

MODELO DE SIMULACION MENSUAL
SIHIM
SIMULACION
THE DETAILED DESIGN STUDY ON THE WATER TRANSBASIN SCHEMES -C

INFORMACION BASICA DE LA CORRIDA
INICIO ENE DE 1964 FINAL DIC DE 1992
NUMERO DE SUBCUENCAS = 9
NUMERO DE EST. DE MED. DE PRECIPITACION = 8
NUMERO DE EST. DE MED. DE EVAPORACION = 1

PARAMETROS PARA CADA SUBCUENCA

| SUBC | CINF (mm) | HSN (mm) | CT | PQB | PFSE | PESC |
|------|--------------|-------------|-----|-----|------|------|
| 1 | 140.00 | 340.00 | .40 | .60 | .20 | .50 |
| 2 | 200.00 | 200.00 | .75 | .10 | .02 | .40 |
| 3 | 200.00 | 200.00 | .75 | .10 | .02 | .40 |
| 4 | 200.00 | 200.00 | .75 | .10 | .02 | .40 |
| 5 | 200.00 | 200.00 | .75 | .10 | .02 | .40 |
| 6 | 200.00 | 200.00 | .75 | .10 | .02 | .40 |
| 7 | 140.00 | 340.00 | .40 | .60 | .20 | .50 |
| 8 | 95.00 | 225.00 | .70 | .10 | .10 | .60 |
| 9 | 95.00 | 225.00 | .70 | .10 | .10 | .60 |

ALMACENAMIENTOS INICIALES, FLUJOS AFLUENTES Y SUBCUENCAS TRIBUTARIAS

| SUBC | AIHS (mm) | AIAS (mm) | AISUP (mm) | FSUPA (mm) | FSUBA (mm) | AREA PARC. (Km**2) | AREA ACUM. (Km**2) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------|--------------|--------------|---------------|---------------|---------------|-----------------------|-----------------------|---|---|---|---|---|---|---|---|---|----|
| 1 | 100.0 | 20.0 | 20.0 | .0 | .0 | 445.00 | 445.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 260.0 | .0 | 10.0 | .0 | .0 | 170.00 | 170.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 260.0 | .0 | 10.0 | .0 | .0 | 481.86 | 481.86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 260.0 | .0 | 10.0 | .0 | .0 | 585.00 | 585.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 260.0 | .0 | 10.0 | .0 | .0 | 1190.00 | 1190.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 260.0 | .0 | 10.0 | .0 | .0 | 285.00 | 2060.00 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 100.0 | 20.0 | 20.0 | .0 | .0 | 1166.00 | 1166.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 300.0 | 250.0 | 100.0 | .0 | .0 | 755.00 | 755.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 300.0 | 250.0 | 100.0 | .0 | .0 | 346.00 | 2267.00 | 7 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INFLUENCIA DE CADA EST. DE MED. DE PRECIPITACION

| NOMBRE DE LA ESTACION | SUBCUENCA | | | | | | | | | |
|------------------------|-----------|-------|------|------|------|-------|------|------|------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| BOYACA | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .200 | .000 | 1.000 |
| SANTA ANA | .000 | .000 | .300 | .000 | .300 | .000 | .000 | .000 | .000 | .000 |
| CHONE | .000 | .000 | .000 | .000 | .000 | .000 | .150 | .800 | .000 | .000 |
| PORTOVIEJO U.T.M.(INAM | .000 | .000 | .000 | .200 | .200 | .000 | .000 | .000 | .000 | .000 |
| ROCAFUERTE (INAMHI) | .000 | .000 | .000 | .200 | .000 | 1.000 | .000 | .000 | .000 | .000 |
| DOS BOCAS | 1.000 | .000 | .000 | .000 | .000 | .000 | .600 | .000 | .000 | .000 |
| CALCETA | .000 | .000 | .000 | .000 | .000 | .000 | .250 | .000 | .000 | .000 |
| RIO CHAMOTETE -J.MARIA | .000 | 1.000 | .700 | .600 | .500 | .000 | .000 | .000 | .000 | .000 |

FACTOR DE AJUSTE DE LA PRECIPITACION

| FACPRE | SUBCUENCA | | | | | | | | | |
|--------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

INFLUENCIA DE CADA EST. DE MED. DE EVAPORACION

| NOMBRE DE LA ESTACION | SUBCUENCA | | | | | | | | | |
|------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| PORTOVIEJO (U.T.M.) EV | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

FACTOR DE AJUSTE DE LA EVAPORACION

| FACEVA | SUBCUENCA | | | | | | | | | |
|--------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

SUMARIO TOTAL PARA EL PERIODO 1964 - 1992

CALCULOS INTERMEDIOS EN "mm"

| SUBC | PRECIP. | EVAP. | ETP | ETR | FSUPA | FSUBA | ESC TOT | ESC DIR | Q BASE | FSUBE | BALANCE |
|------|----------|----------|----------|----------|-----------|---------|-----------|-----------|---------|---------|---------|
| 1 | 44035.50 | 46968.81 | 18787.52 | 16431.88 | .00 | .00 | 25504.28 | 19015.07 | 6489.22 | 2163.07 | .010 |
| 2 | 38021.30 | 46968.81 | 35226.61 | 19285.42 | .00 | .00 | 17402.13 | 10623.79 | 6778.33 | 1355.67 | .001 |
| 3 | 33859.88 | 46968.81 | 35226.61 | 18683.41 | .00 | .00 | 14004.39 | 7941.40 | 6062.99 | 1212.60 | -.009 |
| 4 | 27996.21 | 46968.81 | 35226.61 | 17093.22 | .00 | .00 | 10033.04 | 5323.14 | 4709.90 | 941.98 | -.002 |
| 5 | 29051.24 | 46968.81 | 35226.61 | 17606.72 | .00 | .00 | 10508.91 | 5495.13 | 5013.79 | 1002.76 | .001 |
| 6 | 11939.10 | 46968.81 | 35226.61 | 9954.38 | 64473.44 | 6120.49 | 71116.88 | 65011.02 | 6105.86 | 1221.17 | -.021 |
| 7 | 39335.88 | 46968.81 | 18787.52 | 16272.48 | .00 | .00 | 21107.16 | 15037.85 | 6069.32 | 2023.11 | -.005 |
| 8 | 34096.88 | 46968.81 | 32878.17 | 18839.17 | .00 | .00 | 14804.09 | 13733.19 | 1070.90 | 1070.90 | -.016 |
| 9 | 25446.80 | 46968.81 | 32878.17 | 17738.45 | 103433.60 | 9154.54 | 115492.40 | 110187.70 | 5304.68 | 5304.68 | -.014 |

ALMACENAMIENTOS FINALES EN "mm"

SUBC ALMAC HUM SUELO ALMAC AGUA SUBT ALMAC EN SUPERF

| | | | |
|---|-------|--------|--------|
| 1 | 75.55 | .49 | .22 |
| 2 | 25.49 | 222.58 | .01 |
| 3 | 30.95 | 198.50 | .02 |
| 4 | 16.67 | 181.31 | .00 |
| 5 | 27.13 | 175.71 | .01 |
| 6 | .96 | 264.56 | 245.11 |
| 7 | 72.50 | .47 | .17 |
| 8 | 17.64 | 15.09 | .00 |
| 9 | 40.17 | 101.97 | 7.36 |

