

愛知演習林量水観測結果報告 (VI)

愛知演習林

Report of the Daily Runoff in University Forest in Aichi, The University of Tokyo (VI)

University Forest in Aichi, Faculty of Agriculture, The University of Tokyo

1. はじめに

東京大学愛知演習林における量水観測の成果報告は、日雨量と日流出量に関して1930年から継続されている。これまで5年を単位として報告がなされている。本報告では、1986年から1990年までの資料を公表する。なお、流量計算資料（非公開）は愛知演習林および砂防工学研究室に保管してある。1989年7月の東山の流量に欠測が出ている。よって、年流量、7月流量は過小の値である。

2. 流域の概要

流域の森林は何れも砂防植栽地・天然生林（二次林）・人工造林地あるいは禿地からなり、観測の開始時期から比較すると禿地は収縮消滅し、森林は急速な成長を続けている。また、1980年代になると、マツノサイセンチュウによるアカマツ・クロマツの衰退が著しく、これに替わって広葉樹の成長が旺盛になっている。量水観測の時期に応じて林相はダイナミックに変化している。1990年時点での林分蓄積量についての詳細は、「演習林」に掲載の愛知演習林第3期試験研究計画（東京大学愛知演習林，1993）を参照されたい。林分蓄積量の正確な推定にはさらに詳細な調査を要するものと判断される。

(1) 穴の宮流域

流域面積は13.9 haであり、表層地質は深成岩の花崗岩質岩石が大部分を占め、流域の東端に一部分であるが、新第三紀鮮新世の瀬戸層群に属する礫層の薄い層がかぶさっている。平均蓄積

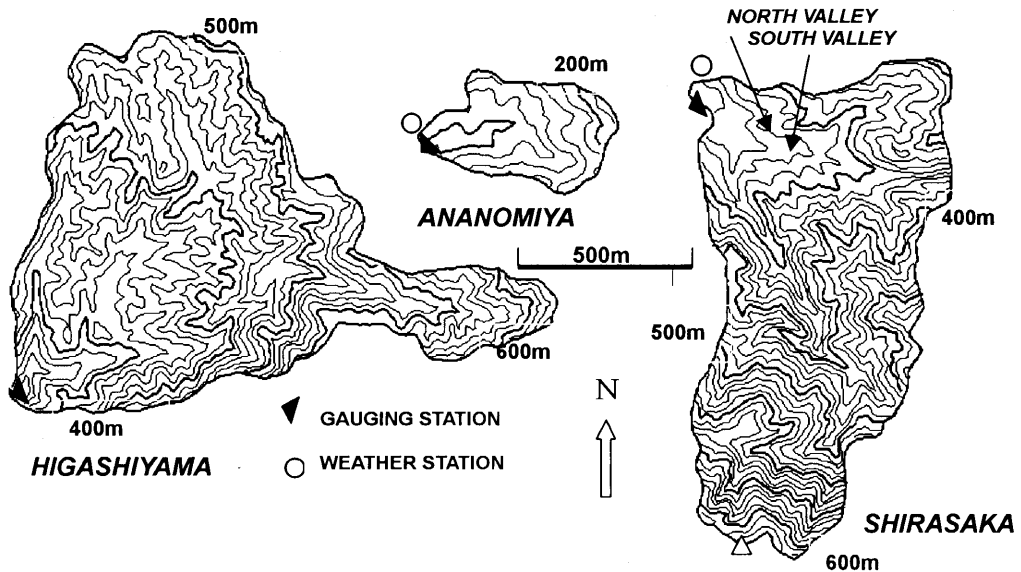


図-1 試験流域の地形と観測点位置.

は1990年で $80.8 \text{ m}^3/\text{ha}$ であり、林冠は閉鎖した状況である。未立木地は 0.4 ha で土壌の発達は極めて悪い。流域の中央部分に湿地を有し、湿地性の草地をみることができる。

(2) 白坂流域

流域面積は 88.5 ha であり、表層地質は深成岩の花崗岩質岩石である。流域の最下流部の外に接するように猿投山北活断層が走っている。平均蓄積は $277.5 \text{ m}^3/\text{ha}$ である。崩壊地面積は約 4 ha で人工造林地は約 2 ha 、針葉樹林29%、広葉樹林23%、針広混交林48%という比率である。また、順次、禿緒地の緑化が行われている。

(3) 東山流域

流域面積は 106.7 ha であり、表層地質は深成岩の花崗岩質岩石である。平均蓄積は $145.3 \text{ m}^3/\text{ha}$ であり、アカマツ群落とコナラ群落に区分できる。マツノザイセンチュウによるアカマツの衰退は著しく、替わって広葉樹林へと変化する途上にある。

3. 観測体制・流量計算・観測結果報告書の整理

量水観測は愛知演習林における重要な業務として、貯水池の土砂排出作業や越流部分に懸かるゴミの除去等からなる観測施設の維持・水位観測記録装置の維持補修・記録紙交換・ポイントゲージによる定期的な水位精密測定といったルーチンワークが行われている。これらの業務は愛知演習林全職員によって支えられている。

水位記録はペンで描画されたアナログ記録である。水位の読み取り・水位記録から流量への変換の作業・日報の作成（流量計算資料）・日単位の年報（本報告）の作成に至る全作業が愛知演習林で行われた。水位と雨量の資料収集・流量計算の担当者は下記のとおりである。

穴の宮流域：後藤太成，荒木田きよみ

白坂流域：原 孝秀，井上 淳

東山流域：春田泰次，荒木田きよみ

また，流量観測結果報告作成に関する年表整理は，荒木田きよみ・芝野博文が担当している。本年より年表を読みやすくするためにフォーマットの改訂を行った。この改訂の理由は，1) 表を見ただけで数値の意味が理解できること，2) 表中の枠内の値については，従来用いてきた降雨と流量の併記というスタイルをなくし，単位とその値の意味を示す表記を英語に改めて，外国人留学生等にも参照しやすい形をとること，3) 表計算ソフトの導入によって計算の能率化を図り，表計算ソフトから可能なアウトプットの形になじませた等の理由からである。なお，年表の表現内容は従来とほぼ同じである。ただし，従来と異なる点として，微細な降雨記録として 0.0 mm/day の記録を記載しないこと，また，降水の形として雪・霰・雨の区別を行わずにすべて日降水量にまとめたことを追記しておく。これらの表記は量水用降水量台帳（非公開）の白坂流域の部分には記載されている。

4. 資料の性質

本報告の取り扱う 1986 年から 1990 年について述べる。

穴の宮の雨量記録は，気象観測露場に設置されたサイフォン式（ヘルマン型）雨量計から読み取った値を掲げている。この観測値が欠落した場合は，水位計に併設された転倒升雨量計の観測値をもって補っている。

白坂での雨量記録は，気象観測露場に設置された貯留型指示雨量計を毎日 9 時に読み取った値を基本にしている。白坂については 1988 年 6 月から日曜日・休日の観測を交代制で実行している。週休 2 日制の導入で，土曜日の観測が実行されなくなるのは 1992 年 5 月からである。休日を含んだ 2 日分の場合について，累積値の配分はサイフォン式（ヘルマン型）雨量計の読み取り値に基づいた比例配分によっている。本報告でこの比例配分を適用したケースは 1988 年から 1990 年までで 18 日のみである。

東山の雨量記録は，気象観測露場の週巻き転倒升雨量計を基準の観測値として用いている。また，水位観測所の屋根に設置された転倒升雨量計を随時参照している。当然，転倒升雨量計においても毎日定時観測の貯留型指示雨量計に比較すると，蒸発による系統誤差が発生して，過小評価の恐れがある。また，転倒升雨量計は降雪の場合は升到溜まった雪が解けた段階で降水量として記録されるため，時間の遅れがでる可能性がある。ある日の日雨量は前日の午前 9:00 からそ

の日の午前9:00までの雨量を意味する。

水位観測は月巻き（3流域，池田計器）の水位計と日巻き（白坂，愛演2号）あるいは週巻き（穴の宮と東山，ウイジン工業）の水位計の双方で記録されている。白坂については日巻きの水位記録を中心に，穴の宮と東山については月巻きの水位記録を中心に水位の読み取りを行い，観測の欠落を補うために白坂では月巻きの水位記録，穴の宮と東山では週巻きの水位記録を参考にしている。1989年3月22日に穴の宮で，4月18日に白坂で，量水堰の中央部分（越流幅0.2m）のエッジの更新を行っている。

水位から流量への換算に関しては，1986年は従来の数表を用いており，1987年以降はコンピュータによる処理に変わった。よって，流量計算表の形式もプリンターによるアウトプットの形をとっているが，水位-流量曲線は従来のものを用いているし，流量計算表のフォーマットも従来の形式を踏襲している。また，従来どおり，雨量と同様に，ある日の日流量は前日の午前9:00からその日の午前9:00までの流量を意味する。水位の読み取りは白坂が原孝秀・井上淳，穴の宮と東山は荒木田きよみがおこなった。

水位-流量曲線は越流部分のデザインに応じて流域毎に異なる。量水堰堤の越流部分の正面図を図-2に流域ごとのデザインに関する値を表-1に示した。縮流堰の流量係数 C は0.6であり，中心に位置する狭堰の幅を b [m]，その両側に配置された広堰の幅を B [m]，広堰の個数を N ，狭堰の下端と広堰の下端との標高差を H [m]，水位を h [m]，重力の加速度を g [m/sec²]とすると，流量 Q [m³/sec]は次の式で表現される。

1) $h < H$ の場合

$$Q = \frac{2}{3} C b \sqrt{2g} h^{3/2}$$

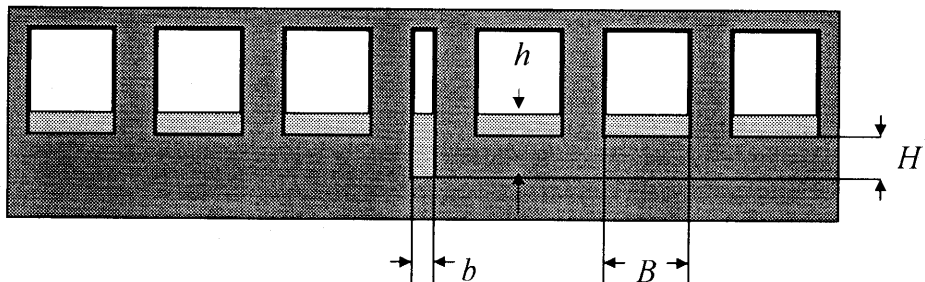


図-2 量水堰越流部分正面図。

表-1 量水堰越流部分正面の寸法とデザイン

| | | b [m] | H [m] | B [m] | N |
|-----|-------------|---------|---------|---------|-----|
| 穴の宮 | Ananomiya | 0.2 | 0.2 | 1.0 | 4 |
| 白坂 | Shirasaka | 0.2 | 0.5 | 1.0 | 12 |
| 東山 | Higashiyama | 0.2 | 0.4 | 1.0 | 6 |

2) $h \geq H$ の場合

$$Q = \frac{2}{3} Cb\sqrt{2g}h^{3/2} + \frac{2}{3} CNB\sqrt{2g}(h-H)^{3/2}$$

なお、操作性の高い流量計算のプログラミングを行うに際して、砂防工学研究室の執印康裕助手ほかのご協力を得た。ここに記して謝意を表する次第である。

| ANANOMIYA | | | 1987 | | | unit: mm/day | | | annual precipitation: 1251.1 | | | annual runoff: 587.0 | | | | | | | | | | | |
|-----------|-----------------|------------------|---------------|---------------|-------------|--------------|--------------|----------------|------------------------------|-----------------|------------------|----------------------|--------|--------|--------|-------|------|------|------|------|------|-----|------|
| day | January rain | February rain | March rain | April rain | May rain | June rain | July rain | August rain | September rain | October rain | November rain | December rain | runoff | runoff | runoff | | | | | | | | |
| 1 | 0.6 | 0.5 | 0.5 | 0.5 | 1.6 | 0.2 | 0.7 | 1.3 | 2.6 | 0.9 | 5.8 | 1.4 | 1.2 | 0.6 | 1.1 | | | | | | | | |
| 2 | 0.5 | 0.4 | 0.5 | 0.5 | 1.5 | 4.6 | 1.1 | 2.1 | 1.8 | 0.6 | 1.3 | 1.1 | 1.1 | 0.6 | 1.1 | | | | | | | | |
| 3 | 2.2 | 2.2 | 0.5 | 0.4 | 1.5 | 1.8 | 0.8 | 2.0 | 182 | 1.8 | | 1.0 | 1.1 | 0.6 | 1.1 | | | | | | | | |
| 4 | 1.3 | 12.6 | 1.0 | 0.5 | 1.3 | 2.7 | 1.0 | 12.6 | 1.8 | 1.5 | | 1.0 | 1.0 | 0.8 | 1.9 | | | | | | | | |
| 5 | 0.8 | 2.4 | 0.8 | 0.4 | 1.1 | 0.7 | 0.7 | 2.1 | 7.0 | 0.9 | | 1.0 | 1.0 | 0.6 | 1.7 | | | | | | | | |
| 6 | 10.2 | 1.3 | 0.7 | 0.4 | 1.0 | 0.7 | 1.7 | 1.7 | 452 | 1.2 | 0.4 | 0.8 | 2.3 | 0.2 | 1.2 | | | | | | | | |
| 7 | 1.0 | 0.7 | 0.4 | 0.4 | 10.0 | 0.6 | 1.5 | 3.2 | 7.8 | 0.8 | 1.4 | 1.0 | 2.3 | 0.8 | 1.0 | | | | | | | | |
| 8 | 0.6 | 0.8 | 0.7 | 4.8 | 0.4 | 2.9 | 0.6 | 1.2 | 0.2 | 0.7 | | 0.9 | 1.6 | 2.6 | 1.0 | | | | | | | | |
| 9 | 0.7 | 0.7 | 16.4 | 1.2 | 1.5 | 0.6 | 1.4 | 1.0 | 0.2 | 0.8 | | 0.7 | 1.3 | 0.8 | 1.0 | | | | | | | | |
| 10 | 0.6 | 0.7 | 0.9 | 0.9 | 9.2 | 0.5 | 8.2 | 0.9 | 0.2 | 0.6 | | 0.7 | 1.1 | 0.7 | 0.7 | | | | | | | | |
| 11 | 0.6 | 0.6 | 9.8 | 1.2 | 2.0 | 0.5 | 2.9 | 0.8 | 0.2 | 0.6 | | 0.7 | 1.0 | 0.6 | 0.6 | | | | | | | | |
| 12 | 0.5 | 0.1 | 1.2 | 1.2 | 1.4 | 0.5 | 2.0 | 1.2 | 0.2 | 0.6 | | 0.7 | 1.0 | 0.8 | 0.8 | | | | | | | | |
| 13 | 10.0 | 1.4 | 3.6 | 0.8 | 1.2 | 10.6 | 1.8 | 4.6 | 27.2 | 3.8 | | 0.8 | 0.9 | 2.4 | 0.7 | | | | | | | | |
| 14 | 2.7 | 1.0 | 0.6 | 1.9 | 1.0 | 96.6 | 1.7 | 1.0 | 1.6 | 1.6 | | 0.7 | 0.8 | 0.7 | 0.7 | | | | | | | | |
| 15 | 0.6 | 0.5 | 2.4 | 1.6 | 1.0 | 33.6 | 1.6 | 1.2 | 0.7 | 1.0 | | 0.6 | 0.7 | 1.4 | 0.7 | | | | | | | | |
| 16 | 0.6 | 0.4 | 0.4 | 1.1 | 1.0 | 7.1 | 2.5 | 1.0 | 0.7 | 1.0 | | 0.6 | 0.7 | 0.6 | 0.4 | | | | | | | | |
| 17 | 1.0 | 0.5 | 1.0 | 1.0 | 0.9 | 4.3 | 1.6 | 0.2 | 0.6 | 0.8 | | 0.7 | 0.8 | 0.8 | 0.4 | | | | | | | | |
| 18 | 0.6 | 1.4 | 8.2 | 1.6 | 0.9 | 3.4 | 1.3 | 10.6 | 0.8 | 0.8 | | 0.8 | 1.3 | 1.7 | 0.8 | | | | | | | | |
| 19 | 0.5 | 1.2 | 1.0 | 1.0 | 0.9 | 14.6 | 1.3 | 10.6 | 9.6 | 0.7 | | 0.8 | 0.8 | 1.7 | 0.8 | | | | | | | | |
| 20 | 0.5 | 0.6 | 40.6 | 5.6 | 0.8 | 3.7 | 1.2 | 25.6 | 0.8 | 0.6 | | 0.8 | 0.8 | 2.1 | 0.7 | | | | | | | | |
| 21 | 0.5 | 0.6 | 4.3 | 4.3 | 0.8 | 3.0 | 8.6 | 1.3 | 0.5 | 0.5 | | 0.5 | 0.6 | 2.0 | 1.1 | | | | | | | | |
| 22 | 0.5 | 0.6 | 2.8 | 6.2 | 1.2 | 0.6 | 7.2 | 7.6 | 0.6 | 0.5 | | 0.5 | 0.6 | 1.0 | 0.8 | | | | | | | | |
| 23 | 0.6 | 0.4 | 7.0 | 2.7 | 1.0 | 65.2 | 1.2 | 3.2 | 39.0 | 0.5 | | 0.5 | 0.5 | 0.9 | 0.7 | | | | | | | | |
| 24 | 16.0 | 1.4 | 52.4 | 9.8 | 0.8 | 22.2 | 1.0 | 2.5 | 12.6 | 0.5 | 2.4 | 1.1 | 7.2 | 1.2 | 0.7 | | | | | | | | |
| 25 | 1.0 | 0.7 | 10.4 | 10.4 | 0.8 | 7.7 | 1.0 | 2.1 | 1.5 | 83.0 | 2.2 | 3.8 | 1.5 | 2.2 | 0.7 | | | | | | | | |
| 26 | 0.7 | 0.5 | 5.0 | 7.0 | 0.9 | 5.1 | 0.9 | 1.7 | 1.8 | 0.8 | 4.9 | 2.2 | 1.3 | 2.2 | 0.7 | | | | | | | | |
| 27 | 0.6 | 0.6 | 3.7 | 11.6 | 2.2 | 0.6 | 0.8 | 1.5 | 0.9 | 3.6 | 10.2 | 3.0 | 0.9 | 0.7 | 0.4 | | | | | | | | |
| 28 | 0.6 | 2.2 | 2.9 | 2.9 | 1.1 | 3.6 | 4.0 | 1.4 | 2.8 | 1.9 | 15.6 | 1.8 | 0.8 | 1.5 | 0.5 | | | | | | | | |
| 29 | 0.5 | 0.5 | 2.5 | 2.5 | 0.9 | 3.1 | 8.2 | 1.2 | 1.5 | 1.5 | | 1.4 | 0.8 | 1.4 | 1.0 | | | | | | | | |
| 30 | 0.5 | 0.5 | 0.4 | 2.2 | 0.8 | 2.7 | 7.0 | 1.1 | 0.7 | 1.2 | | 1.2 | 0.7 | 0.8 | 0.4 | | | | | | | | |
| 31 | 0.5 | 0.5 | 0.7 | 2.0 | 2.5 | 2.5 | 1.0 | 1.0 | 0.6 | 1.2 | 17.4 | 1.6 | 0.6 | 1.6 | 0.4 | | | | | | | | |
| total | 64.2 | 24.0 | 43.0 | 18.1 | 161.7 | 71.8 | 58.8 | 37.3 | 260.3 | 127.0 | 108.4 | 58.0 | 162.6 | 74.5 | 43.9 | 144.6 | 47.2 | 86.0 | 38.9 | 41.6 | 29.6 | 7.5 | 16.7 |

