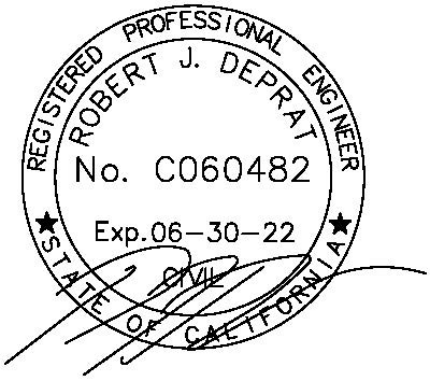
# PRELIMINARY DRAINAGE STUDY

**For:**
**CUP200001**
**30003 Winchester Road**
**Riverside County, CA**

**Prepared by:**
**Blue Peak Engineering, Inc.**
**18543 Yorba Linda Blvd., #235**
**Yorba Linda, CA 92886**
**(714) 749-3077**

**Date: January 13, 2022**

**This study was prepared under my responsible charge:**




RIVERSIDE COUNTY
TRANSPORTATION DEPT
**PRELIMINARY APPROVAL**
Date: 1/20/2022 By: R. Tebben

**01/13/2022**

**Robert J. DePrat, RCE 60482** **Date**

# Section I Project Description

## INTRODUCTION

This report has been prepared to analyze the hydrological effects of the proposed Commercial Development at 30003 Winchester Road.

## IMPROVEMENTS

The entire parcel is undeveloped with natural brush, trees and grasses. The property will be graded and four self storage buildings, an office, a gas station and car wash will be constructed. The paving on site will consist of an AC and concrete paved parking lot and drive aisles. A new driveway will be provided connecting the project to Newport Road.

## DRAINAGE PATTERNS

The existing drainage pattern sheets flows onto Winchester Road and into a County storm drain system. The project drainage and BMPs will maintain the existing drainage pattern by continuing to outlet to Winchester Road.

Flows from the southwest above the site sheet flow onto the property in the existing condition. Interceptor drains will be installed along the west and south property lines to direct the offsite flows around the property and into the public right-of-way as is the existing condition.

# Section II Methodology

**RUNOFF DETERMINATION METHODS**

The hydrology method used to be in compliance with Santa Margarita Watershed for Riverside County, and at the request of the County, HEC-HMS utilizing the user specified S-Graph design parameters. The HEC HMS preprocessor calculator was used to obtain the loss rate data, effective rainfall, and S-graph inputs.

The 3-hour, 6 hour, 24 hour and 100-year storm event were modeled. The summary calculations are provided in the Attachments.

# Section III Hydrology Calculations

Below is a summary of the calculations outputs determined by HEC-HMS.

**Pre Development**

| AREA | SQ.FT | ACRES | IMP | PERV. | %IMP | %PERV | 3hr 100Yr | 6hr 100Yr | 24hr 100Yr |
|---|---|---|---|---|---|---|---|---|---|
| **DA-1** | **206,649** | 4.74 | 0 | 206,649 | 0.00 | 1.00 | 10.00 | 4.3 | 0.9 |
| **Discharge** | | | | | | | 10.00 | 4.3 | 0.9 |

**Post Development**

| AREA | SQ.FT | ACRES | IMP | PERV. | %IMP | %PERV | 3hr 100Yr | 6hr 100Yr | 24hr 100Yr |
|---|---|---|---|---|---|---|---|---|---|
| **DA-1** | 122,655 | 2.82 | 115,117 | 7,538 | 0.94 | 0.06 | 6.00 | 2.6 | 0.5 |
| **DA-2** | 59,649 | 1.37 | 58,649 | 1,000 | 0.98 | 0.02 | 2.90 | 1.3 | 0.2 |
| **DA-3** | 24,345 | 0.56 | 7,687 | 16,658 | 0.32 | 0.68 | 1.20 | 0.5 | 0.1 |
| **Discharge** | 206,649 | 4.74 | | | | | 9.2 | 4.2 | 0.8 |

*Please note, the post development Area DA-4 (1.06 acres) was excluded from the pre and post development HEC-HMS calculation since this is existing landscape runoff area to remain and does not influence the underground detention unit sizing.*

*The total onsite area is 5.8 acres.*

# Section IV Conclusion

As shown in Section III, the existing pre-developed condition will not exceed the pre-development flow rate condition for the 3-hr, 6-hr, and 24-hour 100-year storm event.

# Appendix

# POST DEVELOPMENT

## HEC HMS Preprocessor

User Manual
Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

### 1 Hour Storm

Point Precipitation 1.54 in.
Areal Adjustment Factor 100 %
Adjusted Point Precipitation 1.54
Slope of Rainfall Intensity - Duration Curve 0.52

### 3 Hour Storm

Point Precipitation 2.19 in.
Areal Adjustment Factor 100 %
Adjusted Point Precipitation 2.19

### 6 Hour Storm

Point Precipitation 3.0 in.
Areal

Refer to Plate E-5.8

### 24 Hour Storm

Point Precipitation 5.63 in.
Areal Adjustment Factor 100 %
Adjusted Point Precipitation 5.63

### Lag Time Calculator

| | | |
|---|---|---|
| Basin Factor - n | 0.015 | |
| Length along longest watercourse - L | 753 | ft |
| Length along longest watercourse measured upstream to a point opposite the centroid of the area - Lca | 377 | ft |
| Elevation Difference | 6 | ft |
| **Lag Time** | **0.031** | **hr** |
| 40% Lag Time | 0.7 | min |

Run

Loss Rate Data | Effective Rainfall | S-Graphs

Unit Time Period 5 min (Use interval less than 40% of lag time)
Low Loss 90 %
Fm (Percentage of F) (24-hour Storm Only) 50 % (Typically 50-75%)

Run

### 1 Hour

| Unit Time | Effective Rainfall (inches) |
|---|---|
| 00:00 | |
| 00:05 | 0.063 |
| 00:10 | 0.066 |
| 00:15 | 0.069 |
| 00:20 | 0.075 |
| 00:25 | 0.084 |
| 00:30 | 0.095 |

### 3 Hour

| Unit Time | Effective Rainfall (inches) |
|---|---|
| 00:05 | 0.027 |
| 00:10 | 0.027 |
| 00:15 | 0.022 |
| 00:20 | 0.031 |
| 00:25 | 0.031 |
| 00:30 | 0.038 |
| 00:35 | 0.031 |

### 6 Hour

| Unit Time | Effective Rainfall (inches) |
|---|---|
| 00:05 | 0.013 |
| 00:10 | 0.016 |
| 00:15 | 0.016 |
| 00:20 | 0.016 |
| 00:25 | 0.016 |
| 00:30 | 0.019 |
| 00:35 | 0.019 |

### 24 Hour

| Unit Time | Effective Rainfall (inches) |
|---|---|
| 00:05 | 0.004 |
| 00:10 | 0.004 |
| 00:15 | 0.004 |
| 00:20 | 0.006 |
| 00:25 | 0.006 |
| 00:30 | 0.006 |
| 00:35 | 0.006 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 00:35 | 0.109 | 00:40 | 0.038 | 00:40 | 0.019 | 00:40 | 0.006 |
| 00:40 | 0.134 | 00:45 | 0.038 | 00:45 | 0.019 | 00:45 | 0.006 |
| 00:45 | 0.195 | 00:50 | 0.031 | 00:50 | 0.019 | 00:50 | 0.007 |
| 00:50 | 0.452 | 00:55 | 0.033 | 00:55 | 0.019 | 00:55 | 0.007 |
| 00:55 | 0.106 | 01:00 | 0.038 | 01:00 | 0.022 | 01:00 | 0.007 |
| 01:00 | 0.067 | 01:05 | 0.046 | 01:05 | 0.022 | 01:05 | 0.006 |
| | | 01:10 | 0.046 | 01:10 | 0.022 | 01:10 | 0.006 |
| | | 01:15 | 0.046 | 01:15 | 0.022 | 01:15 | 0.006 |
| | | 01:20 | 0.042 | 01:20 | 0.022 | 01:20 | 0.006 |
| | | 01:25 | 0.055 | 01:25 | 0.022 | 01:25 | 0.006 |
| | | 01:30 | 0.057 | 01:30 | 0.022 | 01:30 | 0.006 |
| | | 01:35 | 0.051 | 01:35 | 0.022 | 01:35 | 0.006 |
| | | 01:40 | 0.057 | 01:40 | 0.022 | 01:40 | 0.006 |
| | | 01:45 | 0.07 | 01:45 | 0.022 | 01:45 | 0.006 |
| | | 01:50 | 0.066 | 01:50 | 0.022 | 01:50 | 0.007 |
| | | 01:55 | 0.062 | 01:55 | 0.022 | 01:55 | 0.007 |
| | | 02:00 | 0.064 | 02:00 | 0.025 | 02:00 | 0.007 |
| | | 02:05 | 0.066 | 02:05 | 0.022 | 02:05 | 0.007 |
| | | 02:10 | 0.09 | 02:10 | 0.025 | 02:10 | 0.007 |
| | | 02:15 | 0.108 | 02:15 | 0.025 | 02:15 | 0.007 |
| | | 02:20 | 0.075 | 02:20 | 0.025 | 02:20 | 0.007 |
| | | 02:25 | 0.147 | 02:25 | 0.025 | 02:25 | 0.007 |
| | | 02:30 | 0.158 | 02:30 | 0.025 | 02:30 | 0.007 |
| | | 02:35 | 0.178 | 02:35 | 0.025 | 02:35 | 0.01 |
| | | 02:40 | 0.127 | 02:40 | 0.025 | 02:40 | 0.01 |
| | | 02:45 | 0.042 | 02:45 | 0.028 | 02:45 | 0.01 |
| | | 02:50 | 0.038 | 02:50 | 0.028 | 02:50 | 0.01 |
| | | 02:55 | 0.038 | 02:55 | 0.028 | 02:55 | 0.01 |
| | | 03:00 | 0.011 | 03:00 | 0.028 | 03:00 | 0.01 |
| | | | | 03:05 | 0.028 | 03:05 | 0.01 |
| | | | | 03:10 | 0.031 | 03:10 | 0.01 |
| | | | | 03:15 | 0.031 | 03:15 | 0.01 |
| | | | | 03:20 | 0.031 | 03:20 | 0.01 |
| | | | | 03:25 | 0.034 | 03:25 | 0.01 |
| | | | | 03:30 | 0.037 | 03:30 | 0.01 |
| | | | | 03:35 | 0.04 | 03:35 | 0.01 |
| | | | | 03:40 | 0.04 | 03:40 | 0.01 |
| | | | | 03:45 | 0.043 | 03:45 | 0.01 |
| | | | | 03:50 | 0.043 | 03:50 | 0.011 |
| | | | | 03:55 | 0.046 | 03:55 | 0.011 |
| | | | | 04:00 | 0.046 | 04:00 | 0.011 |
| | | | | 04:05 | 0.049 | 04:05 | 0.011 |
| | | | | 04:10 | 0.052 | 04:10 | 0.011 |
| | | | | 04:15 | 0.055 | 04:15 | 0.011 |
| | | | | 04:20 | 0.058 | 04:20 | 0.013 |
| | | | | 04:25 | 0.061 | 04:25 | 0.013 |
| | | | | 04:30 | 0.061 | 04:30 | 0.013 |
| | | | | 04:35 | 0.064 | 04:35 | 0.013 |
| | | | | 04:40 | 0.067 | 04:40 | 0.013 |
| | | | | 04:45 | 0.07 | 04:45 | 0.013 |
| | | | | 04:50 | 0.07 | 04:50 | 0.015 |
| | | | | 04:55 | 0.073 | 04:55 | 0.015 |
| | | | | 05:00 | 0.076 | 05:00 | 0.015 |
| | | | | 05:05 | 0.091 | 05:05 | 0.011 |
| | | | | 05:10 | 0.106 | 05:10 | 0.011 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | 05:15 | 0.115 | 05:15 | 0.011 |
| | | | | 05:20 | 0.124 | 05:20 | 0.013 |
| | | | | 05:25 | 0.139 | 05:25 | 0.013 |
| | | | | 05:30 | 0.166 | 05:30 | 0.013 |
| | | | | 05:35 | 0.055 | 05:35 | 0.015 |
| | | | | 05:40 | 0.025 | 05:40 | 0.015 |
| | | | | 05:45 | 0.016 | 05:45 | 0.015 |
| | | | | 05:50 | 0.013 | 05:50 | 0.015 |
| | | | | 05:55 | 0.007 | 05:55 | 0.015 |
| | | | | 06:00 | 0.004 | 06:00 | 0.015 |
| | | | | | | 06:05 | 0.017 |
| | | | | | | 06:10 | 0.017 |
| | | | | | | 06:15 | 0.017 |
| | | | | | | 06:20 | 0.017 |
| | | | | | | 06:25 | 0.017 |
| | | | | | | 06:30 | 0.017 |
| | | | | | | 06:35 | 0.019 |
| | | | | | | 06:40 | 0.019 |
| | | | | | | 06:45 | 0.019 |
| | | | | | | 06:50 | 0.019 |
| | | | | | | 06:55 | 0.019 |
| | | | | | | 07:00 | 0.019 |
| | | | | | | 07:05 | 0.019 |
| | | | | | | 07:10 | 0.019 |
| | | | | | | 07:15 | 0.019 |
| | | | | | | 07:20 | 0.021 |
| | | | | | | 07:25 | 0.021 |
| | | | | | | 07:30 | 0.021 |
| | | | | | | 07:35 | 0.023 |
| | | | | | | 07:40 | 0.023 |
| | | | | | | 07:45 | 0.023 |
| | | | | | | 07:50 | 0.024 |
| | | | | | | 07:55 | 0.024 |
| | | | | | | 08:00 | 0.024 |
| | | | | | | 08:05 | 0.028 |
| | | | | | | 08:10 | 0.028 |
| | | | | | | 08:15 | 0.028 |
| | | | | | | 08:20 | 0.028 |
| | | | | | | 08:25 | 0.028 |
| | | | | | | 08:30 | 0.028 |
| | | | | | | 08:35 | 0.03 |
| | | | | | | 08:40 | 0.03 |
| | | | | | | 08:45 | 0.03 |
| | | | | | | 08:50 | 0.032 |
| | | | | | | 08:55 | 0.032 |
| | | | | | | 09:00 | 0.032 |
| | | | | | | 09:05 | 0.035 |
| | | | | | | 09:10 | 0.035 |
| | | | | | | 09:15 | 0.035 |
| | | | | | | 09:20 | 0.038 |
| | | | | | | 09:25 | 0.038 |
| | | | | | | 09:30 | 0.038 |
| | | | | | | 09:35 | 0.039 |
| | | | | | | 09:40 | 0.039 |
| | | | | | | 09:45 | 0.039 |

| | |
|---|---|
| 09:50 | 0.041 |
| 09:55 | 0.041 |
| 10:00 | 0.041 |
| 10:05 | 0.028 |
| 10:10 | 0.028 |
| 10:15 | 0.028 |
| 10:20 | 0.028 |
| 10:25 | 0.028 |
| 10:30 | 0.028 |
| 10:35 | 0.038 |
| 10:40 | 0.038 |
| 10:45 | 0.038 |
| 10:50 | 0.038 |
| 10:55 | 0.038 |
| 11:00 | 0.038 |
| 11:05 | 0.035 |
| 11:10 | 0.035 |
| 11:15 | 0.035 |
| 11:20 | 0.035 |
| 11:25 | 0.035 |
| 11:30 | 0.035 |
| 11:35 | 0.032 |
| 11:40 | 0.032 |
| 11:45 | 0.032 |
| 11:50 | 0.034 |
| 11:55 | 0.034 |
| 12:00 | 0.034 |
| 12:05 | 0.047 |
| 12:10 | 0.047 |
| 12:15 | 0.047 |
| 12:20 | 0.049 |
| 12:25 | 0.049 |
| 12:30 | 0.049 |
| 12:35 | 0.052 |
| 12:40 | 0.052 |
| 12:45 | 0.052 |
| 12:50 | 0.055 |
| 12:55 | 0.055 |
| 13:00 | 0.055 |
| 13:05 | 0.064 |
| 13:10 | 0.064 |
| 13:15 | 0.064 |
| 13:20 | 0.064 |
| 13:25 | 0.064 |
| 13:30 | 0.064 |
| 13:35 | 0.043 |
| 13:40 | 0.043 |
| 13:45 | 0.043 |
| 13:50 | 0.043 |
| 13:55 | 0.043 |
| 14:00 | 0.043 |
| 14:05 | 0.051 |
| 14:10 | 0.051 |
| 14:15 | 0.051 |
| 14:20 | 0.049 |

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|---|---|
| 14:25 | 0.049 |
| 14:30 | 0.049 |
| 14:35 | 0.049 |
| 14:40 | 0.049 |
| 14:45 | 0.049 |
| 14:50 | 0.047 |
| 14:55 | 0.047 |
| 15:00 | 0.047 |
| 15:05 | 0.045 |
| 15:10 | 0.045 |
| 15:15 | 0.045 |
| 15:20 | 0.043 |
| 15:25 | 0.043 |
| 15:30 | 0.043 |
| 15:35 | 0.035 |
| 15:40 | 0.035 |
| 15:45 | 0.035 |
| 15:50 | 0.035 |
| 15:55 | 0.035 |
| 16:00 | 0.035 |
| 16:05 | 0.007 |
| 16:10 | 0.007 |
| 16:15 | 0.007 |
| 16:20 | 0.007 |
| 16:25 | 0.007 |
| 16:30 | 0.007 |
| 16:35 | 0.006 |
| 16:40 | 0.006 |
| 16:45 | 0.006 |
| 16:50 | 0.006 |
| 16:55 | 0.006 |
| 17:00 | 0.006 |
| 17:05 | 0.01 |
| 17:10 | 0.01 |
| 17:15 | 0.01 |
| 17:20 | 0.01 |
| 17:25 | 0.01 |
| 17:30 | 0.01 |
| 17:35 | 0.01 |
| 17:40 | 0.01 |
| 17:45 | 0.01 |
| 17:50 | 0.007 |
| 17:55 | 0.007 |
| 18:00 | 0.007 |
| 18:05 | 0.007 |
| 18:10 | 0.007 |
| 18:15 | 0.007 |
| 18:20 | 0.007 |
| 18:25 | 0.007 |
| 18:30 | 0.007 |
| 18:35 | 0.006 |
| 18:40 | 0.006 |
| 18:45 | 0.006 |
| 18:50 | 0.004 |
| 18:55 | 0.004 |

| | |
|---|---|
| 19:00 | 0.004 |
| 19:05 | 0.006 |
| 19:10 | 0.006 |
| 19:15 | 0.006 |
| 19:20 | 0.007 |
| 19:25 | 0.007 |
| 19:30 | 0.007 |
| 19:35 | 0.006 |
| 19:40 | 0.006 |
| 19:45 | 0.006 |
| 19:50 | 0.004 |
| 19:55 | 0.004 |
| 20:00 | 0.004 |
| 20:05 | 0.006 |
| 20:10 | 0.006 |
| 20:15 | 0.006 |
| 20:20 | 0.006 |
| 20:25 | 0.006 |
| 20:30 | 0.006 |
| 20:35 | 0.006 |
| 20:40 | 0.006 |
| 20:45 | 0.006 |
| 20:50 | 0.004 |
| 20:55 | 0.004 |
| 21:00 | 0.004 |
| 21:05 | 0.006 |
| 21:10 | 0.006 |
| 21:15 | 0.006 |
| 21:20 | 0.004 |
| 21:25 | 0.004 |
| 21:30 | 0.004 |
| 21:35 | 0.006 |
| 21:40 | 0.006 |
| 21:45 | 0.006 |
| 21:50 | 0.004 |
| 21:55 | 0.004 |
| 22:00 | 0.004 |
| 22:05 | 0.006 |
| 22:10 | 0.006 |
| 22:15 | 0.006 |
| 22:20 | 0.004 |
| 22:25 | 0.004 |
| 22:30 | 0.004 |
| 22:35 | 0.004 |
| 22:40 | 0.004 |
| 22:45 | 0.004 |
| 22:50 | 0.004 |
| 22:55 | 0.004 |
| 23:00 | 0.004 |
| 23:05 | 0.004 |
| 23:10 | 0.004 |
| 23:15 | 0.004 |
| 23:20 | 0.004 |
| 23:25 | 0.004 |
| 23:30 | 0.004 |

| | | | | |
|---|---|---|---|---|
| | | | 23:35 | 0.004 |
| | | | 23:40 | 0.004 |
| | | | 23:45 | 0.004 |
| | | | 23:50 | 0.004 |
| | | | 23:55 | 0.004 |
| | | | 00:00 | 0.004 |

# POST DEVELOPMENT

## HEC HMS Preprocessor

User Manual

Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

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Point Precipitation 1.54 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 1.54

Slope of Rainfall Intensity - Duration Curve 0.52

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Point Precipitation 2.19 in.

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### 6 Hour Storm

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Areal

Refer to Plate E-5.8

### 24 Hour Storm

Point Precipitation 5.63 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 5.63

### Lag Time Calculator

| | | |
|---|---|---|
| Basin Factor - n | 0.015 | |
| Length along longest watercourse - L | 753 | ft |
| Length along longest watercourse measured upstream to a point opposite the centroid of the area - Lca | 377 | ft |
| Elevation Difference | 6 | ft |
| **Lag Time** | **0.031** | **hr** |
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Run

Loss Rate Data  Effective Rainfall  S-Graphs

(●) Average Adjusted Loss Rate Calculator (Plate E-2.1)  ( ) Average Adjusted Loss Rate (Manual Entry)

## Add Loss Rate Values

**AMC Condition:** II

| Soil Group / Cover Type View Chart | RI Number | Perv. Area Infiltrn Rate (in/hr) | Land Use | Imp. Area Decimal % | Adj.Infiltrn Rate (in/hr) | Area (acres) | | |
|---|---|---|---|---|---|---|---|---|
| - | | | | | | | Add | |

| Soil Group / Cover Type | RI Number | Perv. Area Infiltrn | Land Use | Imp. Area Decimal % | Adj.Infiltrn Rate (in/hr) | Area (acres) | Area/ Total Area | Ave. Adj. Rate (in/hr) |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Rate (in/hr) | | | | | | |
| Barren N/A C | | 91 | 0.11700 | Commercial, Downtown Business or Industrial (90) | 90 | 0.022 | 5.8 | 1 | 0.022 X |
| | | | | | | Total area = | 5.8 | | |
| | | | | | | | | Average Soil Loss = | 0.022 |

# POST DEVELOPMENT

## HEC HMS Preprocessor

User Manual
Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

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| Elevation Difference | 6 | ft |
| **Lag Time** | **0.031** | **hr** |
| 40% Lag Time | 0.7 | min |

Run

Loss Rate Data  Effective Rainfall  S-Graphs

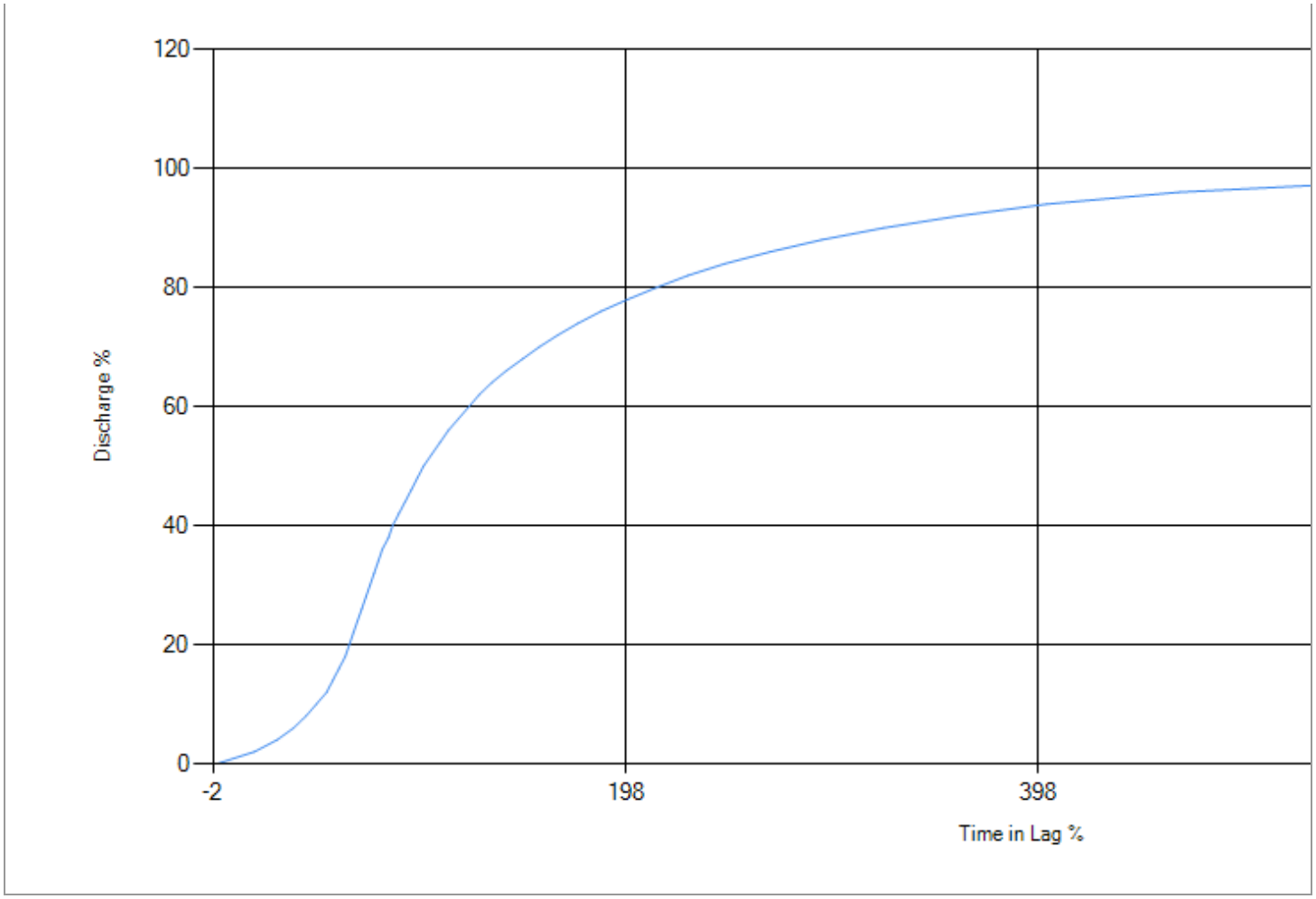
Run S Graphs

| S-Graph 1 | | S-Graph 2 | | S-Graph 3 | | S-Graph 4 | |
|---|---|---|---|---|---|---|---|
| Type: | Mountain | Type: | Valley | Type: | Foothill | Type: | Desert |
| Weight % | | Weight % | | Weight % | | Weight % | 100 |
| Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2 | 0 | 2 | 0 | 2 | 18 | 2 |
| 0 | 4 | 0 | 4 | 0 | 4 | 29 | 4 |
| 0 | 6 | 0 | 6 | 0 | 6 | 37 | 6 |
| 0 | 8 | 0 | 8 | 0 | 8 | 43 | 8 |
| 0 | 10 | 0 | 10 | 0 | 10 | 48 | 10 |
| 0 | 12 | 0 | 12 | 0 | 12 | 53 | 12 |
| 0 | 14 | 0 | 14 | 0 | 14 | 56 | 14 |
| 0 | 16 | 0 | 16 | 0 | 16 | 59 | 16 |
| 0 | 18 | 0 | 18 | 0 | 18 | 62 | 18 |

| **S-Graph Combined** | |
|---|---|
| Type: | Combined |
| Weight % | |
| Time in Percent of Lag | Discharge (percent) |
| 0 | 0 |
| 18 | 2 |
| 29 | 4 |
| 37 | 6 |
| 43 | 8 |
| 48 | 10 |
| 53 | 12 |
| 56 | 14 |
| 59 | 16 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 0 | 20 | 0 | 20 | 64 | 20 | 62 | 18 |
| 0 | 22 | 0 | 22 | 0 | 22 | 66 | 22 | 64 | 20 |
| 0 | 24 | 0 | 24 | 0 | 24 | 68 | 24 | 66 | 22 |
| 0 | 26 | 0 | 26 | 0 | 26 | 70 | 26 | 68 | 24 |
| 0 | 28 | 0 | 28 | 0 | 28 | 72 | 28 | 70 | 26 |
| 0 | 30 | 0 | 30 | 0 | 30 | 74 | 30 | 72 | 28 |
| 0 | 32 | 0 | 32 | 0 | 32 | 76 | 32 | 74 | 30 |
| 0 | 34 | 0 | 34 | 0 | 34 | 78 | 34 | 76 | 32 |
| 0 | 36 | 0 | 36 | 0 | 36 | 80 | 36 | 78 | 34 |
| 0 | 38 | 0 | 38 | 0 | 38 | 83 | 38 | 80 | 36 |
| 0 | 40 | 0 | 40 | 0 | 40 | 85 | 40 | 83 | 38 |
| 0 | 42 | 0 | 42 | 0 | 42 | 88 | 42 | 85 | 40 |
| 0 | 44 | 0 | 44 | 0 | 44 | 91 | 44 | 88 | 42 |
| 0 | 46 | 0 | 46 | 0 | 46 | 94 | 46 | 91 | 44 |
| 0 | 48 | 0 | 48 | 0 | 48 | 97 | 48 | 94 | 46 |
| 0 | 50 | 0 | 50 | 0 | 50 | 100 | 50 | 97 | 48 |
| 0 | 52 | 0 | 52 | 0 | 52 | 104 | 52 | 100 | 50 |
| 0 | 54 | 0 | 54 | 0 | 54 | 108 | 54 | 104 | 52 |
| 0 | 56 | 0 | 56 | 0 | 56 | 112 | 56 | 108 | 54 |
| 0 | 58 | 0 | 58 | 0 | 58 | 117 | 58 | 112 | 56 |
| 0 | 60 | 0 | 60 | 0 | 60 | 122 | 60 | 117 | 58 |
| 0 | 62 | 0 | 62 | 0 | 62 | 127 | 62 | 122 | 60 |
| 0 | 64 | 0 | 64 | 0 | 64 | 133 | 64 | 127 | 62 |
| 0 | 66 | 0 | 66 | 0 | 66 | 140 | 66 | 133 | 64 |
| 0 | 68 | 0 | 68 | 0 | 68 | 148 | 68 | 140 | 66 |
| 0 | 70 | 0 | 70 | 0 | 70 | 156 | 70 | 148 | 68 |
| 0 | 72 | 0 | 72 | 0 | 72 | 165 | 72 | 156 | 70 |
| 0 | 74 | 0 | 74 | 0 | 74 | 175 | 74 | 165 | 72 |
| 0 | 76 | 0 | 76 | 0 | 76 | 186 | 76 | 175 | 74 |
| 0 | 78 | 0 | 78 | 0 | 78 | 199 | 78 | 186 | 76 |
| 0 | 80 | 0 | 80 | 0 | 80 | 213 | 80 | 199 | 78 |
| 0 | 82 | 0 | 82 | 0 | 82 | 228 | 82 | 213 | 80 |
| 0 | 84 | 0 | 84 | 0 | 84 | 246 | 84 | 228 | 82 |
| 0 | 86 | 0 | 86 | 0 | 86 | 268 | 86 | 246 | 84 |
| 0 | 88 | 0 | 88 | 0 | 88 | 293 | 88 | 268 | 86 |
| 0 | 90 | 0 | 90 | 0 | 90 | 323 | 90 | 293 | 88 |
| 0 | 92 | 0 | 92 | 0 | 92 | 359 | 92 | 323 | 90 |
| 0 | 94 | 0 | 94 | 0 | 94 | 402 | 94 | 359 | 92 |
| 0 | 96 | 0 | 96 | 0 | 96 | 466 | 96 | 402 | 94 |
| 0 | 98 | 0 | 98 | 0 | 98 | 580 | 98 | 466 | 96 |
| 0 | 100 | 0 | 100 | 0 | 100 | 780 | 100 | 580 | 98 |
| | | | | | | | | 780 | 100 |