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 1
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|
| 1964 | 57.78 | 58.11 | 119.13 | 109.09 | 41.72 | 18.73 | 9.19 | 4.04 | 1.73 | .74 | .32 | .14 |
| 1965 | 2.16 | 22.46 | 116.99 | 114.17 | 115.76 | 48.99 | 19.77 | 9.87 | 4.27 | 1.83 | .78 | 1.29 |
| 1966 | 85.24 | 88.44 | 95.98 | 70.38 | 53.54 | 25.04 | 15.05 | 7.39 | 4.05 | 1.52 | .65 | .62 |
| 1967 | 120.60 | 147.36 | 106.04 | 51.96 | 35.60 | 16.87 | 8.10 | 3.48 | 1.49 | .64 | .27 | .12 |
| 1968 | 3.07 | 97.40 | 50.45 | 34.57 | 16.00 | 7.82 | 3.39 | 1.45 | 1.21 | .27 | .12 | .05 |
| 1969 | 4.68 | 6.21 | 83.57 | 66.93 | 96.43 | 42.75 | 19.32 | 9.73 | 4.21 | 1.82 | .86 | .33 |
| 1970 | 4.54 | 10.34 | 31.78 | 70.96 | 78.40 | 31.38 | 19.59 | 10.10 | 4.37 | 1.87 | .80 | .55 |
| 1971 | 3.33 | 42.09 | 139.65 | 73.18 | 29.42 | 15.10 | 7.28 | 3.15 | 1.53 | .58 | .25 | .15 |
| 1972 | 2.38 | 72.73 | 122.54 | 92.77 | 54.28 | 94.53 | 66.10 | 34.25 | 16.81 | 7.71 | 3.31 | 6.84 |
| 1973 | 96.77 | 52.87 | 114.39 | 91.15 | 86.40 | 39.91 | 18.89 | 9.53 | 4.14 | 1.77 | .76 | .38 |
| 1974 | .36 | 21.48 | 27.18 | 21.47 | 14.21 | 7.30 | 3.23 | 1.38 | .60 | .26 | .11 | .42 |
| 1975 | 51.08 | 150.38 | 161.44 | 93.83 | 39.94 | 18.75 | 9.63 | 4.34 | 2.07 | 1.19 | .36 | 2.75 |
| 1976 | 127.75 | 100.44 | 100.95 | 76.75 | 49.21 | 21.96 | 11.37 | 4.95 | 2.12 | .91 | .39 | .20 |
| 1977 | 31.56 | 80.62 | 138.55 | 73.43 | 30.98 | 14.18 | 6.46 | 2.77 | 1.21 | .51 | .22 | .12 |
| 1978 | 5.95 | 33.30 | 75.57 | 46.41 | 50.94 | 19.77 | 10.15 | 4.39 | 1.89 | .81 | .34 | .15 |
| 1979 | 13.24 | 30.59 | 37.78 | 52.57 | 55.37 | 24.85 | 13.15 | 5.99 | 2.58 | 1.10 | .47 | .20 |
| 1980 | 1.52 | 23.95 | 37.70 | 70.42 | 29.94 | 14.16 | 6.57 | 2.81 | 1.21 | .52 | .22 | .21 |
| 1981 | 1.68 | 81.23 | 87.86 | 89.86 | 30.60 | 13.84 | 6.95 | 2.91 | 1.25 | .54 | .23 | .31 |
| 1982 | 2.03 | 15.15 | 30.79 | 34.31 | 16.47 | 8.79 | 4.00 | 1.71 | .74 | 4.06 | 40.72 | 104.55 |
| 1983 | 149.32 | 146.30 | 205.18 | 193.06 | 164.63 | 133.01 | 145.84 | 109.11 | 76.48 | 30.90 | 16.54 | 12.59 |
| 1984 | 6.38 | 98.82 | 117.83 | 114.04 | 56.55 | 22.14 | 11.75 | 5.20 | 2.23 | .96 | .41 | .66 |
| 1985 | 2.65 | 18.48 | 55.78 | 52.28 | 20.01 | 10.79 | 4.96 | 2.13 | .91 | .39 | .17 | 1.06 |
| 1986 | 54.25 | 58.41 | 57.94 | 90.97 | 32.35 | 15.47 | 7.16 | 3.07 | 1.31 | .76 | .24 | .26 |
| 1987 | 25.01 | 156.71 | 189.42 | 190.42 | 125.58 | 48.31 | 20.27 | 12.59 | 6.10 | 2.62 | 1.13 | .84 |
| 1988 | 20.80 | 118.23 | 67.61 | 64.47 | 67.42 | 29.18 | 16.18 | 7.91 | 3.40 | 1.50 | .65 | .49 |
| 1989 | 70.34 | 113.16 | 77.10 | 105.66 | 45.72 | 22.76 | 12.06 | 5.30 | 2.34 | .99 | .42 | .34 |
| 1990 | 1.17 | 11.32 | 17.29 | 18.79 | 9.32 | 4.20 | 1.80 | .77 | .33 | .14 | .06 | .03 |
| 1991 | 2.93 | 37.17 | 75.99 | 55.33 | 23.36 | 16.27 | 7.71 | 3.34 | 1.43 | .61 | .26 | .15 |
| 1992 | 1.71 | 11.42 | 78.72 | 100.21 | 58.55 | 26.63 | 14.01 | 6.37 | 2.75 | 1.18 | .51 | .31 |