| ANANOMIYA | | 1988 | | unit: mm/day | | annual precipitation: 1610.0 | | annual runoff: | | 954.3 | | | | | | | | | | | | | | |
|-----------|------|--------|------|--------------|-------|------------------------------|-------|----------------|-------|--------|-------|--------|-------|-------|-------|------|-------|-------|------|-------|------|------|------|------|
| day | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | | | | | | | | | | | | |
| 1 | | 0.4 | 0.4 | 0.6 | 1.4 | 1.6 | 1.1 | 10.4 | 15.0 | 3.1 | 1.4 | 1.8 | 5.5 | 1.3 | 1.1 | | | | | | | | | |
| 2 | | 0.4 | 0.4 | 1.7 | 0.8 | 1.2 | 1.6 | 1.1 | 8.4 | 2.8 | 1.3 | 1.3 | 4.1 | 1.3 | 1.1 | | | | | | | | | |
| 3 | | 0.4 | 0.2 | 0.9 | 0.2 | 1.2 | 1.1 | 462 | 5.1 | 2.6 | 1.3 | 6.1 | 3.9 | 1.2 | 1.0 | | | | | | | | | |
| 4 | | 0.4 | 0.4 | 0.7 | 1.1 | 2.0 | 1.3 | 18.4 | 9.1 | 3.4 | 0.4 | 1.3 | 3.4 | 1.2 | 1.0 | | | | | | | | | |
| 5 | 9.4 | 0.9 | 9.6 | 0.6 | 1.5 | 3.2 | 1.5 | 4.2 | 5.6 | 7.6 | 3.0 | 0.4 | 3.1 | 10.4 | 1.7 | | | | | | | | | |
| 6 | | 0.5 | 4.2 | 0.9 | 0.6 | 1.2 | 1.1 | 2.8 | 3.9 | 2.0 | 2.9 | 5.0 | 3.1 | 6.6 | 1.3 | | | | | | | | | |
| 7 | | 0.4 | 0.7 | 0.5 | 1.4 | 0.9 | 2.3 | 3.5 | 3.5 | 2.1 | 7.8 | 2.8 | 230 | 12.3 | 1.2 | | | | | | | | | |
| 8 | 5.0 | 0.8 | 3.8 | 0.6 | 0.5 | 34.6 | 1.9 | 3.2 | 2.0 | 0.2 | 1.9 | 1.4 | 6.2 | 1.4 | 1.1 | | | | | | | | | |
| 9 | 0.4 | 0.7 | 2.4 | 0.6 | 0.5 | 2.1 | 62.4 | 9.7 | 3.0 | 3.0 | 1.9 | 1.4 | 5.0 | 1.2 | 1.0 | | | | | | | | | |
| 10 | 1.6 | 0.5 | 0.5 | 0.4 | 0.5 | 1.6 | 4.0 | 10.0 | 2.6 | 1.4 | 1.9 | 1.2 | 3.9 | 1.2 | 2.2 | | | | | | | | | |
| 11 | 1.6 | 0.5 | 0.5 | 0.5 | 1.9 | 1.5 | 5.0 | 10.4 | 3.4 | 13.4 | 3.0 | 7.0 | 3.5 | 1.2 | 1.0 | | | | | | | | | |
| 12 | | 0.5 | 0.4 | 39.4 | 3.3 | 1.6 | 78.4 | 2.4 | 4.6 | 3.8 | 3.1 | 180 | 2.5 | 3.3 | 0.2 | | | | | | | | | |
| 13 | | 0.4 | 0.4 | 2.6 | 4.0 | 5.8 | 3.2 | 0.2 | 2.5 | 14.4 | 4.4 | 1.2 | 1.9 | 0.6 | 3.2 | | | | | | | | | |
| 14 | | 0.4 | 0.4 | 1.4 | 10.8 | 9.4 | 1.8 | 2.7 | 9.8 | 2.4 | 9.6 | 3.3 | 1.3 | 2.8 | 1.3 | | | | | | | | | |
| 15 | | 0.4 | 0.4 | 14.4 | 2.2 | 4.4 | 2.8 | 1.6 | 2.3 | 28.2 | 5.8 | 2.6 | 1.1 | 2.6 | 1.2 | | | | | | | | | |
| 16 | 1.6 | 0.5 | 0.1 | 0.4 | 1.6 | 3.2 | 13.8 | 3.7 | 2.0 | 55.6 | 15.7 | 8.4 | 3.3 | 2.4 | 1.1 | | | | | | | | | |
| 17 | | 0.5 | 0.4 | 5.8 | 1.2 | 2.6 | 2.2 | 1.9 | 10.2 | 14.2 | 4.7 | 0.9 | 2.3 | 0.8 | 1.1 | | | | | | | | | |
| 18 | | 0.5 | 0.4 | 14.4 | 3.0 | 2.2 | 1.7 | 1.8 | 6.3 | 1.8 | 3.2 | 4.8 | 1.2 | 10.4 | 3.0 | | | | | | | | | |
| 19 | 0.2 | 0.4 | 0.4 | 2.1 | 2.0 | 3.5 | 1.5 | 1.7 | 1.8 | 5.2 | 2.8 | 3.0 | 1.0 | 1.4 | 2.8 | | | | | | | | | |
| 20 | | 0.4 | 0.4 | 1.5 | 3.1 | 1.3 | 1.5 | 0.2 | 4.5 | 10.0 | 4.0 | 26.8 | 0.9 | 2.3 | 1.3 | | | | | | | | | |
| 21 | | 0.4 | 0.4 | 1.3 | 2.2 | 9.4 | 1.6 | 1.4 | 2.6 | 4.2 | 11.0 | 4.3 | 47.8 | 15.5 | 0.4 | | | | | | | | | |
| 22 | 13.4 | 1.3 | 0.3 | 16.6 | 1.8 | 4.2 | 2.3 | 1.7 | 0.6 | 1.5 | 1.4 | 3.7 | 2.8 | 1.4 | 4.0 | | | | | | | | | |
| 23 | 0.2 | 0.7 | 1.0 | 0.4 | 3.7 | 0.6 | 1.9 | 30.8 | 4.8 | 0.2 | 1.3 | 3.2 | 2.3 | 1.6 | 2.9 | | | | | | | | | |
| 24 | | 0.5 | 3.0 | 0.5 | 1.9 | 1.6 | 2.9 | 9.2 | 1.5 | 35.2 | 7.3 | 2.0 | 12.4 | 3.5 | 1.8 | | | | | | | | | |
| 25 | | 0.4 | 0.4 | 1.6 | 1.4 | 2.1 | 55.6 | 9.0 | 10.2 | 7.0 | 22.8 | 5.5 | 100.8 | 19.2 | 2.6 | | | | | | | | | |
| 26 | | 0.4 | 0.4 | 8.8 | 1.8 | 1.4 | 0.2 | 1.9 | 2.0 | 4.9 | 5.3 | 0.6 | 2.8 | 51.6 | 1.8 | | | | | | | | | |
| 27 | | 0.4 | 13.0 | 0.7 | 19.0 | 4.7 | 1.3 | 1.6 | 3.3 | 4.3 | 1.0 | 2.5 | 12.5 | 1.6 | 1.6 | | | | | | | | | |
| 28 | | 0.4 | 7.5 | 1.8 | 1.2 | 6.8 | 1.4 | 61.0 | 13.4 | 8.8 | 4.6 | 2.1 | 8.2 | 1.6 | 1.4 | | | | | | | | | |
| 29 | | 0.4 | 0.7 | 0.4 | 2.1 | 5.8 | 1.2 | 1.9 | 39.8 | 17.3 | 11.2 | 5.1 | 1.8 | 6.4 | 1.3 | | | | | | | | | |
| 30 | | 0.4 | | 1.7 | 10.8 | 2.9 | 1.3 | 32.6 | 13.7 | 0.4 | 4.7 | 1.6 | 1.0 | 5.3 | 1.4 | | | | | | | | | |
| 31 | | 0.4 | | 1.0 | 1.6 | 1.1 | | | 3.6 | 1.5 | | | | 1.3 | | | | | | | | | | |
| total | 33.4 | 15.4 | 45.6 | 15.1 | 141.4 | 51.2 | 144.2 | 73.9 | 122.0 | 60.4 | 338.4 | 141.3 | 196.0 | 168.5 | 137.4 | 88.3 | 301.4 | 163.0 | 73.4 | 100.7 | 60.0 | 46.6 | 16.8 | 29.9 |