## *S-Graph Combined*


120
100
80
60
40
20
0
Discharge %
-2
198
398
Time in Lag %

# PRE DEVELOPMENT

## HEC HMS Preprocessor

User Manual
Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

| 1 Hour Storm | | 3 Hour Storm | | 6 Hour Storm | | 24 Hour Storm | |
|---|---|---|---|---|---|---|---|
| Point Precipitation | 1.54 in. | Point Precipitation | 2.19 in. | Point Precipitation | 3.0 in. | Point Precipitation | 5.63 in. |
| Areal Adjustment Factor | 100 % | Areal Adjustment Factor | 100 % | Areal Adjustment Factor | 100 % | Areal Adjustment Factor | 100 % |
| Adjusted Point Precipitation | 1.54 | Adjusted Point Precipitation | 2.19 | Adjusted Point Precipitation | 3 | Adjusted Point Precipitation | 5.63 |
| Slope of Rainfall Intensity - Duration Curve | 0.52 | | | | | | |

### Lag Time Calculator

| | | |
|---|---|---|
| Basin Factor - n | 0.015 | |
| Length along longest watercourse - L | 700 | ft |
| Length along longest watercourse measured upstream to a point opposite the centroid of the area - Lca | 377 | ft |
| Elevation Difference | 80 | ft |
| **Lag Time** | **0.031** | **hr** |
| 40% Lag Time | 0.7 | min |

Run

Loss Rate Data | Effective Rainfall | S-Graphs

Unit Time Period 5 min (Use interval less than 40% of lag time)
Low Loss 90 %
Fm (Percentage of F) (24-hour Storm Only) 50 % (Typically 50-75%)

Run

| 1 Hour | | 3 Hour | | 6 Hour | | 24 Hour | |
|---|---|---|---|---|---|---|---|
| Unit Time | Effective Rainfall (inches) | Unit Time | Effective Rainfall (inches) | Unit Time | Effective Rainfall (inches) | Unit Time | Effective Rainfall (inches) |
| 00:00 | | 00:05 | 0.027 | 00:05 | 0.013 | 00:05 | 0.004 |
| 00:05 | 0.063 | 00:10 | 0.027 | 00:10 | 0.016 | 00:10 | 0.004 |
| 00:10 | 0.066 | 00:15 | 0.022 | 00:15 | 0.016 | 00:15 | 0.004 |
| 00:15 | 0.069 | 00:20 | 0.031 | 00:20 | 0.016 | 00:20 | 0.006 |
| 00:20 | 0.075 | 00:25 | 0.031 | 00:25 | 0.016 | 00:25 | 0.006 |
| 00:25 | 0.084 | 00:30 | 0.038 | 00:30 | 0.019 | 00:30 | 0.006 |
| 00:30 | 0.095 | 00:35 | 0.031 | 00:35 | 0.019 | 00:35 | 0.006 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 00:35 | 0.109 | 00:40 | 0.038 | 00:40 | 0.019 | 00:40 | 0.006 |
| 00:40 | 0.134 | 00:45 | 0.038 | 00:45 | 0.019 | 00:45 | 0.006 |
| 00:45 | 0.195 | 00:50 | 0.031 | 00:50 | 0.019 | 00:50 | 0.007 |
| 00:50 | 0.452 | 00:55 | 0.033 | 00:55 | 0.019 | 00:55 | 0.007 |
| 00:55 | 0.106 | 01:00 | 0.038 | 01:00 | 0.022 | 01:00 | 0.007 |
| 01:00 | 0.067 | 01:05 | 0.046 | 01:05 | 0.022 | 01:05 | 0.006 |
| | | 01:10 | 0.046 | 01:10 | 0.022 | 01:10 | 0.006 |
| | | 01:15 | 0.046 | 01:15 | 0.022 | 01:15 | 0.006 |
| | | 01:20 | 0.042 | 01:20 | 0.022 | 01:20 | 0.006 |
| | | 01:25 | 0.055 | 01:25 | 0.022 | 01:25 | 0.006 |
| | | 01:30 | 0.057 | 01:30 | 0.022 | 01:30 | 0.006 |
| | | 01:35 | 0.051 | 01:35 | 0.022 | 01:35 | 0.006 |
| | | 01:40 | 0.057 | 01:40 | 0.022 | 01:40 | 0.006 |
| | | 01:45 | 0.07 | 01:45 | 0.022 | 01:45 | 0.006 |
| | | 01:50 | 0.066 | 01:50 | 0.022 | 01:50 | 0.007 |
| | | 01:55 | 0.062 | 01:55 | 0.022 | 01:55 | 0.007 |
| | | 02:00 | 0.064 | 02:00 | 0.025 | 02:00 | 0.007 |
| | | 02:05 | 0.066 | 02:05 | 0.022 | 02:05 | 0.007 |
| | | 02:10 | 0.09 | 02:10 | 0.025 | 02:10 | 0.007 |
| | | 02:15 | 0.108 | 02:15 | 0.025 | 02:15 | 0.007 |
| | | 02:20 | 0.075 | 02:20 | 0.025 | 02:20 | 0.007 |
| | | 02:25 | 0.147 | 02:25 | 0.025 | 02:25 | 0.007 |
| | | 02:30 | 0.158 | 02:30 | 0.025 | 02:30 | 0.007 |
| | | 02:35 | 0.178 | 02:35 | 0.025 | 02:35 | 0.01 |
| | | 02:40 | 0.127 | 02:40 | 0.025 | 02:40 | 0.01 |
| | | 02:45 | 0.042 | 02:45 | 0.028 | 02:45 | 0.01 |
| | | 02:50 | 0.038 | 02:50 | 0.028 | 02:50 | 0.01 |
| | | 02:55 | 0.038 | 02:55 | 0.028 | 02:55 | 0.01 |
| | | 03:00 | 0.011 | 03:00 | 0.028 | 03:00 | 0.01 |
| | | | | 03:05 | 0.028 | 03:05 | 0.01 |
| | | | | 03:10 | 0.031 | 03:10 | 0.01 |
| | | | | 03:15 | 0.031 | 03:15 | 0.01 |
| | | | | 03:20 | 0.031 | 03:20 | 0.01 |
| | | | | 03:25 | 0.034 | 03:25 | 0.01 |
| | | | | 03:30 | 0.037 | 03:30 | 0.01 |
| | | | | 03:35 | 0.04 | 03:35 | 0.01 |
| | | | | 03:40 | 0.04 | 03:40 | 0.01 |
| | | | | 03:45 | 0.043 | 03:45 | 0.01 |
| | | | | 03:50 | 0.043 | 03:50 | 0.011 |
| | | | | 03:55 | 0.046 | 03:55 | 0.011 |
| | | | | 04:00 | 0.046 | 04:00 | 0.011 |
| | | | | 04:05 | 0.049 | 04:05 | 0.011 |
| | | | | 04:10 | 0.052 | 04:10 | 0.011 |
| | | | | 04:15 | 0.055 | 04:15 | 0.011 |
| | | | | 04:20 | 0.058 | 04:20 | 0.013 |
| | | | | 04:25 | 0.061 | 04:25 | 0.013 |
| | | | | 04:30 | 0.061 | 04:30 | 0.013 |
| | | | | 04:35 | 0.064 | 04:35 | 0.013 |
| | | | | 04:40 | 0.067 | 04:40 | 0.013 |
| | | | | 04:45 | 0.07 | 04:45 | 0.013 |
| | | | | 04:50 | 0.07 | 04:50 | 0.015 |
| | | | | 04:55 | 0.073 | 04:55 | 0.015 |
| | | | | 05:00 | 0.076 | 05:00 | 0.015 |
| | | | | 05:05 | 0.091 | 05:05 | 0.011 |
| | | | | 05:10 | 0.106 | 05:10 | 0.011 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | 05:15 | 0.115 | 05:15 | 0.011 |
| | | | | 05:20 | 0.124 | 05:20 | 0.013 |
| | | | | 05:25 | 0.139 | 05:25 | 0.013 |
| | | | | 05:30 | 0.166 | 05:30 | 0.013 |
| | | | | 05:35 | 0.055 | 05:35 | 0.015 |
| | | | | 05:40 | 0.025 | 05:40 | 0.015 |
| | | | | 05:45 | 0.016 | 05:45 | 0.015 |
| | | | | 05:50 | 0.013 | 05:50 | 0.015 |
| | | | | 05:55 | 0.007 | 05:55 | 0.015 |
| | | | | 06:00 | 0.004 | 06:00 | 0.015 |
| | | | | | | 06:05 | 0.017 |
| | | | | | | 06:10 | 0.017 |
| | | | | | | 06:15 | 0.017 |
| | | | | | | 06:20 | 0.017 |
| | | | | | | 06:25 | 0.017 |
| | | | | | | 06:30 | 0.017 |
| | | | | | | 06:35 | 0.019 |
| | | | | | | 06:40 | 0.019 |
| | | | | | | 06:45 | 0.019 |
| | | | | | | 06:50 | 0.019 |
| | | | | | | 06:55 | 0.019 |
| | | | | | | 07:00 | 0.019 |
| | | | | | | 07:05 | 0.019 |
| | | | | | | 07:10 | 0.019 |
| | | | | | | 07:15 | 0.019 |
| | | | | | | 07:20 | 0.021 |
| | | | | | | 07:25 | 0.021 |
| | | | | | | 07:30 | 0.021 |
| | | | | | | 07:35 | 0.023 |
| | | | | | | 07:40 | 0.023 |
| | | | | | | 07:45 | 0.023 |
| | | | | | | 07:50 | 0.024 |
| | | | | | | 07:55 | 0.024 |
| | | | | | | 08:00 | 0.024 |
| | | | | | | 08:05 | 0.028 |
| | | | | | | 08:10 | 0.028 |
| | | | | | | 08:15 | 0.028 |
| | | | | | | 08:20 | 0.028 |
| | | | | | | 08:25 | 0.028 |
| | | | | | | 08:30 | 0.028 |
| | | | | | | 08:35 | 0.03 |
| | | | | | | 08:40 | 0.03 |
| | | | | | | 08:45 | 0.03 |
| | | | | | | 08:50 | 0.032 |
| | | | | | | 08:55 | 0.032 |
| | | | | | | 09:00 | 0.032 |
| | | | | | | 09:05 | 0.035 |
| | | | | | | 09:10 | 0.035 |
| | | | | | | 09:15 | 0.035 |
| | | | | | | 09:20 | 0.038 |
| | | | | | | 09:25 | 0.038 |
| | | | | | | 09:30 | 0.038 |
| | | | | | | 09:35 | 0.039 |
| | | | | | | 09:40 | 0.039 |
| | | | | | | 09:45 | 0.039 |

| | |
|---|---|
| 09:50 | 0.041 |
| 09:55 | 0.041 |
| 10:00 | 0.041 |
| 10:05 | 0.028 |
| 10:10 | 0.028 |
| 10:15 | 0.028 |
| 10:20 | 0.028 |
| 10:25 | 0.028 |
| 10:30 | 0.028 |
| 10:35 | 0.038 |
| 10:40 | 0.038 |
| 10:45 | 0.038 |
| 10:50 | 0.038 |
| 10:55 | 0.038 |
| 11:00 | 0.038 |
| 11:05 | 0.035 |
| 11:10 | 0.035 |
| 11:15 | 0.035 |
| 11:20 | 0.035 |
| 11:25 | 0.035 |
| 11:30 | 0.035 |
| 11:35 | 0.032 |
| 11:40 | 0.032 |
| 11:45 | 0.032 |
| 11:50 | 0.034 |
| 11:55 | 0.034 |
| 12:00 | 0.034 |
| 12:05 | 0.047 |
| 12:10 | 0.047 |
| 12:15 | 0.047 |
| 12:20 | 0.049 |
| 12:25 | 0.049 |
| 12:30 | 0.049 |
| 12:35 | 0.052 |
| 12:40 | 0.052 |
| 12:45 | 0.052 |
| 12:50 | 0.055 |
| 12:55 | 0.055 |
| 13:00 | 0.055 |
| 13:05 | 0.064 |
| 13:10 | 0.064 |
| 13:15 | 0.064 |
| 13:20 | 0.064 |
| 13:25 | 0.064 |
| 13:30 | 0.064 |
| 13:35 | 0.043 |
| 13:40 | 0.043 |
| 13:45 | 0.043 |
| 13:50 | 0.043 |
| 13:55 | 0.043 |
| 14:00 | 0.043 |
| 14:05 | 0.051 |
| 14:10 | 0.051 |
| 14:15 | 0.051 |
| 14:20 | 0.049 |

| | |
|---|---|
| 14:25 | 0.049 |
| 14:30 | 0.049 |
| 14:35 | 0.049 |
| 14:40 | 0.049 |
| 14:45 | 0.049 |
| 14:50 | 0.047 |
| 14:55 | 0.047 |
| 15:00 | 0.047 |
| 15:05 | 0.045 |
| 15:10 | 0.045 |
| 15:15 | 0.045 |
| 15:20 | 0.043 |
| 15:25 | 0.043 |
| 15:30 | 0.043 |
| 15:35 | 0.035 |
| 15:40 | 0.035 |
| 15:45 | 0.035 |
| 15:50 | 0.035 |
| 15:55 | 0.035 |
| 16:00 | 0.035 |
| 16:05 | 0.007 |
| 16:10 | 0.007 |
| 16:15 | 0.007 |
| 16:20 | 0.007 |
| 16:25 | 0.007 |
| 16:30 | 0.007 |
| 16:35 | 0.006 |
| 16:40 | 0.006 |
| 16:45 | 0.006 |
| 16:50 | 0.006 |
| 16:55 | 0.006 |
| 17:00 | 0.006 |
| 17:05 | 0.01 |
| 17:10 | 0.01 |
| 17:15 | 0.01 |
| 17:20 | 0.01 |
| 17:25 | 0.01 |
| 17:30 | 0.01 |
| 17:35 | 0.01 |
| 17:40 | 0.01 |
| 17:45 | 0.01 |
| 17:50 | 0.007 |
| 17:55 | 0.007 |
| 18:00 | 0.007 |
| 18:05 | 0.007 |
| 18:10 | 0.007 |
| 18:15 | 0.007 |
| 18:20 | 0.007 |
| 18:25 | 0.007 |
| 18:30 | 0.007 |
| 18:35 | 0.006 |
| 18:40 | 0.006 |
| 18:45 | 0.006 |
| 18:50 | 0.004 |
| 18:55 | 0.004 |

| | |
|---|---|
| 19:00 | 0.004 |
| 19:05 | 0.006 |
| 19:10 | 0.006 |
| 19:15 | 0.006 |
| 19:20 | 0.007 |
| 19:25 | 0.007 |
| 19:30 | 0.007 |
| 19:35 | 0.006 |
| 19:40 | 0.006 |
| 19:45 | 0.006 |
| 19:50 | 0.004 |
| 19:55 | 0.004 |
| 20:00 | 0.004 |
| 20:05 | 0.006 |
| 20:10 | 0.006 |
| 20:15 | 0.006 |
| 20:20 | 0.006 |
| 20:25 | 0.006 |
| 20:30 | 0.006 |
| 20:35 | 0.006 |
| 20:40 | 0.006 |
| 20:45 | 0.006 |
| 20:50 | 0.004 |
| 20:55 | 0.004 |
| 21:00 | 0.004 |
| 21:05 | 0.006 |
| 21:10 | 0.006 |
| 21:15 | 0.006 |
| 21:20 | 0.004 |
| 21:25 | 0.004 |
| 21:30 | 0.004 |
| 21:35 | 0.006 |
| 21:40 | 0.006 |
| 21:45 | 0.006 |
| 21:50 | 0.004 |
| 21:55 | 0.004 |
| 22:00 | 0.004 |
| 22:05 | 0.006 |
| 22:10 | 0.006 |
| 22:15 | 0.006 |
| 22:20 | 0.004 |
| 22:25 | 0.004 |
| 22:30 | 0.004 |
| 22:35 | 0.004 |
| 22:40 | 0.004 |
| 22:45 | 0.004 |
| 22:50 | 0.004 |
| 22:55 | 0.004 |
| 23:00 | 0.004 |
| 23:05 | 0.004 |
| 23:10 | 0.004 |
| 23:15 | 0.004 |
| 23:20 | 0.004 |
| 23:25 | 0.004 |
| 23:30 | 0.004 |

| | | | | |
|---|---|---|---|---|
| | | | 23:35 | 0.004 |
| | | | 23:40 | 0.004 |
| | | | 23:45 | 0.004 |
| | | | 23:50 | 0.004 |
| | | | 23:55 | 0.004 |
| | | | 00:00 | 0.004 |

# PRE DEVELOPMENT

## HEC HMS Preprocessor

User Manual
Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

| 1 Hour Storm | 3 Hour Storm | 6 Hour Storm | 24 Hour Storm |
|---|---|---|---|
| Point Precipitation 1.54 in. | Point Precipitation 2.19 in. | Point Precipitation 3.0 in. | Point Precipitation 5.63 in. |
| Areal Adjustment Factor 100 % | Areal Adjustment Factor 100 % | Areal Adjustment Factor 100 % | Areal Adjustment Factor 100 % |
| Adjusted Point Precipitation 1.54 | Adjusted Point Precipitation 2.19 | Adjusted Point Precipitation 3 | Adjusted Point Precipitation 5.63 |
| Slope of Rainfall Intensity - Duration Curve 0.52 | | | |

### Lag Time Calculator

| | | |
|---|---|---|
| Basin Factor - n | 0.015 | |
| Length along longest watercourse - L | 700 | ft |
| Length along longest watercourse measured upstream to a point opposite the centroid of the area - Lca | 377 | ft |
| Elevation Difference | 80 | ft |
| **Lag Time** | **0.031** | **hr** |
| 40% Lag Time | 0.7 | min |

Run

Loss Rate Data  Effective Rainfall  S-Graphs

(•) Average Adjusted Loss Rate Calculator (Plate E-2.1)  ( ) Average Adjusted Loss Rate (Manual Entry)

### Add Loss Rate Values

**AMC Condition:** II

| Soil Group / Cover Type (View Chart) | RI Number | Perv. Area Infiltrn Rate (in/hr) | Land Use | Imp. Area Decimal % | Adj.Infiltrn Rate (in/hr) | Area (ac |
|---|---|---|---|---|---|---|
| Barren N/A C | | | Natural or Agriculture | | | 5.8 |

| Soil Group / Cover Type | RI Number | Perv. Area Infiltrn | Land Use | Imp. Area Decimal % | Adj.Infiltrn Rate (in/hr) | Area (ac |
|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | *Rate (in/hr)* | | | | |
| | | | | | | *Total area =* | *0* |
| | | | | | | | *A* |

# PRE DEVELOPMENT

## HEC HMS Preprocessor

User Manual

Contact Project Planning **(951) 955-1200**

Watershed Area 0.009 sq mi

### 1 Hour Storm

Point Precipitation 1.54 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 1.54

Slope of Rainfall Intensity - Duration Curve 0.52

### 3 Hour Storm

Point Precipitation 2.19 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 2.19

### 6 Hour Storm

Point Precipitation 3.0 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 3

### 24 Hour Storm

Point Precipitation 5.63 in.

Areal Adjustment Factor 100 %

Adjusted Point Precipitation 5.63

### Lag Time Calculator

| | | |
|---|---|---|
| Basin Factor - n | 0.015 | |
| Length along longest watercourse - L | 700 | ft |
| Length along longest watercourse measured upstream to a point opposite the centroid of the area - Lca | 377 | ft |
| Elevation Difference | 80 | ft |
| **Lag Time** | **0.031** | **hr** |
| 40% Lag Time | 0.7 | min |

Run

Loss Rate Data  Effective Rainfall  S-Graphs

Run S Graphs

| S-Graph 1 | | S-Graph 2 | | S-Graph 3 | | S-Graph 4 | |
|---|---|---|---|---|---|---|---|
| Type: | Mountain | Type: | Valley | Type: | Foothill | Type: | Desert |
| Weight % | | Weight % | | Weight % | | Weight % | 100 |
| Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) | Time in Percent of Lag | Discharge (percent) |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 2 | 0 | 2 | 0 | 2 | 18 | 2 |
| 0 | 4 | 0 | 4 | 0 | 4 | 29 | 4 |
| 0 | 6 | 0 | 6 | 0 | 6 | 37 | 6 |
| 0 | 8 | 0 | 8 | 0 | 8 | 43 | 8 |
| 0 | 10 | 0 | 10 | 0 | 10 | 48 | 10 |
| 0 | 12 | 0 | 12 | 0 | 12 | 53 | 12 |
| 0 | 14 | 0 | 14 | 0 | 14 | 56 | 14 |
| 0 | 16 | 0 | 16 | 0 | 16 | 59 | 16 |
| 0 | 18 | 0 | 18 | 0 | 18 | 62 | 18 |

| **S-Graph Combined** | |
|---|---|
| Type: | Combined |
| Weight % | |
| Time in Percent of Lag | Discharge (percent) |
| 0 | 0 |
| 18 | 2 |
| 29 | 4 |
| 37 | 6 |
| 43 | 8 |
| 48 | 10 |
| 53 | 12 |
| 56 | 14 |
| 59 | 16 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 0 | 20 | 0 | 20 | 64 | 20 | 62 | 18 |
| 0 | 22 | 0 | 22 | 0 | 22 | 66 | 22 | 64 | 20 |
| 0 | 24 | 0 | 24 | 0 | 24 | 68 | 24 | 66 | 22 |
| 0 | 26 | 0 | 26 | 0 | 26 | 70 | 26 | 68 | 24 |
| 0 | 28 | 0 | 28 | 0 | 28 | 72 | 28 | 70 | 26 |
| 0 | 30 | 0 | 30 | 0 | 30 | 74 | 30 | 72 | 28 |
| 0 | 32 | 0 | 32 | 0 | 32 | 76 | 32 | 74 | 30 |
| 0 | 34 | 0 | 34 | 0 | 34 | 78 | 34 | 76 | 32 |
| 0 | 36 | 0 | 36 | 0 | 36 | 80 | 36 | 78 | 34 |
| 0 | 38 | 0 | 38 | 0 | 38 | 83 | 38 | 80 | 36 |
| 0 | 40 | 0 | 40 | 0 | 40 | 85 | 40 | 83 | 38 |
| 0 | 42 | 0 | 42 | 0 | 42 | 88 | 42 | 85 | 40 |
| 0 | 44 | 0 | 44 | 0 | 44 | 91 | 44 | 88 | 42 |
| 0 | 46 | 0 | 46 | 0 | 46 | 94 | 46 | 91 | 44 |
| 0 | 48 | 0 | 48 | 0 | 48 | 97 | 48 | 94 | 46 |
| 0 | 50 | 0 | 50 | 0 | 50 | 100 | 50 | 97 | 48 |
| 0 | 52 | 0 | 52 | 0 | 52 | 104 | 52 | 100 | 50 |
| 0 | 54 | 0 | 54 | 0 | 54 | 108 | 54 | 104 | 52 |
| 0 | 56 | 0 | 56 | 0 | 56 | 112 | 56 | 108 | 54 |
| 0 | 58 | 0 | 58 | 0 | 58 | 117 | 58 | 112 | 56 |
| 0 | 60 | 0 | 60 | 0 | 60 | 122 | 60 | 117 | 58 |
| 0 | 62 | 0 | 62 | 0 | 62 | 127 | 62 | 122 | 60 |
| 0 | 64 | 0 | 64 | 0 | 64 | 133 | 64 | 127 | 62 |
| 0 | 66 | 0 | 66 | 0 | 66 | 140 | 66 | 133 | 64 |
| 0 | 68 | 0 | 68 | 0 | 68 | 148 | 68 | 140 | 66 |
| 0 | 70 | 0 | 70 | 0 | 70 | 156 | 70 | 148 | 68 |
| 0 | 72 | 0 | 72 | 0 | 72 | 165 | 72 | 156 | 70 |
| 0 | 74 | 0 | 74 | 0 | 74 | 175 | 74 | 165 | 72 |
| 0 | 76 | 0 | 76 | 0 | 76 | 186 | 76 | 175 | 74 |
| 0 | 78 | 0 | 78 | 0 | 78 | 199 | 78 | 186 | 76 |
| 0 | 80 | 0 | 80 | 0 | 80 | 213 | 80 | 199 | 78 |
| 0 | 82 | 0 | 82 | 0 | 82 | 228 | 82 | 213 | 80 |
| 0 | 84 | 0 | 84 | 0 | 84 | 246 | 84 | 228 | 82 |
| 0 | 86 | 0 | 86 | 0 | 86 | 268 | 86 | 246 | 84 |
| 0 | 88 | 0 | 88 | 0 | 88 | 293 | 88 | 268 | 86 |
| 0 | 90 | 0 | 90 | 0 | 90 | 323 | 90 | 293 | 88 |
| 0 | 92 | 0 | 92 | 0 | 92 | 359 | 92 | 323 | 90 |
| 0 | 94 | 0 | 94 | 0 | 94 | 402 | 94 | 359 | 92 |
| 0 | 96 | 0 | 96 | 0 | 96 | 466 | 96 | 402 | 94 |
| 0 | 98 | 0 | 98 | 0 | 98 | 580 | 98 | 466 | 96 |
| 0 | 100 | 0 | 100 | 0 | 100 | 780 | 100 | 580 | 98 |
| | | | | | | | | 780 | 100 |

## *S-Graph Combined*

**RCFC & WCD**

HYDROLOGY MANUAL

## TERMINOLOGY

L = LENGTH OF LONGEST WATERCOURSE.

$L_{ca}$ = LENGTH ALONG LONGEST WATERCOURSE, MEASURED UPSTREAM TO POINT OPPOSITE CENTER OF AREA.

S = OVER-ALL SLOPE OF LONGEST WATERCOURSE BETWEEN HEADWATER AND COLLECTION POINT.

LAG = ELAPSED TIME FROM BEGINNING OF UNIT PRECIPITATION TO INSTANT THAT SUMMATION HYDROGRAPH REACHES 50 % OF ULTIMATE DISCHARGE.

$\bar{n}$ = VISUALLY ESTIMATED MEAN OF THE n (MANNING'S FORMULA) VALUES OF ALL THE CHANNELS WITHIN AN AREA.

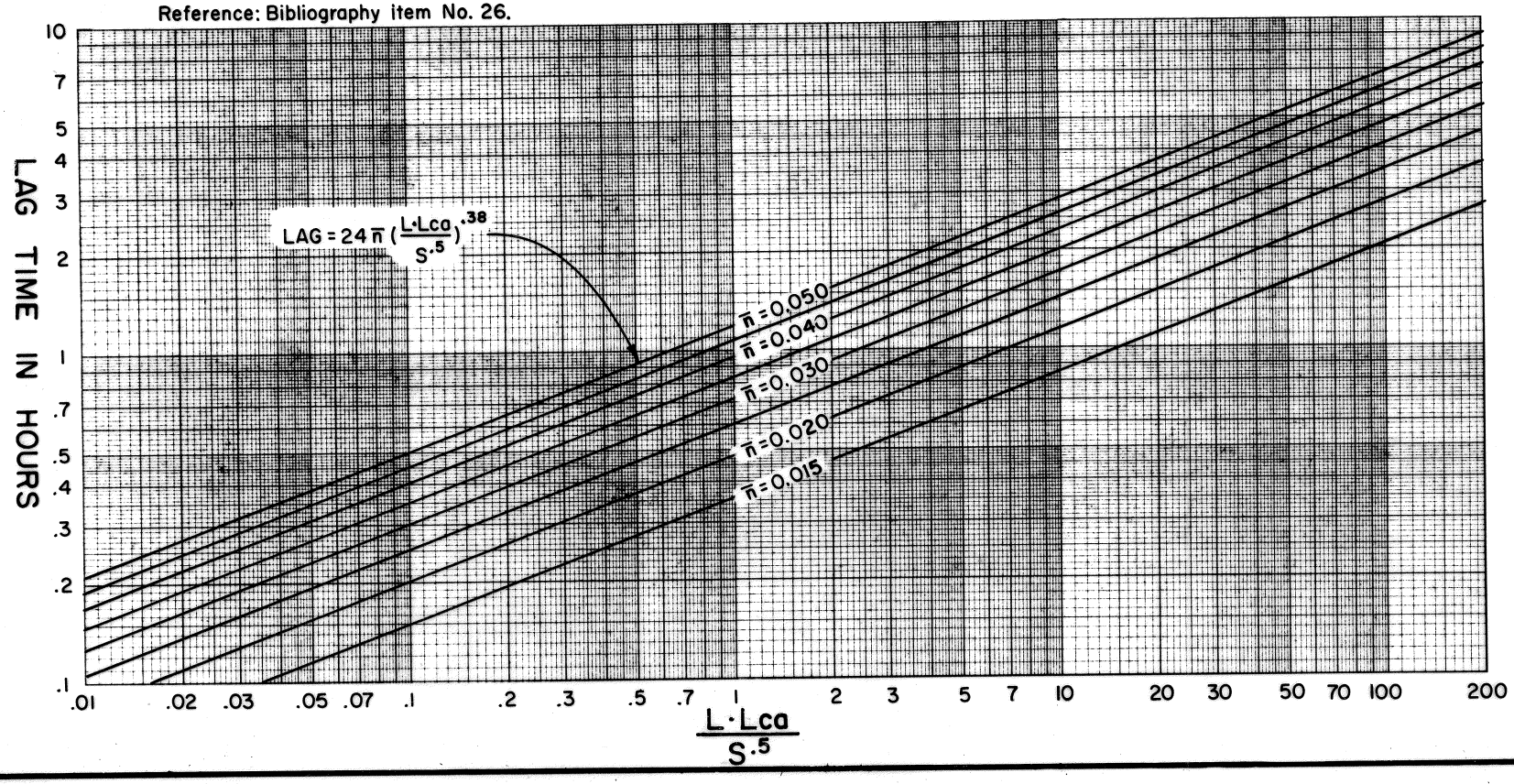
## GUIDE FOR ESTIMATING BASIN FACTOR ($\bar{n}$)

$\bar{n}$=0.050: DRAINAGE AREA IS QUITE RUGGED, WITH SHARP RIDGES AND NARROW, STEEP CANYONS THROUGH WHICH WATERCOURSES MEANDER AROUND SHARP BENDS, OVER LARGE BOULDERS, AND CONSIDERABLE DEBRIS OBSTRUCTION. THE GROUND COVER, EXCLUDING SMALL AREAS OF ROCK OUTCROPS, INCLUDES MANY TREES AND CONSIDERABLE UNDERBRUSH. NO DRAINAGE IMPROVEMENTS EXIST IN THE AREA.

$\bar{n}$=0.030: DRAINAGE AREA IS GENERALLY ROLLING, WITH ROUNDED RIDGES AND MODERATE SIDE SLOPES. WATERCOURSES MEANDER IN FAIRLY STRAIGHT, UNIMPROVED CHANNELS WITH SOME BOULDERS AND LODGED DEBRIS. GROUND COVER INCLUDES SCATTERED BRUSH AND GRASSES. NO DRAINAGE IMPROVEMENTS EXIST IN THE AREA.