VOLUMEN ESCURRIDO = 11349.4000 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 2
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 1964 | 3.58 | 2.60 | 16.41 | 16.24 | 5.01 | 3.71 | 3.28 | 2.91 | 2.58 | 2.29 | 2.03 | 1.80 |
| 1965 | 1.67 | 2.33 | 22.03 | 18.22 | 18.76 | 6.41 | 4.21 | 3.72 | 3.30 | 2.93 | 2.60 | 2.35 |
| 1966 | 24.45 | 18.02 | 15.40 | 9.05 | 7.52 | 5.48 | 4.83 | 4.27 | 3.81 | 3.36 | 2.98 | 2.64 |
| 1967 | 36.66 | 40.62 | 23.43 | 8.26 | 6.05 | 4.75 | 4.21 | 3.74 | 3.31 | 2.94 | 2.61 | 2.31 |
| 1968 | 2.13 | 20.55 | 5.61 | 3.26 | 2.55 | 2.25 | 1.99 | 1.77 | 1.64 | 1.39 | 1.23 | 1.09 |
| 1969 | 1.35 | .97 | 12.22 | 7.31 | 12.93 | 4.88 | 3.64 | 3.22 | 2.86 | 2.54 | 2.25 | 1.99 |
| 1970 | 2.03 | 2.76 | 7.53 | 15.96 | 7.41 | 5.05 | 3.66 | 3.24 | 2.87 | 2.55 | 2.26 | 2.00 |
| 1971 | 1.85 | 5.31 | 28.70 | 12.13 | 4.39 | 3.61 | 3.13 | 2.78 | 2.46 | 2.19 | 1.94 | 1.72 |
| 1972 | 1.60 | 3.54 | 20.48 | 11.15 | 6.97 | 13.77 | 5.94 | 4.91 | 4.36 | 3.75 | 3.33 | 3.69 |
| 1973 | 18.18 | 25.68 | 34.24 | 22.40 | 16.54 | 8.58 | 6.58 | 5.81 | 5.15 | 4.57 | 4.05 | 3.59 |
| 1974 | 3.19 | 13.70 | 8.42 | 4.94 | 3.67 | 3.26 | 2.88 | 2.55 | 2.26 | 2.01 | 1.78 | 1.59 |
| 1975 | 19.46 | 35.84 | 36.03 | 25.07 | 9.85 | 6.02 | 5.08 | 4.50 | 3.99 | 3.54 | 3.14 | 2.79 |
| 1976 | 21.15 | 31.55 | 37.11 | 34.98 | 24.96 | 14.96 | 7.89 | 6.39 | 5.66 | 5.02 | 4.45 | 3.95 |
| 1977 | 7.11 | 16.82 | 23.24 | 16.67 | 6.71 | 5.30 | 4.68 | 4.15 | 3.68 | 3.27 | 2.90 | 2.58 |
| 1978 | 3.31 | 7.81 | 9.26 | 5.12 | 4.10 | 3.18 | 2.82 | 2.50 | 2.22 | 1.97 | 1.74 | 1.55 |
| 1979 | 1.51 | 3.53 | 5.58 | 3.80 | 2.26 | 1.89 | 1.66 | 1.47 | 1.30 | 1.15 | 1.02 | .91 |
| 1980 | .82 | 1.16 | 5.64 | 13.35 | 6.67 | 2.85 | 2.45 | 2.18 | 1.93 | 1.71 | 1.52 | 1.35 |
| 1981 | 1.25 | 15.03 | 9.69 | 9.04 | 5.65 | 3.51 | 3.10 | 2.75 | 2.44 | 2.16 | 1.92 | 1.70 |
| 1982 | 1.71 | 1.64 | 2.68 | 1.25 | 1.04 | .88 | .78 | .69 | .61 | 1.25 | 3.40 | 21.90 |
| 1983 | 31.36 | 37.86 | 41.92 | 51.29 | 45.62 | 34.68 | 38.22 | 27.19 | 24.72 | 10.78 | 8.33 | 7.38 |
| 1984 | 9.02 | 36.52 | 44.58 | 23.14 | 9.80 | 7.32 | 6.47 | 5.74 | 5.09 | 4.51 | 4.00 | 3.58 |
| 1985 | 3.38 | 4.92 | 10.60 | 12.47 | 5.70 | 4.28 | 3.58 | 3.17 | 2.81 | 2.49 | 2.21 | 1.97 |
| 1986 | 25.95 | 15.67 | 6.44 | 8.51 | 4.25 | 3.61 | 3.20 | 2.84 | 2.52 | 2.23 | 1.98 | 1.76 |
| 1987 | 4.71 | 33.43 | 27.54 | 37.96 | 23.93 | 8.47 | 5.68 | 5.08 | 4.43 | 3.93 | 3.48 | 3.10 |
| 1988 | 3.34 | 14.92 | 7.55 | 13.49 | 8.44 | 4.93 | 4.31 | 3.82 | 3.39 | 3.00 | 2.66 | 2.37 |
| 1989 | 31.62 | 38.79 | 31.32 | 26.57 | 10.17 | 5.89 | 5.10 | 4.52 | 4.01 | 3.55 | 3.15 | 2.80 |
| 1990 | 2.54 | 2.48 | 6.78 | 10.45 | 3.45 | 2.81 | 2.49 | 2.21 | 1.96 | 1.74 | 1.54 | 1.37 |
| 1991 | 1.98 | 3.89 | 14.16 | 6.39 | 3.78 | 2.69 | 2.31 | 2.05 | 1.82 | 1.61 | 1.43 | 1.27 |
| 1992 | 13.18 | 26.22 | 50.11 | 49.40 | 48.32 | 25.49 | 9.59 | 6.54 | 5.77 | 5.12 | 4.54 | 4.03 |

VOLUMEN ESCURRIDO = 2958.3620 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 3
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|-------|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1964 | 9.77 | 6.39 | 41.41 | 43.10 | 13.49 | 10.14 | 8.98 | 7.96 | 7.06 | 6.26 | 5.55 | 4.92 |
| 1965 | 4.46 | 5.32 | 52.90 | 42.55 | 36.72 | 14.69 | 10.88 | 9.62 | 8.53 | 7.56 | 6.71 | 5.98 |
| 1966 | 43.35 | 35.57 | 32.17 | 19.46 | 16.01 | 12.83 | 11.35 | 10.06 | 8.94 | 7.91 | 7.01 | 6.22 |
| 1967 | 75.46 | 95.97 | 55.22 | 19.66 | 14.55 | 11.97 | 10.61 | 9.41 | 8.34 | 7.40 | 6.56 | 5.82 |
| 1968 | 5.36 | 33.33 | 8.81 | 6.46 | 5.35 | 4.73 | 4.20 | 3.72 | 3.35 | 2.93 | 2.59 | 2.30 |
| 1969 | 2.84 | 2.15 | 23.17 | 20.95 | 32.54 | 13.41 | 9.77 | 8.63 | 7.66 | 6.79 | 6.02 | 5.34 |
| 1970 | 5.41 | 6.90 | 16.48 | 35.99 | 17.45 | 11.45 | 8.87 | 7.86 | 6.97 | 6.18 | 5.48 | 4.86 |
| 1971 | 4.47 | 12.58 | 69.19 | 26.55 | 10.57 | 9.02 | 7.87 | 6.98 | 6.19 | 5.49 | 4.87 | 4.32 |
| 1972 | 4.10 | 10.38 | 46.75 | 24.66 | 14.83 | 31.55 | 14.96 | 12.35 | 10.81 | 9.46 | 8.39 | 8.29 |
| 1973 | 34.32 | 53.16 | 75.65 | 52.14 | 37.07 | 21.97 | 17.16 | 15.18 | 13.46 | 11.93 | 10.58 | 9.39 |
| 1974 | 8.33 | 26.90 | 17.96 | 11.69 | 9.00 | 7.99 | 7.05 | 6.25 | 5.55 | 4.92 | 4.36 | 3.89 |
| 1975 | 42.94 | 86.81 | 91.74 | 63.17 | 23.79 | 15.83 | 13.49 | 11.95 | 10.60 | 9.40 | 8.34 | 7.40 |
| 1976 | 47.25 | 77.55 | 86.36 | 78.38 | 51.15 | 35.08 | 20.54 | 17.17 | 15.21 | 13.49 | 11.96 | 10.63 |
| 1977 | 15.69 | 36.68 | 52.94 | 35.89 | 16.46 | 13.82 | 12.16 | 10.78 | 9.56 | 8.48 | 7.52 | 6.68 |
| 1978 | 8.02 | 16.92 | 22.96 | 11.81 | 9.88 | 7.70 | 6.79 | 6.02 | 5.34 | 4.74 | 4.20 | 3.72 |
| 1979 | 3.55 | 8.13 | 11.45 | 8.72 | 5.13 | 4.20 | 3.68 | 3.26 | 2.89 | 2.57 | 2.28 | 2.02 |
| 1980 | 1.85 | 2.40 | 10.77 | 24.39 | 13.72 | 6.29 | 5.48 | 4.86 | 4.31 | 3.82 | 3.39 | 3.01 |
| 1981 | 2.75 | 28.03 | 24.32 | 21.53 | 11.78 | 8.22 | 7.28 | 6.46 | 5.73 | 5.08 | 4.50 | 3.99 |
| 1982 | 3.81 | 3.49 | 4.89 | 2.74 | 2.34 | 1.96 | 1.74 | 1.54 | 1.37 | 2.10 | 5.31 | 46.04 |
| 1983 | 77.84 | 94.29 | 105.90 | 122.97 | 122.00 | 93.94 | 96.32 | 63.39 | 52.79 | 26.20 | 22.06 | 19.58 |
| 1984 | 19.70 | 73.68 | 99.70 | 46.97 | 22.35 | 18.44 | 16.34 | 14.49 | 12.85 | 11.39 | 10.10 | 9.11 |
| 1985 | 8.70 | 11.88 | 23.21 | 25.52 | 12.24 | 9.70 | 8.32 | 7.38 | 6.55 | 5.80 | 5.15 | 4.59 |
| 1986 | 56.10 | 33.65 | 16.86 | 20.44 | 11.06 | 9.33 | 8.27 | 7.33 | 6.50 | 5.77 | 5.11 | 4.54 |
| 1987 | 11.23 | 72.30 | 60.52 | 82.23 | 52.24 | 19.45 | 14.82 | 13.38 | 11.63 | 10.31 | 9.14 | 8.12 |
| 1988 | 8.58 | 32.25 | 19.04 | 29.71 | 19.24 | 12.22 | 10.75 | 9.53 | 8.45 | 7.50 | 6.65 | 5.91 |
| 1989 | 57.03 | 80.07 | 69.95 | 57.19 | 23.97 | 15.85 | 13.61 | 12.06 | 10.70 | 9.48 | 8.41 | 7.46 |
| 1990 | 6.76 | 6.51 | 13.15 | 17.54 | 7.28 | 6.19 | 5.48 | 4.86 | 4.31 | 3.82 | 3.39 | 3.01 |
| 1991 | 3.63 | 6.54 | 23.36 | 10.20 | 6.36 | 4.82 | 4.16 | 3.69 | 3.27 | 2.90 | 2.57 | 2.28 |
| 1992 | 21.99 | 48.49 | 103.21 | 100.41 | 94.25 | 46.47 | 20.42 | 16.47 | 14.59 | 12.94 | 11.47 | 10.18 |