| ANANOMIYA | | 1989 | | unit: mm/day | | annual precipitation: 1992.3 | | annual runoff: | | 1304.3 | | | | | | | | | | | | | | |
|-----------|-----------------|------------------|---------------|---------------|-------------|------------------------------|--------------|----------------|-------------------|-----------------|------------------|------------------|-------|-------|-------|------|-------|-------|------|------|------|------|------|------|
| day | January rain | February rain | March rain | April rain | May rain | June rain | July rain | August rain | September rain | October rain | November rain | December rain | | | | | | | | | | | | |
| 1 | 4.0 | 0.7 | 3.0 | 1.1 | 9.2 | 4.5 | 1.8 | 2.0 | 2.2 | 2.0 | 3.0 | 6.7 | 10.0 | 2.7 | 4.7 | 19.8 | 3.2 | 0.9 | | | | | | |
| 2 | 2.0 | 1.1 | 1.3 | 1.0 | 3.8 | 2.7 | 0.4 | 5.6 | 5.4 | 2.6 | 2.7 | 0.4 | 5.6 | 5.4 | 2.6 | 2.7 | 0.4 | 5.6 | | | | | | |
| 3 | 0.8 | 1.0 | 3.1 | 1.6 | 1.8 | 2.5 | 2.0 | 7.1 | 1.9 | 108.4 | 17.4 | 0.8 | 4.1 | 1.4 | 1.4 | 4.3 | 0.4 | 1.7 | | | | | | |
| 4 | 0.7 | 0.9 | 5.4 | 3.1 | 1.6 | 1.7 | 0.2 | 6.3 | 1.7 | 66.0 | 33.3 | 0.6 | 4.0 | 1.3 | 1.3 | 4.0 | 1.3 | 0.8 | | | | | | |
| 5 | 0.7 | 0.9 | 19.0 | 5.8 | 1.4 | 1.5 | 2.1 | 4.7 | 1.6 | 1.6 | 3.5 | 1.2 | 10.5 | 1.2 | 1.2 | 3.5 | 1.2 | 0.8 | | | | | | |
| 6 | 0.7 | 0.9 | 0.9 | 4.1 | 1.4 | 1.5 | 6.2 | 2.3 | 3.8 | 5.0 | 1.7 | 65.8 | 20.8 | 3.3 | 3.3 | 1.2 | 1.2 | 0.8 | | | | | | |
| 7 | 0.6 | 1.0 | 7 | 3.3 | 1.3 | 13.6 | 2.5 | 2.3 | 3.6 | 7.2 | 2.6 | 35.8 | 30.7 | 7.6 | 3.2 | 15.6 | 1.9 | 0.7 | | | | | | |
| 8 | 22.8 | 1.9 | 1.0 | 2.9 | 2.2 | 1.4 | 10.2 | 3.5 | 3.3 | 1.6 | 1.2 | 12.0 | 5.5 | 4.5 | 2.1 | 2.2 | 2.2 | 0.8 | | | | | | |
| 9 | 2.2 | 1.9 | 28.5 | 3.2 | 2.5 | 43.0 | 8.2 | 1.9 | 24.8 | 3.6 | 5.2 | 3.2 | 1.4 | 8.6 | 3.0 | 1.0 | 1.5 | 0.2 | | | | | | |
| 10 | 1.1 | 2.3 | 2.3 | 3.5 | 1.6 | 9.8 | 4.2 | 28.6 | 7.4 | 1.3 | 6.8 | 2.7 | 0.2 | 1.4 | 2.7 | 0.2 | 1.4 | 0.2 | | | | | | |
| 11 | 0.9 | 1.6 | 2.2 | 2.9 | 7.4 | 1.6 | 15.0 | 4.6 | 5.6 | 6.0 | 2.6 | 6.0 | 1.1 | 6.0 | 2.6 | 1.2 | 1.2 | 0.7 | | | | | | |
| 12 | 12.4 | 1.5 | 1.4 | 2.1 | 2.4 | 27.4 | 5.6 | 0.6 | 3.8 | 4.0 | 1.0 | 5.3 | 5.6 | 3.1 | 1.2 | 1.2 | 1.2 | 0.8 | | | | | | |
| 13 | 1.3 | 1.3 | 0.4 | 2.0 | 2.0 | 16.2 | 5.2 | 2.5 | 32.0 | 8.5 | 0.9 | 4.7 | 8.8 | 5.1 | 2.7 | 1.1 | 1.1 | 0.8 | | | | | | |
| 14 | 1.0 | 1.0 | 1.2 | 14.6 | 3.4 | 1.2 | 14.6 | 3.4 | 2.2 | 12.4 | 8.7 | 0.9 | 8.8 | 5.1 | 2.4 | 34.0 | 5.8 | 1.0 | | | | | | |
| 15 | 0.9 | 1.1 | 1.1 | 2.4 | 2.4 | 1.8 | 0.2 | 4.0 | 1.9 | 5.8 | 1.0 | 43.2 | 12.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.8 | | | | | | |
| 16 | 0.8 | 1.0 | 1.1 | 2.0 | 17.2 | 3.5 | 3.0 | 12.2 | 2.0 | 0.6 | 4.6 | 0.9 | 5.6 | 5.6 | 2.1 | 4.2 | 2.0 | 1.5 | | | | | | |
| 17 | 0.7 | 42.0 | 5.7 | 1.9 | 0.2 | 2.7 | 1.0 | 2.6 | 51.6 | 13.7 | 25.8 | 7.9 | 0.9 | 4.4 | 21.8 | 4.3 | 0.6 | 1.7 | | | | | | |
| 18 | 0.7 | 37.5 | 9.7 | 1.6 | 2.0 | 16.2 | 4.5 | 6.2 | 0.4 | 5.3 | 0.5 | 1.0 | 3.9 | 2.6 | 2.6 | 1.5 | 1.5 | 0.9 | | | | | | |
| 19 | 2.8 | 0.8 | 8.8 | 1.3 | 1.8 | 0.6 | 3.1 | 5.6 | 5.0 | 2.6 | 5.0 | 0.7 | 107.2 | 41.2 | 2.2 | 2.2 | 1.4 | 0.8 | | | | | | |
| 20 | 19.6 | 2.0 | 5.0 | 1.3 | 1.6 | 6.4 | 3.0 | 2.6 | 4.6 | 3.9 | 0.7 | 96.8 | 58.0 | 16.0 | 4.2 | 4.2 | 1.2 | 0.7 | | | | | | |
| 21 | 18.6 | 4.8 | 1.0 | 3.9 | 1.3 | 1.5 | 1.4 | 2.7 | 3.4 | 3.5 | 0.6 | 20.5 | 2.4 | 2.4 | 2.4 | 2.4 | 1.2 | 0.7 | | | | | | |
| 22 | 2.6 | 0.4 | 3.3 | 1.3 | 1.4 | 2.5 | 1.4 | 2.9 | 1.0 | 3.3 | 0.6 | 1.8 | 13.2 | 2.1 | 2.1 | 1.1 | 1.1 | 0.7 | | | | | | |
| 23 | 7.0 | 2.4 | 2.6 | 1.4 | 2.8 | 1.4 | 7.6 | 2.4 | 19.4 | 4.2 | 1.0 | 3.0 | 0.5 | 38.4 | 19.1 | 2.0 | 1.1 | 0.7 | | | | | | |
| 24 | 9.2 | 3.5 | 8.0 | 2.7 | 1.5 | 43.2 | 7.8 | 0.8 | 2.7 | 38.0 | 9.6 | 2.7 | 0.5 | 11.9 | 1.7 | 1.7 | 1.0 | 0.8 | | | | | | |
| 25 | 1.9 | 14.0 | 4.3 | 34.2 | 5.4 | 4.6 | 4.6 | 2.0 | 4.4 | 9.2 | 2.5 | 2.5 | 0.5 | 9.5 | 1.6 | 1.6 | 1.0 | 13.0 | | | | | | |
| 26 | 1.6 | 26.0 | 7.7 | 3.0 | 3.1 | 81.2 | 15.4 | 3.0 | 5.8 | 5.6 | 2.8 | 2.8 | 0.5 | 1.4 | 2.8 | 1.5 | 0.9 | 1.1 | | | | | | |
| 27 | 3.4 | 1.8 | 5.5 | 2.2 | 2.4 | 2.6 | 3.2 | 13.4 | 4.4 | 4.4 | 2.4 | 14.8 | 0.8 | 7.1 | 1.5 | 1.5 | 0.9 | 0.4 | | | | | | |
| 28 | 1.4 | 4.3 | 8.2 | 3.2 | 15.2 | 4.0 | 7.0 | 75.0 | 9.6 | 2.1 | 76.8 | 12.8 | 6.5 | 6.5 | 1.4 | 0.4 | 0.9 | 0.8 | | | | | | |
| 29 | 1.1 | 1.1 | 1.4 | 2.4 | 2.4 | 2.5 | 5.2 | 4.2 | 21.1 | 0.8 | 1.9 | 2.2 | 1.4 | 6.0 | 1.3 | 5.0 | 1.3 | 0.7 | | | | | | |
| 30 | 1.1 | 1.1 | 2.0 | 2.0 | 2.2 | 4.2 | 8.8 | 1.8 | 2.0 | 2.0 | 1.6 | 5.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.0 | 0.7 | | | | | | |
| 31 | 1.1 | 1.1 | 1.8 | 1.8 | 3.4 | 3.4 | 1.9 | 7.8 | 2.0 | 1.2 | 1.2 | 5.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.0 | 0.7 | | | | | | |
| total | 1104.0 | 44.5 | 161.4 | 84.7 | 95.6 | 81.5 | 132.6 | 77.6 | 207.4 | 119.6 | 269.4 | 152.2 | 139.2 | 139.0 | 128.4 | 50.3 | 572.2 | 395.9 | 57.9 | 83.6 | 81.2 | 46.7 | 43.0 | 28.8 |

ANANOMIYA 1990 unit: mm/day annual precipitation: 1875.3 annual runoff: 1038.7

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 0.7 | 24.4 | 2.6 | 2.8 | 11.8 | 4.6 | 1.4 | 1.1 | 13.4 | 1.7 | 2.7 | 0.6 | 46.8 | 20.9 | 0.6 | 4.9 | 20.4 | 5.2 | | | | | | |
| 2 | 0.7 | 7.6 | 3.3 | 11.8 | 3.3 | 3.0 | 1.3 | 2.2 | 2.2 | 2.2 | 1.9 | 0.6 | 8.2 | 3.7 | 0.6 | 8.2 | 3.6 | 3.7 | | | | | | |
| 3 | 0.2 | 0.7 | 2.0 | 5.8 | 3.6 | 2.4 | 1.3 | 2.0 | 9.2 | 1.8 | 1.5 | 2.4 | 0.5 | 5.5 | 2.9 | 2.9 | 2.6 | | | | | | | |
| 4 | 0.7 | 5.8 | 2.2 | 16.8 | 5.1 | 11.6 | 2.4 | 20.5 | 2.3 | 0.4 | 1.4 | 18.4 | 3.7 | 1.3 | 12.4 | 1.8 | 1.2 | 4.8 | 1.0 | 2.7 | 2.3 | | | |
| 5 | 0.6 | | 1.7 | 3.8 | 27.7 | 8.3 | 70.7 | 10.9 | 8.6 | 2.0 | 5.6 | 3.1 | 1.1 | 1.1 | 0.7 | 1.6 | 4.5 | 6.0 | 3.1 | 2.1 | | | | |
| 6 | 0.6 | | 1.4 | 3.1 | | 4.2 | 4.0 | 10.9 | 10.0 | 2.4 | 1.8 | 1.8 | 1.0 | 0.6 | 12.8 | 4.3 | 2.4 | 1.9 | | | | | | |
| 7 | 0.6 | | 1.3 | 2.7 | 3.3 | 3.3 | 5.3 | 1.4 | 1.4 | 1.4 | 0.8 | 0.8 | 0.5 | 4.4 | 6.0 | 2.1 | 1.8 | | | | | | | |
| 8 | 0.6 | | 1.2 | 2.8 | 2.7 | 42.7 | 5.7 | 29.0 | 9.0 | 1.2 | 1.3 | 1.3 | 0.8 | 0.5 | 26.0 | 7.7 | 2.0 | 1.6 | | | | | | |
| 9 | 0.5 | | 1.2 | 2.2 | 0.6 | 8.8 | | 6.5 | 1.6 | 1.2 | 1.2 | 1.2 | 0.7 | 0.4 | 36.6 | 17.9 | 1.8 | 1.6 | | | | | | |
| 10 | 9.2 | 0.6 | 1.1 | 2.0 | | 4.9 | 4.7 | 48.4 | 7.8 | 1.1 | 2.3 | 2.5 | 0.4 | 8.4 | 8.8 | 1.6 | 1.6 | | | | | | | |
| 11 | 5.6 | 1.8 | 5.0 | 1.9 | | 4.0 | 3.7 | 2.8 | 2.8 | 2.8 | 1.0 | 0.8 | 1.8 | 6.2 | 1.5 | 1.6 | 1.6 | | | | | | | |
| 12 | 0.2 | 0.7 | 1.6 | 2.1 | 0.4 | 2.8 | 3.2 | 3.2 | 3.2 | 3.0 | 4.0 | 1.9 | 1.7 | 1.7 | 0.4 | 8.0 | 5.0 | 1.6 | | | | | | |
| 13 | 0.2 | 0.7 | 1.6 | 2.1 | 0.4 | 2.8 | 3.2 | 3.2 | 3.2 | 3.0 | 4.0 | 1.9 | 1.7 | 1.7 | 0.4 | 8.0 | 5.0 | 1.6 | | | | | | |
| 14 | | | 1.4 | 1.7 | 19.6 | 4.6 | 2.7 | 1.5 | 1.2 | 0.2 | 1.2 | 0.2 | 1.2 | 0.2 | 1.2 | 7.4 | 0.7 | 5.2 | 2.9 | 1.5 | | | | |
| 15 | 0.6 | 5.0 | 1.4 | 10.0 | 2.1 | 3.4 | 7.4 | 3.2 | 8.2 | 1.3 | 9.2 | 1.3 | 0.2 | 1.1 | 7.2 | 1.1 | 0.6 | 4.6 | 2.8 | 0.6 | 1.4 | | | |
| 16 | 0.2 | 0.6 | 4.2 | 2.2 | | 2.6 | 2.3 | 42.0 | 5.5 | 1.0 | 1.6 | 0.9 | 30.2 | 3.1 | 0.9 | 30.2 | 3.1 | 4.0 | 2.6 | 2.6 | 1.4 | | | |
| 17 | 4.0 | 0.9 | 1.4 | 1.7 | 0.9 | 2.4 | 2.1 | 7.2 | 7.7 | 5.0 | 1.3 | 0.6 | 19.8 | 2.4 | 0.8 | 19.8 | 2.4 | 3.4 | 3.1 | 2.2 | 0.2 | 1.3 | | |
| 18 | 9.0 | 0.8 | 1.1 | 1.6 | | 2.2 | 1.0 | 1.9 | 3.6 | 3.6 | 2.6 | 2.6 | 0.9 | 4.1 | 160.8 | 55.7 | 3.1 | 2.2 | 2.2 | 1.4 | 1.3 | | | |
| 19 | 5.0 | 1.9 | 2.7 | 1.4 | | 2.0 | 24.4 | 2.6 | 2.6 | 2.6 | 0.9 | 0.9 | 1.4 | 0.2 | 16.4 | 2.8 | 2.2 | 2.2 | 2.2 | 1.4 | 1.3 | | | |
| 20 | 5.0 | 1.9 | 2.7 | 1.4 | | 1.9 | 3.6 | 4.9 | 2.1 | 2.1 | 0.7 | 1.0 | 77.2 | 32.2 | 2.6 | 5.2 | 2.4 | 2.6 | 5.2 | 2.4 | 1.3 | | | |
| 21 | 0.9 | 0.9 | 1.4 | 1.4 | 3.2 | 2.0 | 2.4 | 4.0 | 2.2 | 2.4 | 4.0 | 2.2 | 0.6 | 0.8 | 13.9 | 4.4 | 8.8 | 1.6 | | | | | | |
| 22 | 0.8 | | 2.9 | 1.3 | | 2.0 | 2.1 | 2.1 | 2.1 | 1.8 | 1.8 | 1.8 | 0.6 | 0.7 | 7.9 | 2.4 | 2.4 | 1.7 | | | | | | |
| 23 | 0.8 | 0.2 | 2.5 | 1.2 | 12.2 | 2.3 | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.5 | 0.6 | 23.2 | 3.4 | 5.8 | 2.3 | 1.9 | 1.9 | 1.3 | | | | |
| 24 | 0.7 | 5.5 | 10.9 | 0.6 | 1.3 | 0.4 | 2.5 | 1.6 | 1.6 | 1.3 | 30.2 | 1.8 | 7.8 | 2.0 | 2.2 | 4.6 | 2.2 | 2.2 | 1.8 | 1.8 | | | | |
| 25 | 0.7 | 0.2 | 8.2 | 6.4 | 1.8 | 1.8 | 1.5 | 1.5 | 1.5 | 1.2 | 3.6 | 2.8 | 1.2 | 22.8 | 7.1 | 2.0 | 2.1 | 1.7 | 1.7 | 1.2 | | | | |
| 26 | 1.2 | 0.7 | 4.0 | 5.7 | 1.2 | 1.6 | 1.4 | 3.8 | 1.3 | 4.0 | 3.8 | 1.3 | 65.6 | 13.2 | 0.9 | 0.4 | 32.4 | 5.6 | 9.0 | 2.1 | 2.2 | 1.2 | | |
| 27 | 0.6 | | 4.1 | 1.1 | | 1.5 | 1.5 | 4.1 | 1.3 | 4.0 | 1.6 | 3.6 | 3.6 | 0.8 | 6.6 | 4.7 | 2.4 | 3.9 | 1.0 | 2.4 | 1.0 | 1.3 | | |
| 28 | 0.6 | | 3.3 | 1.1 | | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 2.4 | 1.8 | 2.3 | 0.7 | 3.6 | 3.6 | 2.6 | 2.6 | 5.2 | 2.0 | 3.3 | 1.9 | | |
| 29 | 10.2 | 0.6 | | 28.4 | 3.8 | 12.1 | 2.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.8 | 0.7 | 1.8 | 3.2 | 2.3 | 2.3 | 2.3 | 2.1 | 1.5 | | | |
| 30 | 11.8 | 2.9 | | 3.4 | 2.7 | | 1.9 | 1.2 | 0.6 | 1.1 | 1.5 | 1.5 | 1.5 | 0.6 | 22.2 | 3.7 | 13.2 | 2.5 | 7.4 | 2.0 | 1.3 | | | |
| 31 | 1.1 | | | 11.6 | 2.9 | | 1.9 | 1.2 | 0.6 | 1.1 | 1.5 | 1.5 | 1.5 | 0.6 | 22.2 | 3.7 | 13.2 | 2.5 | 7.4 | 2.0 | 1.3 | | | |
| total | 56.6 | 25.2 | 164.8 | 79.0 | 104.2 | 69.4 | 142.3 | 96.0 | 160.6 | 100.4 | 168.2 | 69.6 | 215.6 | 65.5 | 114.2 | 45.0 | 372.2 | 179.0 | 221.6 | 167.3 | 97.0 | 86.6 | 58.0 | 54.5 |