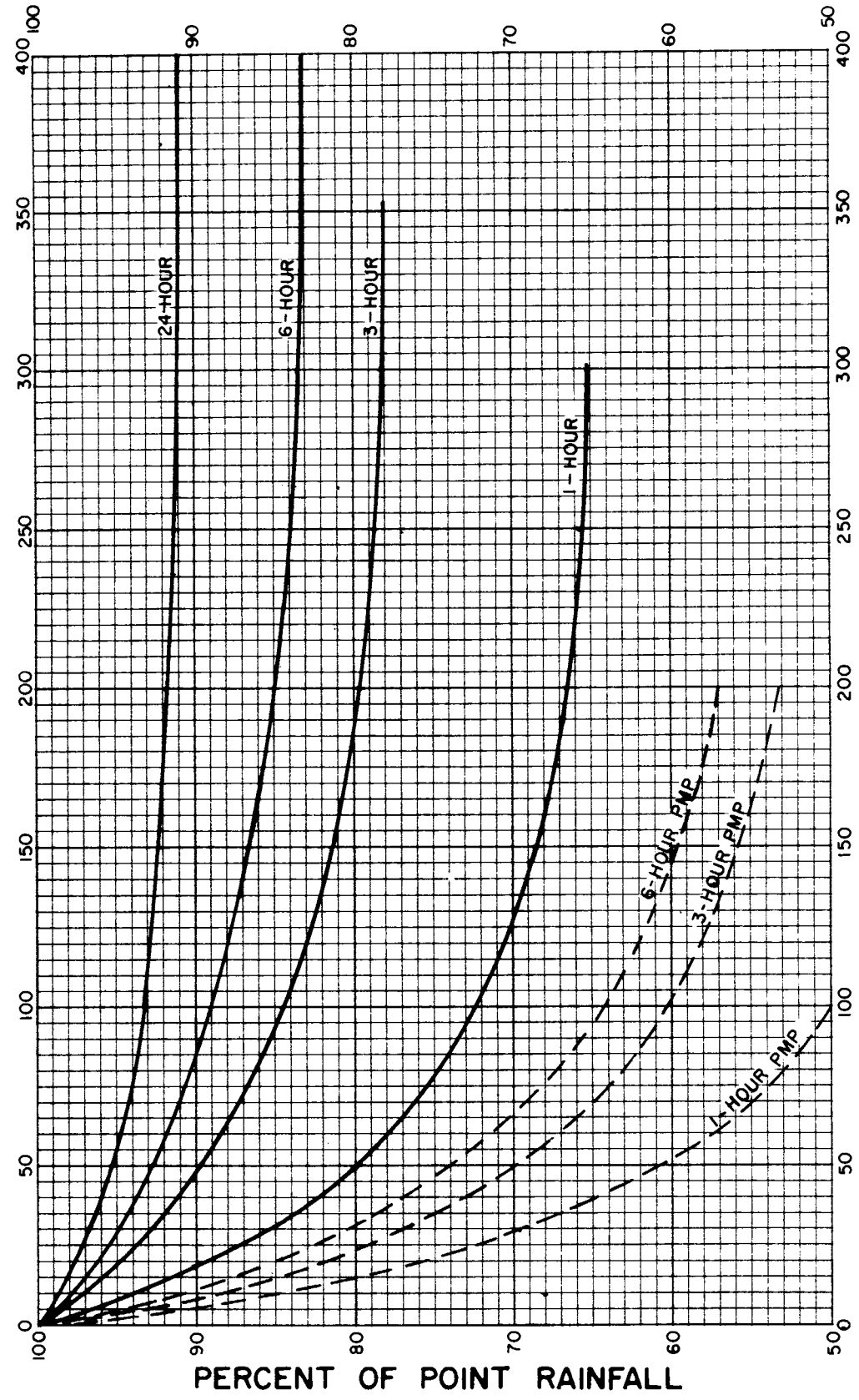
$\bar{n}$=0.015: DRAINAGE AREA HAS FAIRLY UNIFORM, GENTLE SLOPES WITH MOST WATERCOURSES EITHER IMPROVED OR ALONG PAVED STREETS. GROUND COVER CONSISTS OF SOME GRASSES WITH APPRECIABLE AREAS DEVELOPED TO THE EXTENT THAT A LARGE PERCENTAGE OF THE AREA IS IMPERVIOUS.

Reference: Bibliography item No. 26.




# LAG RELATIONSHIPS FOR SOUTHERN CALIFORNIA

PLATE E-3




Reference: Bibliography items No. 27 & 29.

**RCFC & WCD**

HYDROLOGY MANUAL

DEPTH–AREA–DURATION RELATIONSHIPS

PLATE E-5.8

**NOAA Atlas 14, Volume 6, Version 2**
**Location name: Winchester, California, USA***
**Latitude: 33.6981°, Longitude: -117.0849°**
**Elevation: 1471.3 ft****
* source: ESRI Maps
** source: USGS

**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

## PF tabular

**PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]**

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | 0.075 (0.063-0.090) | 0.110 (0.092-0.133) | 0.157 (0.131-0.191) | 0.196 (0.162-0.240) | 0.250 (0.199-0.316) | 0.292 (0.228-0.377) | 0.334 (0.254-0.444) | 0.379 (0.280-0.518) | 0.441 (0.312-0.629) | 0.489 (0.334-0.724) |
| 10-min | 0.107 (0.090-0.129) | 0.158 (0.132-0.191) | 0.226 (0.188-0.273) | 0.281 (0.233-0.344) | 0.358 (0.286-0.453) | 0.418 (0.326-0.541) | 0.479 (0.365-0.636) | 0.543 (0.401-0.743) | 0.631 (0.447-0.902) | 0.701 (0.478-1.04) |
| 15-min | 0.130 (0.109-0.156) | 0.191 (0.160-0.231) | 0.273 (0.228-0.331) | 0.340 (0.281-0.416) | 0.433 (0.346-0.548) | 0.505 (0.395-0.654) | 0.580 (0.441-0.769) | 0.657 (0.486-0.898) | 0.764 (0.540-1.09) | 0.847 (0.578-1.25) |
| 30-min | 0.215 (0.180-0.260) | 0.318 (0.266-0.384) | 0.453 (0.378-0.549) | 0.565 (0.467-0.691) | 0.719 (0.574-0.910) | 0.839 (0.655-1.09) | 0.963 (0.733-1.28) | 1.09 (0.806-1.49) | 1.27 (0.897-1.81) | 1.41 (0.960-2.08) |
| 60-min | 0.345 (0.289-0.417) | 0.509 (0.426-0.615) | 0.727 (0.606-0.881) | 0.906 (0.749-1.11) | 1.15 (0.921-1.46) | 1.35 (1.05-1.74) | 1.54 (1.18-2.05) | 1.75 (1.29-2.39) | 2.03 (1.44-2.90) | 2.26 (1.54-3.34) |
| 2-hr | 0.517 (0.433-0.623) | 0.722 (0.603-0.872) | 0.985 (0.821-1.19) | 1.20 (0.988-1.46) | 1.48 (1.18-1.87) | 1.69 (1.32-2.18) | 1.90 (1.45-2.52) | 2.12 (1.56-2.89) | 2.40 (1.70-3.43) | 2.62 (1.79-3.88) |
| 3-hr | 0.637 (0.533-0.768) | 0.872 (0.729-1.05) | 1.17 (0.976-1.42) | 1.41 (1.16-1.72) | 1.72 (1.37-2.18) | 1.96 (1.53-2.53) | 2.19 (1.67-2.90) | 2.42 (1.79-3.31) | 2.73 (1.93-3.90) | 2.96 (2.02-4.39) |
| 6-hr | 0.927 (0.777-1.12) | 1.25 (1.04-1.51) | 1.65 (1.38-2.00) | 1.97 (1.63-2.41) | 2.38 (1.90-3.02) | 2.69 (2.10-3.49) | 3.00 (2.28-3.98) | 3.30 (2.44-4.51) | 3.70 (2.62-5.28) | 4.00 (2.73-5.92) |
| 12-hr | 1.22 (1.02-1.47) | 1.63 (1.37-1.97) | 2.17 (1.81-2.63) | 2.60 (2.15-3.18) | 3.17 (2.53-4.01) | 3.60 (2.81-4.66) | 4.03 (3.07-5.35) | 4.46 (3.30-6.10) | 5.04 (3.56-7.19) | 5.47 (3.73-8.10) |
| 24-hr | 1.58 (1.40-1.83) | 2.15 (1.90-2.48) | 2.90 (2.55-3.35) | 3.51 (3.06-4.09) | 4.34 (3.67-5.23) | 4.98 (4.13-6.12) | 5.63 (4.56-7.09) | 6.30 (4.97-8.15) | 7.22 (5.47-9.72) | 7.94 (5.82-11.0) |
| 2-day | 1.85 (1.64-2.14) | 2.55 (2.25-2.94) | 3.46 (3.05-4.01) | 4.22 (3.69-4.93) | 5.26 (4.45-6.34) | 6.07 (5.04-7.47) | 6.90 (5.59-8.69) | 7.76 (6.12-10.0) | 8.94 (6.78-12.0) | 9.87 (7.24-13.7) |
| 3-day | 1.92 (1.69-2.21) | 2.66 (2.35-3.07) | 3.64 (3.21-4.22) | 4.46 (3.90-5.21) | 5.58 (4.72-6.73) | 6.46 (5.36-7.94) | 7.36 (5.96-9.27) | 8.30 (6.55-10.7) | 9.60 (7.27-12.9) | 10.6 (7.78-14.8) |
| 4-day | 2.03 (1.79-2.34) | 2.83 (2.50-3.27) | 3.91 (3.45-4.53) | 4.81 (4.20-5.61) | 6.04 (5.12-7.28) | 7.01 (5.82-8.63) | 8.01 (6.49-10.1) | 9.06 (7.15-11.7) | 10.5 (7.96-14.1) | 11.7 (8.54-16.2) |
| 7-day | 2.19 (1.93-2.52) | 3.12 (2.76-3.61) | 4.38 (3.86-5.08) | 5.44 (4.76-6.35) | 6.92 (5.86-8.34) | 8.10 (6.72-9.96) | 9.32 (7.55-11.7) | 10.6 (8.37-13.7) | 12.4 (9.41-16.7) | 13.9 (10.2-19.3) |
| 10-day | 2.29 (2.02-2.64) | 3.30 (2.92-3.82) | 4.69 (4.13-5.43) | 5.86 (5.12-6.84) | 7.52 (6.36-9.06) | 8.84 (7.33-10.9) | 10.2 (8.29-12.9) | 11.7 (9.24-15.2) | 13.8 (10.5-18.6) | 15.5 (11.4-21.6) |
| 20-day | 2.67 (2.36-3.08) | 3.90 (3.44-4.50) | 5.61 (4.94-6.50) | 7.08 (6.19-8.27) | 9.21 (7.79-11.1) | 10.9 (9.08-13.5) | 12.8 (10.4-16.1) | 14.8 (11.7-19.2) | 17.7 (13.4-23.9) | 20.1 (14.7-28.0) |
| 30-day | 3.06 (2.71-3.54) | 4.45 (3.93-5.14) | 6.41 (5.65-7.43) | 8.12 (7.10-9.49) | 10.6 (9.00-12.8) | 12.7 (10.5-15.6) | 14.9 (12.1-18.8) | 17.4 (13.7-22.5) | 21.0 (15.9-28.3) | 24.0 (17.6-33.4) |
| 45-day | 3.59 (3.17-4.14) | 5.13 (4.53-5.92) | 7.33 (6.46-8.49) | 9.28 (8.11-10.8) | 12.2 (10.3-14.7) | 14.6 (12.1-18.0) | 17.3 (14.0-21.8) | 20.3 (16.0-26.2) | 24.6 (18.7-33.2) | 28.4 (20.8-39.5) |
| 60-day | 4.18 (3.69-4.82) | 5.84 (5.16-6.75) | 8.26 (7.27-9.56) | 10.4 (9.10-12.2) | 13.7 (11.6-16.5) | 16.4 (13.6-20.2) | 19.5 (15.8-24.6) | 22.9 (18.1-29.7) | 28.1 (21.3-37.8) | 32.5 (23.8-45.2) |

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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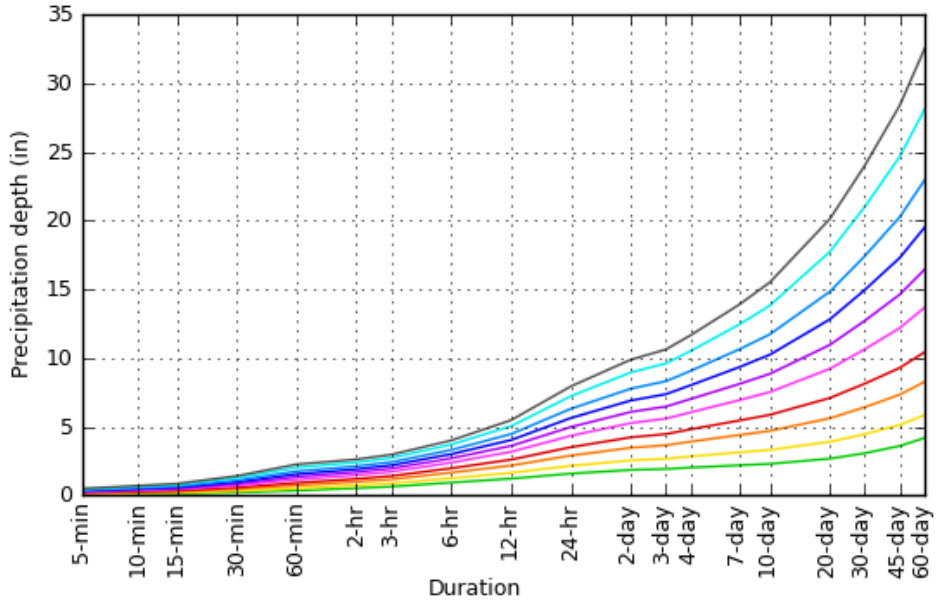
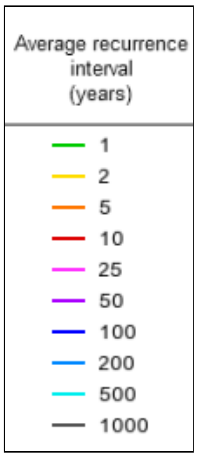
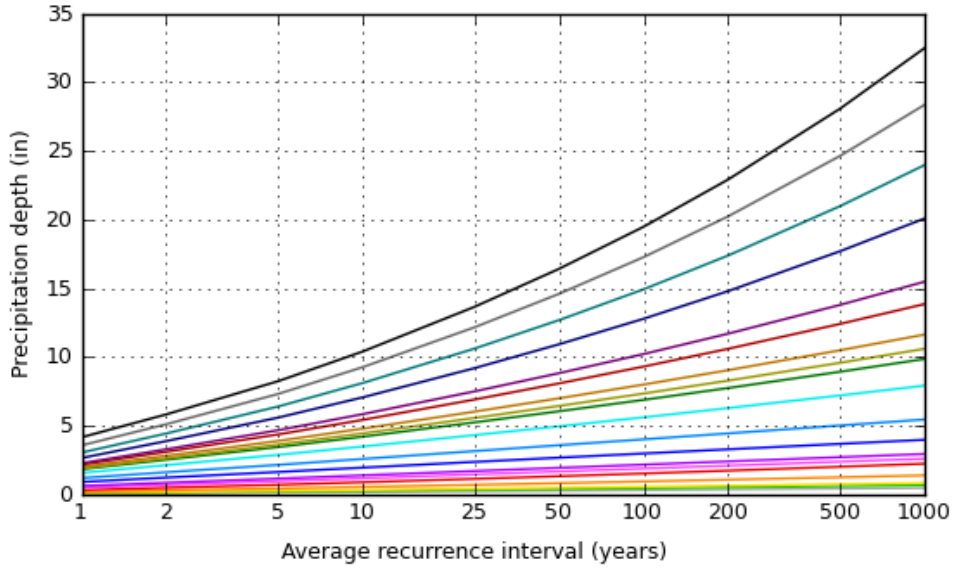
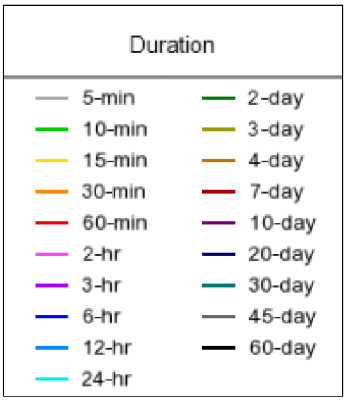
## PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 33.6981°, Longitude: -117.0849°




NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Thu Jan 6 22:56:08 2022

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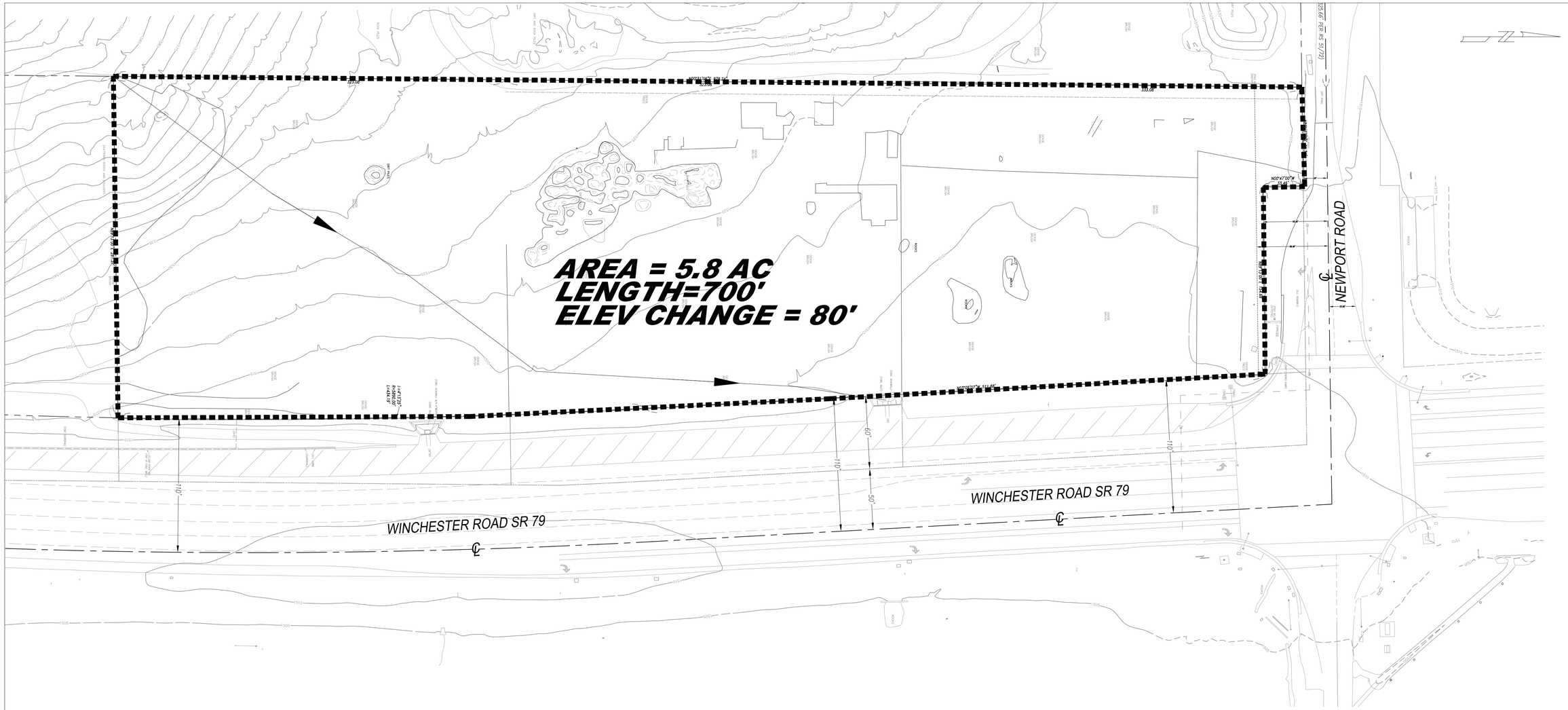
## Maps & aerials

**Small scale terrain**




Please note, the post development Area DA-4 (1.06 acres) was excluded from the pre and post development HEC-HMS calculation since this is existing landscape runoff area to remain and does not influence the underground detention unit sizing.

The total onsite area is 5.8 acres.

**Pre Development**

| AREA | SQ.FT | ACRES | IMP | PERV. | %IMP | %PERV | 3hr 100Yr | 6hr 100Yr | 24hr 100Yr |
|---|---|---|---|---|---|---|---|---|---|
| DA-1 | 206,649 | 4.74 | 0 | 206,649 | 0.00 | 1.00 | 10.00 | 4.3 | 0.9 |
| Discharge | | | | | | | 10.00 | 4.3 | 0.9 |

BLUE PEAK ENGINEERING, INC.
16543 YORBA LINDA BL. #235
YORBA LINDA, CA 92886
714.749.3077

DRAWING ISSUE RECORD
DATE DESCRIPTION

REVISION RECORD
NO. DATE DESCRIPTION

PROJECT NAME

**SELF STORAGE**
NEWPORT & WINCHESTER
RIVERSIDE COUNTY, CA

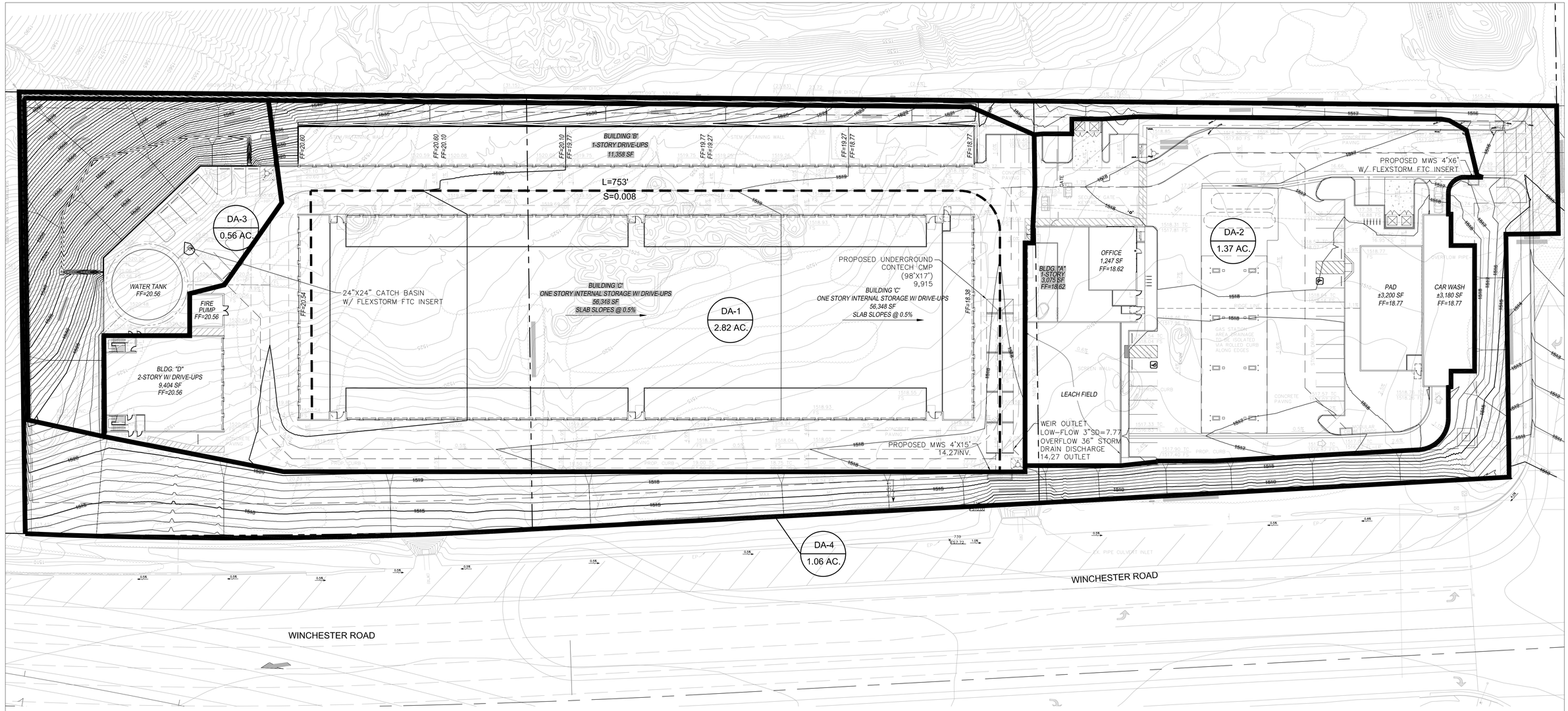
PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER
ROBERT J. DEFRAY
No. C060482
Exp. 06-30-20
CIVIL
STATE OF CALIFORNIA

SHEET TITLE
**EXISTING HYDROLOGY MAP**

SHEET NUMBER
**1 OF 1**

DATE: 1/9/2020




## LEGEND:

DRAINAGE AREA

AREA / ACRE — DRAINAGE CALLOUT

## HYDROLOGY CALCULATIONS

**Post Development**

| AREA | SQ.FT | ACRES | IMP | PERV. | %IMP | %PERV | 3hr 100Yr | 6hr 100Yr | 24hr 100Yr |
|---|---|---|---|---|---|---|---|---|---|
| **DA-1** | 122,655 | 2.82 | 115,117 | 7,538 | 0.94 | 0.06 | 6.00 | 2.6 | 0.5 |
| **DA-2** | 59,649 | 1.37 | 58,649 | 1,000 | 0.98 | 0.02 | 2.90 | 1.3 | 0.2 |
| **DA-3** | 24,345 | 0.56 | 7,687 | 16,658 | 0.32 | 0.68 | 1.20 | 0.5 | 0.1 |
| **Discharge** | 206,649 | 4.74 | | | | | 9.2 | 4.2 | 0.8 |

*Please note, the post development Area DA-4 (1.06 acres) was excluded from the pre and post development HEC-HMS calculation since this is existing landscape runoff area to remain and does not influence the underground detention unit sizing.*

*The total onsite area is 5.8 acres.*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**DRAWING ISSUE RECORD**

DATE DESCRIPTION

**REVISION RECORD**

NO. DATE DESCRIPTION

**PROJECT NAME**

# SELF STORAGE

NEWPORT & WINCHESTER
RIVERSIDE COUNTY, CA

**PROFESSIONAL SEAL**

REGISTERED PROFESSIONAL ENGINEER
ROBERT J. DEPRATTI
No. C060482
Exp.06-30-20
CIVIL
STATE OF CALIFORNIA

**SHEET TITLE**

**PRELIMINARY POST-HYDROLOGY PLAN**

**SHEET NUMBER**

**PAR190044**

# PRE DEVELOPMENT

**Project:** Pre
**Simulation Run:** 3hr 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:26

## Global Parameter Summary - Subbasin

**Area (ft²)**

| Element Name | Area (ft²) |
|---|---|
| Ex. | 0.01 |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| Ex. | S - Graph | Specified | 0.03 |

## Global Results Summary

| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| Ex. | 0.01 | 10.02 | 01Jan2000, 02:35 | 2.12 |

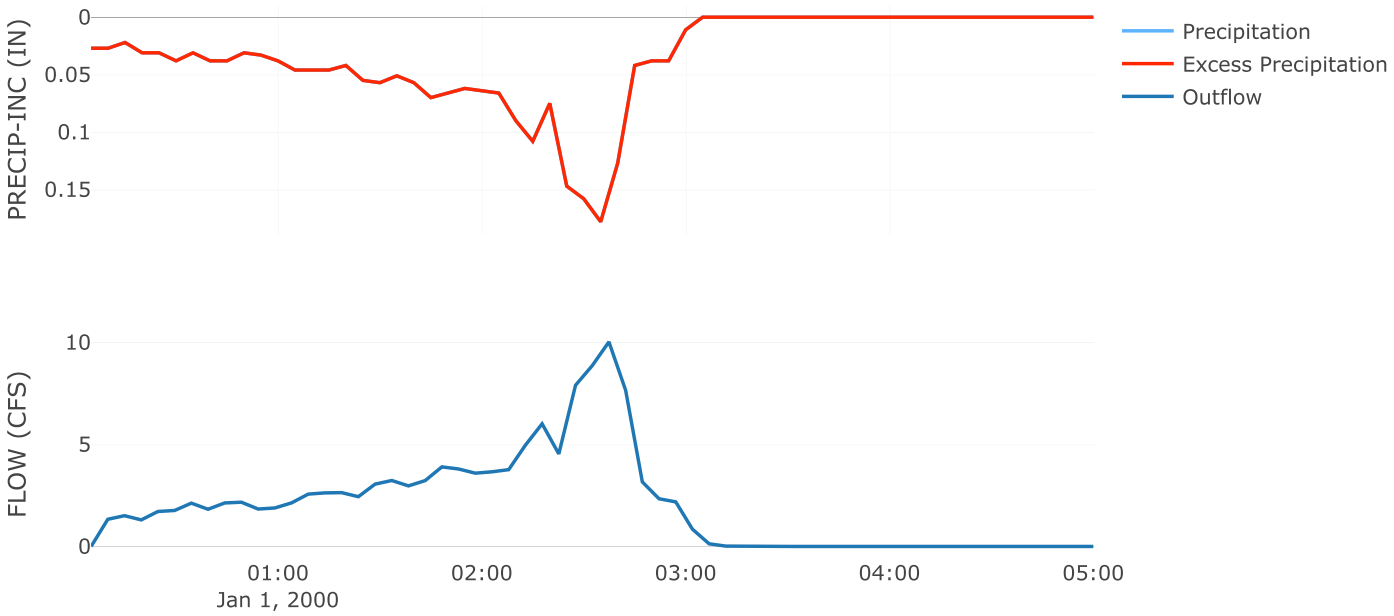
# Subbasin: Ex.