VOLUMEN ESCURRIDO = 6748.1560 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 4
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|-------|-------|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|
| 1964 | 8.00 | 6.43 | 36.67 | 31.08 | 12.52 | 10.59 | 9.39 | 8.33 | 7.38 | 6.55 | 5.81 | 5.15 |
| 1965 | 4.62 | 4.96 | 36.22 | 28.67 | 26.79 | 12.60 | 10.29 | 9.12 | 8.09 | 7.18 | 6.36 | 5.67 |
| 1966 | 34.26 | 28.05 | 27.21 | 18.52 | 15.85 | 12.77 | 11.30 | 10.01 | 8.89 | 7.87 | 6.98 | 6.19 |
| 1967 | 60.97 | 83.45 | 42.23 | 17.41 | 14.49 | 12.40 | 11.00 | 9.75 | 8.65 | 7.67 | 6.80 | 6.03 |
| 1968 | 5.48 | 29.48 | 7.25 | 5.74 | 4.85 | 4.29 | 3.81 | 3.38 | 3.03 | 2.65 | 2.35 | 2.09 |
| 1969 | 2.88 | 1.80 | 17.29 | 9.53 | 18.36 | 7.74 | 6.35 | 5.63 | 4.99 | 4.43 | 3.93 | 3.48 |
| 1970 | 3.41 | 3.94 | 9.90 | 23.31 | 11.70 | 7.80 | 6.19 | 5.48 | 4.86 | 4.31 | 3.82 | 3.39 |
| 1971 | 3.08 | 7.67 | 59.66 | 19.50 | 9.17 | 8.02 | 7.07 | 6.27 | 5.56 | 4.93 | 4.37 | 3.88 |
| 1972 | 3.54 | 8.70 | 46.21 | 24.44 | 13.46 | 24.13 | 12.09 | 10.55 | 9.33 | 8.20 | 7.28 | 6.90 |
| 1973 | 31.27 | 52.06 | 60.63 | 35.20 | 25.94 | 17.65 | 15.26 | 13.53 | 12.00 | 10.64 | 9.43 | 8.37 |
| 1974 | 7.43 | 20.44 | 13.18 | 9.31 | 7.40 | 6.57 | 5.82 | 5.16 | 4.57 | 4.06 | 3.60 | 3.20 |
| 1975 | 34.89 | 83.86 | 80.24 | 47.34 | 19.64 | 15.44 | 13.56 | 12.02 | 10.66 | 9.46 | 8.38 | 7.44 |
| 1976 | 38.90 | 66.89 | 77.59 | 66.38 | 41.22 | 26.20 | 19.58 | 17.18 | 15.23 | 13.51 | 11.98 | 10.63 |
| 1977 | 12.86 | 28.82 | 46.14 | 31.70 | 15.71 | 13.56 | 12.02 | 10.66 | 9.45 | 8.38 | 7.43 | 6.59 |
| 1978 | 6.75 | 12.63 | 14.65 | 9.16 | 6.98 | 5.78 | 5.12 | 4.54 | 4.03 | 3.57 | 3.17 | 2.81 |
| 1979 | 2.63 | 6.53 | 7.06 | 4.25 | 2.63 | 2.26 | 1.99 | 1.76 | 1.56 | 1.39 | 1.23 | 1.09 |
| 1980 | .99 | 1.45 | 7.09 | 16.75 | 7.09 | 3.92 | 3.46 | 3.07 | 2.72 | 2.42 | 2.14 | 1.90 |
| 1981 | 1.78 | 22.73 | 12.21 | 11.14 | 6.95 | 5.21 | 4.62 | 4.09 | 3.63 | 3.22 | 2.85 | 2.53 |
| 1982 | 2.40 | 2.16 | 2.72 | 1.63 | 1.42 | 1.23 | 1.09 | .97 | .86 | 1.27 | 3.83 | 32.57 |
| 1983 | 68.83 | 80.62 | 91.57 | 115.46 | 115.27 | 96.48 | 103.50 | 60.87 | 49.71 | 28.81 | 25.07 | 22.25 |
| 1984 | 21.28 | 78.62 | 95.42 | 41.69 | 23.45 | 20.11 | 17.83 | 15.81 | 14.02 | 12.44 | 11.03 | 10.00 |
| 1985 | 9.18 | 10.75 | 17.12 | 17.81 | 10.18 | 8.09 | 7.03 | 6.24 | 5.53 | 4.91 | 4.35 | 3.87 |
| 1986 | 49.02 | 23.28 | 11.77 | 15.32 | 8.43 | 7.37 | 6.54 | 5.80 | 5.14 | 4.56 | 4.04 | 3.58 |
| 1987 | 5.49 | 72.70 | 58.44 | 70.13 | 36.86 | 17.12 | 14.62 | 13.01 | 11.49 | 10.19 | 9.04 | 8.02 |
| 1988 | 7.62 | 22.00 | 11.28 | 19.47 | 12.07 | 8.47 | 7.49 | 6.64 | 5.89 | 5.23 | 4.63 | 4.11 |
| 1989 | 53.66 | 81.46 | 65.86 | 46.46 | 18.86 | 14.85 | 13.14 | 11.65 | 10.34 | 9.17 | 8.13 | 7.21 |
| 1990 | 6.44 | 6.15 | 10.03 | 13.20 | 5.61 | 4.92 | 4.36 | 3.87 | 3.43 | 3.04 | 2.70 | 2.40 |
| 1991 | 2.85 | 5.16 | 16.82 | 6.85 | 4.29 | 3.34 | 2.93 | 2.60 | 2.30 | 2.04 | 1.81 | 1.61 |
| 1992 | 15.91 | 43.74 | 109.12 | 112.69 | 103.60 | 44.35 | 21.38 | 18.25 | 16.18 | 14.35 | 12.72 | 11.28 |