| SHIRASAKA | | 1986 | | unit: mm/day | | annual precipitation: 1581.3 | | annual runoff: | | 816.0 | | | | | | | | | | | | | | |
|-----------|---------|----------|--------|--------------|--------|------------------------------|--------|----------------|-----------|---------|----------|----------|-------|-------|------|------|-------|------|------|------|------|------|------|------|
| day | January | February | March | April | May | June | July | August | September | October | November | December | | | | | | | | | | | | |
| rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | | | | | | | | | | | | |
| 1 | 0.6 | 0.5 | 4.1 | 0.5 | 1.8 | 2.1 | 0.2 | 11.4 | 4.0 | 0.9 | 2.5 | 0.7 | 0.4 | | | | | | | | | | | |
| 2 | 0.5 | 0.5 | 0.5 | 0.5 | 1.6 | 13.1 | 2.7 | 6.7 | 3.8 | 0.9 | 11.8 | 1.1 | 0.5 | | | | | | | | | | | |
| 3 | 0.5 | 0.5 | 0.1 | 0.4 | 1.4 | 9.7 | 2.4 | 32.1 | 1.4 | 2.3 | 0.8 | 0.4 | 0.4 | | | | | | | | | | | |
| 4 | 1.8 | 0.5 | 0.4 | 5.4 | 1.3 | 29.5 | 2.2 | 8.6 | 9.8 | 2.3 | 0.7 | 7.2 | 0.5 | | | | | | | | | | | |
| 5 | 1.1 | 0.5 | 0.4 | 30.1 | 3.8 | 5.0 | 2.1 | 0.5 | 5.9 | 1.3 | 0.7 | 0.5 | 0.3 | | | | | | | | | | | |
| 6 | 0.7 | 1.9 | 0.5 | 0.4 | 2.8 | 3.6 | 2.0 | 47.4 | 12.0 | 1.1 | 0.7 | 0.4 | 0.3 | | | | | | | | | | | |
| 7 | 0.6 | 0.5 | 0.4 | 0.4 | 2.1 | 29.6 | 2.2 | 2.0 | 0.1 | 0.2 | 0.7 | 1.1 | 0.3 | | | | | | | | | | | |
| 8 | 0.6 | 0.5 | 0.5 | 1.8 | 4.6 | 1.9 | 1.9 | 0.8 | 7.1 | 1.0 | 2.9 | 0.7 | 0.4 | | | | | | | | | | | |
| 9 | 0.1 | 0.6 | 0.1 | 0.5 | 1.6 | 3.6 | 1.7 | 5.9 | 2.5 | 1.0 | 0.6 | 0.4 | 0.3 | | | | | | | | | | | |
| 10 | 0.6 | 0.5 | 8.5 | 45.7 | 2.7 | 3.2 | 1.6 | 46.8 | 8.1 | 3.6 | 1.0 | 0.6 | 0.7 | | | | | | | | | | | |
| 11 | 0.5 | 0.4 | 5.5 | 0.8 | 13.3 | 9.6 | 1.5 | 14.1 | 15.1 | 2.2 | 6.6 | 1.4 | 0.5 | | | | | | | | | | | |
| 12 | 0.5 | 0.4 | 9.7 | 0.8 | 2.2 | 4.6 | 1.4 | 16.7 | 10.5 | 0.9 | 0.7 | 0.7 | 0.4 | | | | | | | | | | | |
| 13 | 0.5 | 0.4 | 0.4 | 0.6 | 3.5 | 2.4 | 1.4 | 43.1 | 11.0 | 7.2 | 2.0 | 0.6 | 0.4 | | | | | | | | | | | |
| 14 | 0.3 | 0.5 | 0.4 | 0.7 | 0.6 | 2.2 | 1.3 | 5.5 | 20.1 | 1.0 | 1.1 | 0.6 | 0.3 | | | | | | | | | | | |
| 15 | 0.5 | 1.8 | 0.4 | 18.6 | 1.1 | 2.4 | 1.3 | 10.9 | 11.6 | 1.9 | 0.9 | 0.6 | 0.5 | | | | | | | | | | | |
| 16 | 0.5 | 0.4 | 0.4 | 0.9 | 27.6 | 3.6 | 1.2 | 34.8 | 12.4 | 1.8 | 1.0 | 0.5 | 1.0 | | | | | | | | | | | |
| 17 | 0.5 | 0.4 | 0.4 | 0.7 | 2.9 | 4.7 | 1.7 | 2.8 | 15.8 | 8.2 | 1.1 | 0.5 | 0.6 | | | | | | | | | | | |
| 18 | 0.5 | 0.4 | 0.6 | 0.6 | 2.4 | 2.7 | 10.6 | 22.2 | 12.2 | 2.4 | 0.5 | 0.4 | 0.5 | | | | | | | | | | | |
| 19 | 0.5 | 32.0 | 1.1 | 6.7 | 0.7 | 18.8 | 5.5 | 10.6 | 1.7 | 2.8 | 1.6 | 0.5 | 0.4 | | | | | | | | | | | |
| 20 | 0.5 | 0.9 | 9.7 | 1.0 | 0.8 | 3.0 | 3.2 | 2.5 | 8.4 | 1.6 | 1.3 | 0.5 | 2.6 | | | | | | | | | | | |
| 21 | 0.5 | 0.6 | 0.6 | 0.7 | 0.6 | 2.4 | 2.6 | 6.9 | 7.7 | 7.2 | 1.2 | 0.4 | 2.1 | | | | | | | | | | | |
| 22 | 0.5 | 0.6 | 0.7 | 0.6 | 2.2 | 4.5 | 2.2 | 53.2 | 11.6 | 1.5 | 0.4 | 0.4 | 1.1 | | | | | | | | | | | |
| 23 | 1.4 | 0.5 | 42.1 | 1.2 | 20.0 | 2.9 | 2.2 | 11.4 | 19.2 | 1.5 | 1.1 | 12.8 | 0.9 | | | | | | | | | | | |
| 24 | 1.2 | 0.5 | 0.5 | 0.7 | 0.7 | 3.7 | 11.6 | 1.1 | 1.4 | 1.0 | 0.7 | 0.4 | 0.8 | | | | | | | | | | | |
| 25 | 0.3 | 0.5 | 25.0 | 7.9 | 2.5 | 3.2 | 11.6 | 1.1 | 1.4 | 0.9 | 0.6 | 0.4 | 0.7 | | | | | | | | | | | |
| 26 | 0.6 | 0.5 | 0.5 | 3.1 | 2.2 | 2.9 | 9.1 | 1.4 | 1.4 | 0.9 | 0.8 | 0.5 | 10.5 | | | | | | | | | | | |
| 27 | 1.7 | 0.5 | 0.5 | 2.1 | 2.1 | 4.3 | 3.3 | 7.6 | 1.2 | 0.9 | 0.5 | 0.5 | 1.5 | | | | | | | | | | | |
| 28 | 0.5 | 0.1 | 0.5 | 1.6 | 1.9 | 2.4 | 2.8 | 6.6 | 1.2 | 0.8 | 1.6 | 0.5 | 0.4 | | | | | | | | | | | |
| 29 | 0.5 | 0.5 | 30.3 | 17.2 | 2.3 | 2.2 | 2.5 | 5.9 | 2.7 | 0.8 | 0.4 | 0.4 | 11.3 | | | | | | | | | | | |
| 30 | 0.5 | 0.5 | 10.3 | 10.3 | 2.9 | 2.1 | 2.7 | 5.2 | 0.1 | 0.7 | 0.4 | 0.4 | 0.8 | | | | | | | | | | | |
| 31 | 0.5 | 0.5 | 9.5 | 2.1 | 2.4 | 4.8 | 16.9 | 1.1 | 0.7 | 5.0 | 0.5 | 0.4 | 0.6 | | | | | | | | | | | |
| total | 23.9 | 16.8 | 35.9 | 14.1 | 170.5 | 38.5 | 192.0 | 82.2 | 239.6 | 111.4 | 237.7 | 94.7 | 351.9 | 306.3 | 44.8 | 66.0 | 102.6 | 34.2 | 46.8 | 18.2 | 40.7 | 13.2 | 94.9 | 20.5 |

SHIRASAKA 1987 unit: mm/day annual precipitation: 1542.9 annual runoff: 662.5

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 3.2 | 0.6 | | 0.6 | 0.5 | 0.5 | | 1.7 | 0.8 | 0.9 | 3.1 | 0.9 | 1.6 | 4.0 | 1.6 | 3.5 | 1.1 | 8.4 | 1.4 | | | | | |
| 2 | | 0.5 | | 0.6 | 0.1 | 0.5 | | 1.6 | 8.5 | 1.1 | 2.8 | 17.4 | 1.5 | 0.4 | 1.5 | | 0.9 | 0.1 | 1.1 | 0.8 | 0.9 | 0.2 | 0.6 | |
| 3 | 22.4 | 1.1 | 16.3 | 0.6 | | 0.5 | 1.0 | 1.5 | 3.0 | 1.0 | 16.8 | 2.9 | 15.3 | 1.5 | 1.1 | 1.5 | 15.0 | 1.2 | 1.1 | 7.3 | 1.1 | 0.2 | 0.5 | |
| 4 | | 1.1 | | 0.6 | | 0.5 | | 1.4 | 2.1 | 1.0 | 29.0 | 6.7 | 11.7 | 3.3 | 1.4 | 7.3 | 1.2 | | 0.9 | 11.8 | 1.2 | | 0.6 | |
| 5 | | 0.8 | | 0.6 | | 0.5 | | 1.2 | | 0.9 | 3.9 | 3.9 | | 2.4 | 2.8 | 1.4 | 0.2 | 1.0 | 0.9 | 0.4 | 1.2 | 0.1 | 0.5 | |
| 6 | 11.0 | 0.9 | | 0.6 | | 0.5 | | 1.2 | | 0.8 | 3.2 | 3.2 | | 2.2 | 36.3 | 3.5 | 1.8 | 1.0 | 3.0 | 0.9 | 1.0 | 3.7 | 0.5 | |
| 7 | | 0.8 | | 0.6 | | 0.6 | 0.4 | 12.3 | 1.2 | 0.8 | 2.8 | 5.2 | 2.0 | 2.0 | 2.1 | 0.9 | 1.0 | 0.9 | 1.8 | 1.0 | | 0.9 | 0.6 | |
| 8 | 1.1 | 0.8 | | 0.6 | 20.9 | 0.6 | 10.5 | 1.7 | | 0.8 | 2.7 | | 1.8 | | 1.7 | | 0.9 | 0.9 | 0.9 | 2.3 | 0.9 | | 0.5 | |
| 9 | | 0.7 | | 0.6 | 2.8 | 0.8 | 0.7 | 1.3 | 0.6 | 0.7 | 0.2 | 2.3 | 1.6 | 0.2 | 1.6 | 0.6 | 0.9 | 0.9 | 0.7 | | | 0.8 | 0.3 | |
| 10 | | 0.6 | | 0.6 | | 0.6 | 0.7 | 13.5 | 1.5 | 0.7 | 29.8 | 4.2 | 1.5 | 1.5 | 1.4 | 0.9 | 0.9 | 0.7 | 0.7 | | | 0.7 | 2.2 | |
| 11 | 0.2 | 0.6 | | 0.6 | 12.0 | 0.8 | 2.5 | 1.7 | 1.7 | 0.7 | 3.0 | 3.0 | 1.4 | 1.4 | 1.3 | 5.2 | 1.0 | | 0.7 | | | 0.7 | 0.5 | |
| 12 | | 0.6 | | 0.6 | | 1.0 | | 1.4 | | 0.7 | 2.6 | 0.7 | 1.3 | 3.8 | 1.4 | 0.8 | 1.2 | 0.7 | 0.7 | 6.1 | 0.7 | | 0.5 | |
| 13 | 19.1 | 0.8 | 4.5 | 0.6 | | 0.8 | | 1.2 | 24.6 | 1.1 | 2.3 | 3.6 | 1.3 | 1.3 | 1.2 | 21.2 | 1.4 | | 0.7 | | | 0.8 | 2.4 | |
| 14 | | 0.7 | | 0.5 | 20.8 | 1.6 | | 1.2 | 116.9 | 22.5 | 2.2 | 2.2 | 2.6 | 1.5 | 0.3 | 1.2 | 1.1 | | 0.7 | | | 0.7 | 0.5 | |
| 15 | | 0.6 | | 0.5 | 2.7 | 1.3 | 1.1 | 34.0 | 26.4 | 17.5 | 3.1 | 10.4 | 1.7 | 17.6 | 1.6 | | 0.9 | 0.9 | 0.7 | 3.0 | 0.7 | | 0.5 | |
| 16 | | 0.6 | | 0.5 | | 1.1 | | 1.0 | 8.6 | 8.6 | 3.1 | 1.3 | 1.4 | | 1.2 | | 0.9 | 2.9 | 0.7 | | | 0.7 | 0.5 | |
| 17 | 1.1 | 0.6 | | 0.5 | | 1.0 | | 1.0 | 4.5 | 5.4 | 2.6 | 4.7 | 1.4 | | 1.1 | | 0.8 | 10.7 | 0.8 | | | 0.7 | 0.4 | |
| 18 | 0.3 | 0.6 | 18.4 | 0.8 | 10.4 | 1.1 | | 0.9 | 21.3 | 6.6 | 2.3 | 22.6 | 2.0 | 3.9 | 1.1 | | 0.7 | 5.3 | 1.0 | | | 0.6 | 0.5 | |
| 19 | | 0.6 | | 0.8 | | 0.9 | | 0.9 | 0.9 | 4.8 | 2.1 | 19.3 | 2.5 | 1.9 | 1.1 | | 0.7 | 0.7 | 2.6 | 0.7 | | | 0.5 | |
| 20 | | 0.5 | | 0.6 | 53.8 | 5.6 | | 3.8 | 9.6 | 2.0 | 66.3 | 16.7 | 0.9 | 0.9 | | 0.9 | 0.7 | 2.9 | 0.8 | | | 0.6 | 0.5 | |
| 21 | | 0.5 | | 0.6 | | 5.1 | | 0.9 | 3.2 | 8.2 | 2.5 | 0.2 | 8.2 | 2.5 | 0.2 | 0.9 | 0.7 | | 0.7 | | | 0.6 | 0.3 | |
| 22 | | 0.5 | | 0.6 | | 2.5 | | 1.4 | 0.6 | 2.8 | 2.0 | | 4.9 | | 0.9 | | 0.7 | 0.6 | 0.6 | | | 0.6 | 0.5 | |
| 23 | 0.9 | 0.5 | 2.2 | 0.6 | 9.0 | 2.2 | | 1.3 | 96.8 | 12.3 | 1.8 | | 3.8 | 28.6 | 0.9 | | 0.6 | | 0.6 | | | 0.6 | 0.4 | |
| 24 | 21.6 | 1.1 | | 0.5 | 70.9 | 9.9 | 1.7 | 1.0 | 46.0 | 43.8 | 1.7 | | 3.1 | 29.4 | 6.9 | | 0.6 | 3.2 | 0.6 | | | 0.6 | 0.4 | |
| 25 | | 1.1 | 1.8 | 0.5 | 5.9 | 14.7 | | 0.9 | | 12.4 | 1.7 | | 2.7 | 2.1 | 89.4 | 9.0 | 23.8 | 1.4 | | | | 0.5 | 0.4 | |
| 26 | | 0.8 | 5.1 | 0.5 | | 5.6 | 7.0 | 0.9 | 8.0 | | 1.6 | | 2.4 | 4.0 | 1.7 | 3.2 | 5.1 | 1.0 | | | | 0.5 | 0.4 | |
| 27 | | 0.7 | 3.0 | 0.5 | | 3.7 | 15.4 | 1.5 | 1.2 | 6.3 | 1.5 | | 2.1 | 1.5 | 4.0 | 2.5 | 10.2 | 1.1 | | | | 0.5 | 0.4 | |
| 28 | | 0.7 | | 0.5 | | 3.0 | | 1.2 | 2.6 | 5.3 | 1.5 | | 1.9 | 1.3 | 1.7 | | 1.7 | | | | | 0.5 | 0.4 | |
| 29 | | 0.6 | | | | 1.1 | 2.4 | 1.1 | 4.4 | 7.2 | 1.6 | | 1.8 | 0.4 | 1.3 | 1.5 | 1.5 | 0.9 | 17.6 | 0.9 | | 0.7 | 0.4 | |
| 30 | | 0.6 | | | 0.7 | 2.1 | | 1.0 | | 3.8 | 9.7 | 1.8 | 1.7 | 1.1 | 0.4 | 1.4 | 1.4 | 0.8 | | | | 0.6 | 0.4 | |
| 31 | | 0.6 | | | 1.8 | 1.9 | | | | 3.5 | | | 1.5 | | 1.1 | | 16.5 | 1.0 | | | | 0.2 | 0.4 | |
| total | 80.9 | 22.2 | 51.3 | 16.0 | 212.3 | 73.6 | 82.4 | 36.7 | 362.9 | 195.0 | 138.5 | 77.6 | 182.2 | 84.6 | 134.7 | 49.4 | 145.8 | 42.8 | 90.0 | 26.8 | 51.9 | 22.8 | 10.0 | 15.2 |