**Area ($ft^2$)** : 0.01

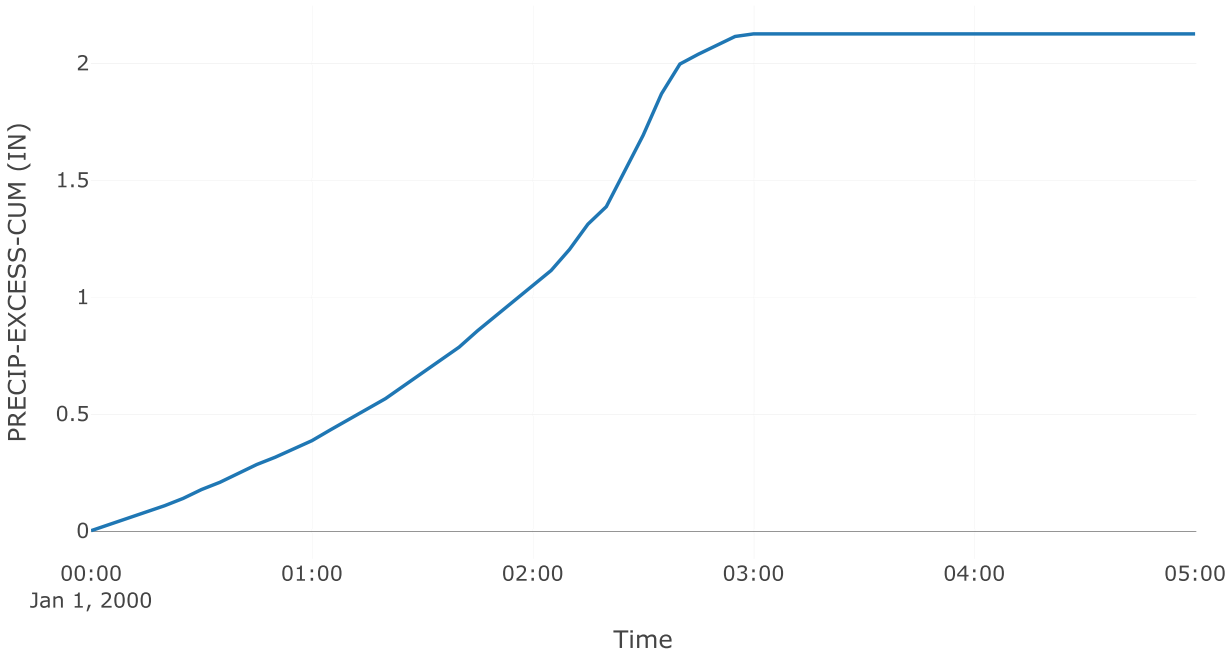
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: Ex. | |
|---|---|
| Peak Discharge (CFS) | 10.02 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 2.12 |
| Precipitation Volume (AC - FT) | 0.84 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.84 |
| Direct Runoff Volume (AC - FT) | 0.84 |
| Baseflow Volume (AC - FT) | 0 |

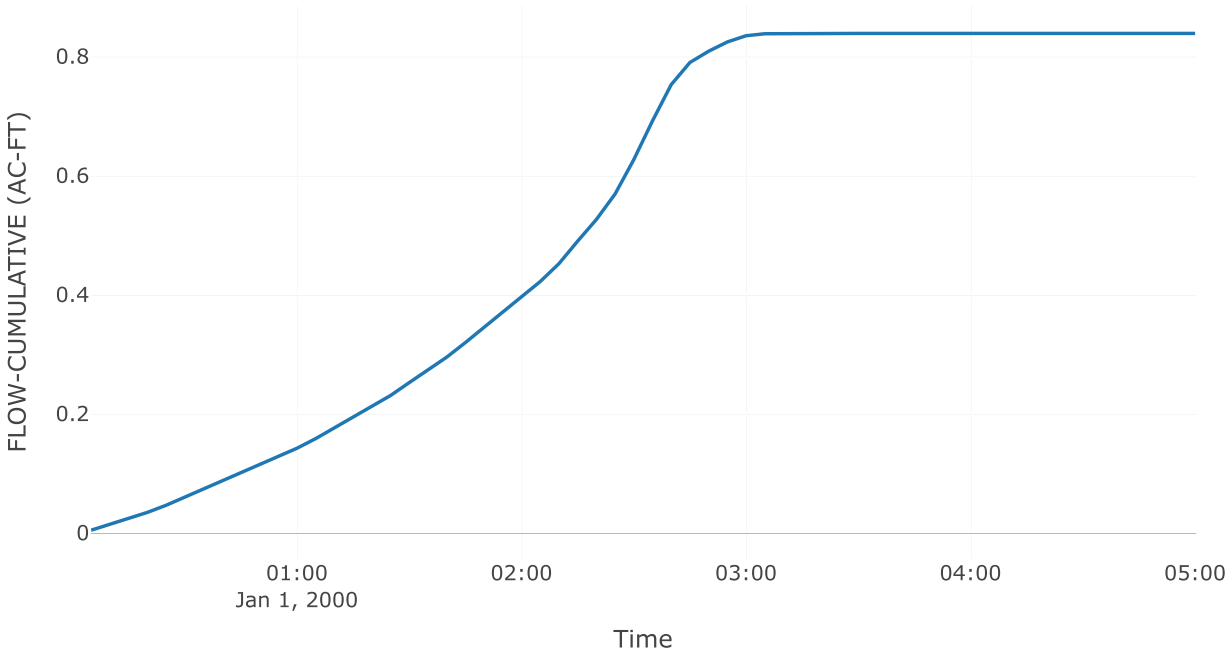
## Precipitation and Outflow



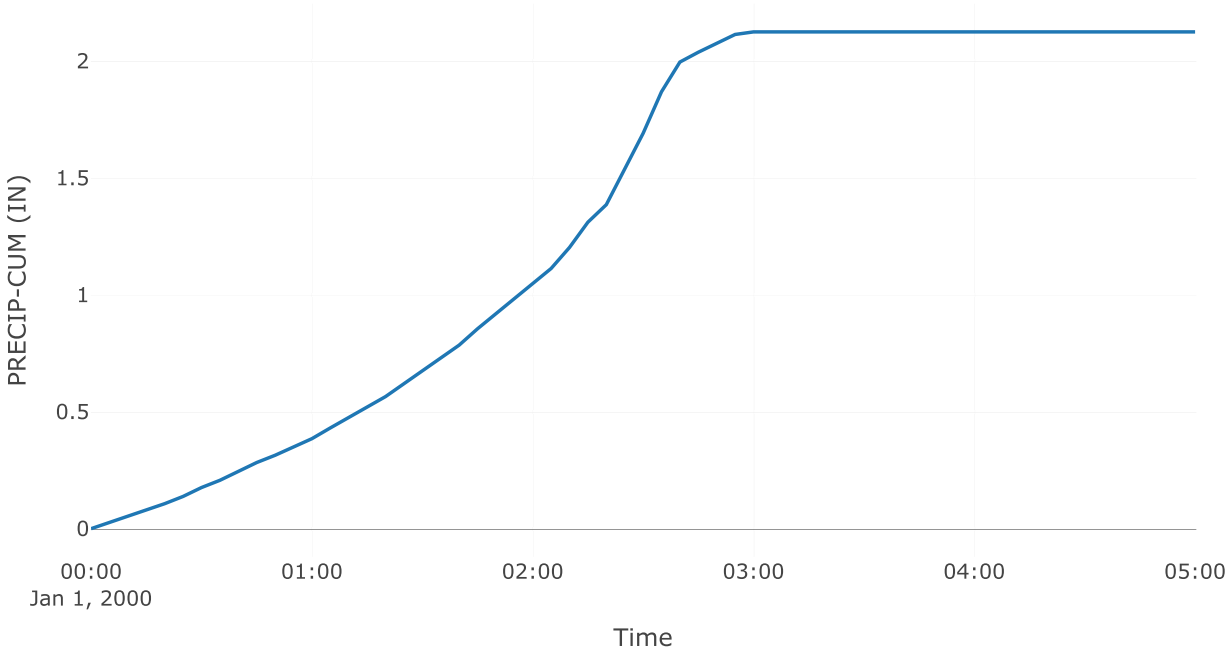

## Cumulative Excess Precipitation



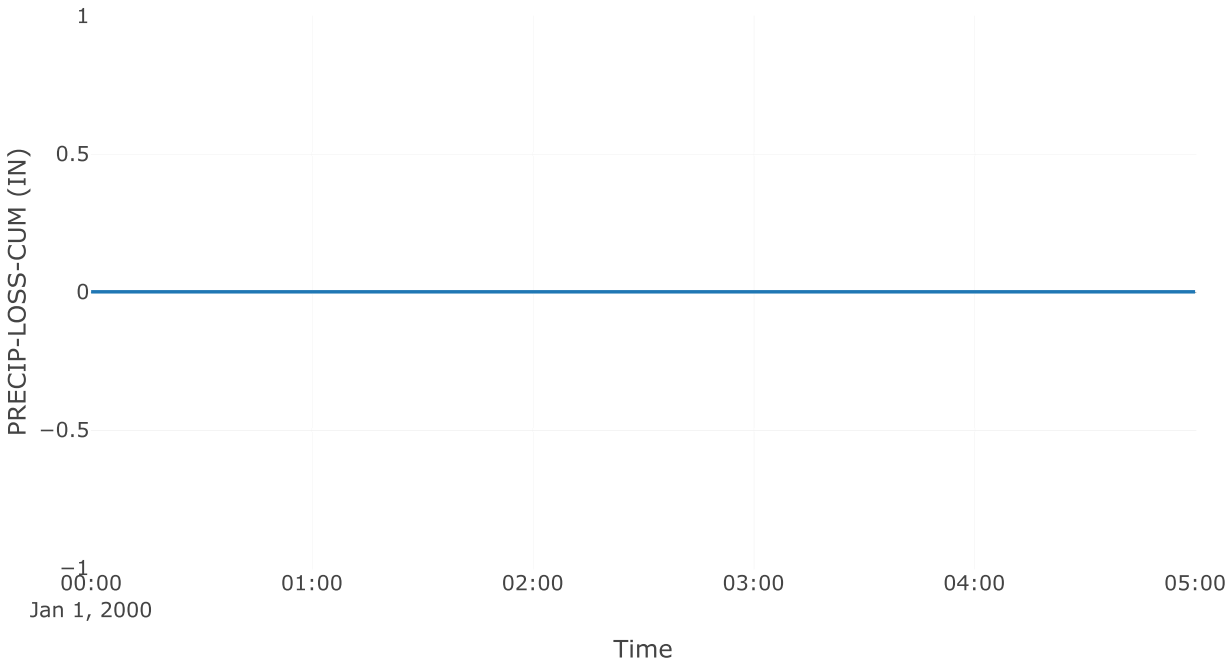
## Cumulative Outflow



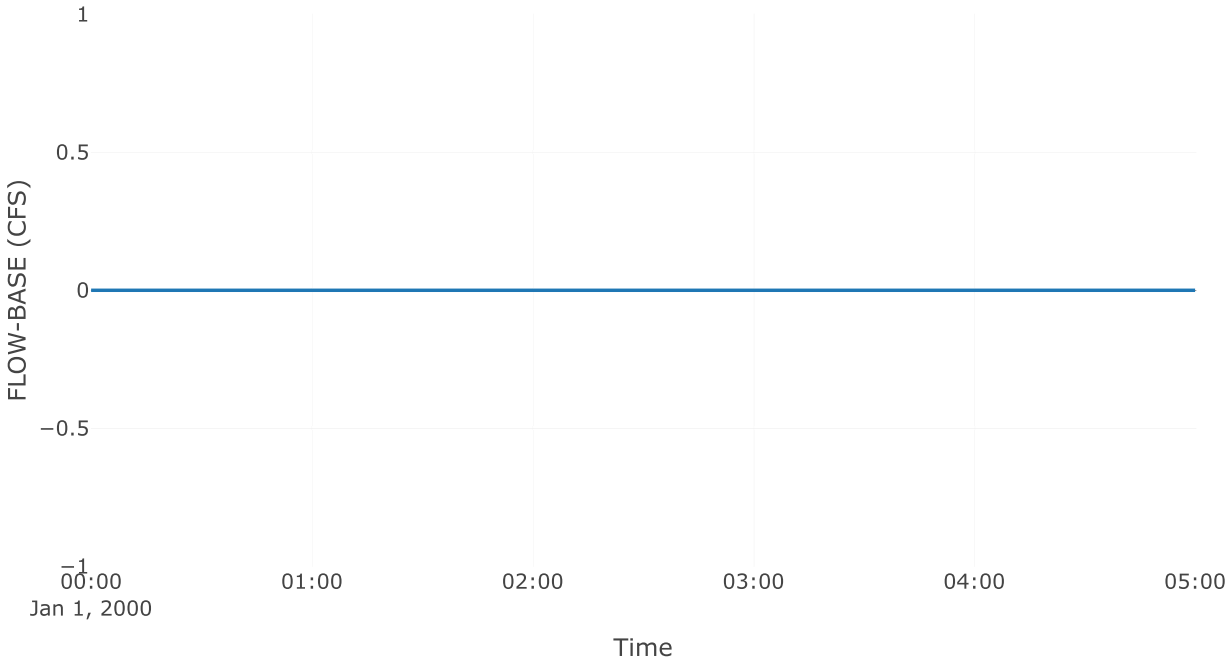

## Cumulative Precipitation

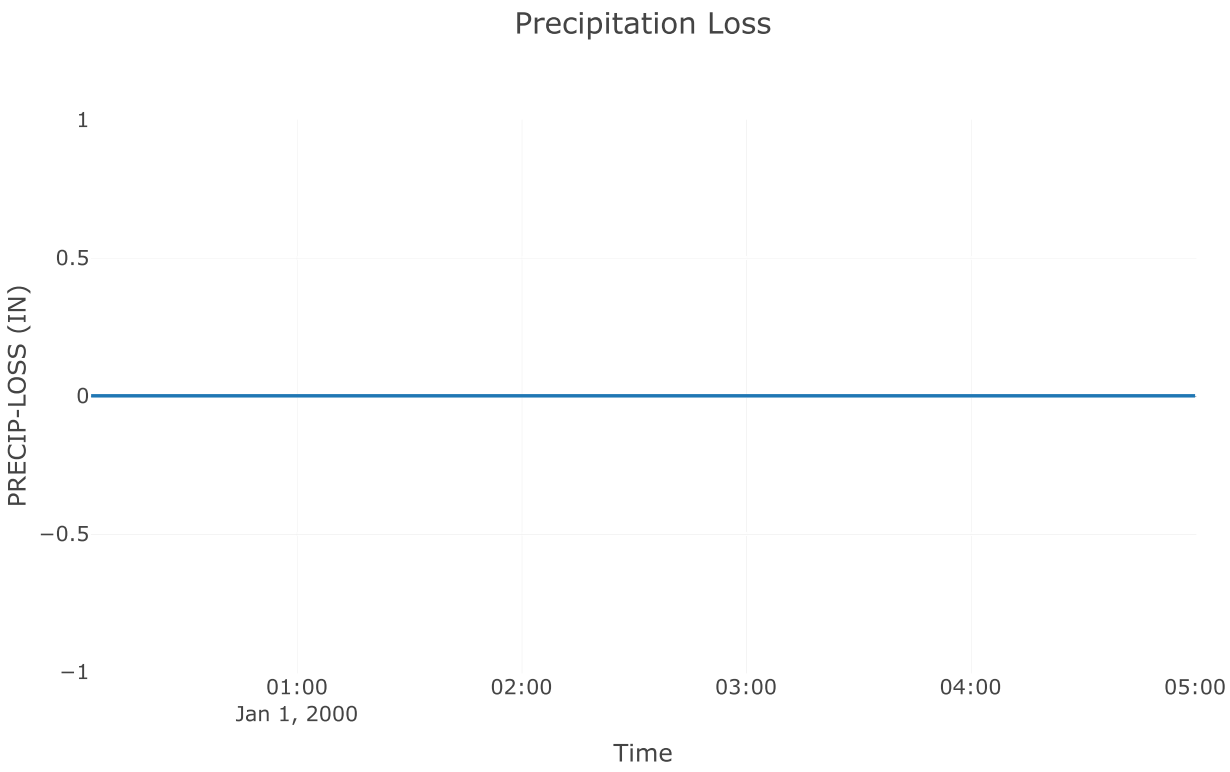


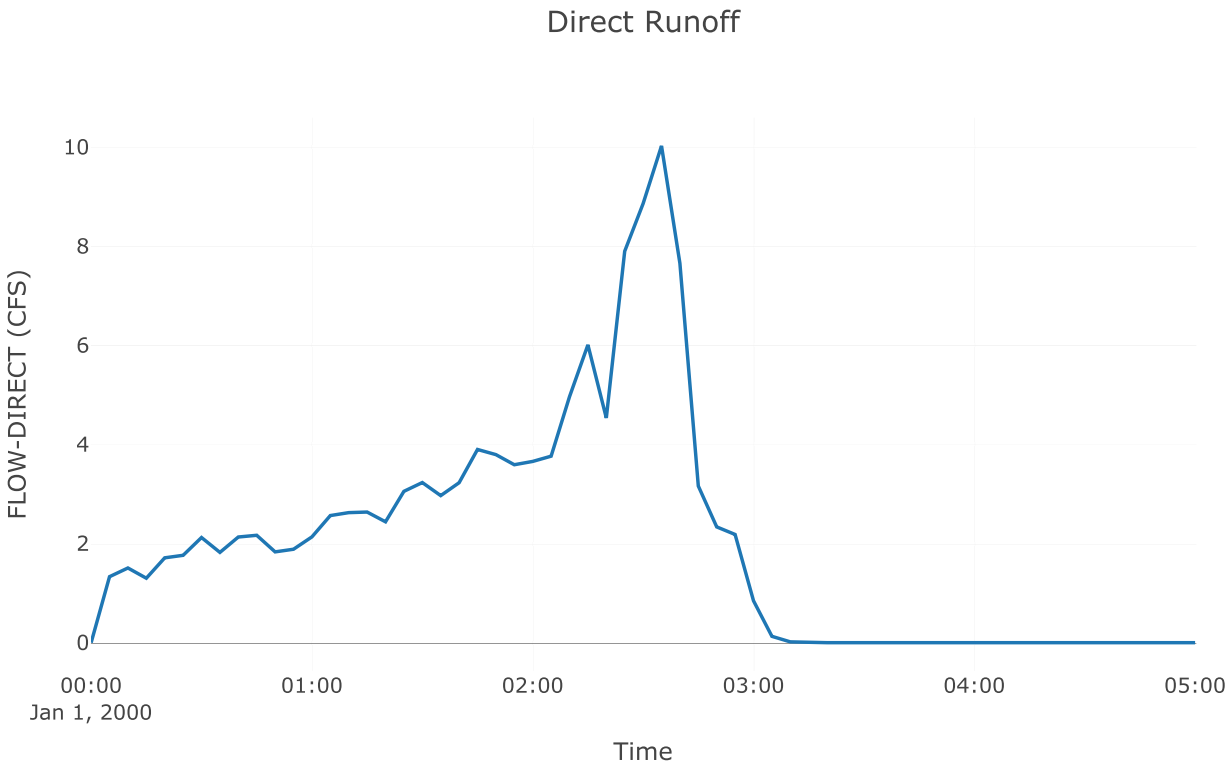
## Cumulative Precipitation Loss

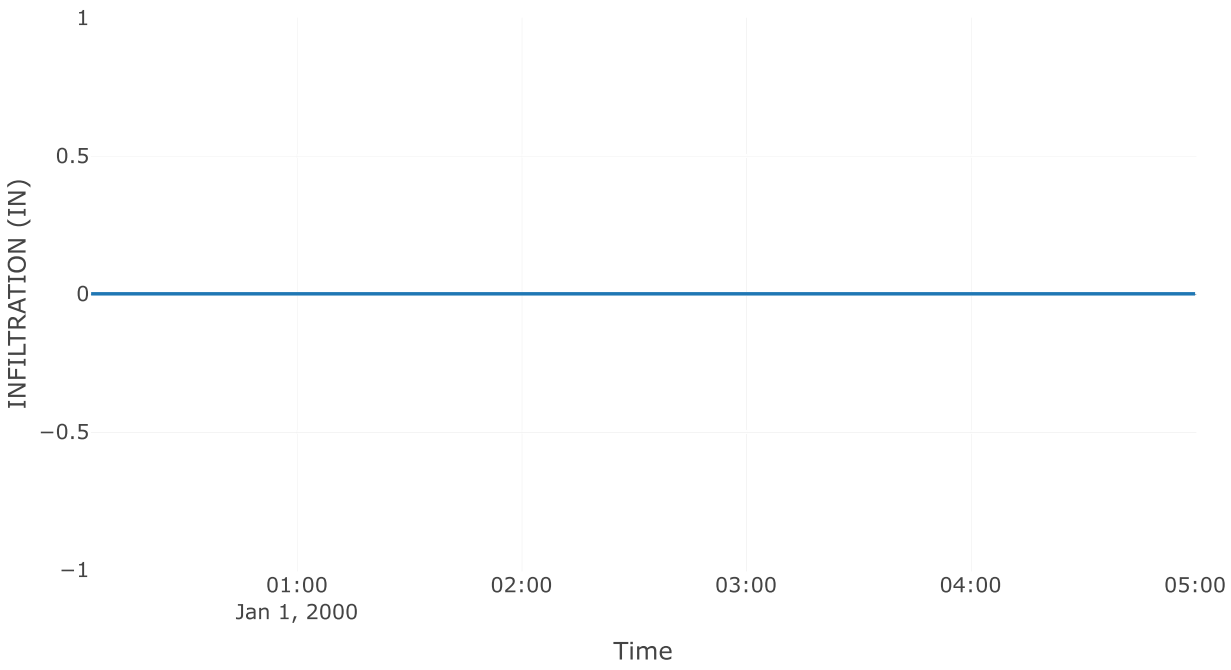



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
10
8
6
4
2
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

**Project:** Pre
**Simulation Run:** 6h 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:26

## Global Parameter Summary - Subbasin

**Area (ft²)**

| Element Name | Area (ft²) |
|---|---|
| Ex. | 0.01 |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| Ex. | S - Graph | Specified | 0.03 |

## Global Results Summary

| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| Ex. | 0.01 | 4.33 | 01Jan2000, 05:00 | 1.94 |

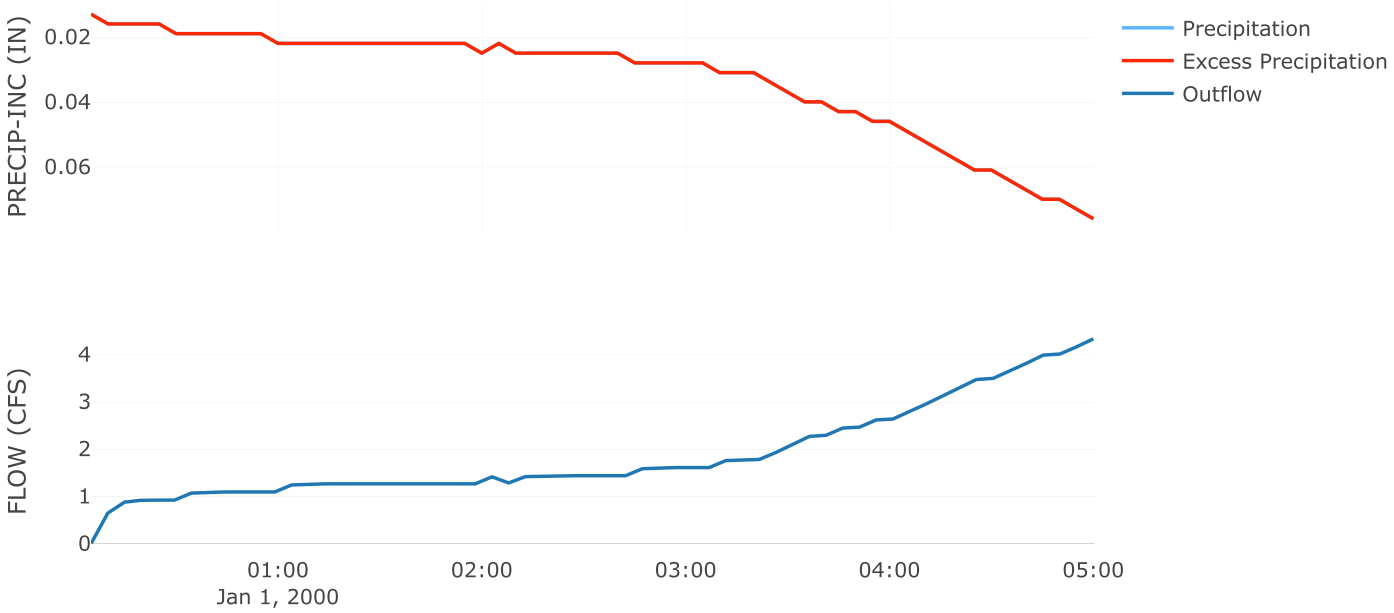
# Subbasin: Ex.

**Area ($ft^2$)** : 0.01

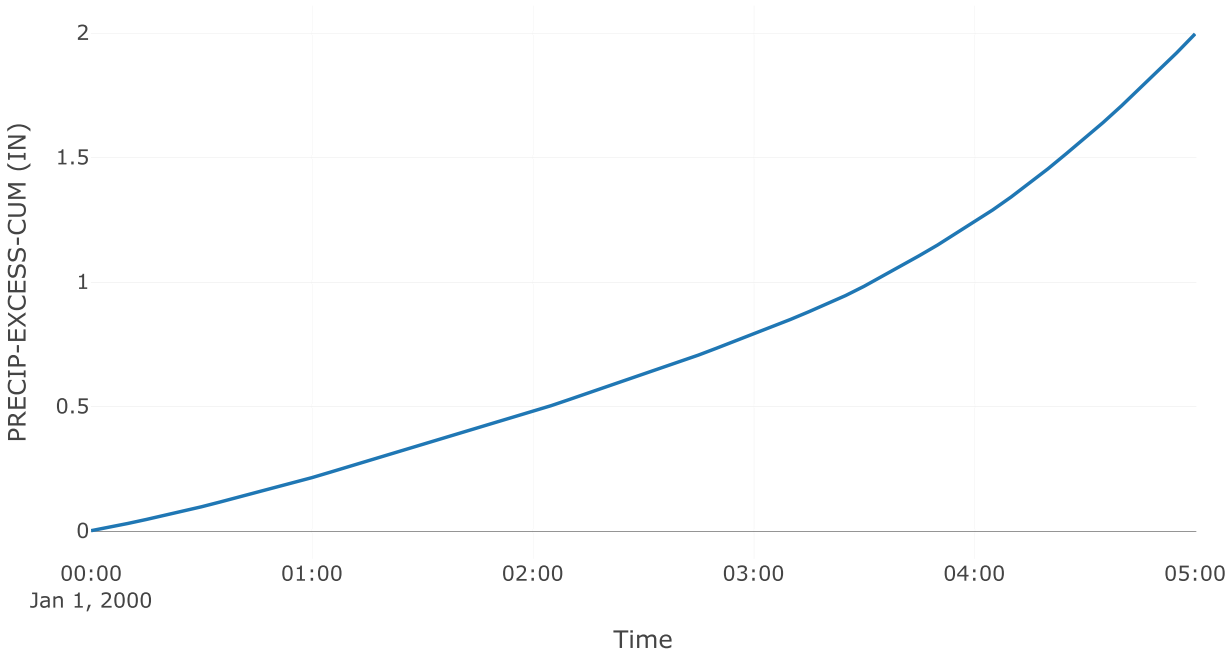
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: Ex. | |
|---|---|
| Peak Discharge (CFS) | 4.33 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.94 |
| Precipitation Volume (AC - FT) | 0.79 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.79 |
| Direct Runoff Volume (AC - FT) | 0.77 |
| Baseflow Volume (AC - FT) | 0 |