VOLUMEN ESCURRIDO = 5869.3290 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 5
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1964 | 20.38 | 13.51 | 82.80 | 80.72 | 28.40 | 23.02 | 20.40 | 18.09 | 16.04 | 14.23 | 12.62 | 11.19 |
| 1965 | 10.03 | 10.66 | 90.16 | 69.71 | 56.58 | 27.84 | 22.36 | 19.77 | 17.53 | 15.55 | 13.79 | 12.26 |
| 1966 | 60.32 | 53.22 | 55.74 | 37.12 | 30.55 | 25.38 | 22.47 | 19.92 | 17.69 | 15.67 | 13.89 | 12.32 |
| 1967 | 125.51 | 181.79 | 95.58 | 37.21 | 29.94 | 25.63 | 22.73 | 20.16 | 17.87 | 15.85 | 14.06 | 12.46 |
| 1968 | 11.37 | 46.29 | 12.85 | 10.49 | 8.81 | 7.80 | 6.92 | 6.14 | 5.48 | 4.83 | 4.28 | 3.80 |
| 1969 | 5.14 | 3.59 | 34.47 | 35.77 | 55.55 | 24.77 | 18.73 | 16.54 | 14.67 | 13.01 | 11.54 | 10.23 |
| 1970 | 10.01 | 11.77 | 27.47 | 59.58 | 29.93 | 19.58 | 15.88 | 14.07 | 12.48 | 11.07 | 9.81 | 8.70 |
| 1971 | 7.93 | 21.50 | 132.22 | 44.52 | 20.64 | 18.06 | 15.87 | 14.08 | 12.48 | 11.07 | 9.82 | 8.70 |
| 1972 | 8.26 | 23.63 | 96.57 | 49.21 | 27.90 | 55.96 | 28.60 | 24.23 | 21.23 | 18.71 | 16.59 | 15.49 |
| 1973 | 57.77 | 98.69 | 131.33 | 88.14 | 62.27 | 41.70 | 34.55 | 30.61 | 27.14 | 24.07 | 21.34 | 18.93 |
| 1974 | 16.80 | 42.61 | 29.38 | 20.96 | 16.44 | 14.57 | 12.88 | 11.42 | 10.13 | 8.98 | 7.97 | 7.10 |
| 1975 | 75.53 | 174.27 | 183.48 | 117.47 | 44.79 | 33.62 | 29.23 | 25.91 | 22.98 | 20.38 | 18.07 | 16.04 |
| 1976 | 85.00 | 146.22 | 157.87 | 135.32 | 82.76 | 61.58 | 42.57 | 36.86 | 32.68 | 28.98 | 25.70 | 22.81 |
| 1977 | 27.08 | 62.28 | 95.40 | 64.53 | 32.72 | 28.29 | 24.95 | 22.13 | 19.62 | 17.40 | 15.43 | 13.70 |
| 1978 | 14.85 | 27.46 | 38.25 | 21.92 | 17.37 | 13.78 | 12.16 | 10.78 | 9.56 | 8.48 | 7.52 | 6.67 |
| 1979 | 6.23 | 14.74 | 16.74 | 12.43 | 7.24 | 5.95 | 5.23 | 4.64 | 4.11 | 3.64 | 3.23 | 2.87 |
| 1980 | 2.64 | 3.29 | 15.18 | 34.01 | 18.50 | 9.13 | 8.04 | 7.13 | 6.32 | 5.61 | 4.97 | 4.41 |
| 1981 | 4.03 | 40.29 | 36.51 | 31.69 | 17.08 | 13.08 | 11.60 | 10.28 | 9.12 | 8.09 | 7.17 | 6.36 |
| 1982 | 5.92 | 5.32 | 6.58 | 4.18 | 3.64 | 3.10 | 2.75 | 2.44 | 2.16 | 2.82 | 7.56 | 73.64 |
| 1983 | 154.80 | 180.84 | 208.90 | 245.38 | 258.10 | 215.12 | 213.12 | 126.24 | 98.93 | 58.32 | 50.86 | 45.14 |
| 1984 | 41.92 | 128.77 | 184.15 | 81.03 | 46.45 | 40.01 | 35.47 | 31.45 | 27.89 | 24.73 | 21.93 | 19.96 |
| 1985 | 18.71 | 23.08 | 40.86 | 41.20 | 21.89 | 17.82 | 15.53 | 13.78 | 12.22 | 10.83 | 9.61 | 8.55 |
| 1986 | 102.98 | 56.99 | 32.50 | 37.72 | 21.53 | 18.42 | 16.33 | 14.48 | 12.84 | 11.39 | 10.10 | 8.96 |
| 1987 | 17.56 | 141.03 | 116.13 | 146.39 | 85.48 | 37.98 | 32.01 | 28.70 | 25.17 | 22.32 | 19.79 | 17.56 |
| 1988 | 17.39 | 52.88 | 32.11 | 48.51 | 31.44 | 21.72 | 19.20 | 17.03 | 15.10 | 13.39 | 11.87 | 10.54 |
| 1989 | 93.06 | 145.25 | 133.05 | 98.96 | 44.08 | 33.15 | 28.89 | 25.60 | 22.71 | 20.14 | 17.86 | 15.84 |
| 1990 | 14.24 | 13.62 | 21.52 | 25.27 | 11.87 | 10.31 | 9.14 | 8.10 | 7.19 | 6.37 | 5.65 | 5.02 |
| 1991 | 5.60 | 9.98 | 30.43 | 12.69 | 8.03 | 6.24 | 5.43 | 4.81 | 4.27 | 3.78 | 3.36 | 2.98 |
| 1992 | 29.54 | 74.30 | 192.55 | 191.74 | 173.01 | 78.19 | 41.88 | 35.98 | 31.90 | 28.29 | 25.08 | 22.25 |