SHIRASAKA 1988 unit: mm/day 1091.5 annual precipitation: 2009.5 annual runoff: 1091.5

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 0.4 | 0.4 | 9.0 | 0.5 | 1.3 | 1.6 | 1.5 | 11.3 | 13.9 | 3.5 | 2.4 | 2.0 | 1.4 | 9.4 | 3.2 | 2.3 | 2.4 | 4.2 | 6.4 | 1.6 | 1.6 | 1.1 | 1.1 | |
| 2 | 0.4 | 0.4 | 8.6 | 0.9 | 1.2 | 1.4 | 2.0 | 1.4 | 9.4 | 3.2 | 1.3 | 97.0 | 10.3 | 7.1 | 3.0 | 2.2 | 2.2 | 2.2 | 4.9 | 1.6 | 1.6 | 1.1 | 1.1 | |
| 3 | 0.4 | 0.4 | 4.9 | 0.3 | 0.7 | 1.3 | 1.3 | 10.3 | 7.1 | 3.0 | 1.0 | 3.4 | 24.9 | 2.4 | 6.0 | 11.2 | 3.3 | 0.8 | 2.1 | 4.5 | 1.5 | 1.1 | 1.1 | |
| 4 | 0.4 | 0.4 | 9.7 | 0.4 | 0.6 | 1.0 | 3.4 | 24.9 | 2.4 | 6.0 | 1.1 | 4.7 | 1.3 | 5.2 | 4.4 | 3.3 | 5.2 | 2.0 | 0.3 | 4.2 | 10.2 | 1.6 | 8.9 | |
| 5 | 7.7 | 0.5 | 0.4 | 0.5 | 1.0 | 4.7 | 1.3 | 5.2 | 4.4 | 3.3 | 6.7 | 6.7 | 4.6 | 2.8 | 4.4 | 2.8 | 12.8 | 2.4 | 33.0 | 5.5 | 0.2 | 1.7 | 0.1 | |
| 6 | 0.4 | 0.4 | 2.0 | 0.5 | 0.5 | 6.1 | 1.0 | 4.1 | 4.1 | 2.6 | 4.9 | 4.9 | 4.1 | 2.6 | 2.6 | 10.5 | 2.6 | 32.1 | 11.7 | 1.7 | 1.7 | 1.0 | 1.0 | |
| 7 | 7.1 | 0.5 | 3.7 | 0.5 | 0.4 | 4.2 | 0.9 | 3.8 | 3.8 | 2.5 | 4.0 | 4.0 | 3.8 | 2.5 | 2.5 | 2.3 | 2.3 | 6.6 | 6.6 | 1.7 | 1.7 | 1.0 | 1.0 | |
| 8 | 0.2 | 0.5 | 0.5 | 0.4 | 4.2 | 0.9 | 3.8 | 3.8 | 2.5 | 2.4 | 56.3 | 7.0 | 3.5 | 3.5 | 2.4 | 2.4 | 2.0 | 2.0 | 5.4 | 5.4 | 1.4 | 1.4 | 1.0 | |
| 9 | 0.6 | 0.4 | 0.3 | 0.4 | 0.4 | 2.6 | 1.6 | 7.3 | 10.4 | 3.2 | 7.3 | 10.4 | 3.2 | 5.6 | 2.5 | 1.8 | 1.8 | 4.6 | 4.6 | 1.4 | 1.4 | 2.5 | 1.0 | |
| 10 | 3.6 | 0.4 | 0.4 | 0.4 | 1.5 | 0.2 | 1.4 | 6.0 | 15.6 | 3.8 | 1.4 | 6.0 | 15.6 | 3.8 | 12.4 | 2.7 | 4.4 | 1.9 | 4.1 | 1.3 | 1.3 | 0.9 | 0.9 | |
| 11 | 0.6 | 0.4 | 0.4 | 0.4 | 1.4 | 34.9 | 2.1 | 5.4 | 4.7 | 5.6 | 5.4 | 4.7 | 5.6 | 3.6 | 13.7 | 2.9 | 39.9 | 4.7 | 0.1 | 3.9 | 1.3 | 1.3 | 0.9 | |
| 12 | 0.4 | 0.4 | 0.5 | 0.4 | 93.8 | 6.3 | 1.8 | 3.6 | 0.6 | 4.4 | 0.6 | 4.4 | 2.9 | 14.5 | 3.9 | 4.2 | 0.6 | 3.7 | 3.7 | 0.9 | 0.9 | 0.9 | 0.9 | |
| 13 | 0.4 | 0.4 | 0.4 | 0.4 | 1.5 | 11.0 | 2.2 | 3.7 | 6.2 | 2.8 | 3.7 | 6.2 | 2.8 | 8.8 | 3.1 | 2.7 | 2.7 | 3.4 | 3.4 | 1.3 | 1.3 | 0.9 | 0.9 | |
| 14 | 0.4 | 0.4 | 14.5 | 1.5 | 6.2 | 2.9 | 1.9 | 3.4 | 29.7 | 3.8 | 2.0 | 2.8 | 2.8 | 8.8 | 3.1 | 2.7 | 2.7 | 3.4 | 3.4 | 1.3 | 1.3 | 0.9 | 0.9 | |
| 15 | 1.6 | 0.4 | 0.5 | 0.4 | 4.1 | 18.6 | 2.6 | 3.0 | 67.2 | 12.9 | 3.0 | 67.2 | 12.9 | 2.9 | 2.9 | 2.8 | 2.3 | 2.3 | 3.0 | 3.0 | 1.2 | 1.2 | 0.9 | |
| 16 | 0.4 | 0.4 | 6.7 | 1.2 | 3.2 | 2.1 | 2.1 | 2.8 | 2.8 | 11.9 | 2.8 | 11.9 | 29.4 | 6.3 | 1.9 | 1.9 | 1.9 | 1.9 | 2.9 | 2.9 | 0.6 | 0.6 | 0.9 | |
| 17 | 0.4 | 0.4 | 13.5 | 1.6 | 2.6 | 1.6 | 1.6 | 1.6 | 1.6 | 0.5 | 0.5 | 2.6 | 0.3 | 6.4 | 0.7 | 4.6 | 2.2 | 1.8 | 10.0 | 3.0 | 6.4 | 1.2 | 0.9 | |
| 18 | 0.3 | 0.4 | 1.4 | 1.4 | 19.1 | 2.8 | 2.1 | 2.5 | 3.0 | 5.3 | 2.5 | 3.0 | 5.3 | 15.1 | 4.4 | 1.7 | 1.7 | 1.1 | 2.9 | 0.7 | 0.7 | 1.1 | 1.0 | |
| 19 | 0.4 | 0.4 | 1.1 | 0.4 | 2.6 | 2.6 | 2.6 | 2.2 | 0.3 | 4.6 | 2.2 | 0.3 | 4.6 | 4.4 | 4.9 | 0.5 | 1.6 | 2.6 | 2.6 | 1.1 | 1.1 | 1.0 | 0.9 | |
| 20 | 0.4 | 0.4 | 0.3 | 1.2 | 2.1 | 9.5 | 1.6 | 2.1 | 2.6 | 3.8 | 2.1 | 2.6 | 3.8 | 5.9 | 68.5 | 13.3 | 1.7 | 2.5 | 2.5 | 1.1 | 1.1 | 0.9 | 0.9 | |
| 21 | 0.4 | 0.4 | 0.2 | 1.0 | 2.1 | 2.0 | 1.5 | 1.5 | 0.5 | 2.1 | 0.5 | 2.1 | 0.6 | 3.8 | 4.5 | 2.1 | 4.4 | 0.2 | 2.5 | 1.1 | 1.1 | 0.8 | 0.8 | |
| 22 | 14.9 | 0.7 | 0.3 | 18.3 | 1.2 | 3.1 | 2.0 | 2.0 | 1.5 | 1.5 | 0.5 | 2.1 | 0.6 | 3.8 | 4.5 | 2.1 | 4.4 | 0.2 | 2.5 | 1.1 | 1.1 | 0.8 | 0.8 | |
| 23 | 0.1 | 0.5 | 1.0 | 0.3 | 10.7 | 2.2 | 0.5 | 2.2 | 0.5 | 1.9 | 38.6 | 3.4 | 2.0 | 3.5 | 9.2 | 4.1 | 2.8 | 3.4 | 2.3 | 2.3 | 1.0 | 1.0 | 0.8 | |
| 24 | 0.5 | 3.8 | 0.4 | 1.7 | 1.7 | 1.7 | 1.7 | 3.2 | 13.6 | 1.9 | 3.2 | 13.6 | 1.9 | 32.0 | 5.0 | 3.5 | 18.3 | 3.5 | 2.2 | 44.4 | 2.6 | 2.6 | 0.8 | |
| 25 | 0.4 | 0.4 | 0.4 | 1.4 | 1.5 | 2.3 | 59.0 | 7.0 | 9.6 | 5.9 | 2.3 | 59.0 | 7.0 | 9.6 | 5.9 | 22.5 | 6.5 | 139.1 | 27.5 | 4.5 | 2.2 | 2.7 | 0.8 | |
| 26 | 0.4 | 0.4 | 10.9 | 1.4 | 1.4 | 0.5 | 2.2 | 3.2 | 3.2 | 6.1 | 2.2 | 3.2 | 6.1 | 5.0 | 4.6 | 83.6 | 88.6 | 2.1 | 2.1 | 1.8 | 1.8 | 0.8 | 0.8 | |
| 27 | 0.4 | 12.2 | 0.4 | 23.2 | 3.4 | 1.4 | 1.8 | 2.8 | 3.9 | 4.3 | 1.8 | 2.8 | 3.9 | 4.3 | 1.1 | 3.9 | 0.5 | 17.5 | 2.0 | 2.0 | 1.6 | 0.7 | 0.7 | |
| 28 | 0.4 | 10.5 | 0.7 | 2.2 | 1.3 | 14.7 | 1.9 | 46.3 | 15.7 | 9.0 | 4.2 | 3.4 | 0.6 | 10.8 | 3.4 | 0.6 | 10.8 | 1.9 | 1.9 | 1.8 | 1.8 | 0.2 | 0.7 | |
| 29 | 0.4 | 0.4 | 0.5 | 0.7 | 1.9 | 6.8 | 1.3 | 2.2 | 25.3 | 13.5 | 2.2 | 25.3 | 13.5 | 12.9 | 4.5 | 3.1 | 3.1 | 8.3 | 1.8 | 1.8 | 1.3 | 0.7 | 0.7 | |
| 30 | 0.4 | 0.4 | 1.6 | 22.7 | 2.3 | 1.0 | 1.7 | 34.8 | 11.5 | 1.3 | 4.6 | 2.8 | 1.3 | 7.0 | 2.8 | 1.3 | 7.0 | 1.8 | 1.8 | 1.2 | 1.2 | 0.7 | 0.7 | |
| 31 | 0.4 | 0.4 | 1.3 | 1.5 | 1.5 | 1.5 | 1.5 | 4.0 | 4.0 | 2.5 | 2.5 | 4.0 | 4.0 | 2.5 | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.8 | 1.8 | 0.7 | 0.7 | |
| total | 36.2 | 13.1 | 52.5 | 12.0 | 173.3 | 40.7 | 207.1 | 84.0 | 168.4 | 59.7 | 397.8 | 183.1 | 209.6 | 167.8 | 112.4 | 393.1 | 231.4 | 87.8 | 115.0 | 62.8 | 44.0 | 18.7 | 28.4 | |

SHIRASAKA 1989 unit: mm/day annual precipitation: 2317.8 annual runoff: 1382.8

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 5.2 | 0.7 | 4.0 | 1.3 | 12.9 | 4.5 | 3.9 | 2.1 | 2.2 | 2.2 | 2.2 | 3.1 | 7.6 | 8.6 | 2.6 | 2.1 | 4.7 | 29.4 | 3.1 | | | | | |
| 2 | 2.0 | 0.8 | 1.3 | 1.3 | 4.4 | 4.3 | | 2.0 | 3.7 | 2.3 | 2.3 | 2.8 | 0.5 | 8.0 | 2.8 | 6.9 | 2.0 | 4.3 | 1.1 | 2.1 | | | | |
| 3 | | 0.7 | | 1.1 | | 3.6 | | 1.8 | | 2.1 | 2.1 | 2.6 | 19.1 | 6.5 | 2.3 | 170.7 | 20.0 | 0.8 | 4.1 | | | | | |
| 4 | | 0.7 | | 1.1 | 7.9 | 3.4 | 0.4 | 1.8 | | 2.0 | 2.0 | 2.5 | 1.9 | 6.1 | 2.1 | 65.8 | 49.1 | 0.5 | 3.8 | | | | | |
| 5 | | 0.7 | | 1.1 | 28.8 | 6.0 | | 1.7 | | 1.8 | 1.8 | 2.3 | 5.1 | | 2.0 | 12.8 | | 3.5 | | | | | | |
| 6 | | 0.7 | | 1.0 | | 5.1 | | 1.6 | 0.4 | 1.8 | 14.1 | 2.5 | 4.7 | 3.6 | 2.0 | 79.3 | 22.4 | 3.3 | | | | | | |
| 7 | | 0.7 | | 0.9 | 0.4 | 4.2 | | 1.5 | 15.8 | 2.1 | 0.1 | 2.5 | 4.3 | 7.3 | 2.3 | 57.8 | 44.1 | 11.2 | 3.2 | 15.4 | 1.8 | | | |
| 8 | 28.3 | 1.2 | | 0.9 | | 3.6 | 2.6 | 2.6 | 1.5 | 7.8 | 2.5 | 2.1 | | | | | | 2.9 | 1.2 | 1.7 | 0.3 | 0.9 | | |
| 9 | 3.2 | 1.5 | 31.9 | 1.9 | | 3.2 | 45.4 | 5.4 | | | | 2.1 | | | 1.8 | | 9.8 | | | | | | | |
| 10 | | 1.1 | | 1.9 | | 3.0 | | 3.0 | | 3.0 | 1.8 | 11.8 | 3.5 | 27.7 | 7.2 | 1.7 | 7.4 | | | | | | | |
| 11 | | 0.9 | | 1.5 | | 2.8 | | 2.5 | 8.0 | 1.8 | 15.7 | 3.8 | 5.8 | | 1.5 | 1.0 | 6.1 | | | | | | | |
| 12 | 16.3 | 1.8 | | 1.3 | | 2.6 | 3.0 | 2.4 | 30.0 | 3.8 | 0.7 | 3.8 | 0.7 | 4.8 | 1.5 | 5.3 | 6.8 | | | | | | | |
| 13 | | 1.3 | | 1.2 | 1.2 | 2.5 | | 2.1 | 15.1 | 3.9 | | 3.0 | 21.1 | 5.6 | 1.4 | 4.6 | | | | | | | | |
| 14 | | 1.1 | | 1.2 | 14.6 | 3.0 | | 2.0 | 10.7 | 4.1 | | 2.6 | 10.4 | 7.3 | 1.4 | 73.9 | 4.5 | | | | | | | |
| 15 | | 1.0 | | 1.1 | | 2.6 | 2.5 | 1.8 | 2.9 | 3.7 | 1.3 | 2.3 | 5.6 | 0.6 | 1.3 | 21.4 | 7.8 | | | | | | | |
| 16 | | 0.9 | 1.3 | 1.1 | 0.4 | 2.4 | 36.8 | 3.4 | | 3.1 | 12.8 | 2.3 | 1.3 | 4.7 | 1.3 | | | | | | | | | |
| 17 | | 0.9 | 52.1 | 4.7 | 0.3 | 2.2 | 0.5 | 3.7 | 0.4 | 2.7 | 61.3 | 13.3 | 45.7 | 9.1 | 1.3 | | | | | | | | | |
| 18 | | 0.8 | 38.3 | 8.1 | | 2.1 | | 2.8 | 18.3 | 3.4 | | 6.8 | 1.0 | 7.7 | 1.2 | 1.2 | 3.9 | | | | | | | |
| 19 | 3.5 | 0.8 | 1.3 | 8.9 | | 2.0 | | 2.5 | 0.3 | 2.9 | 7.1 | 5.0 | 1.1 | 6.1 | 1.1 | 55.9 | 9.3 | | | | | | | |
| 20 | 25.9 | 1.4 | 2.2 | 4.8 | | 1.9 | | 2.2 | 5.2 | 2.7 | 6.9 | 4.9 | 5.2 | | 1.1 | 167.6 | 87.8 | 0.6 | 3.8 | | | | | |
| 21 | 23.3 | 5.2 | 1.2 | 3.7 | | 1.8 | | 2.1 | 1.7 | 2.5 | 1.7 | 4.0 | 4.7 | | 1.0 | 26.3 | 24.7 | 2.6 | | | | | | |
| 22 | | 2.6 | | 3.1 | | 1.7 | | 1.9 | 0.6 | 2.5 | | 3.6 | 1.4 | 4.3 | | 1.0 | 1.1 | 13.6 | | | | | | |
| 23 | 7.1 | 2.0 | | 2.7 | | 1.7 | 3.0 | 1.8 | 9.8 | 2.4 | 20.5 | 3.9 | 3.9 | | 1.0 | 42.5 | 19.2 | | | | | | | |
| 24 | 12.6 | 2.6 | 12.4 | 2.6 | | 1.7 | 41.3 | 5.0 | 1.8 | 2.5 | 44.3 | 8.5 | 3.5 | | 0.9 | 13.0 | | | | | | | | |
| 25 | | 2.0 | 14.5 | 3.3 | 44.1 | 4.1 | 6.5 | 3.8 | | 2.2 | 9.1 | 12.0 | 3.3 | | 0.9 | | | | | | | | | |
| 26 | | 1.7 | 36.3 | 8.6 | | 3.2 | | 3.1 | 81.2 | 10.3 | | 7.5 | 7.5 | 3.3 | | 0.9 | 0.6 | | | | | | | |
| 27 | 4.4 | 1.7 | | 7.0 | 2.4 | 2.6 | | 2.6 | 5.3 | 12.3 | | 5.8 | 3.0 | 15.9 | 1.0 | | | | | | | | | |
| 28 | | 1.5 | | 4.2 | 8.9 | 2.7 | 16.5 | 3.1 | | 6.2 | 67.8 | 9.1 | 0.6 | 2.8 | 87.9 | 13.5 | 6.3 | | | | | | | |
| 29 | | 1.4 | | | 2.8 | 2.4 | | 2.6 | | 4.8 | 11.0 | 22.2 | 2.3 | 2.6 | | 3.3 | 1.8 | | | | | | | |
| 30 | | 1.3 | | | | 2.2 | | 2.3 | | 4.0 | | 9.8 | 3.6 | 2.6 | | 2.1 | | | | | | | | |
| 31 | | 1.3 | | | 0.4 | 2.1 | | | | 3.5 | | 2.5 | 20.0 | 2.7 | | | | | | | | | | |
| total | 131.8 | 43.0 | 196.8 | 81.7 | 129.5 | 91.1 | 162.4 | 76.5 | 221.2 | 105.8 | 311.7 | 160.8 | 163.9 | 154.0 | 751.9 | 62.9 | 1628.4 | 437.8 | 73.8 | 82.6 | 104.9 | 54.9 | 41.5 | 31.6 |