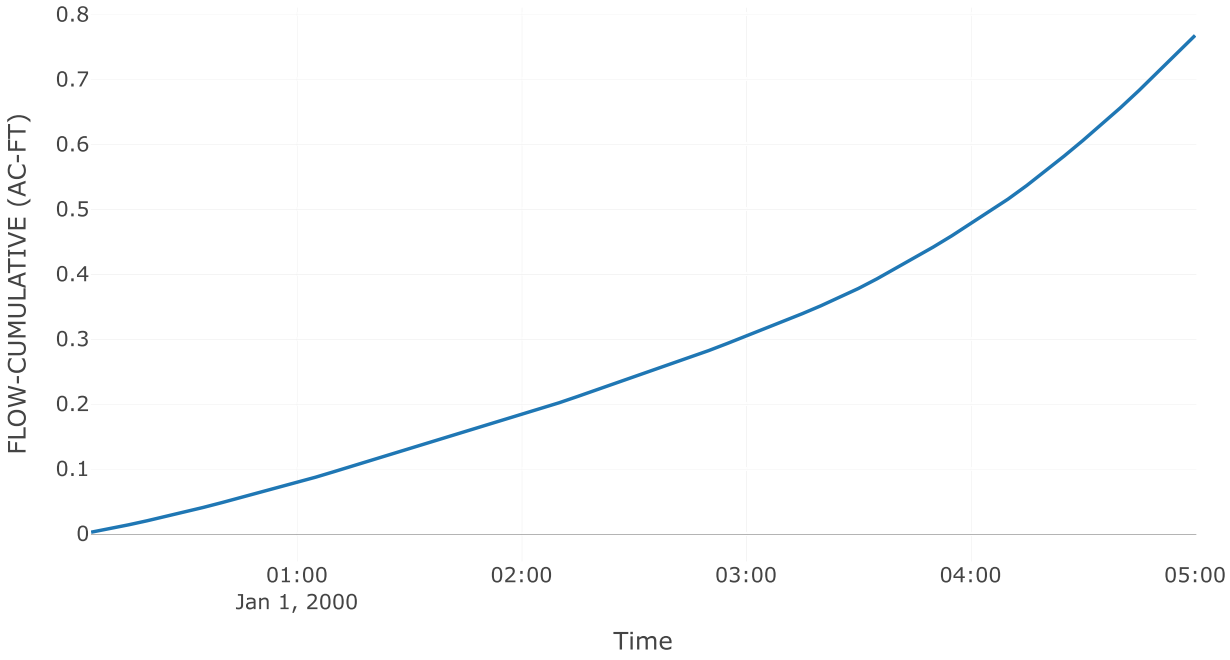
## Precipitation and Outflow



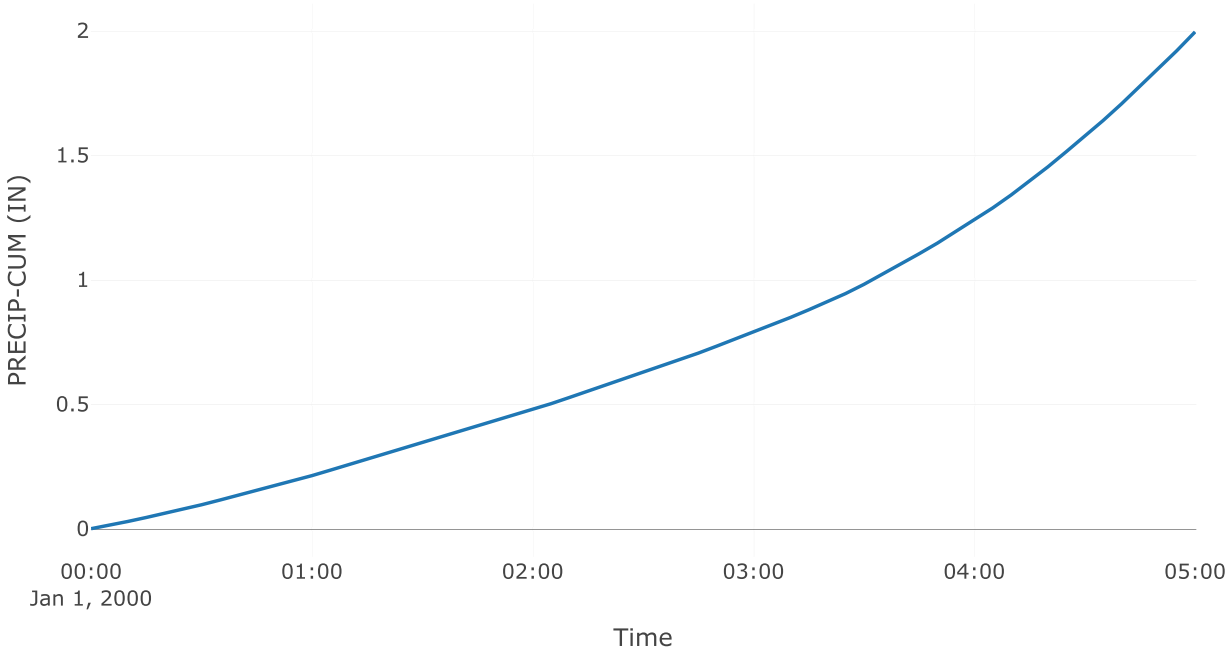

## Cumulative Excess Precipitation



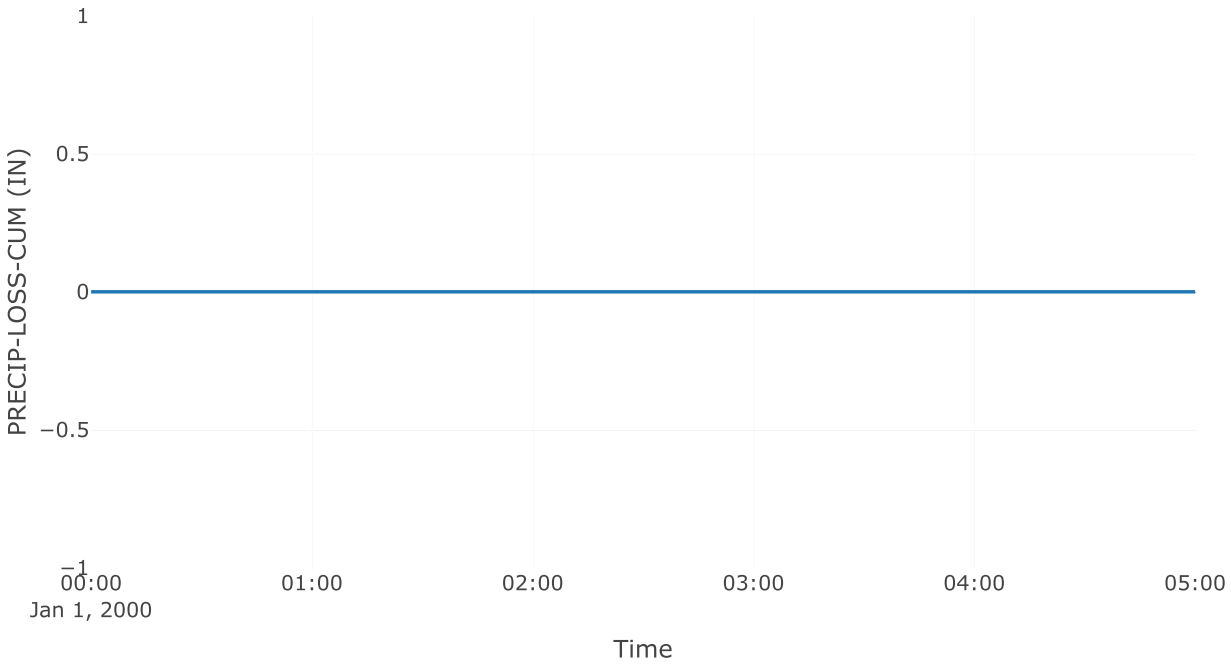
## Cumulative Outflow



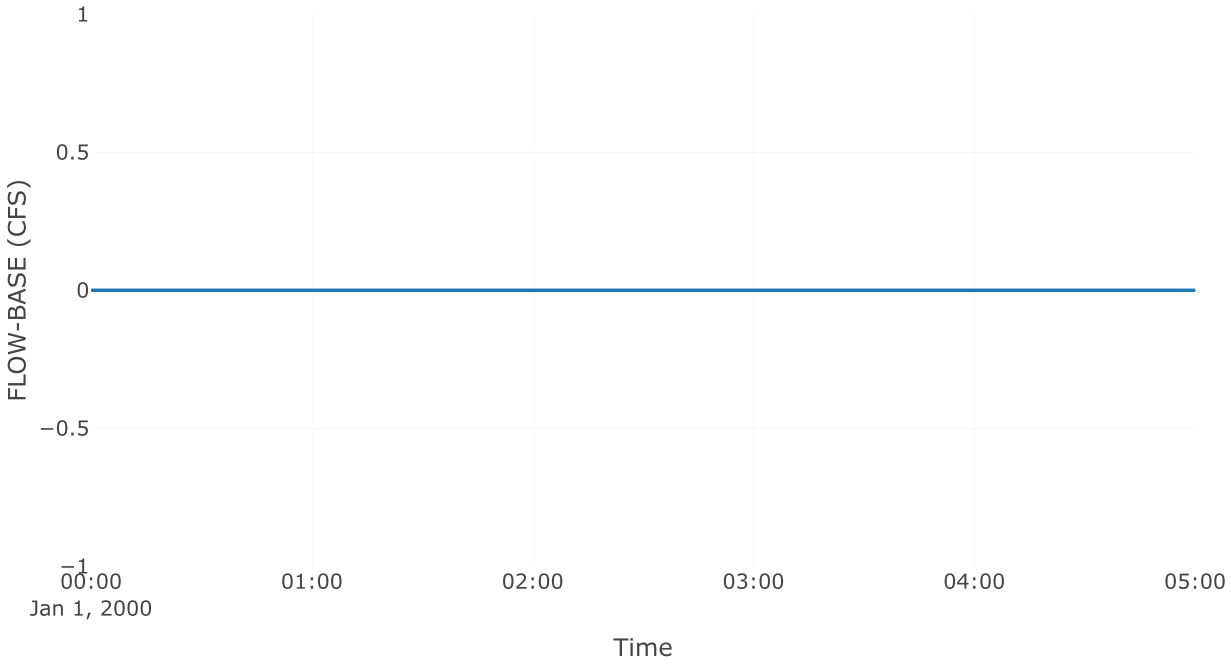

## Cumulative Precipitation

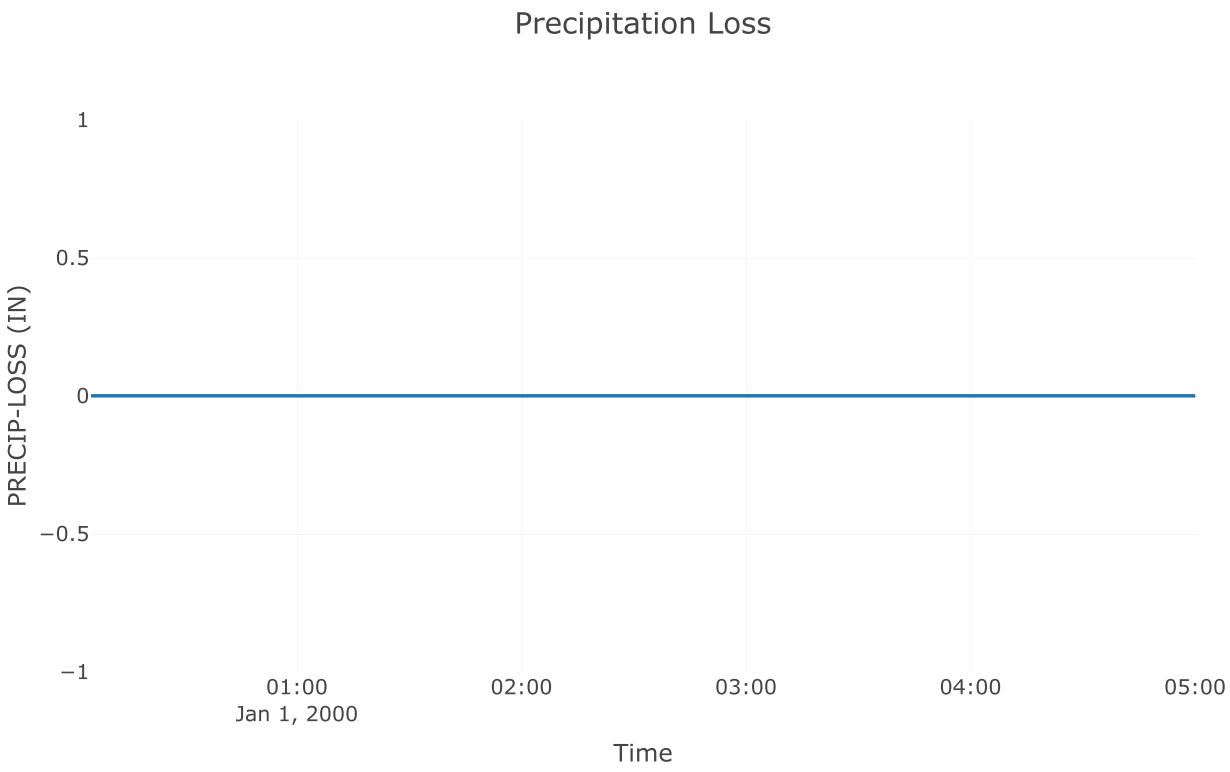


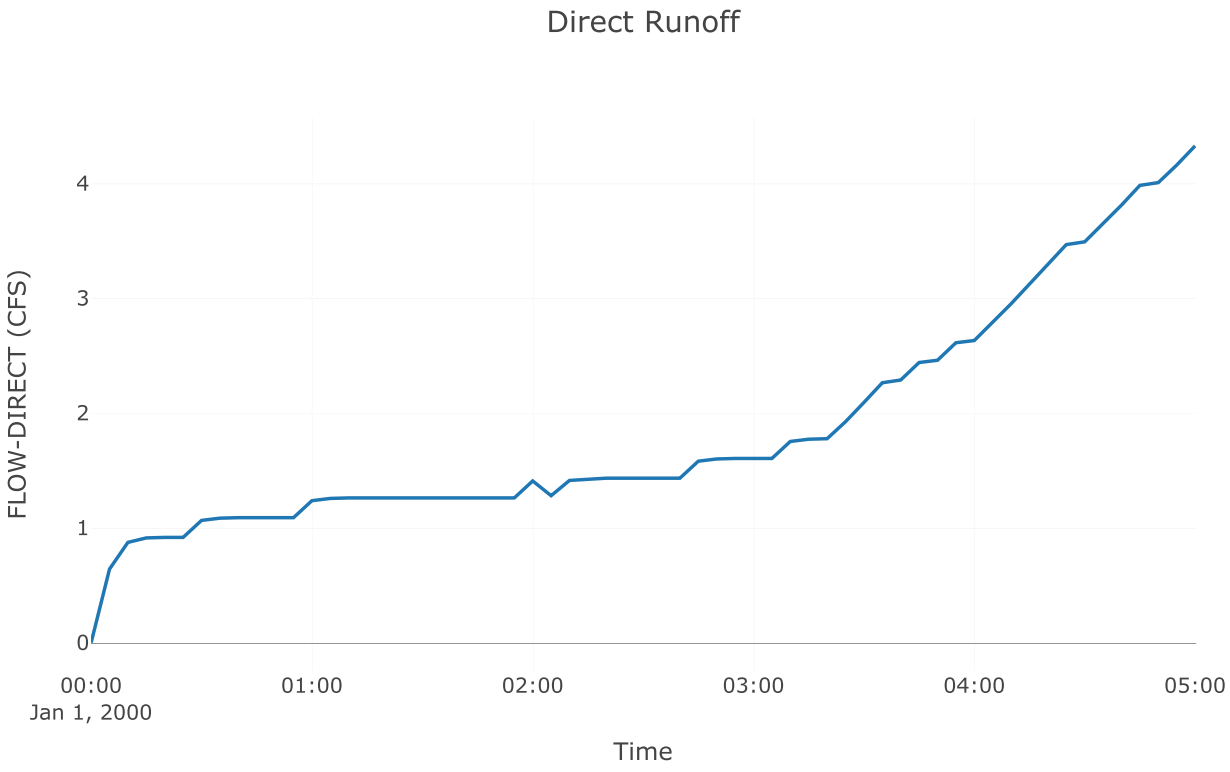
## Cumulative Precipitation Loss

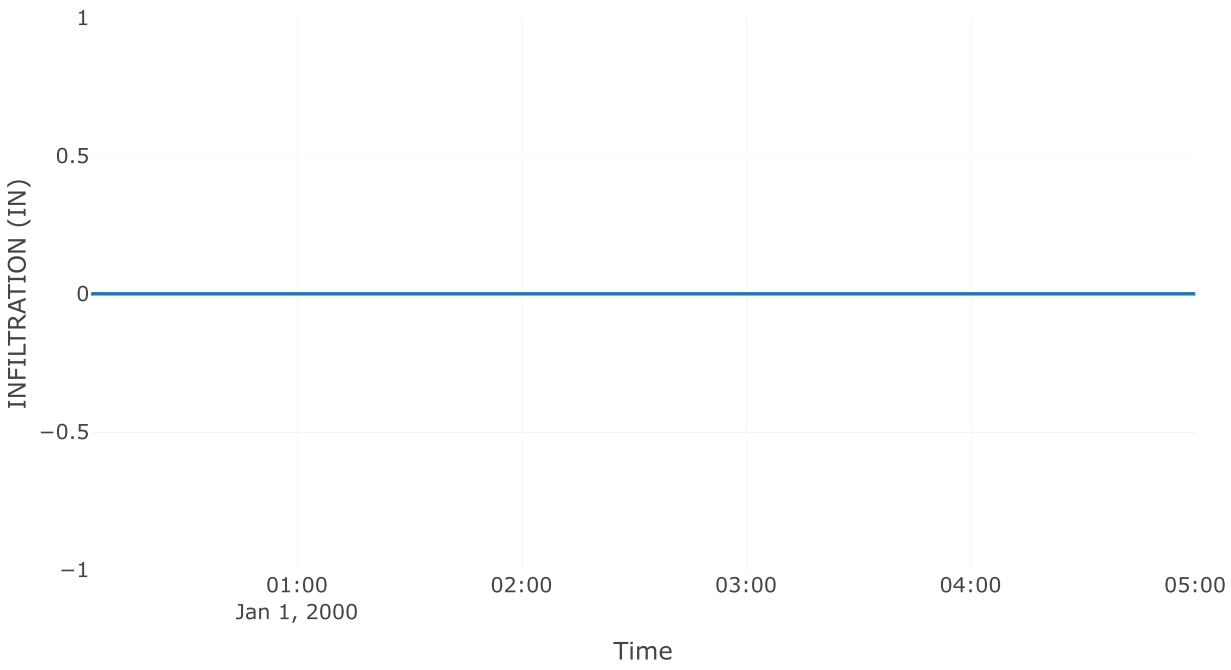



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
4
3
2
1
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

**Project:** Pre
**Simulation Run:** 24 hr 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:25

## Global Parameter Summary - Subbasin

**Area ($ft^2$)**

| Element Name | Area ($ft^2$) |
|---|---|
| Ex. | 0.01 |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| Ex. | S - Graph | Specified | 0.03 |

## Global Results Summary

| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| Ex. | 0.01 | 0.86 | 01Jan2000, 05:00 | 0.52 |

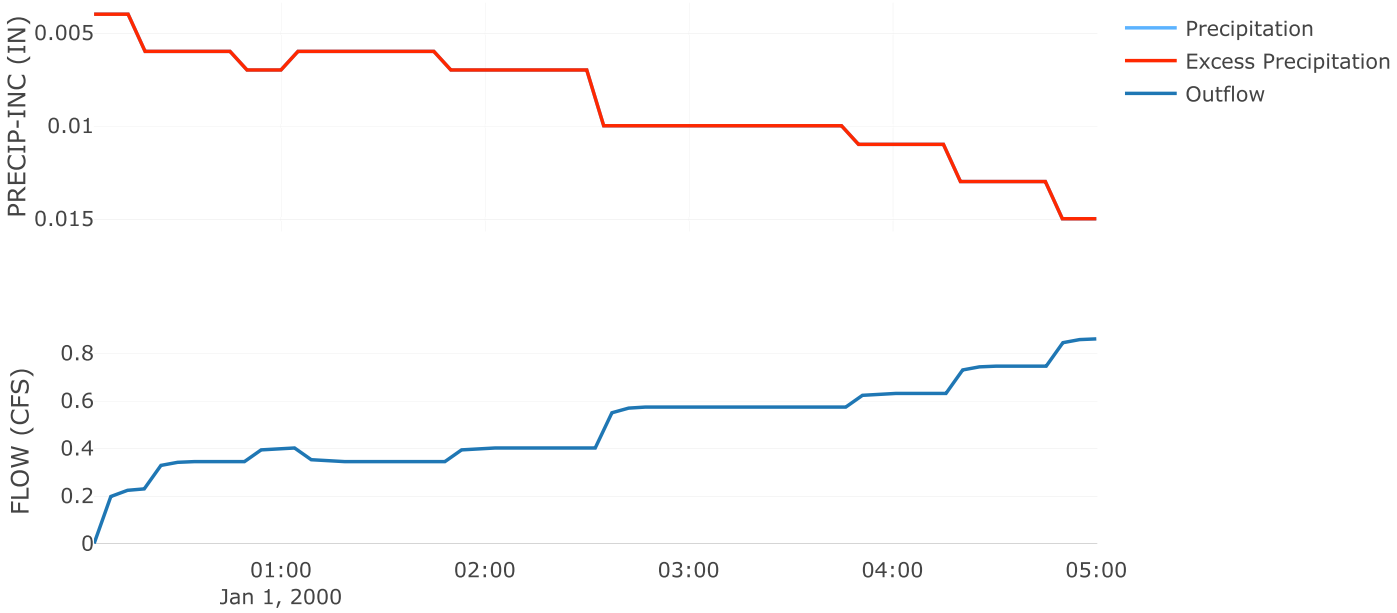
# Subbasin: Ex.

**Area ($ft^2$)** : 0.01

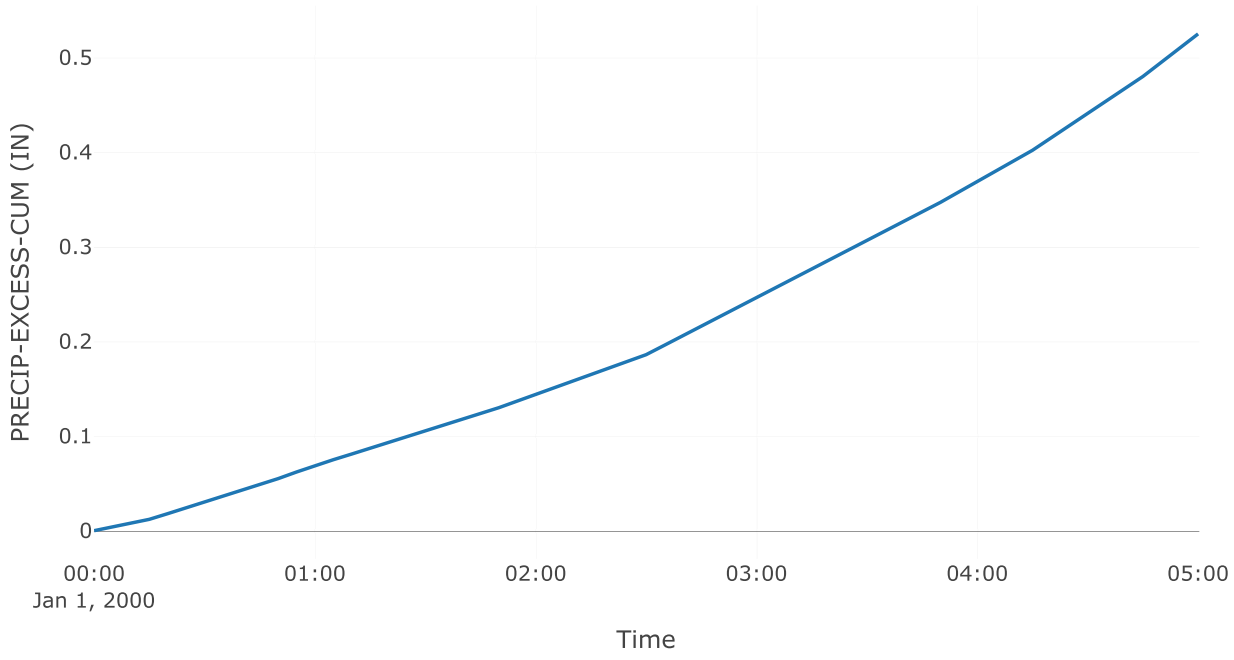
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: Ex. | |
|---|---|
| Peak Discharge (CFS) | 0.86 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.52 |
| Precipitation Volume (AC - FT) | 0.21 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.21 |
| Direct Runoff Volume (AC - FT) | 0.2 |
| Baseflow Volume (AC - FT) | 0 |