VOLUMEN ESCURRIDO = 12505.6000 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 6
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1964 | 12.48 | 16.48 | 63.41 | 83.03 | 67.40 | 55.64 | 47.05 | 40.53 | 35.37 | 31.16 | 27.63 | 24.60 |
| 1965 | 22.04 | 20.82 | 64.96 | 79.86 | 82.55 | 67.41 | 55.25 | 46.46 | 39.85 | 34.67 | 30.48 | 27.00 |
| 1966 | 55.62 | 68.42 | 76.29 | 69.72 | 62.47 | 54.89 | 48.58 | 43.21 | 38.58 | 34.51 | 30.92 | 27.73 |
| 1967 | 92.96 | 166.58 | 157.38 | 118.37 | 91.34 | 72.57 | 59.52 | 50.07 | 42.95 | 37.37 | 32.84 | 29.06 |
| 1968 | 26.04 | 47.81 | 38.30 | 31.06 | 25.61 | 21.62 | 18.58 | 16.19 | 14.27 | 12.62 | 11.22 | 10.00 |
| 1969 | 10.34 | 8.98 | 27.07 | 34.97 | 51.42 | 44.88 | 38.09 | 32.88 | 28.74 | 25.36 | 22.51 | 20.06 |
| 1970 | 18.46 | 18.34 | 26.90 | 50.41 | 48.24 | 40.88 | 34.58 | 29.78 | 25.99 | 22.90 | 20.31 | 18.09 |
| 1971 | 16.27 | 22.47 | 96.26 | 81.84 | 62.35 | 49.26 | 40.14 | 33.61 | 28.72 | 24.93 | 21.87 | 19.34 |
| 1972 | 17.44 | 25.23 | 76.91 | 77.73 | 63.81 | 72.38 | 61.54 | 52.83 | 45.90 | 40.24 | 35.55 | 32.08 |
| 1973 | 57.22 | 97.78 | 137.16 | 133.87 | 118.14 | 97.34 | 81.10 | 69.07 | 59.79 | 52.37 | 46.25 | 41.08 |
| 1974 | 36.64 | 49.47 | 48.99 | 43.48 | 37.64 | 32.99 | 29.12 | 25.85 | 23.03 | 20.57 | 18.41 | 16.51 |
| 1975 | 56.73 | 150.16 | 198.64 | 185.97 | 140.10 | 106.85 | 84.33 | 68.77 | 57.59 | 49.24 | 42.73 | 37.50 |
| 1976 | 75.36 | 138.95 | 185.04 | 193.92 | 169.05 | 140.43 | 113.11 | 93.40 | 78.99 | 68.02 | 59.35 | 52.28 |
| 1977 | 50.55 | 70.37 | 105.53 | 104.22 | 84.56 | 70.72 | 60.33 | 52.29 | 45.83 | 40.48 | 35.95 | 32.05 |
| 1978 | 30.09 | 36.37 | 45.02 | 41.34 | 36.48 | 31.56 | 27.60 | 24.35 | 21.60 | 19.24 | 17.18 | 15.37 |
| 1979 | 13.95 | 18.53 | 21.37 | 20.47 | 17.19 | 14.50 | 12.44 | 10.82 | 9.50 | 8.40 | 7.47 | 6.66 |
| 1980 | 6.00 | 6.12 | 13.12 | 28.63 | 27.94 | 22.61 | 18.80 | 15.99 | 13.83 | 12.11 | 10.69 | 9.49 |
| 1981 | 8.57 | 31.91 | 38.66 | 40.99 | 35.03 | 29.20 | 24.88 | 21.55 | 18.88 | 16.68 | 14.82 | 13.22 |
| 1982 | 11.99 | 10.88 | 10.91 | 9.49 | 8.29 | 7.25 | 6.39 | 5.67 | 5.05 | 5.07 | 7.99 | 47.73 |
| 1983 | 126.28 | 187.33 | 237.61 | 294.40 | 348.84 | 342.63 | 346.17 | 281.19 | 234.09 | 181.27 | 145.13 | 119.81 |
| 1984 | 102.66 | 155.95 | 212.84 | 180.69 | 142.05 | 114.79 | 95.43 | 81.11 | 70.10 | 61.30 | 54.06 | 48.64 |
| 1985 | 43.77 | 43.18 | 52.10 | 57.82 | 50.42 | 43.33 | 37.59 | 32.97 | 29.13 | 25.87 | 23.06 | 20.61 |
| 1986 | 76.02 | 78.71 | 66.73 | 63.31 | 51.71 | 43.18 | 36.83 | 31.92 | 27.97 | 24.71 | 21.95 | 19.57 |
| 1987 | 22.26 | 103.50 | 135.07 | 168.76 | 152.36 | 115.90 | 90.75 | 73.68 | 61.37 | 52.25 | 45.22 | 39.60 |
| 1988 | 35.90 | 53.57 | 51.51 | 60.13 | 55.55 | 47.47 | 41.18 | 36.12 | 31.93 | 28.38 | 25.31 | 22.63 |
| 1989 | 73.96 | 142.70 | 168.55 | 160.38 | 124.05 | 96.49 | 77.52 | 64.16 | 54.36 | 46.87 | 40.93 | 36.07 |
| 1990 | 32.08 | 29.24 | 32.06 | 36.43 | 30.60 | 26.11 | 22.62 | 19.82 | 17.50 | 15.54 | 13.84 | 12.37 |
| 1991 | 11.82 | 14.11 | 28.26 | 25.67 | 21.21 | 17.41 | 14.60 | 12.49 | 10.85 | 9.52 | 8.41 | 7.48 |
| 1992 | 23.25 | 62.59 | 170.61 | 233.02 | 250.45 | 200.72 | 149.02 | 114.43 | 91.16 | 74.93 | 63.14 | 54.23 |