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 0.8 | 26.9 | 1.6 | 0.1 | 3.2 | 11.7 | 3.0 | 2.0 | 13.7 | 2.5 | 1.7 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 2 | 0.7 | 3.0 | 2.4 | 11.4 | 3.1 | 2.6 | 1.9 | 34.6 | 3.6 | 1.6 | 2.7 | 1.6 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 3 | 0.7 | 1.7 | 3.9 | 3.1 | 2.2 | 1.9 | 3.1 | 11.8 | 2.6 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 | 4.5 | 1.5 |
| 4 | 0.8 | 7.3 | 1.7 | 17.7 | 3.8 | 73.8 | 2.1 | 2.7 | 15.1 | 3.5 | 1.4 | 9.1 | 1.3 | 0.2 | 4.4 | 0.9 | 2.7 | 1.3 | 0.2 | 4.4 | 0.9 | 2.7 | 1.3 | 0.2 |
| 5 | 0.8 | 0.8 | 1.4 | | 3.5 | 46.2 | 12.4 | 126.0 | 29.5 | 12.2 | 2.5 | 3.9 | 3.1 | 1.3 | 1.0 | 19.6 | 5.0 | 7.4 | 2.7 | 1.0 | 19.6 | 5.0 | 7.4 | 2.7 |
| 6 | 0.7 | 1.3 | 1.2 | | 2.9 | 5.7 | 14.3 | 25.9 | 11.8 | 3.3 | 2.5 | 2.5 | 2.5 | 1.2 | 0.9 | 5.6 | 4.4 | 2.4 | 2.4 | 0.9 | 5.6 | 4.4 | 2.4 | 2.4 |
| 7 | 0.7 | 1.2 | 1.1 | 2.6 | 0.1 | 4.0 | 10.1 | 0.6 | 2.6 | 2.2 | 2.2 | 2.2 | 2.2 | 1.2 | 0.9 | 2.3 | 4.3 | 2.2 | 2.2 | 0.9 | 2.3 | 4.3 | 2.2 | 2.2 |
| 8 | 0.7 | 1.2 | 1.1 | 2.4 | 40.1 | 5.0 | 49.1 | 14.7 | 2.3 | 0.1 | 2.1 | 2.3 | 0.1 | 2.1 | 1.1 | 0.9 | 35.0 | 6.7 | 2.1 | 0.9 | 35.0 | 6.7 | 2.1 | 0.9 |
| 9 | 0.7 | 1.1 | 2.3 | 6.5 | 9.1 | 12.4 | 2.2 | 2.1 | 0.6 | 2.1 | 1.1 | 1.1 | 0.8 | 35.2 | 16.1 | 0.8 | 35.2 | 16.1 | 0.8 | 35.2 | 16.1 | 0.8 | 35.2 | 16.1 |
| 10 | 6.9 | 0.7 | 1.0 | 2.1 | 5.3 | 8.5 | 75.9 | 15.3 | 6.2 | 1.9 | 26.8 | 1.8 | 0.8 | 8.1 | 59.6 | 7.6 | 1.7 | 0.8 | 8.1 | 59.6 | 7.6 | 1.7 | 0.8 | |
| 11 | 8.8 | 1.3 | 13.5 | 1.1 | 2.0 | 4.3 | 6.9 | 6.2 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 0.7 | 6.1 | 5.2 | 1.6 | 0.7 | 6.1 | 5.2 | 1.6 | 0.7 | 6.1 | |
| 12 | 0.8 | 20.2 | 3.3 | 13.4 | 2.3 | 3.7 | 6.0 | 4.3 | 3.5 | 10.7 | 4.1 | 26.0 | 2.9 | 1.4 | 0.7 | 9.5 | 4.8 | 3.2 | 0.7 | 9.5 | 4.8 | 3.2 | 0.7 | |
| 13 | 0.8 | 0.1 | 1.9 | 0.9 | 2.3 | 1.1 | 3.4 | 5.3 | 3.5 | 2.3 | 2.3 | 5.1 | 1.2 | 4.1 | 0.8 | 4.3 | 4.7 | 2.9 | 0.7 | 4.3 | 4.7 | 2.9 | 0.7 | |
| 14 | 0.8 | 0.1 | 1.6 | 2.0 | 2.0 | 39.1 | 5.9 | 4.8 | 3.5 | 3.0 | 2.9 | 2.3 | 2.3 | 1.3 | 5.5 | 0.9 | 1.8 | 2.7 | 0.9 | 5.5 | 0.9 | 1.8 | 2.7 | |
| 15 | 0.5 | 0.7 | 6.3 | 1.5 | 10.3 | 2.0 | 5.1 | 6.7 | 4.7 | 7.3 | 3.0 | 20.8 | 2.5 | 1.3 | 1.3 | 5.5 | 0.9 | 1.8 | 2.7 | 1.3 | 5.5 | 0.9 | 1.8 | |
| 16 | 1.2 | 0.7 | 3.5 | 1.6 | 2.1 | 4.1 | 4.1 | 4.1 | 4.1 | 6.3 | 8.7 | 3.1 | 3.6 | 1.1 | 2.6 | 0.5 | 1.1 | 1.6 | 3.5 | 2.6 | 0.5 | 1.1 | 1.6 | |
| 17 | 4.0 | 0.9 | 1.4 | 1.8 | 1.8 | 3.6 | 3.6 | 3.6 | 3.6 | 8.7 | 7.8 | 3.0 | 2.6 | 2.2 | 30.5 | 2.7 | 136.5 | 33.6 | 3.2 | 2.2 | 30.5 | 2.7 | 136.5 | |
| 18 | 0.8 | 1.3 | 1.3 | 0.4 | 1.7 | 3.3 | 1.4 | 3.4 | 4.7 | 7.8 | 3.4 | 5.6 | 0.8 | 2.0 | 1.6 | 2.0 | 11.2 | 2.9 | 2.9 | 1.6 | 2.0 | 11.2 | 2.9 | |
| 19 | 12.3 | 0.8 | 0.1 | 1.3 | 0.4 | 1.7 | 3.0 | 38.3 | 4.0 | 5.6 | 0.8 | 2.0 | 1.6 | 2.0 | 11.2 | 2.9 | 2.9 | 2.9 | 2.7 | 5.7 | 2.1 | 9.1 | 1.4 | |
| 20 | 3.6 | 1.3 | 36.9 | 1.8 | 1.6 | 2.8 | 11.8 | 8.6 | 4.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.3 | 81.3 | 22.6 | 2.7 | 5.7 | 2.1 | 2.6 | 20.1 | 3.1 | 9.1 | |
| 21 | 0.9 | 11.3 | 5.3 | 1.6 | 5.1 | 2.8 | 4.7 | 6.0 | 4.4 | 4.7 | 6.0 | 4.4 | 4.4 | 1.1 | 11.8 | 11.8 | 2.6 | 20.1 | 3.1 | 2.6 | 20.1 | 3.1 | 9.1 | |
| 22 | 0.9 | 2.7 | 2.7 | 1.5 | 2.8 | 2.8 | 4.0 | 3.9 | 3.9 | 1.6 | 1.6 | 1.6 | 1.6 | 1.1 | 6.3 | 6.3 | 2.5 | 2.4 | 2.4 | 2.5 | 2.4 | 2.4 | 2.4 | |
| 23 | 0.8 | 0.8 | 2.3 | 1.5 | 13.5 | 2.8 | 3.4 | 3.4 | 3.4 | 4.0 | 3.4 | 3.4 | 3.4 | 3.4 | 1.5 | 56.0 | 5.6 | 4.6 | 2.2 | 1.5 | 56.0 | 5.6 | 4.6 | |
| 24 | 0.8 | 74.5 | 13.5 | 1.1 | 1.4 | 1.4 | 3.0 | 3.1 | 3.1 | 1.5 | 4.1 | 1.5 | 1.5 | 3.4 | 3.5 | 3.5 | 2.3 | 2.0 | 2.3 | 3.5 | 3.5 | 2.3 | 2.0 | |
| 25 | 1.6 | 0.8 | 11.3 | 9.0 | 1.7 | 2.4 | 2.4 | 2.9 | 5.9 | 3.0 | 1.1 | 1.8 | 2.1 | 2.1 | 2.1 | 2.1 | 3.9 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | |
| 26 | 0.4 | 0.7 | 4.9 | 6.2 | 1.4 | 2.3 | 2.7 | 4.3 | 2.7 | 5.3 | 10.0 | 1.7 | 0.2 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | |
| 27 | 0.1 | 0.7 | 4.6 | 1.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 16.4 | 4.2 | 7.0 | 3.7 | 1.5 | 16.4 | 4.2 | 7.0 | |
| 28 | 0.7 | 3.7 | 3.7 | 1.3 | 2.1 | 2.1 | 2.4 | 4.7 | 2.9 | 2.6 | 2.6 | 2.6 | 2.6 | 1.3 | 1.3 | 1.3 | 3.3 | 2.8 | 2.8 | 1.3 | 1.3 | 1.3 | 2.8 | |
| 29 | 9.0 | 0.7 | 4.8 | 3.0 | 2.5 | 12.8 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 1.2 | 1.2 | 1.2 | 3.0 | 2.4 | 2.4 | 1.2 | 1.2 | 1.2 | 2.4 | |
| 30 | 17.0 | 1.7 | 4.8 | 2.4 | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.2 | 3.0 | 2.4 | 2.4 | 1.2 | 1.2 | 1.2 | 2.4 | |
| 31 | 0.1 | 1.1 | 9.5 | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 1.1 | 1.1 | 1.1 | 3.0 | 2.4 | 2.4 | 1.1 | 1.1 | 1.1 | 2.4 | |
| total | 65.5 | 26.1 | 210.1 | 81.0 | 113.6 | 67.5 | 191.4 | 115.6 | 274.7 | 193.1 | 251.6 | 135.0 | 173.8 | 79.2 | 140.6 | 50.2 | 337.4 | 131.4 | 254.2 | 151.9 | 116.4 | 82.6 | 65.2 | 51.5 |

1165.1

annual runoff:

annual precipitation: 2194.5

unit: mm/day

1990

SHIRASAKA

HIGASHIYAMA 1986 unit: mm/day annual precipitation: 1515.0 annual runoff: 820.8

| day | January rain | February rain | March rain | April rain | May rain | June rain | July rain | August rain | September rain | October rain | November rain | December rain |
|-------|-----------------|------------------|---------------|---------------|-------------|--------------|--------------|----------------|-------------------|-----------------|------------------|------------------|
| 1 | 0.6 | 0.5 | 0.5 | 0.5 | 2.5 | 2.4 | 3.2 | 3.8 | 0.7 | 0.5 | 0.5 | 0.3 |
| 2 | 0.6 | 0.5 | 3.5 | 0.5 | 2.2 | 2.4 | 2.7 | 6.8 | 0.6 | 13.0 | 0.9 | 0.3 |
| 3 | 0.5 | 0.4 | 0.5 | 0.5 | 2.0 | 10.0 | 2.4 | 7.4 | 3.5 | 2.0 | 0.5 | 0.3 |
| 4 | 0.5 | 0.4 | 0.5 | 3.5 | 1.9 | 38.0 | 2.3 | 8.0 | 40.5 | 0.5 | 0.7 | 0.3 |
| 5 | 17.0 | 1.5 | 0.4 | 0.5 | 13.0 | 3.7 | 6.0 | 8.0 | 3.3 | 0.5 | 3.5 | 0.3 |
| 6 | 0.8 | 0.4 | 0.5 | 0.5 | 5.8 | 2.2 | 4.7 | 8.0 | 3.8 | 1.0 | 0.5 | 0.3 |
| 7 | 0.7 | 0.5 | 0.4 | 0.5 | 2.8 | 4.3 | 2.1 | 38.0 | 2.8 | 0.8 | 0.5 | 0.3 |
| 8 | 0.7 | 0.4 | 0.4 | 0.5 | 2.3 | 31.5 | 7.1 | 7.4 | 2.5 | 0.8 | 0.5 | 0.3 |
| 9 | 0.7 | 0.4 | 0.5 | 0.5 | 2.0 | 5.6 | 2.0 | 5.8 | 2.3 | 0.7 | 0.5 | 0.3 |
| 10 | 0.6 | 0.4 | 3.0 | 0.5 | 1.9 | 4.5 | 1.8 | 4.9 | 2.2 | 0.7 | 0.5 | 0.3 |
| 11 | 0.6 | 0.4 | 9.5 | 1.1 | 3.0 | 3.8 | 1.7 | 39.5 | 2.1 | 2.0 | 0.7 | 0.3 |
| 12 | 0.6 | 0.4 | 15.0 | 1.3 | 7.9 | 3.3 | 1.6 | 13.5 | 2.0 | 7.0 | 0.8 | 0.5 |
| 13 | 0.6 | 0.4 | 15.0 | 1.3 | 2.0 | 4.7 | 1.5 | 20.5 | 1.8 | 0.6 | 1.5 | 0.6 |
| 14 | 0.6 | 0.4 | 0.4 | 1.0 | 3.6 | 2.8 | 1.4 | 50.0 | 1.9 | 6.5 | 0.8 | 1.5 |
| 15 | 0.6 | 0.5 | 19.0 | 1.5 | 3.0 | 2.6 | 3.4 | 4.0 | 2.0 | 0.5 | 0.8 | 0.5 |
| 16 | 0.6 | 0.4 | 1.2 | 2.6 | 4.7 | 5.0 | 1.3 | 11.0 | 1.7 | 0.7 | 0.4 | 0.4 |
| 17 | 0.6 | 0.4 | 1.0 | 0.8 | 3.6 | 4.3 | 1.3 | 19.6 | 1.5 | 6.0 | 0.7 | 0.4 |
| 18 | 0.6 | 0.4 | 0.8 | 0.8 | 5.0 | 16.0 | 1.8 | 5.0 | 1.8 | 2.5 | 0.9 | 0.3 |
| 19 | 0.5 | 27.0 | 1.2 | 6.5 | 2.9 | 3.5 | 27.5 | 5.5 | 1.7 | 33.0 | 2.5 | 0.3 |
| 20 | 0.5 | 7.0 | 1.4 | 10.5 | 2.9 | 3.2 | 13.1 | 14.5 | 1.4 | 3.0 | 1.3 | 0.3 |
| 21 | 0.5 | 0.9 | 1.1 | 1.0 | 3.4 | 6.0 | 2.8 | 9.4 | 1.3 | 1.0 | 1.1 | 0.3 |
| 22 | 0.5 | 0.7 | 0.9 | 0.9 | 2.7 | 6.1 | 2.4 | 6.0 | 1.2 | 1.0 | 1.0 | 0.3 |
| 23 | 0.5 | 0.6 | 50.5 | 2.0 | 2.5 | 4.5 | 2.6 | 52.5 | 1.2 | 0.9 | 12.0 | 0.4 |
| 24 | 0.5 | 0.6 | 23.5 | 11.2 | 3.9 | 3.8 | 2.2 | 15.0 | 1.2 | 0.8 | 0.5 | 0.3 |
| 25 | 1.0 | 0.5 | 0.5 | 4.4 | 3.4 | 38.5 | 5.0 | 12.3 | 1.3 | 0.8 | 0.3 | 0.3 |
| 26 | 0.5 | 0.5 | 0.5 | 2.9 | 3.0 | 2.0 | 4.1 | 9.4 | 1.3 | 0.8 | 8.0 | 0.4 |
| 27 | 0.5 | 0.5 | 0.5 | 2.9 | 2.4 | 2.8 | 3.5 | 7.3 | 1.2 | 0.6 | 0.3 | 0.5 |
| 28 | 0.5 | 0.5 | 0.5 | 2.1 | 2.2 | 2.5 | 3.0 | 6.3 | 1.2 | 0.6 | 1.5 | 1.0 |
| 29 | 0.5 | 0.5 | 30.5 | 4.3 | 2.4 | 2.4 | 5.5 | 1.5 | 1.2 | 0.6 | 0.3 | 0.5 |
| 30 | 0.5 | 0.5 | 3.2 | 11.0 | 3.5 | 2.3 | 3.0 | 1.1 | 1.1 | 0.5 | 0.3 | 2.0 |
| 31 | 0.5 | 0.5 | 8.0 | 3.0 | 2.7 | 49.0 | 6.1 | 4.5 | 1.0 | 0.5 | 0.3 | 10.5 |
| total | 19.5 | 18.4 | 34.5 | 15.0 | 179.5 | 53.6 | 161.5 | 92.8 | 239.0 | 127.7 | 231.5 | 90.0 |
| | | | | | 2.5 | 4.3 | 4.2 | 0.8 | 59.2 | 97.5 | 27.0 | 13.4 |
| | | | | | | | 347.0 | 37.0 | 59.2 | 97.5 | 27.0 | 44.5 |
| | | | | | | | 292.7 | 37.0 | 59.2 | 97.5 | 27.0 | 13.4 |
| | | | | | | | 37.0 | 59.2 | 97.5 | 27.0 | 44.5 | 13.4 |
| | | | | | | | 33.5 | 10.5 | 33.5 | 10.5 | 90.0 | 18.6 |

| HIGASHIYAMA | | 1987 | | unit: mm/day | | annual precipitation: 1453.0 | | annual runoff: 676.6 | | | | |
|-------------|---------|----------|--------|--------------|--------|------------------------------|--------|----------------------|-----------|---------|----------|----------|
| day | January | February | March | April | May | June | July | August | September | October | November | December |
| | rain | rain | rain | rain | rain | rain | rain | rain | rain | rain | rain | rain |
| | runoff | runoff | runoff | runoff | runoff | runoff | runoff | runoff | runoff | runoff | runoff | runoff |
| 1 | 2.0 | 0.6 | 3.0 | 0.5 | 2.1 | 3.4 | 1.8 | 3.5 | 1.5 | 8.0 | 1.6 | 1.5 |
| 2 | 0.5 | 0.6 | 0.5 | 0.5 | 1.9 | 7.5 | 1.3 | 1.4 | 1.5 | 0.9 | 1.5 | 1.0 |
| 3 | 22.0 | 1.2 | 1.0 | 0.5 | 0.5 | 3.1 | 1.0 | 1.6 | 0.9 | 1.4 | 0.5 | 1.0 |
| 4 | 1.3 | 0.6 | 1.0 | 0.5 | 1.8 | 3.5 | 12.5 | 1.6 | 20.0 | 1.4 | 6.5 | 1.3 |
| 5 | 0.8 | 1.0 | 0.6 | 0.6 | 1.6 | 3.0 | 7.4 | 16.5 | 1.4 | 2.5 | 1.1 | 10.5 |
| 6 | 10.5 | 0.4 | 0.6 | 0.6 | 1.5 | 1.0 | 4.4 | 9.5 | 2.5 | 2.4 | 0.5 | 1.4 |
| 7 | 0.9 | 5.0 | 0.7 | 0.6 | 1.4 | 0.9 | 2.8 | 2.2 | 44.5 | 1.2 | 1.1 | 1.1 |
| 8 | 0.5 | 0.8 | 0.8 | 0.6 | 1.6 | 0.9 | 2.5 | 4.5 | 2.3 | 1.0 | 1.5 | 1.0 |
| 9 | 0.5 | 0.7 | 0.5 | 0.7 | 2.4 | 0.8 | 2.3 | 1.8 | 1.8 | 1.0 | 2.0 | 0.9 |
| 10 | 0.7 | 0.7 | 7.5 | 0.8 | 1.7 | 0.8 | 2.2 | 1.6 | 1.6 | 0.9 | 0.9 | 0.7 |
| 11 | 0.6 | 0.7 | 18.5 | 1.1 | 1.8 | 35.0 | 1.4 | 1.4 | 1.0 | 0.9 | 0.9 | 0.8 |
| 12 | 0.6 | 0.6 | 1.6 | 1.6 | 3.0 | 3.0 | 1.2 | 1.3 | 2.5 | 0.9 | 0.9 | 0.8 |
| 13 | 12.5 | 1.2 | 5.0 | 1.1 | 0.8 | 0.8 | 2.7 | 1.2 | 1.0 | 1.0 | 1.0 | 0.8 |
| 14 | 0.9 | 0.7 | 24.5 | 2.6 | 1.6 | 15.5 | 2.3 | 2.5 | 1.3 | 0.9 | 3.0 | 0.8 |
| 15 | 0.5 | 0.8 | 0.7 | 3.5 | 2.0 | 1.5 | 2.2 | 4.0 | 1.3 | 1.4 | 0.8 | 0.8 |
| 16 | 3.5 | 0.7 | 0.6 | 1.5 | 1.4 | 16.5 | 3.1 | 10.5 | 1.7 | 1.1 | 2.0 | 0.8 |
| 17 | 2.5 | 0.7 | 0.6 | 1.3 | 1.4 | 8.5 | 3.3 | 1.0 | 1.4 | 1.0 | 0.8 | 0.8 |
| 18 | 0.7 | 17.0 | 1.1 | 1.6 | 1.3 | 2.5 | 2.6 | 3.5 | 1.3 | 0.9 | 0.9 | 0.7 |
| 19 | 0.6 | 1.3 | 1.4 | 1.4 | 1.2 | 18.5 | 2.3 | 21.0 | 2.1 | 5.5 | 1.5 | 0.7 |
| 20 | 0.6 | 0.9 | 50.5 | 6.5 | 1.1 | 4.4 | 2.0 | 18.5 | 2.9 | 0.8 | 2.0 | 1.5 |
| 21 | 0.6 | 0.7 | 5.4 | 5.4 | 1.1 | 3.7 | 19.0 | 14.4 | 0.9 | 0.7 | 1.0 | 0.7 |
| 22 | 0.5 | 0.7 | 3.2 | 12.5 | 1.0 | 11.0 | 7.9 | 7.9 | 0.8 | 0.7 | 0.9 | 0.7 |
| 23 | 0.5 | 1.5 | 0.7 | 8.5 | 1.6 | 2.8 | 4.8 | 4.8 | 0.8 | 0.7 | 0.8 | 0.7 |
| 24 | 20.0 | 1.1 | 0.6 | 69.0 | 1.3 | 79.5 | 3.7 | 31.0 | 0.9 | 0.7 | 0.7 | 0.6 |
| 25 | 1.1 | 1.0 | 0.6 | 6.5 | 1.1 | 32.0 | 1.7 | 27.0 | 6.0 | 2.5 | 0.6 | 0.6 |
| 26 | 0.8 | 0.6 | 6.4 | 6.5 | 1.0 | 13.0 | 3.1 | 27.0 | 1.9 | 25.0 | 1.9 | 0.6 |
| 27 | 0.7 | 0.6 | 4.7 | 16.5 | 1.9 | 9.1 | 2.6 | 10.0 | 10.4 | 25.0 | 1.9 | 0.6 |
| 28 | 0.7 | 0.6 | 3.5 | 3.5 | 1.4 | 7.2 | 2.3 | 10.0 | 1.5 | 9.5 | 1.2 | 0.6 |
| 29 | 0.7 | 0.6 | 2.9 | 4.5 | 1.4 | 4.0 | 2.1 | 1.6 | 4.0 | 3.5 | 1.5 | 0.6 |
| 30 | 0.6 | 0.6 | 1.1 | 4.6 | 1.7 | 7.5 | 1.9 | 1.3 | 2.1 | 1.0 | 1.0 | 1.1 |
| 31 | 0.6 | 0.6 | 1.1 | 2.6 | 1.1 | 2.1 | 1.7 | 1.7 | 1.8 | 0.8 | 0.8 | 0.7 |
| | | | 1.0 | 2.3 | 3.7 | 10.5 | 1.6 | 3.9 | 1.5 | 20.5 | 1.3 | 0.7 |
| total | 75.0 | 24.0 | 42.0 | 19.3 | 162.3 | 139.5 | 80.5 | 140.0 | 50.0 | 92.0 | 33.3 | 8.5 |
| | | | | | | | 174.0 | 82.3 | 147.0 | 52.0 | 43.5 | 17.7 |