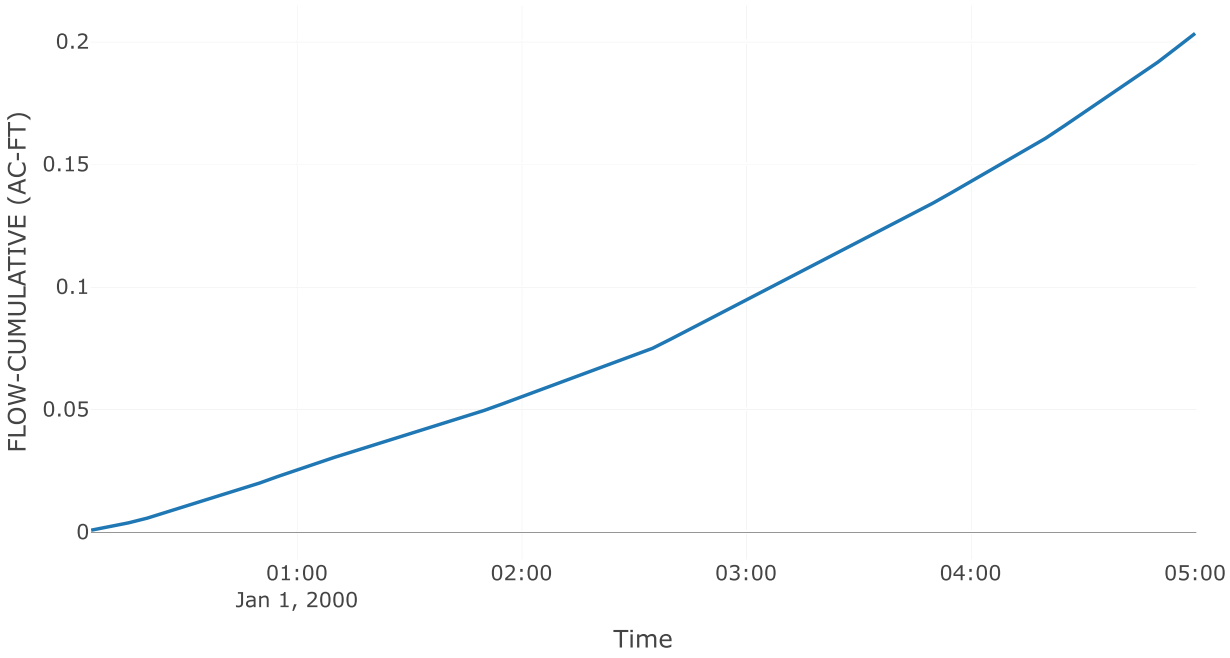
## Precipitation and Outflow



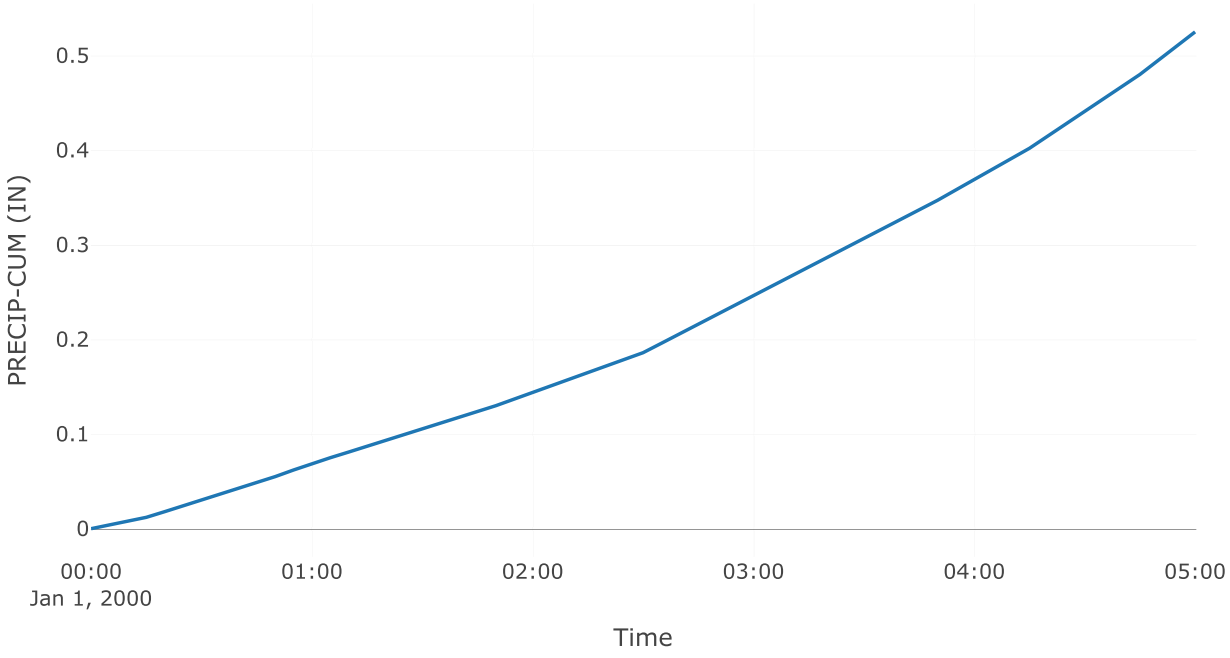

## Cumulative Excess Precipitation



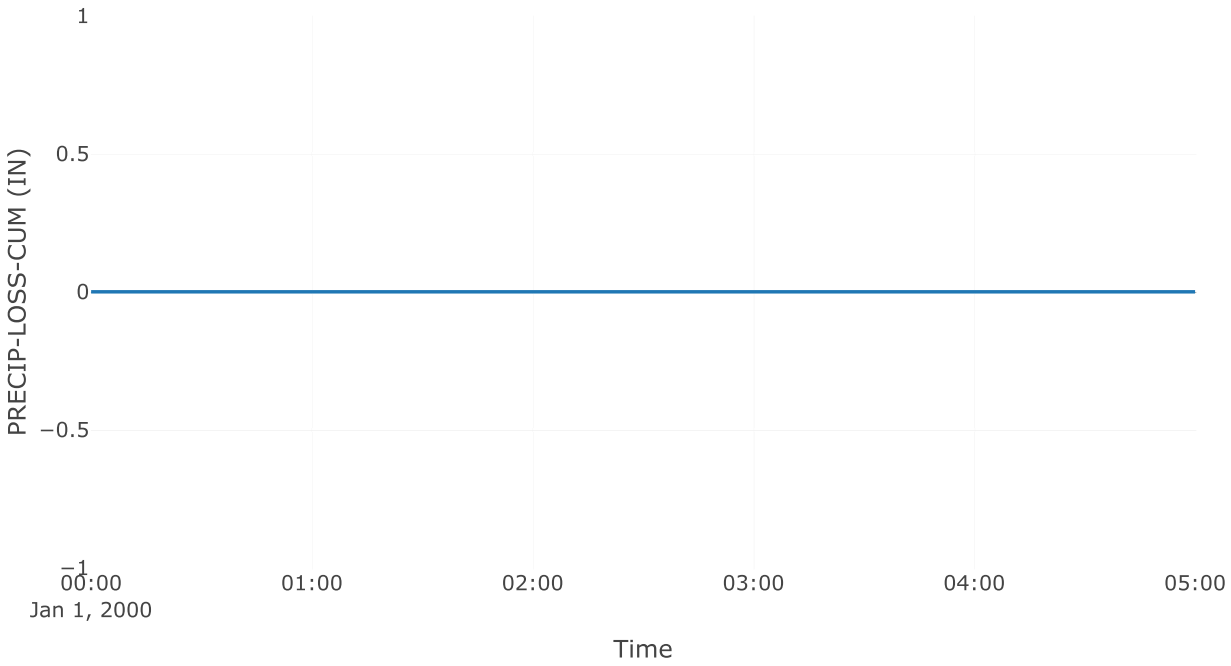
## Cumulative Outflow



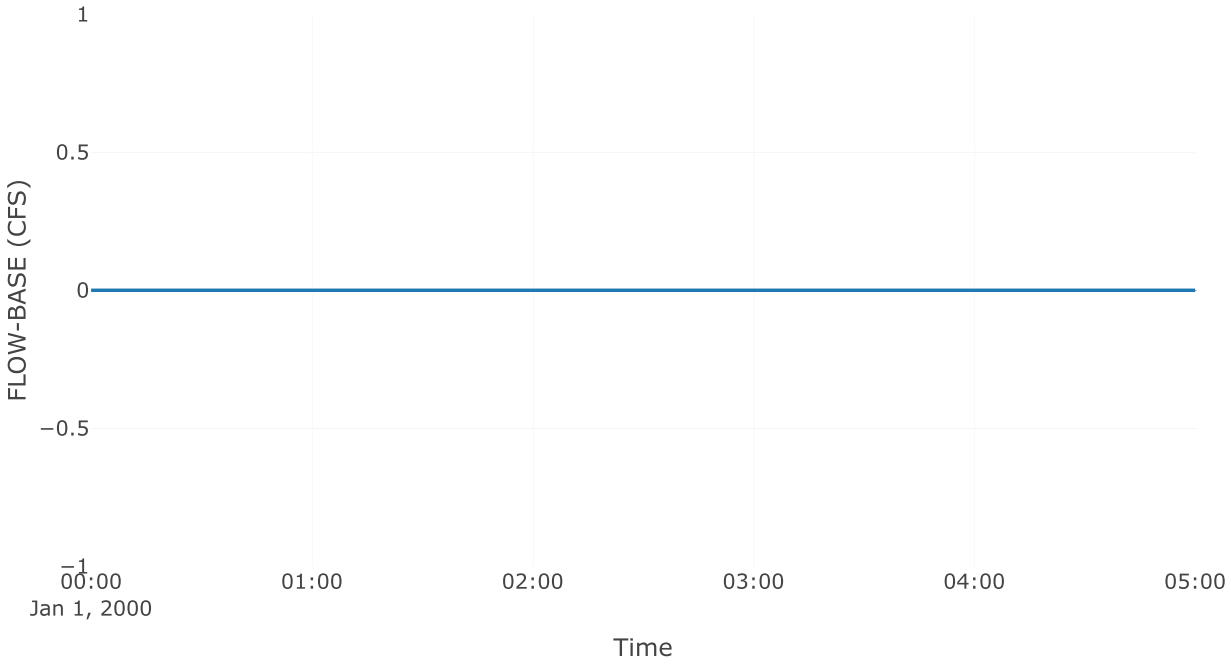

## Cumulative Precipitation

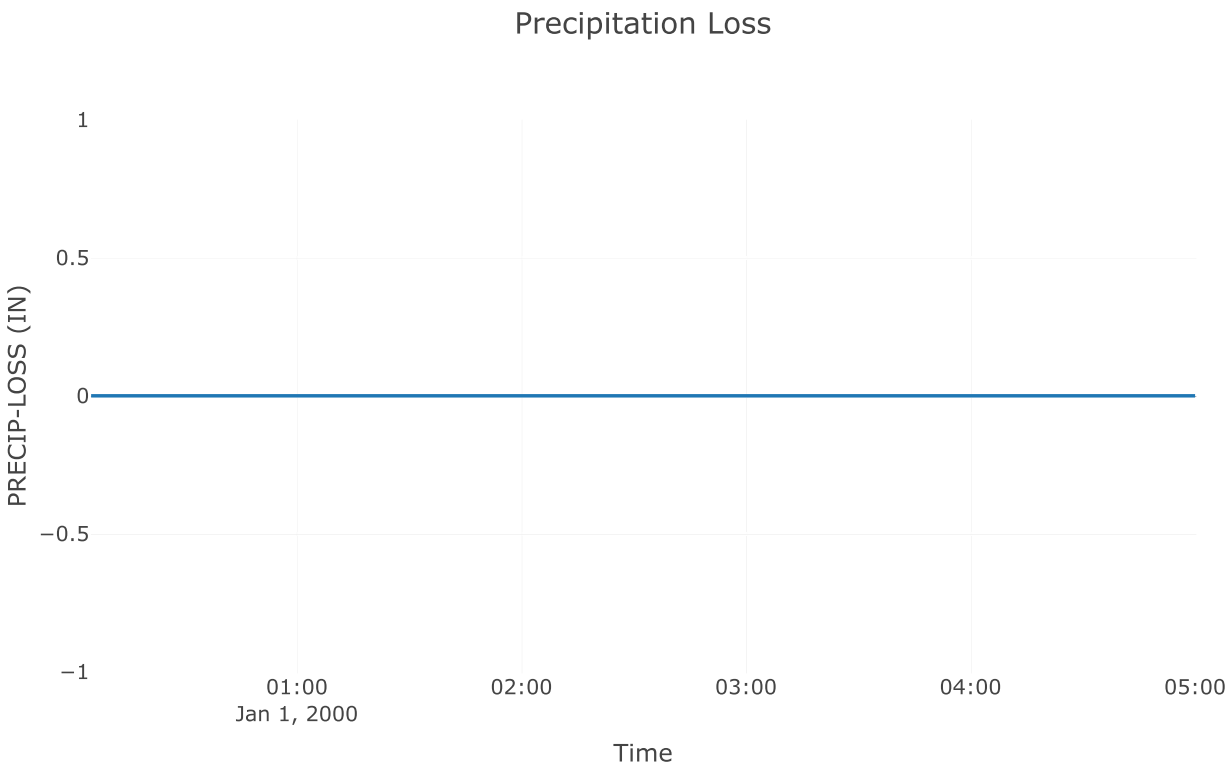


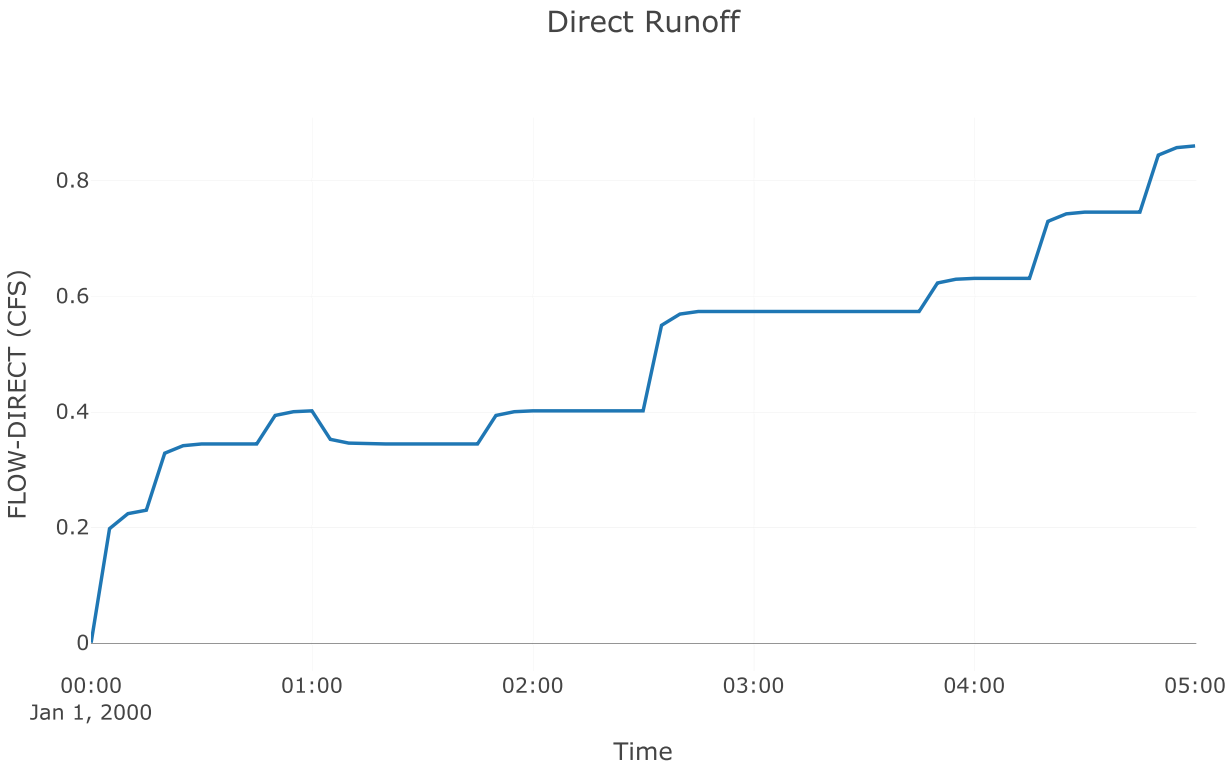
## Cumulative Precipitation Loss

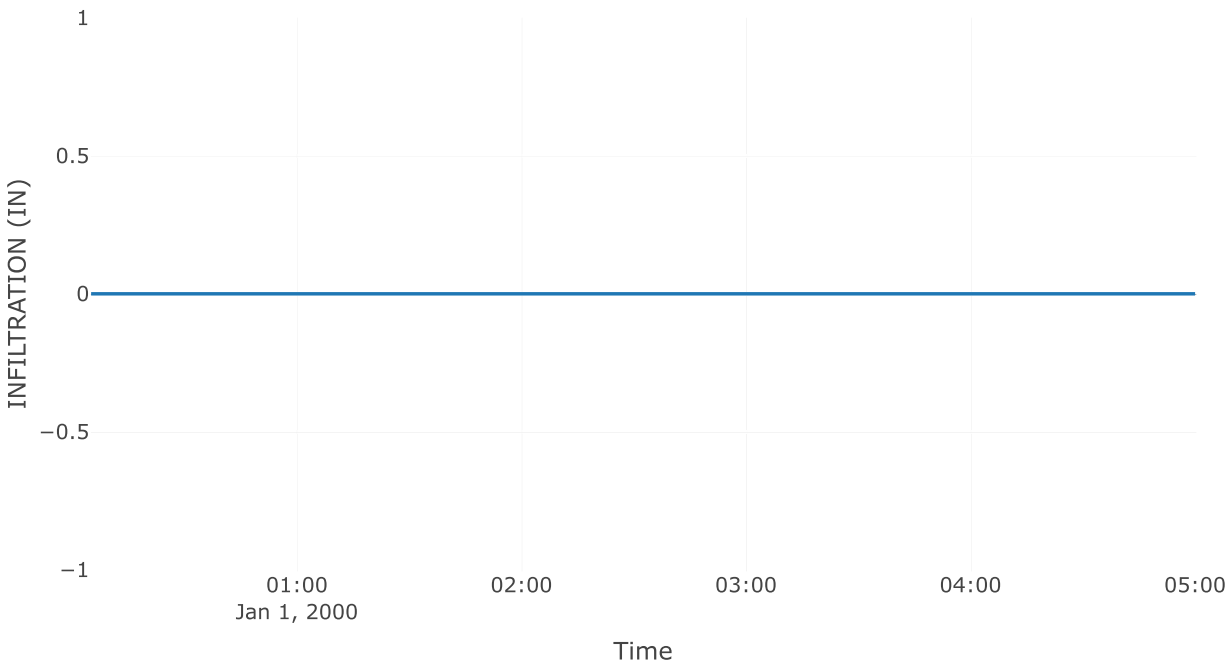



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
0.8
0.6
0.4
0.2
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

# POST DEVELOPMENT

**Project:** 0724 Hec
**Simulation Run:** 3hr 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:20

## Global Parameter Summary - Subbasin

**Area (ft²)**

| Element Name | Area (ft²) |
|---|---|
| CB - 1 | 0 |
| CB - 2 | 0 |
| CB - 3 | 0 |

**Downstream**

| Element Name | Downstream |
|---|---|
| CB - 1 | UG - DT |
| CB - 2 | UG - DT |
| CB - 3 | UG - DT |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| CB - 1 | S - Graph | Specified | 0.03 |
| CB - 2 | S - Graph | Specified | 0.03 |
| CB - 3 | S - Graph | Specified | 0.03 |

## Global Results Summary

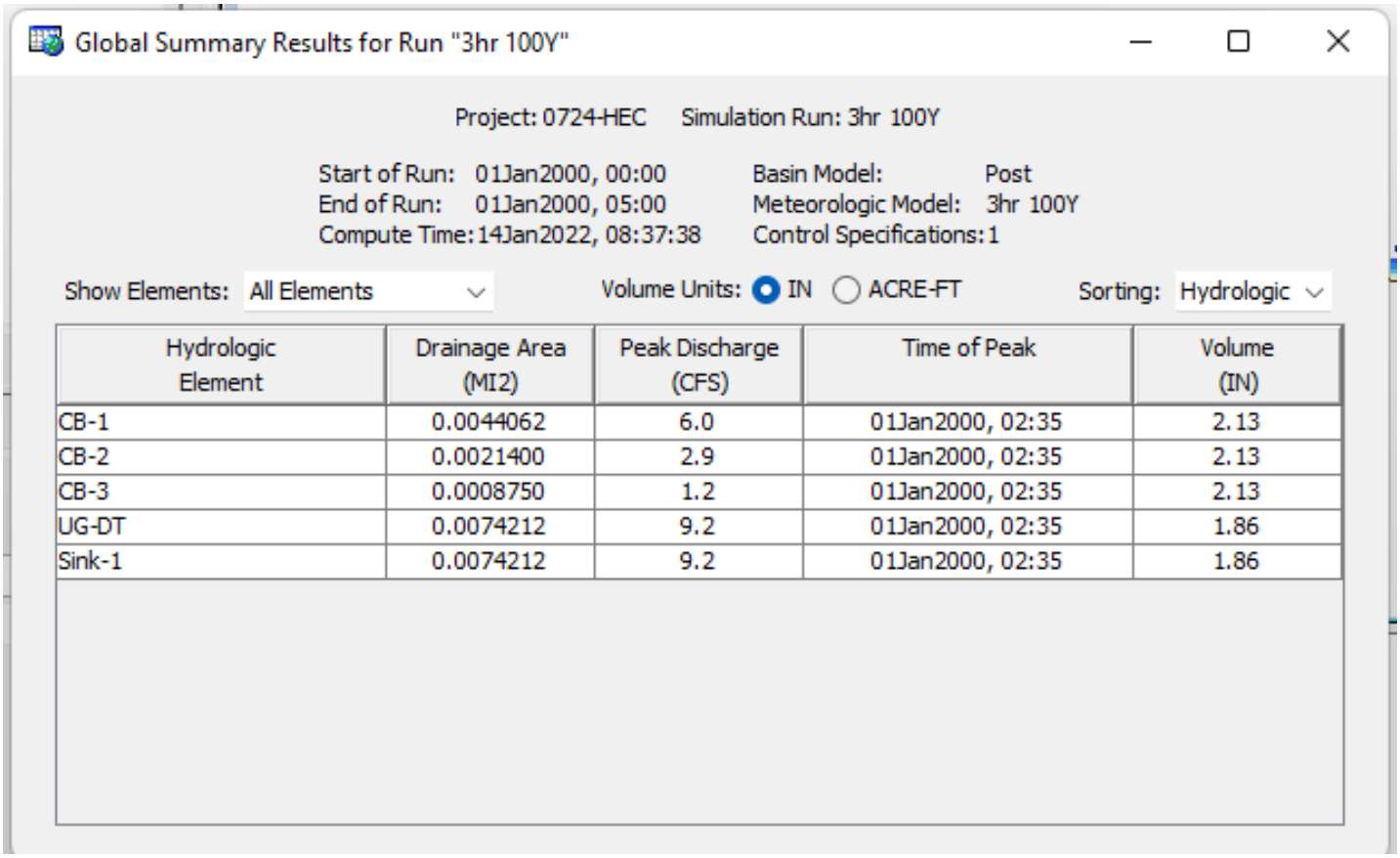
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB - 1 | 0 | 5.97 | 01Jan2000, 02:35 | 2.12 |
| CB - 2 | 0 | 2.9 | 01Jan2000, 02:35 | 2.12 |
| CB - 3 | 0 | 1.19 | 01Jan2000, 02:35 | 2.12 |
| UG - DT | 0.01 | 9.2 | 01Jan2000, 02:35 | 1.86 |
| Sink - 1 | 0.01 | 9.2 | 01Jan2000, 02:35 | 1.86 |

# Subbasin: CB-1

**Area (ft²)** : 0
**Downstream** : UG - DT

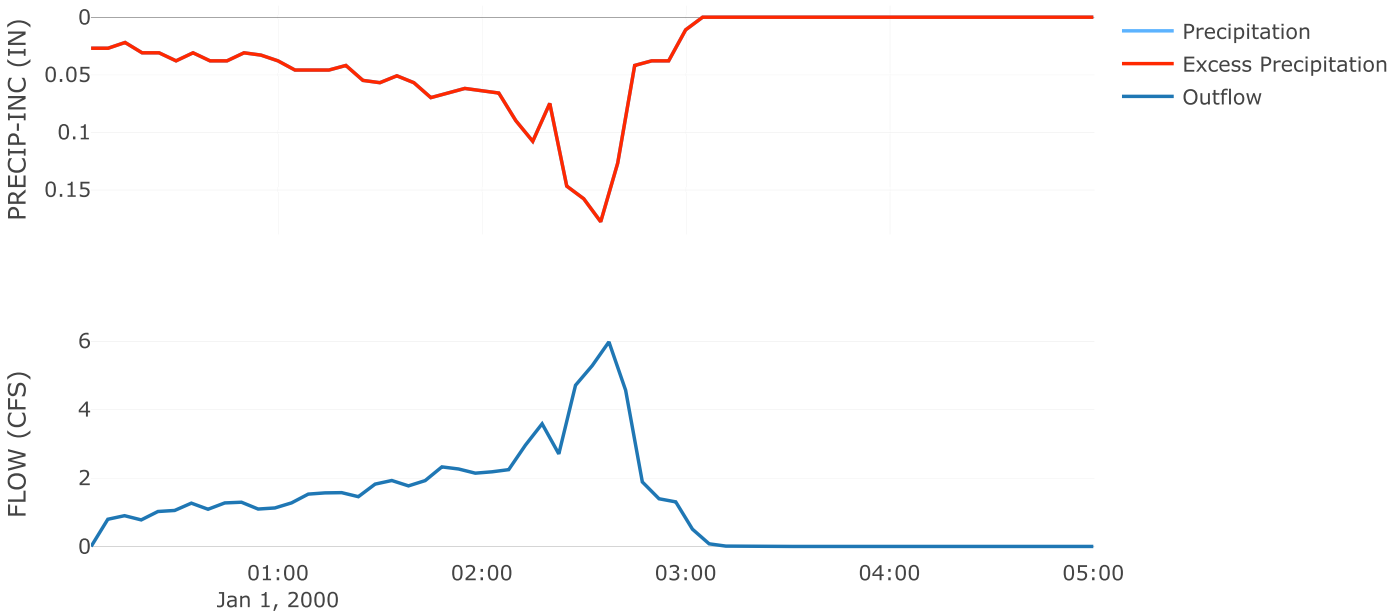
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-1 | |
|---|---|
| Peak Discharge (CFS) | 5.97 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 2.12 |
| Precipitation Volume (AC - FT) | 0.5 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.5 |
| Direct Runoff Volume (AC - FT) | 0.5 |
| Baseflow Volume (AC - FT) | 0 |

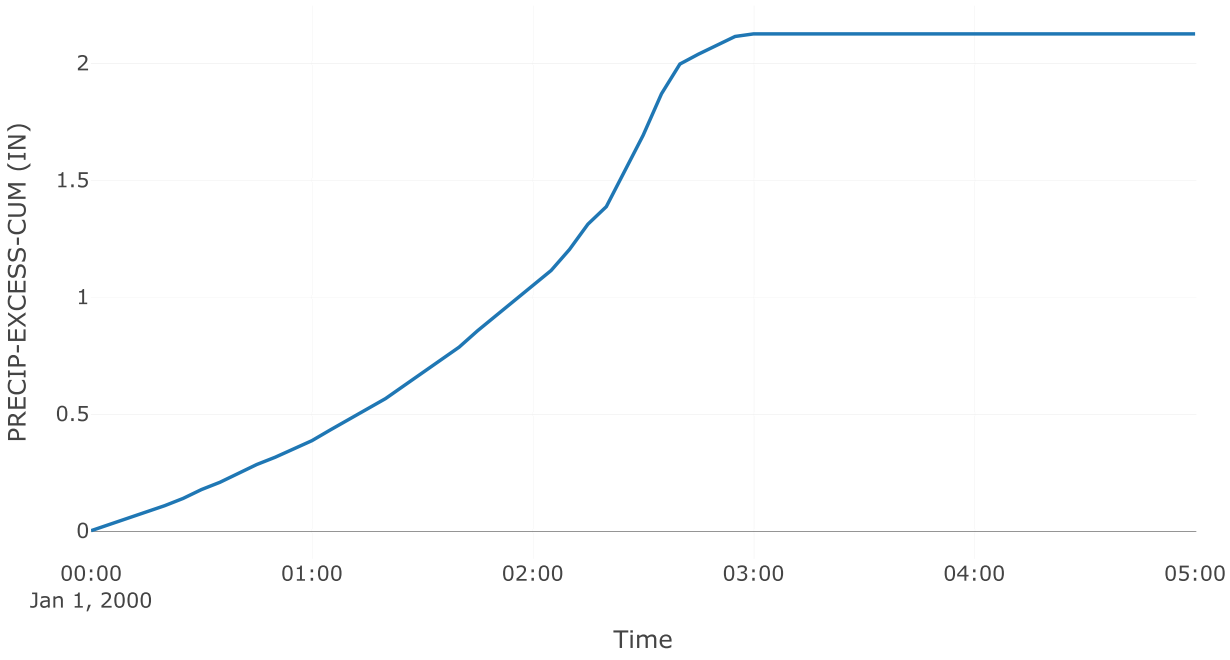



| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB-1 | 0.0044062 | 6.0 | 01Jan2000, 02:35 | 2.13 |
| CB-2 | 0.0021400 | 2.9 | 01Jan2000, 02:35 | 2.13 |
| CB-3 | 0.0008750 | 1.2 | 01Jan2000, 02:35 | 2.13 |
| UG-DT | 0.0074212 | 9.2 | 01Jan2000, 02:35 | 1.86 |
| Sink-1 | 0.0074212 | 9.2 | 01Jan2000, 02:35 | 1.86 |