VOLUMEN ESCURRIDO = 20268.3100 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 7
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--------|
| 1964 | 85.54 | 110.50 | 271.43 | 272.26 | 103.27 | 47.65 | 23.20 | 10.18 | 4.36 | 1.87 | .80 | .35 |
| 1965 | 3.62 | 30.26 | 249.40 | 259.43 | 227.79 | 100.02 | 49.30 | 24.63 | 10.68 | 4.60 | 1.97 | 1.81 |
| 1966 | 133.47 | 192.20 | 224.07 | 161.03 | 112.84 | 58.88 | 33.15 | 15.76 | 8.01 | 3.18 | 1.36 | .96 |
| 1967 | 222.23 | 307.71 | 214.67 | 104.21 | 68.76 | 35.03 | 15.96 | 6.87 | 3.04 | 1.27 | .54 | .24 |
| 1968 | 3.27 | 119.85 | 60.82 | 59.50 | 28.72 | 13.59 | 5.86 | 2.52 | 1.53 | .47 | .20 | .08 |
| 1969 | 7.88 | 6.29 | 140.54 | 130.87 | 177.74 | 95.43 | 49.16 | 24.88 | 10.76 | 4.62 | 2.08 | .85 |
| 1970 | 7.48 | 17.17 | 66.41 | 190.10 | 163.54 | 71.16 | 42.27 | 21.11 | 9.10 | 3.90 | 1.68 | .91 |
| 1971 | 3.62 | 70.81 | 337.53 | 174.47 | 69.23 | 36.43 | 17.31 | 7.45 | 3.39 | 1.38 | .58 | .31 |
| 1972 | 2.97 | 130.22 | 236.00 | 190.86 | 104.06 | 200.98 | 126.04 | 75.55 | 38.98 | 17.45 | 7.49 | 13.69 |
| 1973 | 181.74 | 124.50 | 245.44 | 192.05 | 175.73 | 79.93 | 42.86 | 20.96 | 9.09 | 3.89 | 1.67 | .79 |
| 1974 | .83 | 68.50 | 63.93 | 61.58 | 36.61 | 18.77 | 8.29 | 3.55 | 1.54 | .65 | .31 | 1.08 |
| 1975 | 124.24 | 337.31 | 407.83 | 259.70 | 106.86 | 52.06 | 27.58 | 12.56 | 5.64 | 2.77 | 1.01 | 4.01 |
| 1976 | 211.84 | 204.73 | 279.75 | 218.13 | 139.95 | 81.08 | 42.96 | 20.76 | 9.01 | 3.86 | 1.66 | .83 |
| 1977 | 75.82 | 201.87 | 309.54 | 178.29 | 69.76 | 34.10 | 15.47 | 6.63 | 2.89 | 1.21 | .52 | .27 |
| 1978 | 13.59 | 87.73 | 165.54 | 91.43 | 92.55 | 41.70 | 20.27 | 8.75 | 3.76 | 1.61 | .68 | .30 |
| 1979 | 14.84 | 59.36 | 73.00 | 93.89 | 89.34 | 47.66 | 24.68 | 10.82 | 4.65 | 1.99 | .85 | .37 |
| 1980 | 2.23 | 42.85 | 108.60 | 164.81 | 74.55 | 36.10 | 16.83 | 7.20 | 3.09 | 1.33 | .56 | .42 |
| 1981 | 2.83 | 144.73 | 186.82 | 198.96 | 67.02 | 32.22 | 15.03 | 6.31 | 2.71 | 1.15 | .50 | .35 |
| 1982 | 2.53 | 18.57 | 43.95 | 64.10 | 33.03 | 17.52 | 7.82 | 3.34 | 1.45 | 7.02 | 61.30 | 209.70 |
| 1983 | 364.24 | 386.06 | 472.18 | 435.01 | 420.21 | 357.88 | 386.47 | 259.15 | 176.56 | 71.37 | 38.82 | 27.83 |
| 1984 | 13.25 | 197.67 | 278.34 | 241.55 | 107.63 | 49.23 | 25.28 | 11.00 | 4.73 | 2.03 | .86 | 2.28 |
| 1985 | 8.20 | 49.73 | 111.06 | 105.63 | 46.60 | 24.14 | 10.76 | 4.61 | 1.98 | .84 | .37 | 1.35 |
| 1986 | 89.41 | 123.05 | 149.08 | 203.02 | 79.48 | 40.79 | 19.57 | 8.48 | 3.64 | 1.84 | .67 | .73 |
| 1987 | 46.75 | 335.22 | 414.66 | 418.57 | 264.47 | 106.38 | 51.82 | 31.02 | 15.02 | 6.52 | 2.81 | 2.22 |
| 1988 | 32.46 | 207.37 | 132.80 | 126.71 | 115.86 | 57.59 | 32.34 | 15.16 | 6.52 | 2.85 | 1.22 | .80 |
| 1989 | 106.09 | 239.63 | 198.02 | 238.31 | 108.65 | 58.50 | 32.18 | 14.87 | 6.55 | 2.79 | 1.17 | .88 |
| 1990 | 2.75 | 21.11 | 40.41 | 49.70 | 25.15 | 11.90 | 5.13 | 2.20 | .94 | .41 | .17 | .09 |
| 1991 | 3.56 | 54.67 | 126.07 | 92.14 | 42.74 | 25.96 | 11.68 | 5.02 | 2.15 | .92 | .40 | .22 |
| 1992 | 4.99 | 33.94 | 169.48 | 211.74 | 127.75 | 62.45 | 34.46 | 16.07 | 6.97 | 2.99 | 1.28 | .74 |

VOLUMEN ESCURRIDO = 24610.9500 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 8
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|--------|
| 1964 | 134.56 | 98.12 | 150.79 | 173.48 | 39.45 | 13.63 | 10.15 | 8.24 | 6.74 | 5.51 | 4.51 | 3.69 |
| 1965 | 4.41 | 15.38 | 99.39 | 137.95 | 53.08 | 15.22 | 5.52 | 2.83 | 2.17 | 1.79 | 1.45 | 1.21 |
| 1966 | 34.88 | 124.80 | 141.56 | 67.15 | 21.43 | 7.33 | 4.54 | 3.78 | 3.12 | 2.52 | 2.02 | 1.68 |
| 1967 | 72.28 | 169.42 | 67.07 | 16.75 | 9.03 | 4.25 | 3.44 | 2.81 | 2.33 | 1.88 | 1.54 | 1.26 |
| 1968 | 2.22 | 12.61 | 9.45 | 6.86 | .65 | .51 | .37 | .30 | .25 | .20 | .16 | .13 |
| 1969 | 1.76 | 1.07 | 36.36 | 41.61 | 25.09 | 27.40 | 11.21 | 2.89 | 2.33 | 1.91 | 1.56 | 1.28 |
| 1970 | 5.67 | 7.64 | 47.17 | 132.48 | 45.46 | 7.40 | 2.51 | 1.93 | 1.57 | 1.29 | 1.07 | .88 |
| 1971 | 1.10 | 29.81 | 221.17 | 67.91 | 7.27 | 2.65 | 1.89 | 1.55 | 1.27 | 1.05 | .85 | .70 |
| 1972 | .66 | 55.91 | 105.35 | 53.65 | 11.11 | 88.05 | 24.55 | 16.80 | 4.10 | 3.25 | 2.65 | 9.73 |
| 1973 | 81.13 | 51.83 | 124.50 | 86.13 | 52.65 | 9.13 | 4.87 | 3.45 | 2.82 | 2.30 | 1.88 | 1.55 |
| 1974 | 1.99 | 121.77 | 29.43 | 41.60 | 5.21 | 2.21 | 1.63 | 1.33 | 1.09 | .89 | .73 | .97 |
| 1975 | 101.97 | 194.61 | 255.00 | 149.98 | 25.38 | 8.66 | 4.38 | 3.30 | 2.69 | 2.20 | 1.80 | 1.66 |
| 1976 | 108.76 | 129.30 | 139.47 | 117.41 | 67.87 | 67.30 | 9.19 | 4.35 | 3.55 | 2.90 | 2.37 | 2.04 |
| 1977 | 73.76 | 190.03 | 177.63 | 87.32 | 7.94 | 4.00 | 2.51 | 2.05 | 1.68 | 1.38 | 1.12 | .93 |
| 1978 | 17.08 | 79.73 | 80.72 | 17.49 | 7.20 | 2.16 | 1.73 | 1.42 | 1.16 | .96 | .78 | .64 |
| 1979 | 5.12 | 54.49 | 27.43 | 10.68 | 1.76 | 2.13 | .92 | .75 | .62 | .50 | .41 | .34 |
| 1980 | 3.34 | 40.10 | 111.83 | 78.29 | 21.81 | 2.66 | 1.74 | 1.42 | 1.16 | .95 | .78 | .64 |
| 1981 | 5.90 | 68.02 | 83.05 | 78.47 | 5.95 | 2.02 | 1.66 | 1.34 | 1.11 | .90 | .73 | .61 |
| 1982 | 4.07 | 3.12 | 15.84 | 6.41 | 1.61 | .30 | .21 | .17 | .14 | 10.07 | 40.75 | 121.09 |
| 1983 | 226.34 | 282.50 | 302.54 | 212.38 | 327.04 | 244.99 | 190.29 | 88.62 | 43.85 | 7.60 | 4.97 | 4.68 |
| 1984 | 3.61 | 77.45 | 164.01 | 118.11 | 20.71 | 5.67 | 3.29 | 2.66 | 2.18 | 1.78 | 1.46 | 2.89 |
| 1985 | 11.01 | 53.09 | 49.69 | 26.17 | 5.21 | 2.00 | 1.55 | 1.26 | 1.03 | .84 | .69 | .96 |
| 1986 | 68.22 | 35.88 | 45.97 | 73.71 | 9.70 | 2.72 | 2.18 | 1.78 | 1.46 | 1.21 | .98 | 1.18 |
| 1987 | 26.32 | 231.57 | 215.40 | 239.34 | 104.98 | 15.32 | 4.26 | 4.31 | 2.54 | 2.03 | 1.65 | 1.54 |
| 1988 | 12.63 | 64.59 | 18.77 | 18.10 | 7.64 | 2.21 | 1.38 | 1.12 | .91 | .74 | .61 | .50 |
| 1989 | 32.32 | 142.88 | 80.86 | 84.80 | 20.83 | 5.37 | 3.08 | 2.47 | 2.03 | 1.66 | 1.35 | 1.12 |
| 1990 | 3.47 | 19.79 | 43.58 | 59.47 | 5.03 | 1.62 | 1.24 | 1.02 | .83 | .68 | .56 | .46 |
| 1991 | 1.60 | 35.38 | 27.46 | 7.99 | 1.17 | .83 | .65 | .53 | .43 | .35 | .29 | .25 |
| 1992 | 13.34 | 41.41 | 84.53 | 102.72 | 67.22 | 9.73 | 3.82 | 2.83 | 2.31 | 1.89 | 1.55 | 1.27 |