HIGASHIYAMA 1988 unit: mm/day annual precipitation: 1872.0 annual runoff: 1163.3

| day | January | | February | | March | | April | | May | | June | | July | | August | | September | | October | | November | | December | |
|-------|---------|--------|----------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-----------|--------|---------|--------|----------|--------|----------|--------|
| | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff | rain | runoff |
| 1 | 0.5 | 0.4 | 0.4 | 0.6 | 1.7 | 2.4 | 1.7 | 1.7 | 22.0 | 15.6 | 3.7 | 2.4 | 1.7 | 22.0 | 15.6 | 3.7 | 2.4 | 1.7 | 22.0 | 15.6 | 3.7 | 2.4 | 1.7 | 22.0 |
| 2 | 0.5 | 0.4 | 0.4 | 1.5 | 2.0 | 1.6 | 2.0 | 1.5 | 2.0 | 1.6 | 2.0 | 1.5 | 2.0 | 1.6 | 2.0 | 1.5 | 2.0 | 1.6 | 2.0 | 1.6 | 2.0 | 1.5 | 2.0 | |
| 3 | 0.4 | 0.4 | 0.4 | 1.1 | 1.5 | 1.9 | 1.5 | 1.9 | 83.5 | 9.1 | 3.1 | 2.2 | 1.7 | 10.1 | 7.6 | 3.1 | 2.2 | 1.7 | 10.1 | 7.6 | 3.1 | 2.2 | 1.7 | |
| 4 | 0.4 | 0.4 | 0.4 | 0.8 | 1.4 | 2.0 | 1.8 | 37.5 | 22.5 | 2.0 | 6.5 | 7.0 | 3.3 | 2.1 | 7.0 | 3.3 | 2.1 | 7.0 | 3.3 | 2.1 | 7.0 | 3.3 | 2.1 | |
| 5 | 6.5 | 0.6 | 0.4 | 0.6 | 1.3 | 3.5 | 1.9 | 13.4 | 13.4 | 5.5 | 2.5 | 3.3 | 4.0 | 2.1 | 5.5 | 2.5 | 3.3 | 4.0 | 2.1 | 5.5 | 2.5 | 3.3 | 4.0 | |
| 6 | 0.5 | 0.5 | 11.5 | 0.8 | 0.6 | 3.5 | 1.4 | 8.5 | 17 | 5.0 | 2.7 | 12.5 | 2.7 | 34.5 | 5.8 | 1.1 | 34.5 | 5.8 | 1.1 | 34.5 | 5.8 | 1.1 | 34.5 | |
| 7 | 0.5 | 0.5 | 2.5 | 0.8 | 1.2 | 1.5 | 1.5 | 6.1 | 6.1 | 4.5 | 2.5 | 11.0 | 3.1 | 19.0 | 14.0 | 1.3 | 19.0 | 14.0 | 1.3 | 19.0 | 14.0 | 1.3 | 19.0 | |
| 8 | 6.5 | 0.5 | 0.6 | 0.5 | 41.5 | 3.4 | 35.0 | 4.4 | 4.9 | 4.1 | 2.4 | 0.5 | 2.5 | 6.5 | 2.4 | 0.5 | 2.5 | 6.5 | 2.4 | 0.5 | 2.5 | 6.5 | 2.4 | |
| 9 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 3.3 | 3.0 | 59.5 | 10.8 | 3.7 | 2.2 | 2.2 | 2.1 | 5.6 | 2.2 | 2.1 | 5.6 | 2.2 | 2.1 | 5.6 | 2.2 | 2.1 | 5.6 | |
| 10 | 0.5 | 0.5 | 0.5 | 0.5 | 2.3 | 2.4 | 7.5 | 13.4 | 13.4 | 3.4 | 5.5 | 2.2 | 1.9 | 5.1 | 5.1 | 1.9 | 5.1 | 5.1 | 1.9 | 5.1 | 5.1 | 1.9 | 5.1 | |
| 11 | 0.5 | 0.5 | 0.5 | 1.9 | 1.9 | 2.1 | 2.1 | 6.8 | 11.0 | 3.6 | 12.0 | 2.7 | 3.0 | 2.0 | 3.6 | 12.0 | 2.7 | 3.0 | 2.0 | 3.6 | 12.0 | 2.7 | 3.0 | |
| 12 | 0.5 | 0.5 | 0.4 | 48.0 | 3.3 | 1.8 | 32.0 | 2.9 | 4.5 | 6.5 | 3.9 | 11.0 | 3.0 | 26.5 | 3.4 | 4.0 | 26.5 | 3.4 | 4.0 | 26.5 | 3.4 | 4.0 | 26.5 | |
| 13 | 2.5 | 0.5 | 0.5 | 1.5 | 3.2 | 98.0 | 2.2 | 4.8 | 0.5 | 3.1 | 14.0 | 3.6 | 3.1 | 0.5 | 3.1 | 14.0 | 3.6 | 3.1 | 0.5 | 3.1 | 14.0 | 3.6 | 3.1 | |
| 14 | 0.5 | 0.4 | 0.4 | 1.7 | 19.2 | 1.7 | 2.8 | 2.8 | 4.4 | 4.0 | 3.0 | 10.0 | 3.0 | 2.4 | 3.0 | 10.0 | 3.0 | 2.4 | 3.0 | 10.0 | 3.0 | 2.4 | 3.0 | |
| 15 | 0.4 | 0.4 | 0.4 | 1.9 | 7.1 | 2.5 | 2.5 | 3.9 | 22.5 | 4.3 | 4.0 | 2.7 | 2.1 | 3.0 | 4.3 | 4.0 | 2.7 | 2.1 | 3.0 | 4.3 | 4.0 | 2.7 | 2.1 | |
| 16 | 1.5 | 0.4 | 0.4 | 1.5 | 4.9 | 20.0 | 3.8 | 3.5 | 61.0 | 13.5 | 11.0 | 3.1 | 1.8 | 2.8 | 13.5 | 11.0 | 3.1 | 1.8 | 2.8 | 13.5 | 11.0 | 3.1 | 1.8 | |
| 17 | 0.4 | 0.4 | 0.4 | 5.5 | 3.9 | 3.1 | 3.1 | 3.2 | 4.5 | 12.1 | 25.0 | 5.6 | 1.7 | 2.6 | 12.1 | 25.0 | 5.6 | 1.7 | 2.6 | 12.1 | 25.0 | 5.6 | 1.7 | |
| 18 | 0.4 | 0.4 | 0.4 | 16.0 | 2.2 | 3.4 | 2.6 | 3.0 | 3.0 | 6.5 | 1.5 | 4.1 | 9.5 | 2.2 | 6.5 | 1.5 | 4.1 | 9.5 | 2.2 | 6.5 | 1.5 | 4.1 | 9.5 | |
| 19 | 0.4 | 0.4 | 0.4 | 1.8 | 21.5 | 4.0 | 2.2 | 2.8 | 4.0 | 5.5 | 18.5 | 6.9 | 1.8 | 1.8 | 5.5 | 18.5 | 6.9 | 1.8 | 1.8 | 5.5 | 18.5 | 6.9 | 1.8 | |
| 20 | 0.4 | 0.4 | 0.4 | 1.5 | 3.7 | 1.9 | 2.6 | 2.6 | 0.5 | 4.9 | 37.5 | 10.1 | 1.7 | 2.4 | 4.9 | 37.5 | 10.1 | 1.7 | 2.4 | 4.9 | 37.5 | 10.1 | 1.7 | |
| 21 | 0.4 | 0.4 | 0.4 | 1.3 | 3.0 | 8.0 | 2.1 | 2.4 | 2.5 | 4.5 | 44.5 | 14.1 | 58.5 | 11.0 | 4.5 | 44.5 | 14.1 | 58.5 | 11.0 | 4.5 | 44.5 | 14.1 | 58.5 | |
| 22 | 14.0 | 0.8 | 0.4 | 17.5 | 2.8 | 1.5 | 2.1 | 2.4 | 2.4 | 4.0 | 8.1 | 2.0 | 4.5 | 2.3 | 4.0 | 8.1 | 2.0 | 4.5 | 2.3 | 4.0 | 8.1 | 2.0 | 4.5 | |
| 23 | 0.6 | 3.0 | 0.4 | 12.5 | 2.5 | 43.0 | 4.6 | 2.3 | 3.1 | 3.7 | 1.5 | 6.1 | 2.0 | 2.1 | 3.7 | 1.5 | 6.1 | 2.0 | 2.1 | 3.7 | 1.5 | 6.1 | 2.0 | |
| 24 | 0.5 | 0.5 | 0.5 | 2.1 | 2.3 | 4.2 | 4.2 | 2.4 | 29.0 | 5.4 | 2.9 | 5.0 | 3.5 | 2.0 | 5.4 | 2.9 | 5.0 | 3.5 | 2.0 | 5.4 | 2.9 | 5.0 | 3.5 | |
| 25 | 0.5 | 0.4 | 0.4 | 1.8 | 2.1 | 3.0 | 62.0 | 8.1 | 10.0 | 6.0 | 21.5 | 6.4 | 106.5 | 21.3 | 2.5 | 6.0 | 21.5 | 6.4 | 106.5 | 21.3 | 2.5 | 6.0 | 21.5 | |
| 26 | 0.5 | 0.4 | 0.4 | 9.0 | 2.0 | 2.7 | 4.0 | 6.1 | 0.5 | 5.0 | 4.6 | 7.5 | 7.7 | 2.0 | 4.6 | 7.5 | 7.7 | 2.0 | 4.6 | 7.5 | 7.7 | 2.0 | 4.6 | |
| 27 | 0.5 | 4.0 | 0.5 | 23.5 | 1.9 | 2.4 | 0.5 | 4.2 | 1.0 | 4.3 | 0.5 | 3.9 | 16.8 | 1.8 | 4.3 | 0.5 | 3.9 | 16.8 | 1.8 | 4.3 | 0.5 | 3.9 | 16.8 | |
| 28 | 0.5 | 4.0 | 0.8 | 2.8 | 1.8 | 9.5 | 2.2 | 36.5 | 8.9 | 7.5 | 4.5 | 3.5 | 10.6 | 0.5 | 7.5 | 4.5 | 3.5 | 10.6 | 0.5 | 7.5 | 4.5 | 3.5 | 10.6 | |
| 29 | 0.4 | 7.0 | 0.6 | 0.5 | 2.4 | 5.0 | 1.8 | 2.4 | 46.5 | 16.5 | 19.0 | 5.0 | 8.4 | 1.6 | 16.5 | 19.0 | 5.0 | 8.4 | 1.6 | 16.5 | 19.0 | 5.0 | 8.4 | |
| 30 | 0.4 | 0.4 | 0.4 | 1.0 | 2.1 | 23.0 | 3.7 | 1.0 | 2.0 | 2.0 | 2.9 | 1.0 | 6.8 | 1.4 | 2.0 | 2.9 | 1.0 | 6.8 | 1.4 | 2.0 | 2.9 | 1.0 | 6.8 | |
| 31 | 0.4 | 0.4 | 0.4 | 1.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 4.3 | 2.6 | 2.6 | 2.6 | 1.4 | 4.3 | 2.6 | 2.6 | 2.6 | 1.4 | 4.3 | 2.6 | 2.6 | 2.6 | |
| total | 32.5 | 14.8 | 32.0 | 14.1 | 163.5 | 51.3 | 197.0 | 102.8 | 155.5 | 81.5 | 387.0 | 199.9 | 209.5 | 178.0 | 227.5 | 133.9 | 327.5 | 206.2 | 71.0 | 114.7 | 54.0 | 39.3 | 15.0 | 26.7 |

HIGASHIYAMA 1990 unit: mm/day annual precipitation: 2056.5 1196.0

| day | January rain | January runoff | February rain | February runoff | March rain | March runoff | April rain | April runoff | May rain | May runoff | June rain | June runoff | July rain | July runoff | August rain | August runoff | September rain | September runoff | October rain | October runoff | November rain | November runoff | December rain | December runoff |
|-------|-----------------|-------------------|------------------|--------------------|---------------|-----------------|---------------|-----------------|-------------|---------------|--------------|----------------|--------------|----------------|----------------|------------------|-------------------|---------------------|-----------------|-------------------|------------------|--------------------|------------------|--------------------|
| 1 | 0.8 | 26.0 | 2.0 | 3.7 | 12.5 | 3.7 | 2.1 | 1.9 | 13.5 | 2.3 | 1.3 | 1.1 | 65.0 | 21.0 | 4.3 | 27.0 | 4.0 | | | | | | | |
| 2 | 0.8 | 4.0 | 2.6 | 3.8 | 3.1 | 2.0 | 28.5 | 3.0 | 3.0 | 2.7 | 1.2 | 1.1 | 9.3 | 3.3 | 3.6 | 2.9 | | | | | | | | |
| 3 | 0.8 | 1.5 | 1.9 | 3.5 | 3.6 | 2.6 | 1.9 | 2.6 | 16.0 | 2.5 | 1.1 | 5.5 | 6.4 | 2.9 | 2.6 | 2.6 | | | | | | | | |
| 4 | 0.8 | 7.5 | 2.1 | 18.5 | 4.6 | 12.0 | 2.5 | 22.0 | 2.1 | 3.7 | 1.0 | 10.5 | 5.5 | 9.0 | 2.9 | 2.5 | | | | | | | | |
| 5 | 0.7 | 1.8 | 1.8 | 4.1 | 40.0 | 10.8 | 25.0 | 14.0 | 2.5 | 3.6 | 1.0 | 1.2 | 10.5 | 5.9 | 2.9 | 2.5 | | | | | | | | |
| 6 | 0.7 | 1.6 | 1.6 | 3.5 | 5.7 | 12.5 | 23.4 | 11.0 | 3.3 | 2.7 | 0.9 | 1.1 | 6.5 | 4.6 | 2.2 | 2.1 | | | | | | | | |
| 7 | 0.7 | 1.5 | 1.5 | 3.2 | 4.3 | 11.8 | 0.5 | 2.5 | 2.2 | 2.2 | 0.8 | 1.0 | 2.5 | 4.6 | 2.2 | 2.1 | | | | | | | | |
| 8 | 0.7 | 1.4 | 1.4 | 3.0 | 38.0 | 5.4 | 49.0 | 2.0 | 2.0 | 2.0 | 0.8 | 1.0 | 32.0 | 6.9 | 2.2 | 2.0 | | | | | | | | |
| 9 | 0.7 | 1.3 | 1.3 | 2.8 | 7.0 | 9.2 | 14.9 | 1.5 | 1.8 | 0.5 | 2.0 | 0.8 | 39.0 | 17.6 | 2.0 | 1.9 | | | | | | | | |
| 10 | 6.5 | 0.7 | 1.2 | 2.6 | 5.7 | 9.1 | 68.0 | 11.2 | 1.9 | 26.0 | 1.5 | 0.7 | 9.4 | 65.0 | 9.3 | 1.8 | | | | | | | | |
| 11 | 8.5 | 1.3 | 12.0 | 1.3 | 2.5 | 4.7 | 6.7 | 4.2 | 1.8 | 7.0 | 1.5 | 0.6 | 6.5 | 6.6 | 6.6 | 1.8 | | | | | | | | |
| 12 | 0.9 | 20.5 | 4.6 | 9.0 | 2.7 | 4.0 | 5.9 | 4.0 | 1.7 | 20.0 | 1.9 | 0.6 | 5.5 | 4.5 | 12.0 | 2.4 | | | | | | | | |
| 13 | 0.8 | 2.7 | 2.7 | 3.5 | 2.8 | 0.5 | 3.6 | 5.2 | 6.5 | 4.1 | 20.0 | 2.5 | 1.3 | 0.6 | 8.5 | 5.2 | | | | | | | | |
| 14 | 0.8 | 2.3 | 2.3 | 2.3 | 34.0 | 6.3 | 4.8 | 3.6 | 2.0 | 3.0 | 1.1 | 4.0 | 0.7 | 4.5 | 5.1 | 3.4 | | | | | | | | |
| 15 | 0.8 | 6.5 | 2.2 | 9.5 | 2.6 | 5.2 | 6.0 | 4.8 | 3.0 | 14.0 | 2.0 | 1.1 | 6.0 | 0.8 | 2.5 | 4.6 | | | | | | | | |
| 16 | 0.8 | 3.0 | 2.3 | 2.7 | 4.3 | 3.8 | 4.1 | 25.5 | 6.3 | 9.0 | 2.6 | 1.0 | 22.5 | 1.8 | 4.1 | 2.8 | | | | | | | | |
| 17 | 3.0 | 0.9 | 0.5 | 2.2 | 2.2 | 3.8 | 3.7 | 29.5 | 10.6 | 5.5 | 2.2 | 0.9 | 12.5 | 1.5 | 3.7 | 2.6 | | | | | | | | |
| 18 | 1.0 | 0.8 | 2.0 | 2.1 | 3.5 | 3.5 | 3.5 | 6.1 | 1.9 | 31.0 | 2.6 | 751.5 | 23.4 | 3.4 | 2.6 | 0.5 | | | | | | | | |
| 19 | 11.0 | 0.8 | 1.9 | 2.0 | 3.2 | 33.5 | 3.9 | 4.6 | 1.7 | 1.7 | 1.4 | 2.0 | 10.6 | 3.1 | 2.5 | 7.0 | | | | | | | | |
| 20 | 4.0 | 1.5 | 42.5 | 3.8 | 1.9 | 3.1 | 8.5 | 7.3 | 3.9 | 1.5 | 1.1 | 86.5 | 27.1 | 2.9 | 2.4 | 0.5 | | | | | | | | |
| 21 | 1.0 | 11.0 | 8.5 | 1.8 | 3.5 | 3.0 | 4.3 | 4.5 | 3.7 | 1.4 | 1.0 | 1.1 | 16.1 | 2.7 | 22.5 | 3.5 | | | | | | | | |
| 22 | 0.9 | 4.3 | 4.3 | 1.7 | 2.9 | 2.9 | 3.7 | 0.5 | 3.3 | 1.3 | 0.9 | 7.8 | 2.6 | 2.8 | 2.8 | 1.7 | | | | | | | | |
| 23 | 0.9 | 3.5 | 3.5 | 1.7 | 11.5 | 3.0 | 3.2 | 3.0 | 3.0 | 1.2 | 46.0 | 4.2 | 5.5 | 2.5 | 2.5 | 1.5 | | | | | | | | |
| 24 | 0.8 | 63.5 | 11.0 | 1.6 | 1.0 | 3.4 | 3.0 | 2.6 | 14.0 | 1.3 | 6.0 | 2.7 | 4.4 | 2.4 | 2.3 | 1.4 | | | | | | | | |
| 25 | 0.8 | 10.6 | 6.9 | 1.9 | 2.7 | 2.8 | 0.5 | 2.5 | 1.0 | 1.7 | 1.8 | 21.5 | 5.9 | 2.2 | 2.2 | 1.4 | | | | | | | | |
| 26 | 0.5 | 0.8 | 5.0 | 1.6 | 2.5 | 2.5 | 2.6 | 3.5 | 2.3 | 39.5 | 3.8 | 1.5 | 5.5 | 31.0 | 3.8 | 2.0 | | | | | | | | |
| 27 | 0.7 | 5.2 | 4.3 | 1.5 | 2.4 | 2.4 | 2.4 | 1.5 | 2.5 | 2.0 | 1.4 | 14.5 | 5.7 | 3.5 | 3.5 | 1.4 | | | | | | | | |
| 28 | 0.6 | 2.7 | 2.7 | 1.5 | 2.2 | 2.2 | 2.2 | 7.5 | 2.7 | 2.7 | 1.2 | 4.4 | 2.7 | 4.5 | 2.2 | 6.5 | | | | | | | | |
| 29 | 9.5 | 0.7 | 2.7 | 28.5 | 2.9 | 10.0 | 2.5 | 2.1 | 1.5 | 1.5 | 1.2 | 1.5 | 3.6 | 2.4 | 0.5 | 2.2 | | | | | | | | |
| 30 | 18.5 | 2.4 | 2.4 | 6.5 | 2.8 | 2.4 | 2.0 | 0.5 | 2.1 | 1.1 | 1.1 | 1.1 | 3.7 | 16.0 | 2.6 | 1.4 | | | | | | | | |
| 31 | 1.3 | 1.3 | 1.3 | 11.5 | 2.7 | 2.7 | 1.9 | 1.1 | 1.1 | 2.0 | 1.3 | 30.0 | 5.8 | 7.0 | 2.2 | 1.4 | | | | | | | | |
| total | 62.5 | 27.5 | 203.5 | 96.8 | 112.0 | 80.4 | 170.0 | 121.9 | 235.5 | 191.0 | 203.5 | 110.2 | 159.5 | 64.2 | 133.0 | 42.4 | 354.0 | 140.8 | 252.5 | 168.2 | 117.5 | 92.5 | 53.0 | 59.9 |