | 1.4 | 6 | 110 | 23 | 8.6 | 184 | 16 | 190 | 50 | 184 | 222 |
| Sept | 8.15 | 2.0 | 6 | 130 | 29 | 10.6 | 165 | 13 | 90 | 62 | 152 | 328 |
| Oct | 8.18 | 1.2 | 6 | 140 | 29 | 8.6 | 235 | 10 | 140 | 60 | 200 | 317 |
| Nov | 7.15 | 1 | 6 | 120 | 18 | 8.4 | 55 | 10 | 40 | 30 | 70 | 154 |

| | | | | | | | | | | | | |
|----------------|------------------|------------------|-------------|----------------|--------------|-----------------|---------------|--------------|---------------|---------------|---------------|----------------|
| Dec | 8.0 | 1.4 | 6 | 110 | 20 | 9.2 | 100 | 9 | 70 | 40 | 110 | 240 |
| Average | 7.89 | 1.23 | 5.83 | 95.83 | 21.17 | 9.40 | 138.58 | 11.13 | 94.42 | 55.08 | 144.83 | 238.42 |
| Min-Max | 7.15-8.44 | 1-2 | 4-6 | 6-140 | 17-29 | 8.4-10.8 | 55-256 | 8-17 | 40-190 | 22-110 | 70-258 | 120-328 |
| 2019 | | | | | | | | | | | | |
| Jan | 7.96 | 1 | 6 | 170 | 18 | 9.4 | 76 | 7 | 44 | 42 | 86 | 115 |
| Feb | 7.48 | 1 | 6 | 220 | 16 | 9.6 | 82 | 8 | 54 | 36 | 90 | 160 |
| Mar | 7.52 | 1 | 4 | 170 | 20 | 9.4 | 86 | 7 | 48 | 44 | 92 | 136 |
| Apr | 7.54 | 1 | 4 | 220 | 18 | 9.2 | 80 | 6 | 46 | 42 | 88 | 118 |
| May | 7.48 | 1 | 6 | 280 | 20 | 8.8 | 84 | 6 | 54 | 40 | 94 | 144 |
| June | 7.84 | 1 | 6 | 220 | 20 | 9 | 78 | 6 | 50 | 34 | 84 | 118 |
| July | 7.91 | 1.2 | 6 | 170 | 19 | 8.6 | 76 | 7 | 48 | 26 | 74 | 122 |
| Aug | 7.81 | 1.2 | 6 | 220 | 18 | 8.8 | 78 | 6 | 46 | 30 | 76 | 110 |
| Sept | 8.45 | 1 | 6 | 280 | 25 | 8.6 | 76 | 13 | 44 | 38 | 82 | 246 |
| Oct | 8.3 | 1 | 6 | 220 | 22 | 8.8 | 78 | 11 | 48 | 36 | 84 | 190 |
| Nov | 8.22 | 1 | 6 | 140 | 20 | 9.2 | 80 | 11 | 66 | 44 | 110 | 195 |
| Dec | 8.26 | 1 | 6 | 110 | 19 | 10.4 | 88 | 10 | 45 | 33 | 78 | 255 |
| Average | 7.90 | 1.03 | 5.67 | 201.67 | 19.58 | 9.15 | 80.17 | 8.17 | 49.42 | 37.08 | 86.50 | 159.08 |
| Min-Max | 7.48-8.45 | 1-1.2 | 4-6 | 110-280 | 16-25 | 8.6-10.4 | 76-88 | 6-13 | 44-66 | 26-44 | 74-110 | 110-255 |
| 2018 | | | | | | | | | | | | |
| Jan | 7.52 | <1 | 6 | 350 | 16 | 9 | 88 | 6 | 62 | 48 | 110 | 168 |
| Feb | 7.84 | 1 | 6 | 300 | 16 | 8.8 | 82 | 8 | 56 | 40 | 96 | 123 |
| Mar | 7.54 | 1 | 4 | 240 | 18 | 9.4 | 84 | 8 | 52 | 40 | 92 | 186 |
| Apr | 7.55 | 1.2 | 6 | 220 | 20 | 9.2 | 88 | 7 | 52 | 44 | 96 | 154 |
| May | 7.48 | 1 | 6 | 280 | 22 | 8.8 | 84 | 8 | 54 | 40 | 94 | 170 |
| June | 7.58 | 1 | 4 | 110 | 20 | 9.2 | 72 | 6 | 42 | 32 | 74 | 92 |
| July | 7.68 | 1.2 | 6 | 130 | 20 | 8.6 | 90 | 8 | 70 | 40 | 110 | 112 |
| Aug | 7.62 | 1 | 6 | 130 | 20 | 8.4 | 88 | 6 | 60 | 38 | 98 | 98 |
| Sept | 7.84 | 1 | 6 | 170 | 20 | 8.8 | 84 | 6 | 52 | 40 | 92 | 100 |
| Oct | 7.75 | 1.2 | 6 | 220 | 19 | 8.4 | 80 | 8 | 50 | 44 | 94 | 104 |
| Nov | 7.82 | 1 | 6 | 170 | 18 | 8.6 | 76 | 7 | 46 | 40 | 86 | 116 |
| Dec | 7.89 | 1 | 6 | 220 | 17 | 9.2 | 74 | 8 | 44 | 40 | 84 | 110 |
| Average | 7.68 | 1.05 | 5.67 | 211.67 | 18.83 | 8.87 | 82.50 | 7.17 | 53.33 | 40.50 | 93.83 | 127.75 |
| Min-Max | 7.48-7.89 | <1-1.2 | 4-6 | 110-350 | 16-22 | 8.4-9.4 | 72-90 | 6-8 | 42-70 | 32-48 | 84-110 | 92-186 |