VOLUMEN ESCURRIDO = 11177.0800 millones de metros cubicos

MODELO DE SIMULACION MENSUAL
 SUBCUENCA NUMERO 9
 PERIODO 1964-1992
 ESCORRENTIA SIMULADA
 millones de metros cubicos

| ANO | ENE | FEB | MAR | ABR | MAY | JUN | JUL | AGO | SEP | OCT | NOV | DIC |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1964 | 184.18 | 227.94 | 372.13 | 432.07 | 264.93 | 151.36 | 89.03 | 54.19 | 34.89 | 24.06 | 17.68 | 13.68 |
| 1965 | 14.32 | 40.30 | 254.17 | 367.36 | 315.24 | 197.72 | 116.62 | 67.84 | 38.94 | 22.86 | 14.11 | 9.90 |
| 1966 | 109.32 | 247.27 | 360.06 | 285.92 | 197.28 | 123.67 | 77.82 | 48.01 | 30.28 | 19.29 | 12.92 | 9.44 |
| 1967 | 189.88 | 404.04 | 327.32 | 206.55 | 137.48 | 82.68 | 49.50 | 29.71 | 18.60 | 12.29 | 8.66 | 6.48 |
| 1968 | 8.16 | 109.51 | 84.53 | 77.18 | 49.23 | 30.39 | 17.74 | 10.34 | 6.50 | 4.07 | 2.73 | 1.95 |
| 1969 | 7.23 | 7.85 | 119.31 | 159.36 | 189.06 | 151.66 | 100.06 | 60.24 | 35.12 | 20.68 | 12.76 | 8.34 |
| 1970 | 14.95 | 23.21 | 90.63 | 281.95 | 235.09 | 139.48 | 86.37 | 52.08 | 30.46 | 18.01 | 11.13 | 7.44 |
| 1971 | 7.46 | 74.19 | 403.55 | 298.35 | 166.86 | 94.04 | 52.44 | 29.27 | 16.95 | 10.31 | 6.71 | 4.74 |
| 1972 | 5.37 | 126.25 | 281.13 | 265.85 | 174.05 | 258.51 | 195.20 | 138.50 | 86.64 | 51.89 | 30.96 | 30.07 |
| 1973 | 190.64 | 204.21 | 328.19 | 308.49 | 268.91 | 164.42 | 100.61 | 60.55 | 36.23 | 22.32 | 14.53 | 10.13 |
| 1974 | 8.53 | 143.01 | 113.40 | 111.83 | 71.42 | 44.13 | 26.28 | 15.72 | 9.79 | 6.47 | 4.58 | 4.23 |
| 1975 | 173.25 | 458.82 | 636.30 | 508.91 | 276.12 | 151.26 | 84.90 | 48.00 | 28.09 | 17.53 | 11.50 | 10.38 |
| 1976 | 220.20 | 300.15 | 383.21 | 365.51 | 277.47 | 204.76 | 118.72 | 67.97 | 39.42 | 23.83 | 15.36 | 10.75 |
| 1977 | 100.81 | 309.01 | 442.15 | 343.58 | 182.44 | 103.74 | 55.45 | 30.91 | 18.19 | 11.47 | 7.71 | 5.62 |
| 1978 | 26.69 | 125.85 | 205.46 | 147.01 | 121.98 | 78.95 | 48.39 | 28.55 | 16.98 | 10.55 | 6.92 | 4.87 |
| 1979 | 16.00 | 97.53 | 97.31 | 103.22 | 98.48 | 72.64 | 47.65 | 28.83 | 17.05 | 10.28 | 6.50 | 4.38 |
| 1980 | 6.36 | 57.59 | 174.75 | 214.16 | 146.32 | 84.11 | 47.66 | 26.72 | 15.34 | 9.28 | 6.01 | 4.30 |
| 1981 | 9.63 | 145.85 | 239.76 | 268.03 | 149.41 | 83.59 | 46.50 | 25.79 | 15.04 | 8.99 | 5.88 | 4.24 |
| 1982 | 7.18 | 16.79 | 51.86 | 62.74 | 46.87 | 31.08 | 18.75 | 10.86 | 6.34 | 13.74 | 69.84 | 230.00 |
| 1983 | 474.12 | 617.48 | 782.73 | 765.29 | 830.21 | 712.61 | 668.48 | 478.28 | 332.13 | 185.86 | 108.08 | 69.42 |
| 1984 | 46.45 | 219.23 | 377.59 | 375.87 | 230.36 | 130.68 | 74.95 | 43.05 | 25.52 | 15.98 | 10.72 | 9.88 |
| 1985 | 21.63 | 90.02 | 158.05 | 150.79 | 91.91 | 55.34 | 32.51 | 19.16 | 11.73 | 7.59 | 5.25 | 4.84 |
| 1986 | 97.90 | 136.56 | 174.68 | 238.86 | 152.55 | 91.00 | 53.07 | 30.51 | 17.90 | 11.22 | 7.35 | 5.66 |
| 1987 | 56.98 | 408.45 | 589.97 | 653.20 | 486.34 | 271.31 | 146.85 | 84.88 | 49.16 | 28.73 | 17.48 | 12.23 |
| 1988 | 36.47 | 187.51 | 179.63 | 163.67 | 142.16 | 96.93 | 63.21 | 38.79 | 23.15 | 14.06 | 8.92 | 6.19 |
| 1989 | 88.28 | 272.97 | 289.71 | 315.08 | 206.63 | 125.54 | 75.97 | 44.92 | 26.65 | 16.32 | 10.56 | 7.56 |
| 1990 | 9.23 | 33.17 | 70.50 | 95.90 | 57.80 | 33.21 | 18.88 | 11.01 | 6.76 | 4.46 | 3.15 | 2.38 |
| 1991 | 5.44 | 60.97 | 123.85 | 111.41 | 72.14 | 47.06 | 28.22 | 16.33 | 9.53 | 5.77 | 3.72 | 2.61 |
| 1992 | 16.19 | 71.37 | 207.53 | 281.23 | 230.16 | 138.81 | 82.51 | 48.15 | 28.19 | 17.05 | 10.92 | 7.66 |

VOLUMEN ESCURRIDO = 39960.3600 millones de metros cubicos

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