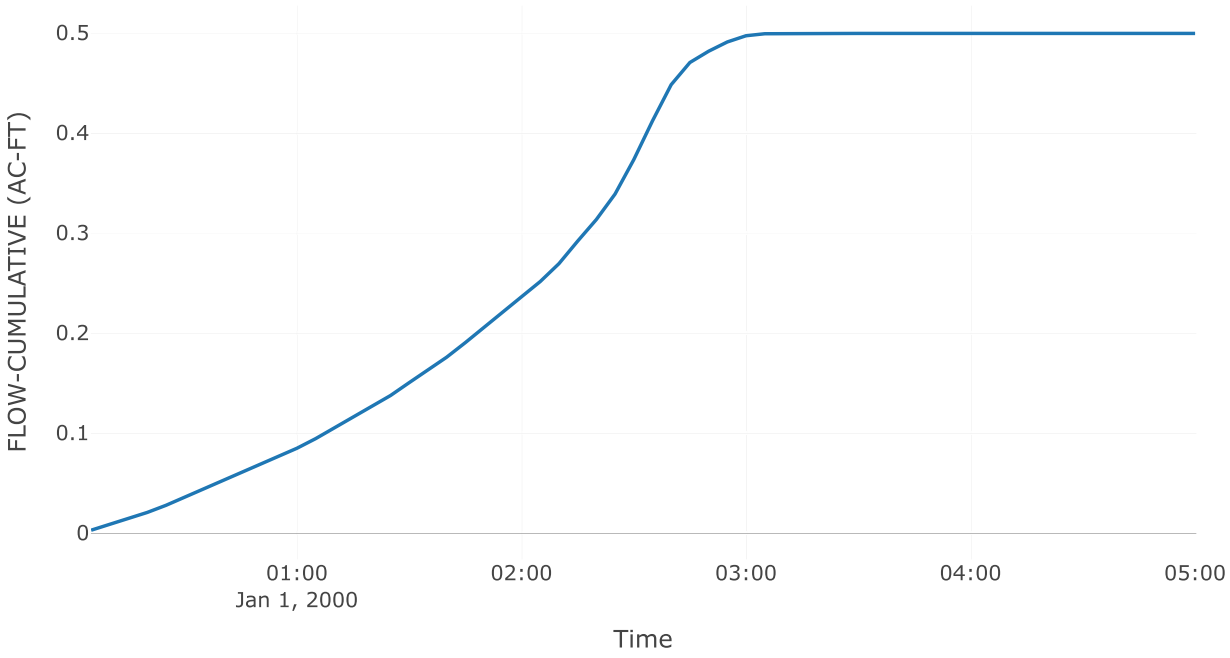
## Precipitation and Outflow



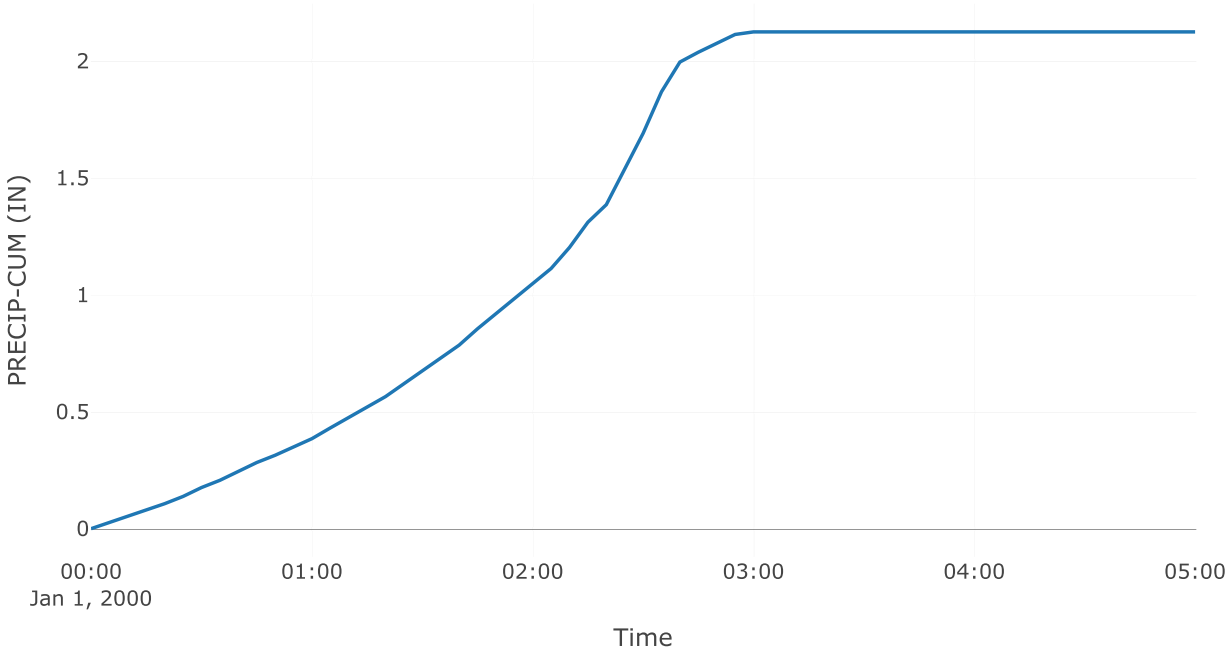

## Cumulative Excess Precipitation



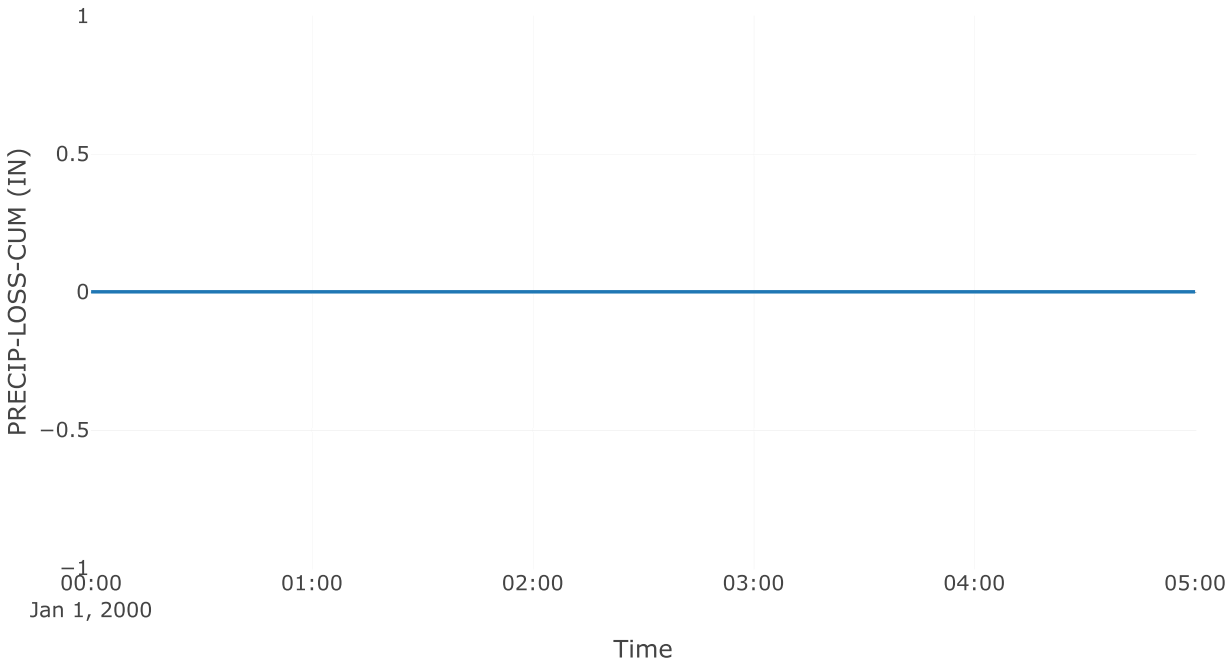
## Cumulative Outflow



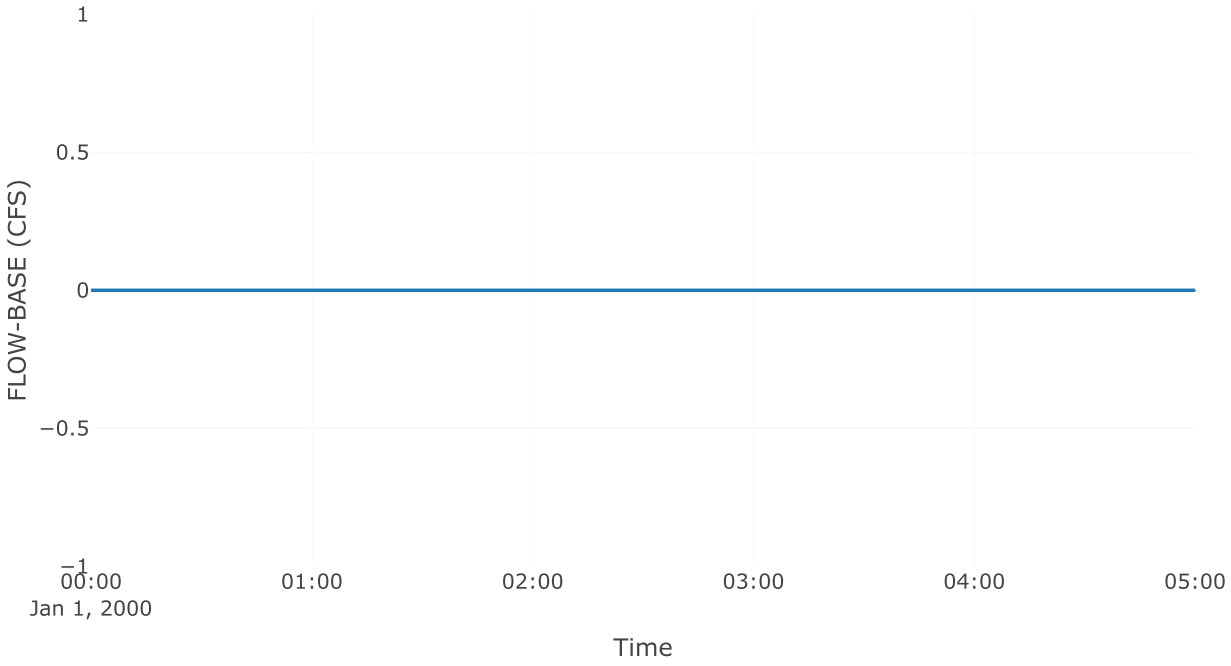

## Cumulative Precipitation



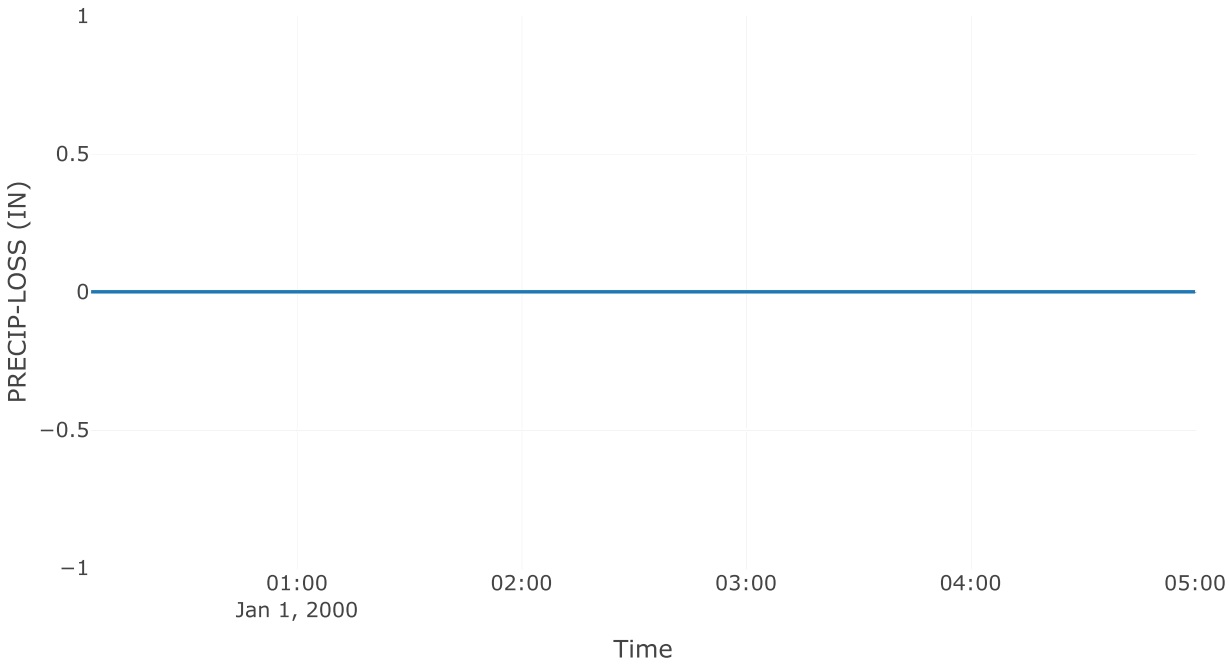
## Cumulative Precipitation Loss



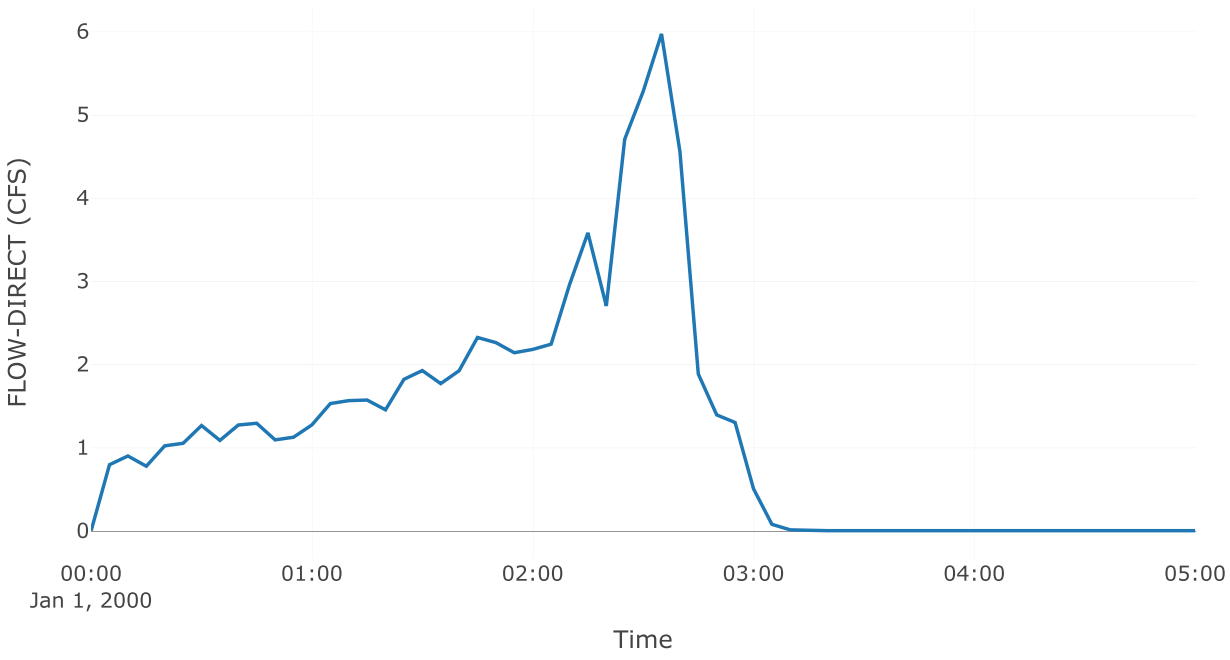

## Baseflow

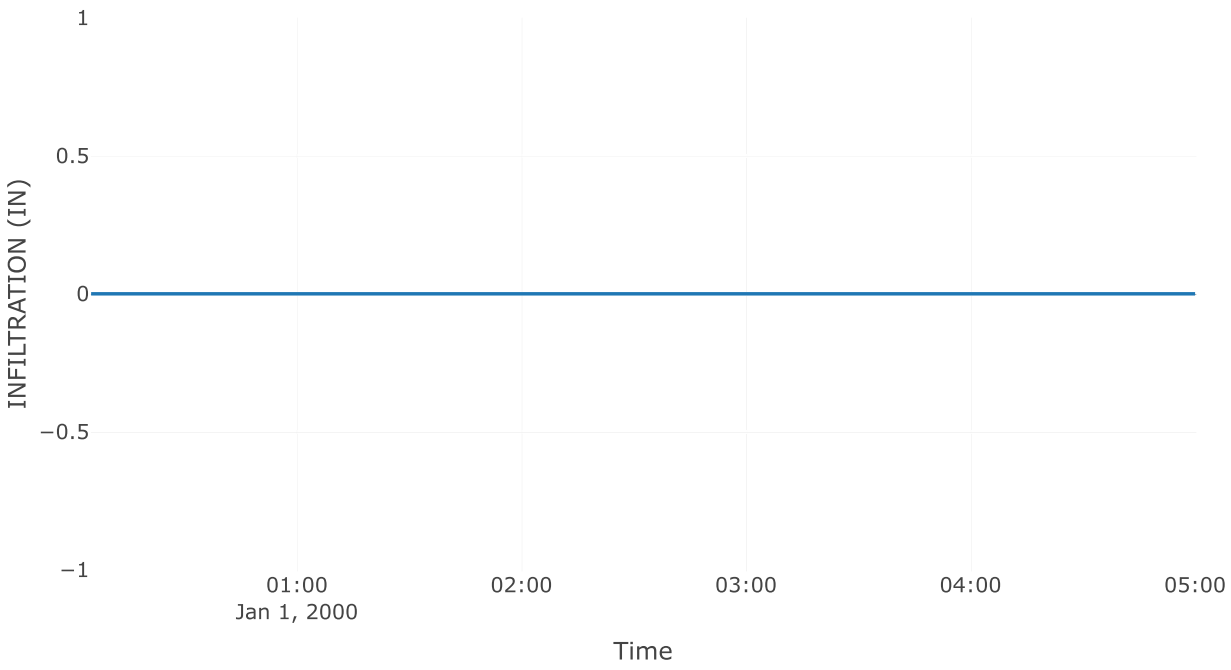


## Precipitation Loss




## Direct Runoff




Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

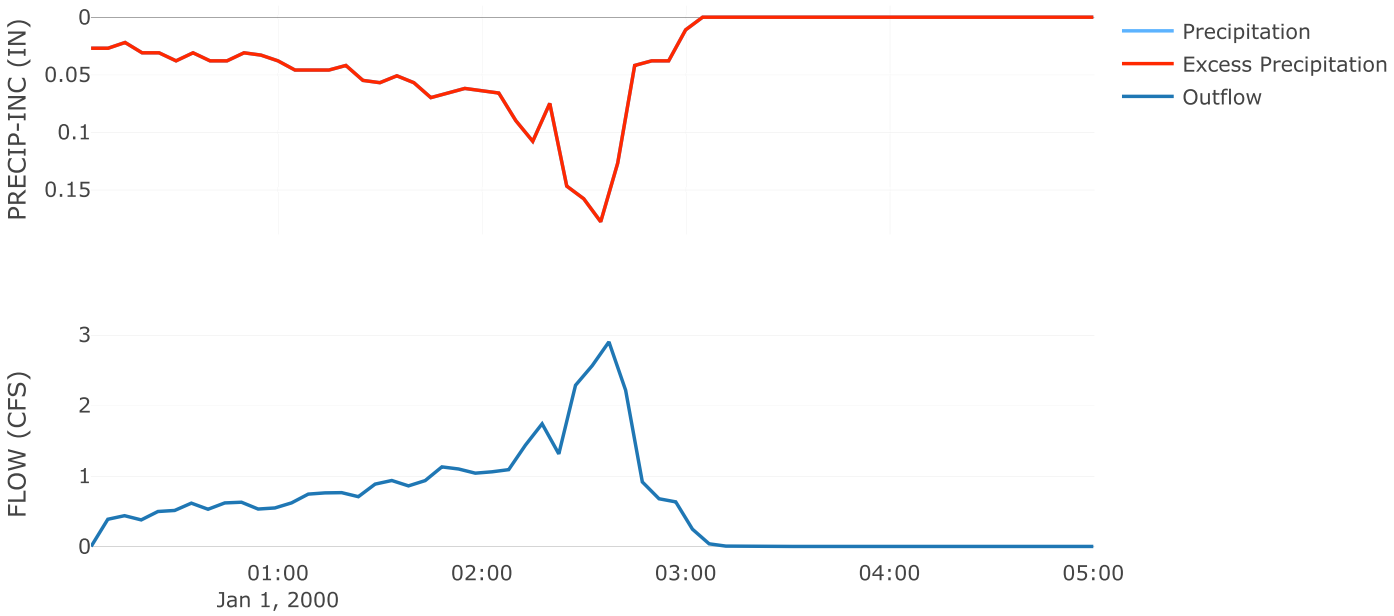
# Subbasin: CB-2

**Area ($ft^2$)** : 0
**Downstream** : UG - DT

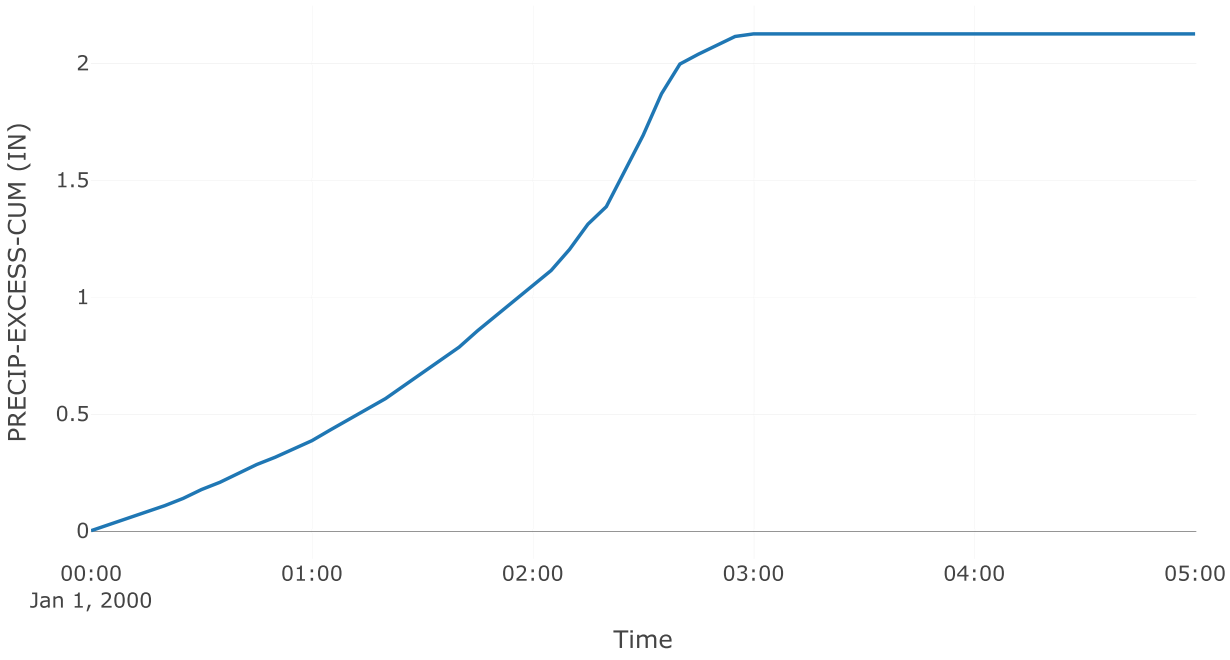
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-2 | |
|---|---|
| Peak Discharge (CFS) | 2.9 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 2.12 |
| Precipitation Volume (AC - FT) | 0.24 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.24 |
| Direct Runoff Volume (AC - FT) | 0.24 |
| Baseflow Volume (AC - FT) | 0 |

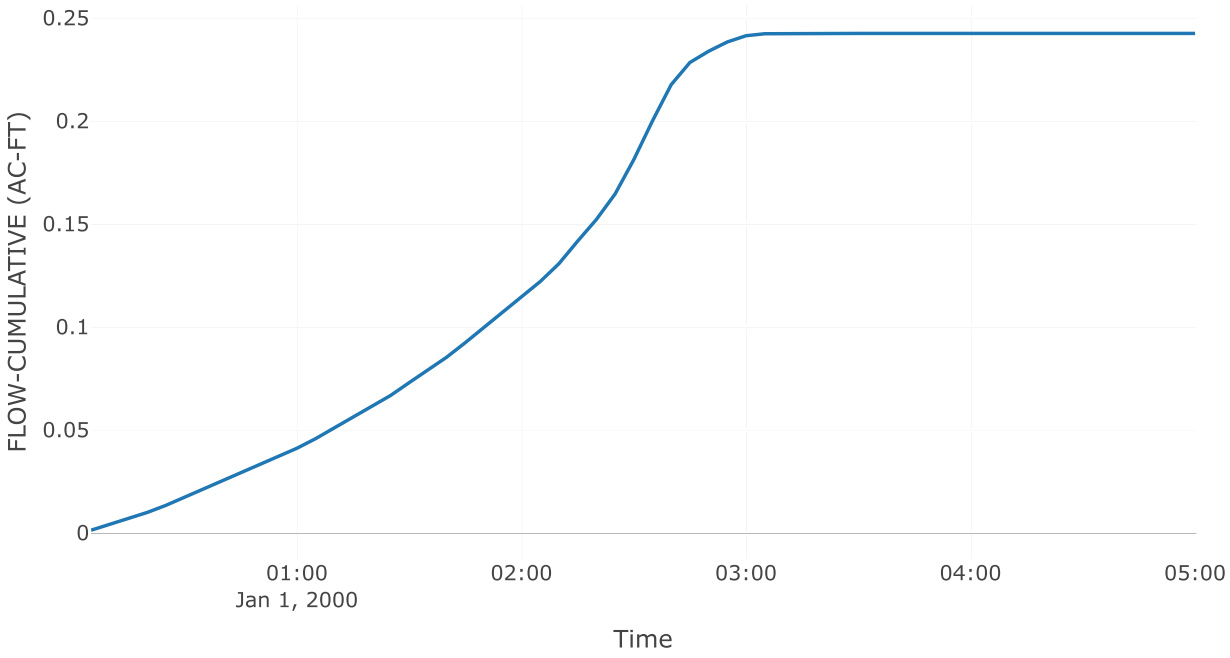
## Precipitation and Outflow



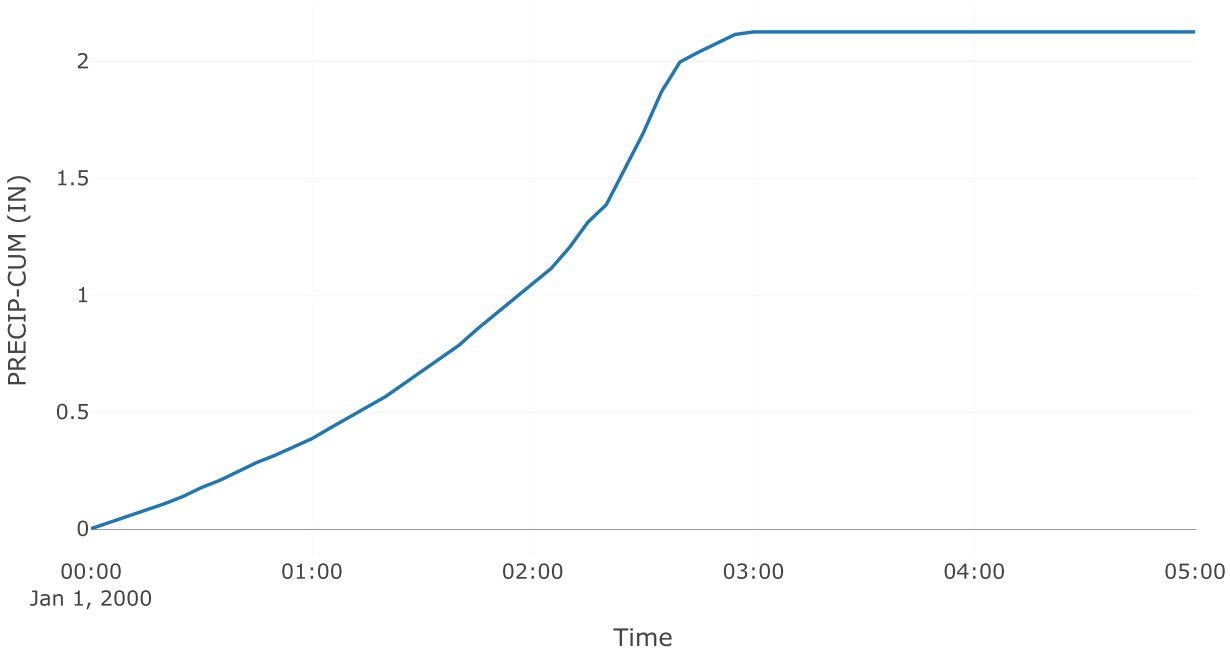

## Cumulative Excess Precipitation



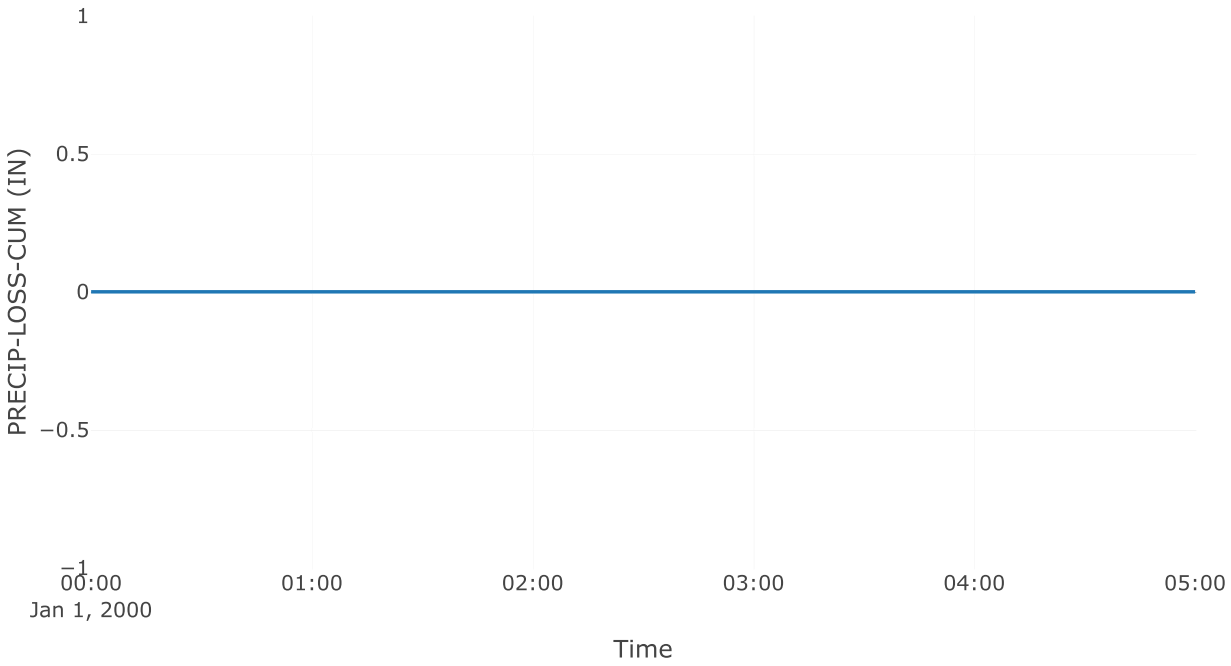
## Cumulative Outflow



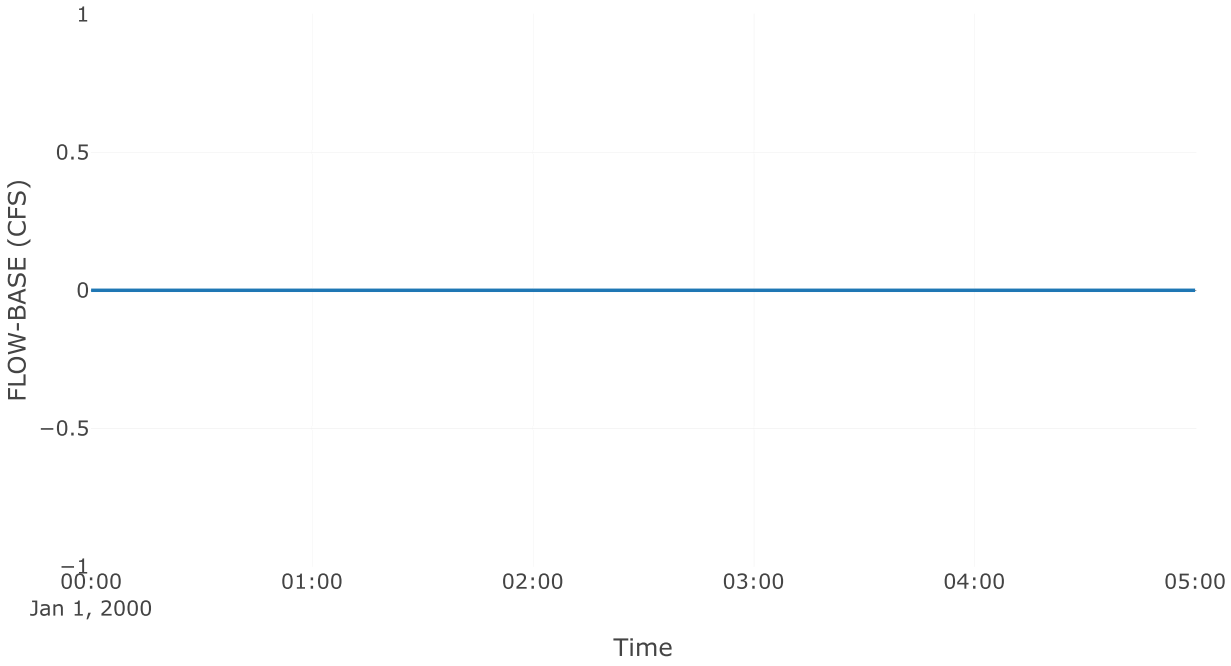

## Cumulative Precipitation

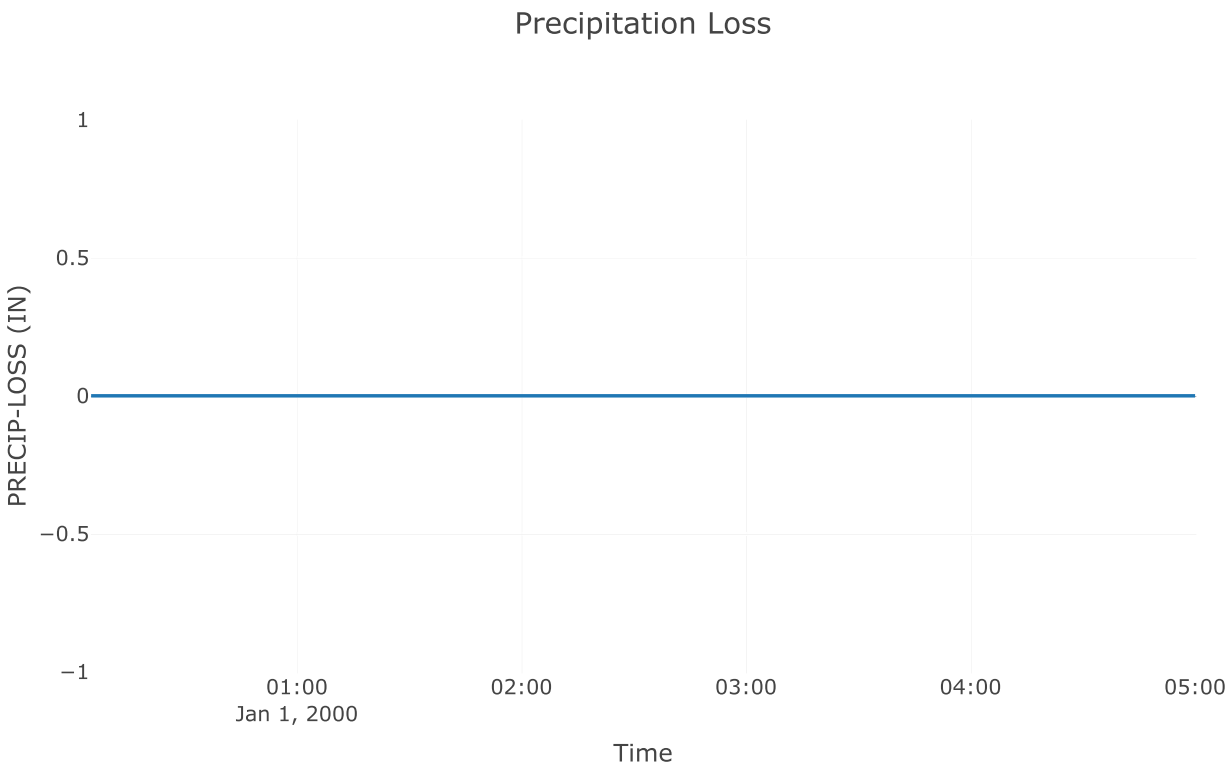


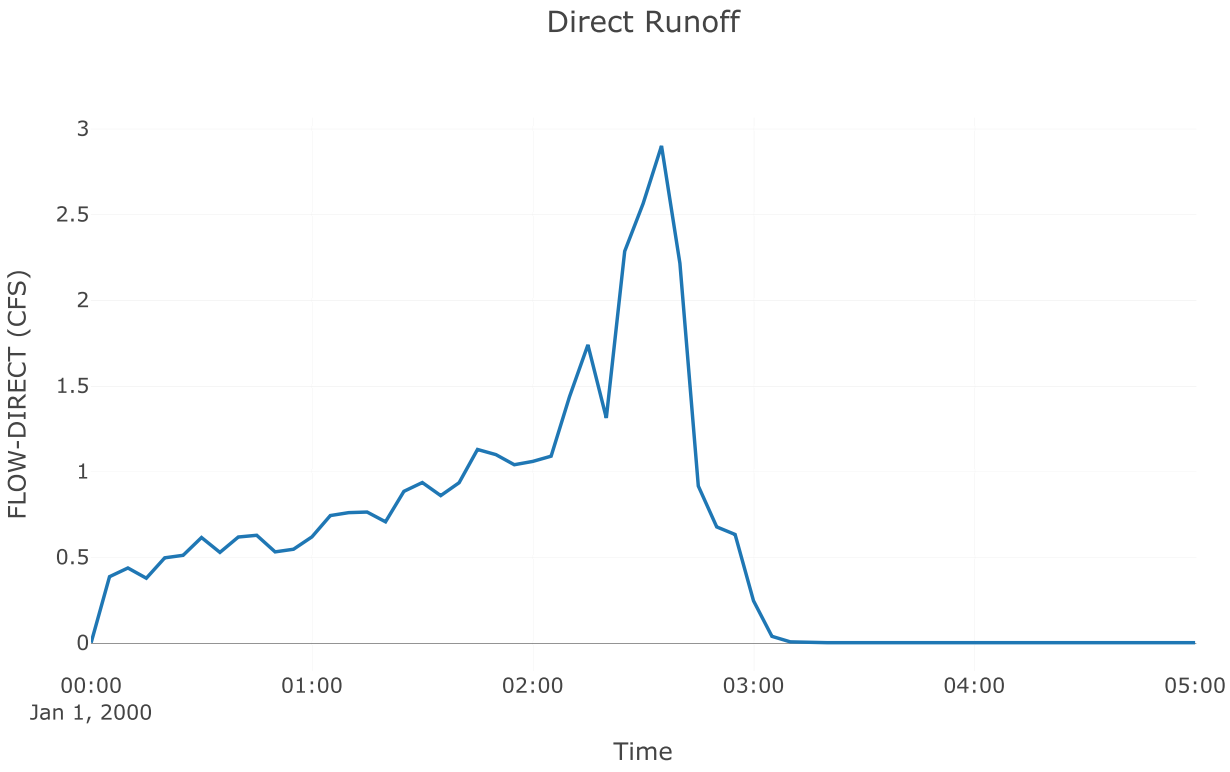
## Cumulative Precipitation Loss

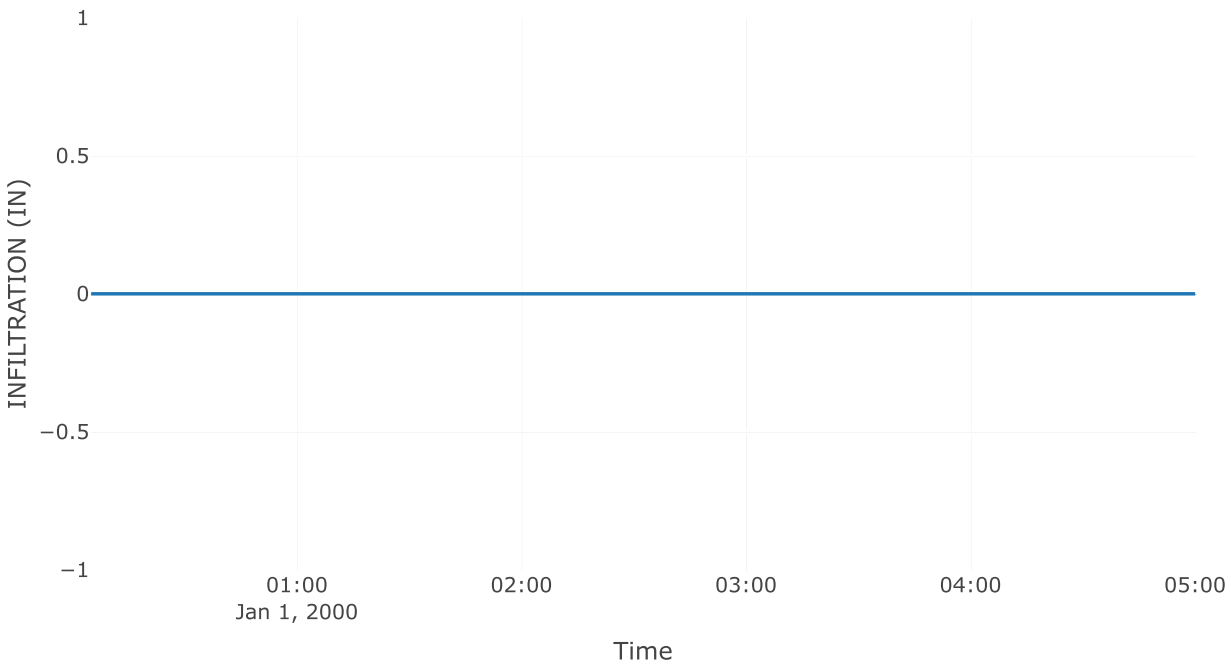



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
3
2.5
2
1.5
1
0.5
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

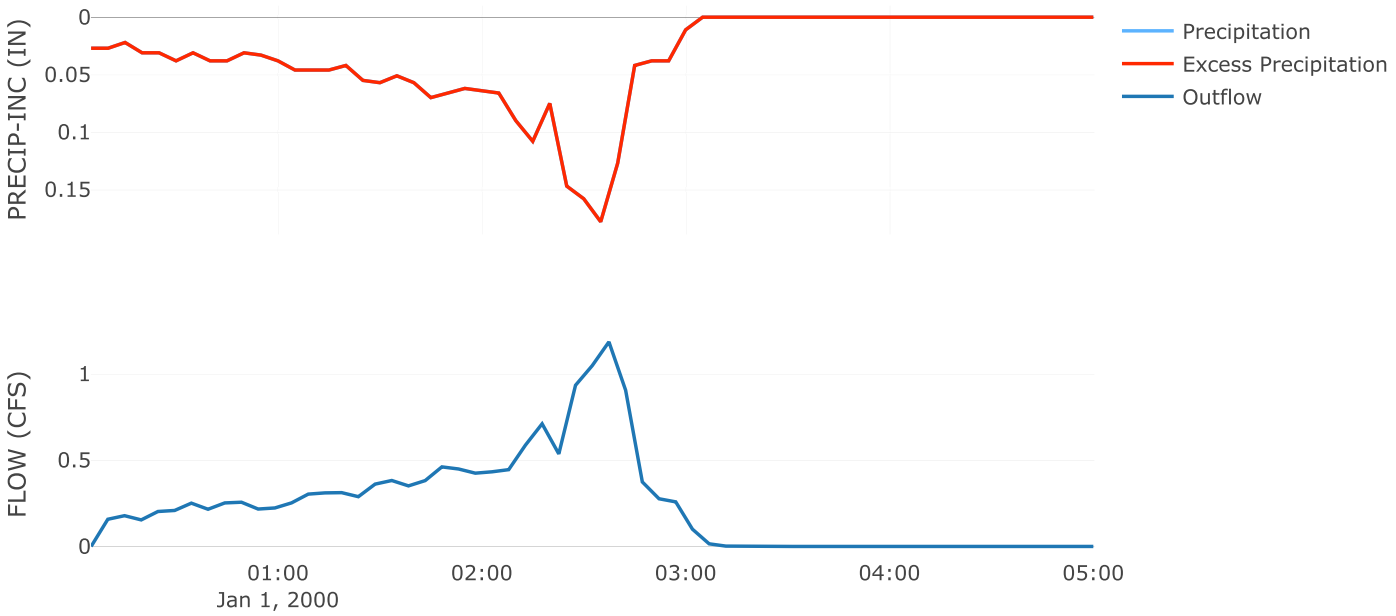
# Subbasin: CB-3

**Area (ft²)** : 0
**Downstream** : UG - DT

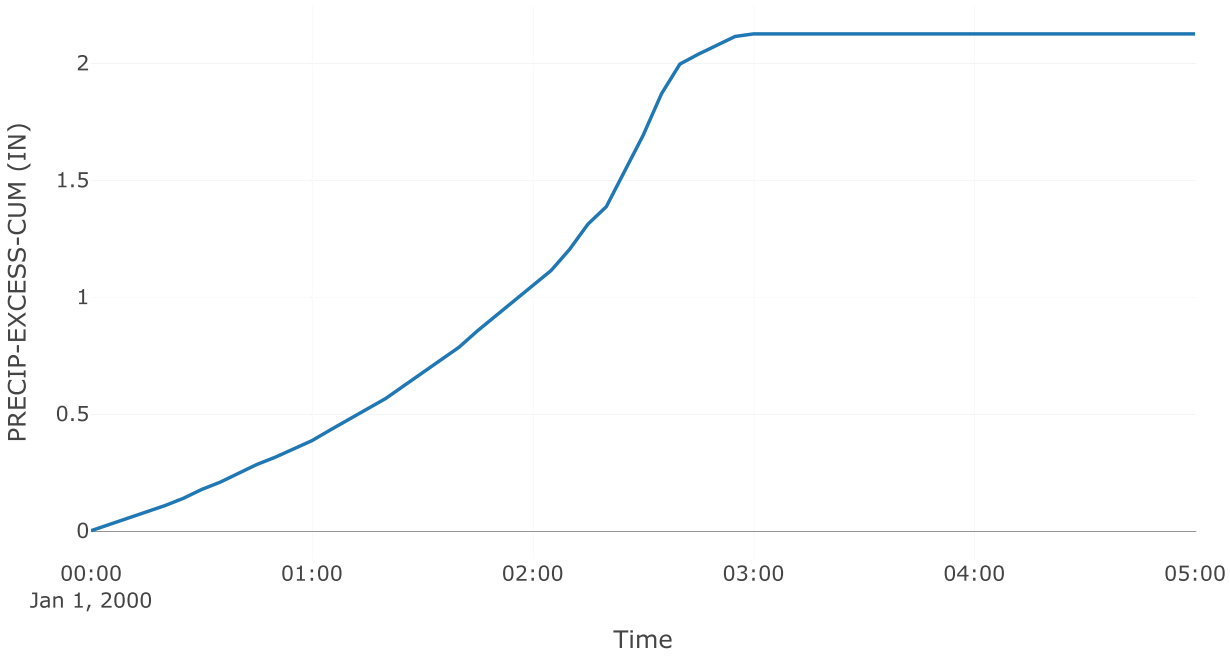
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-3 | |
|---|---|
| Peak Discharge (CFS) | 1.19 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 2.12 |
| Precipitation Volume (AC - FT) | 0.1 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.1 |
| Direct Runoff Volume (AC - FT) | 0.1 |
| Baseflow Volume (AC - FT) | 0 |

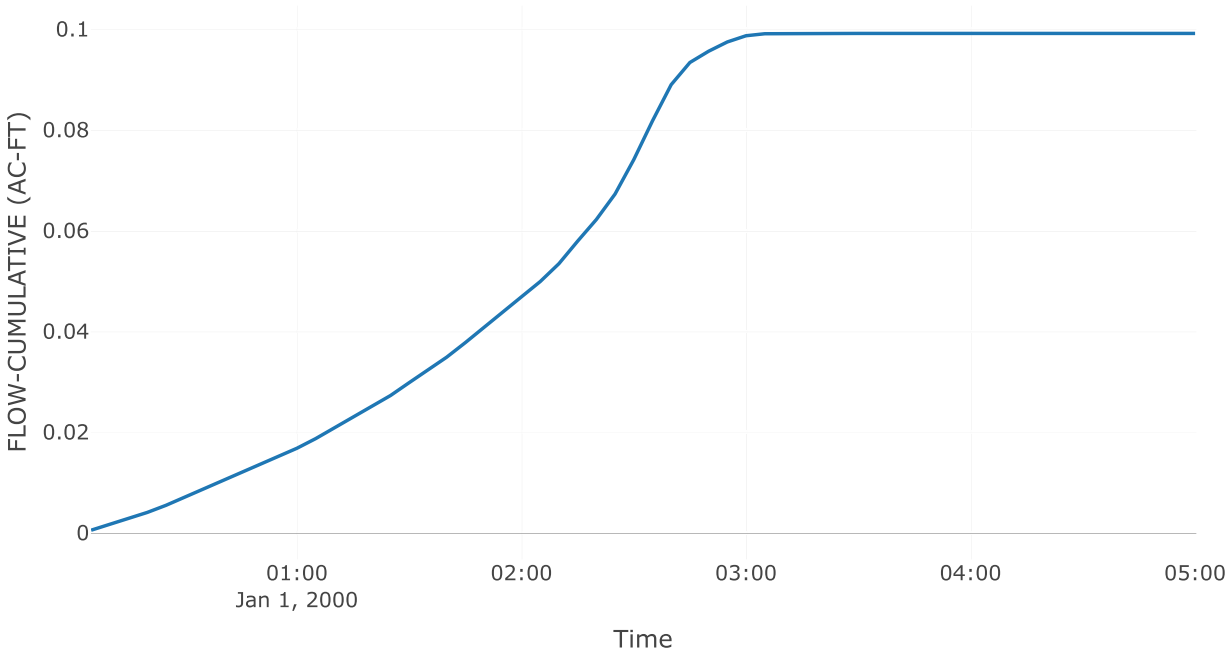
## Precipitation and Outflow



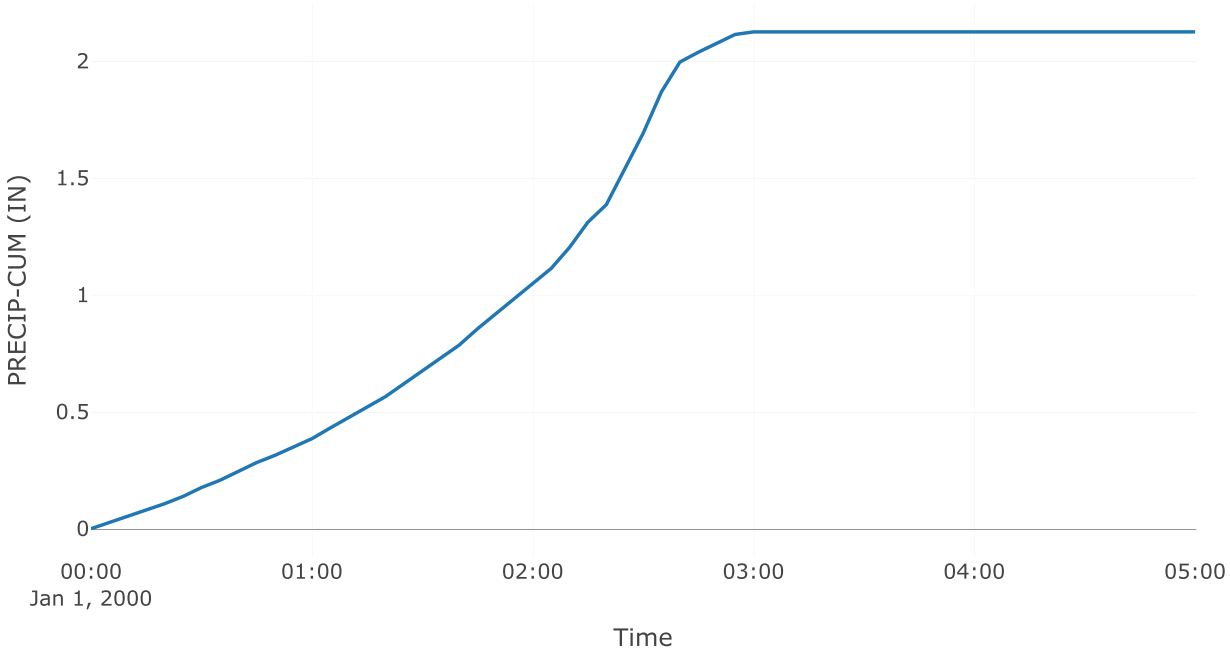

## Cumulative Excess Precipitation



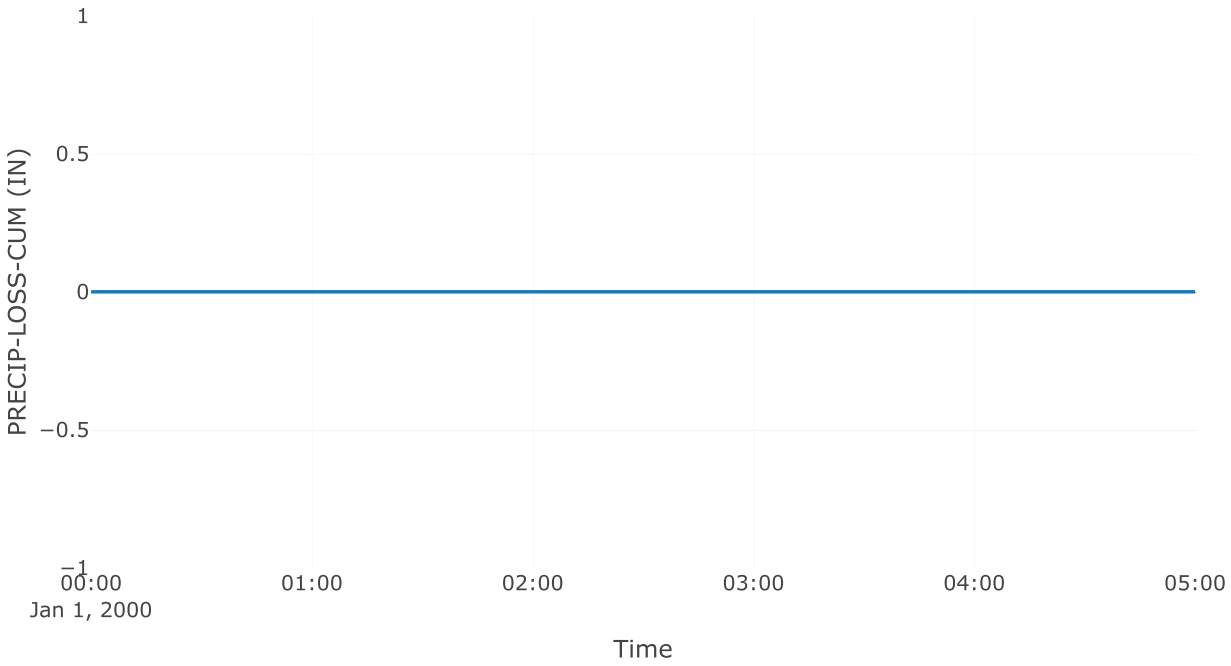
## Cumulative Outflow



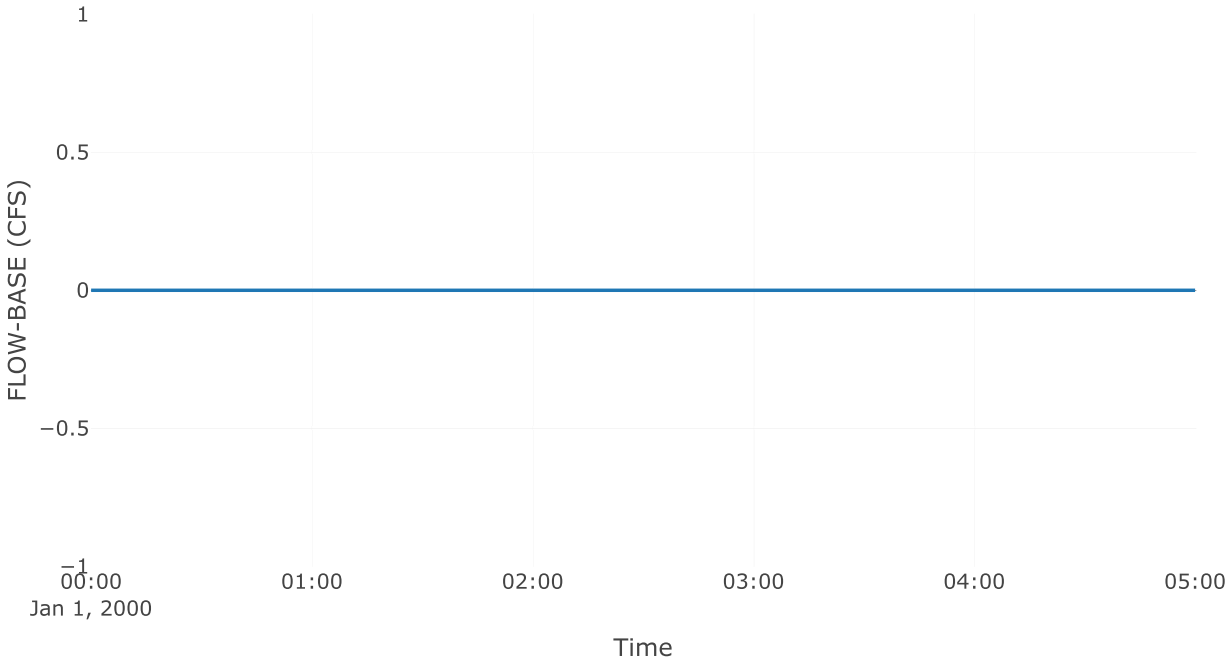

## Cumulative Precipitation

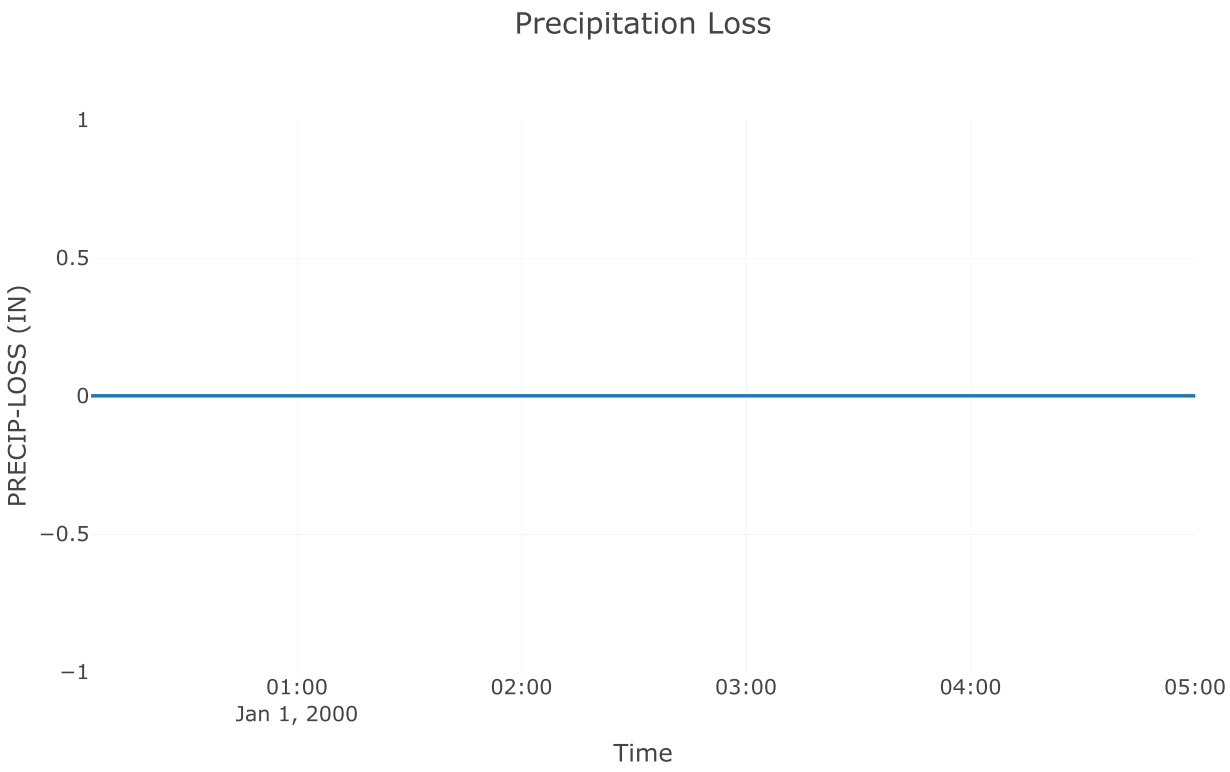


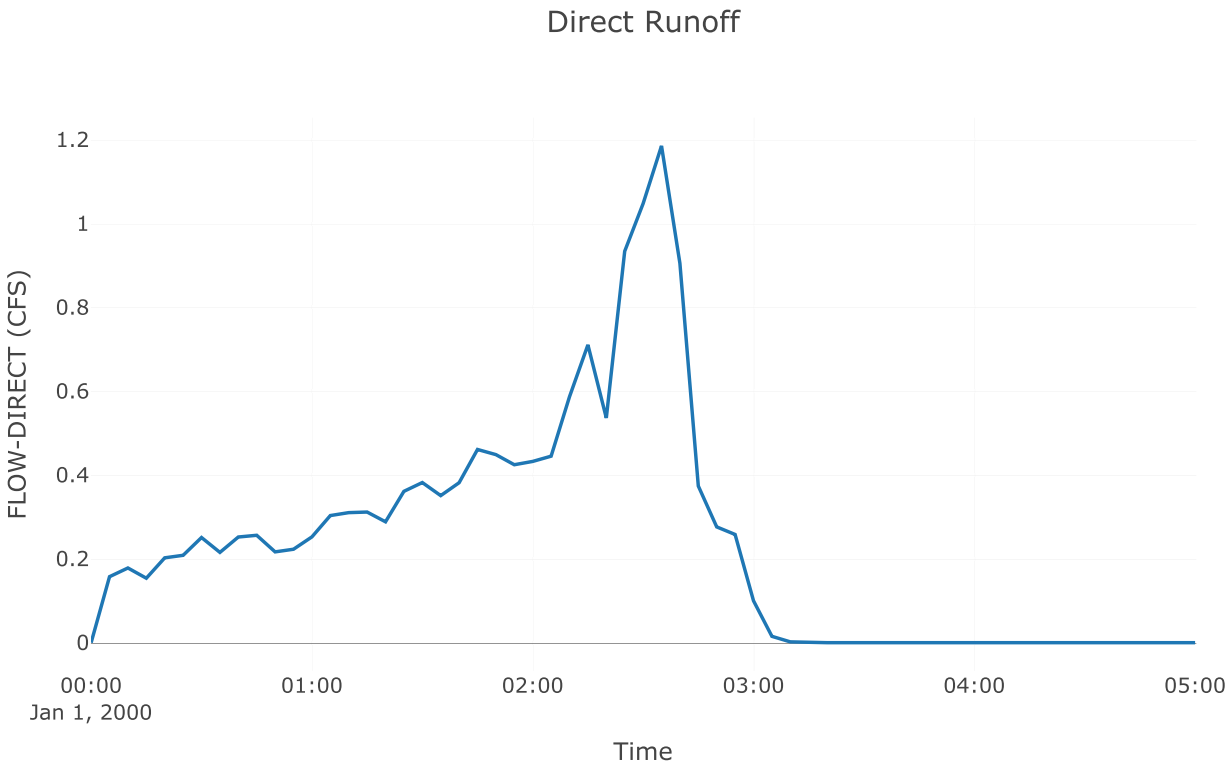
## Cumulative Precipitation Loss

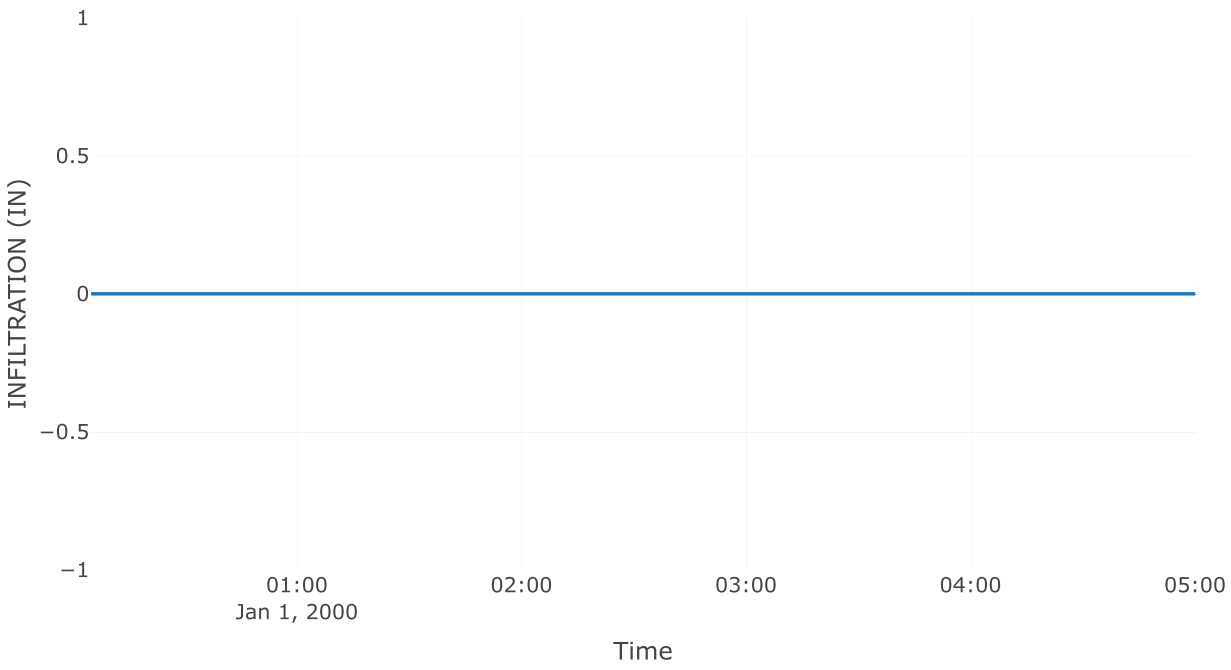



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
1.2
1
0.8
0.6
0.4
0.2
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

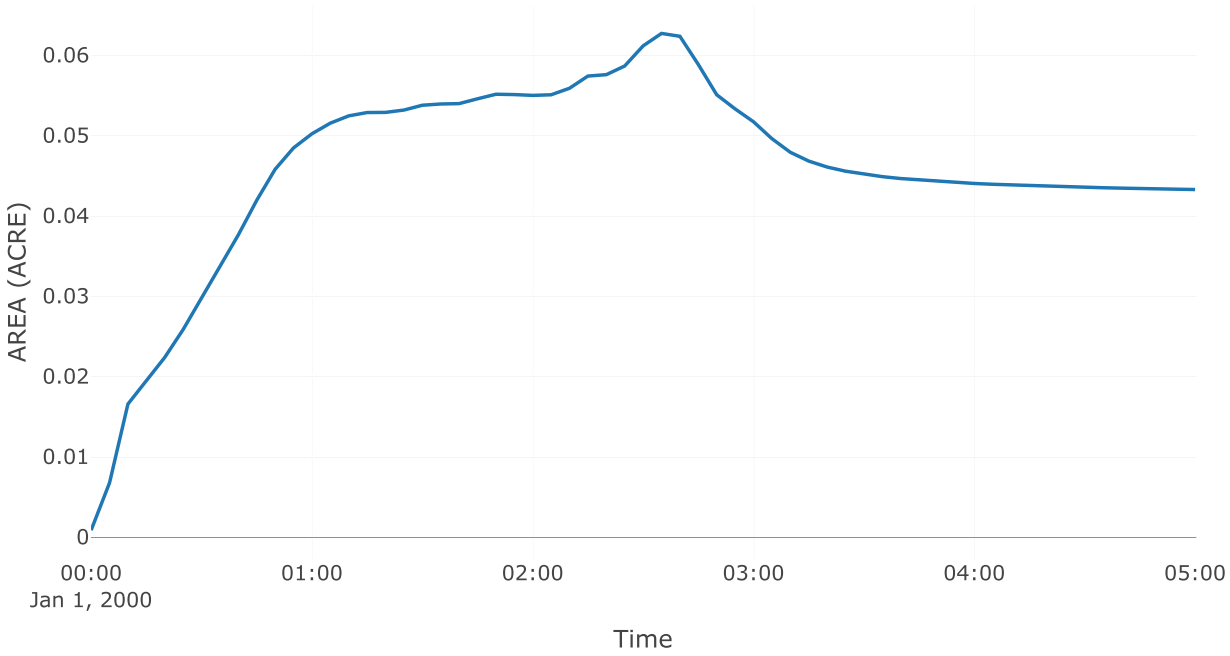

Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

# Reservoir: UG-DT

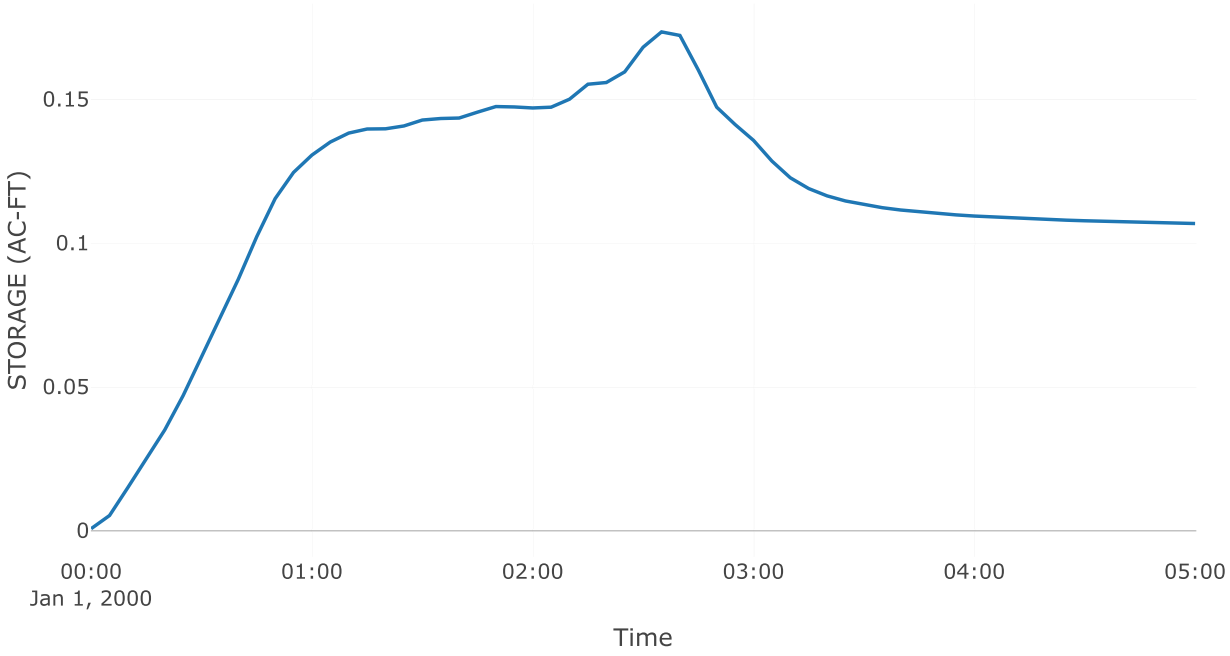
**Downstream** : Sink - 1

| Results: UG-DT | |
|---|---|
| Peak Discharge (CFS) | 9.2 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 1.86 |
| Peak Inflow (CFS) | 10.05 |
| Time of Peak Inflow | 01Jan2000, 02:35 |
| Inflow Volume (AC - FT) | 0.84 |
| Maximum Storage (AC - FT) | 0.17 |
| Peak Elevation (FT) | 106.98 |
| Discharge Volume (AC - FT) | 0.74 |

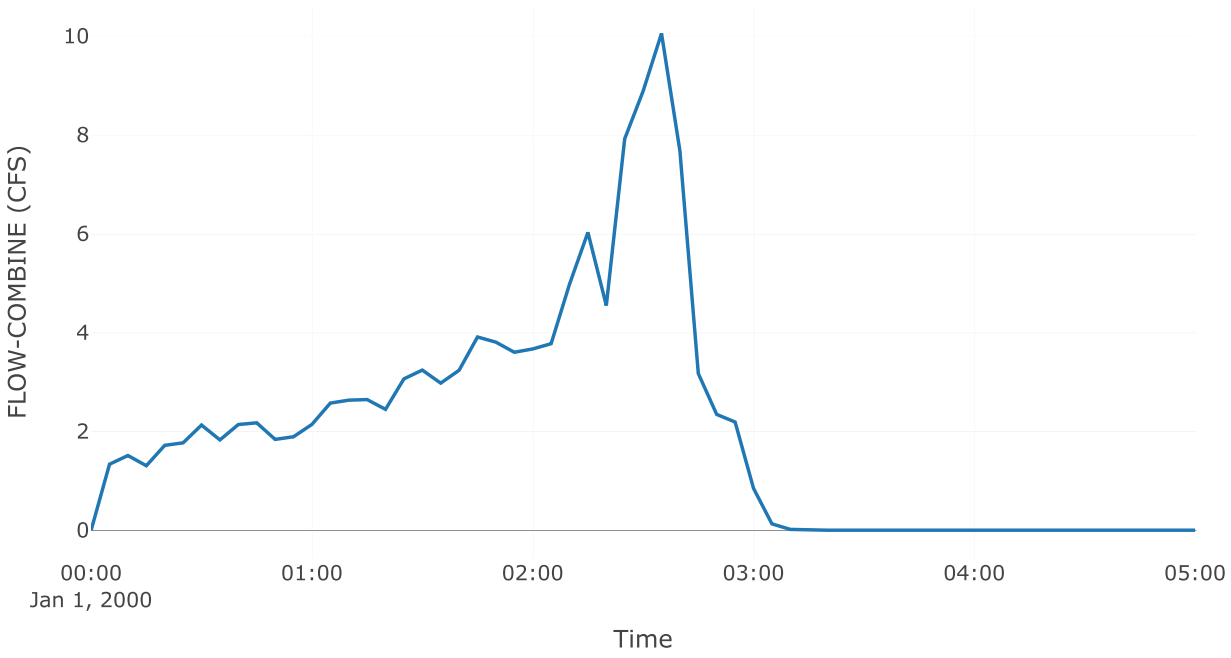
## Reservoir Area



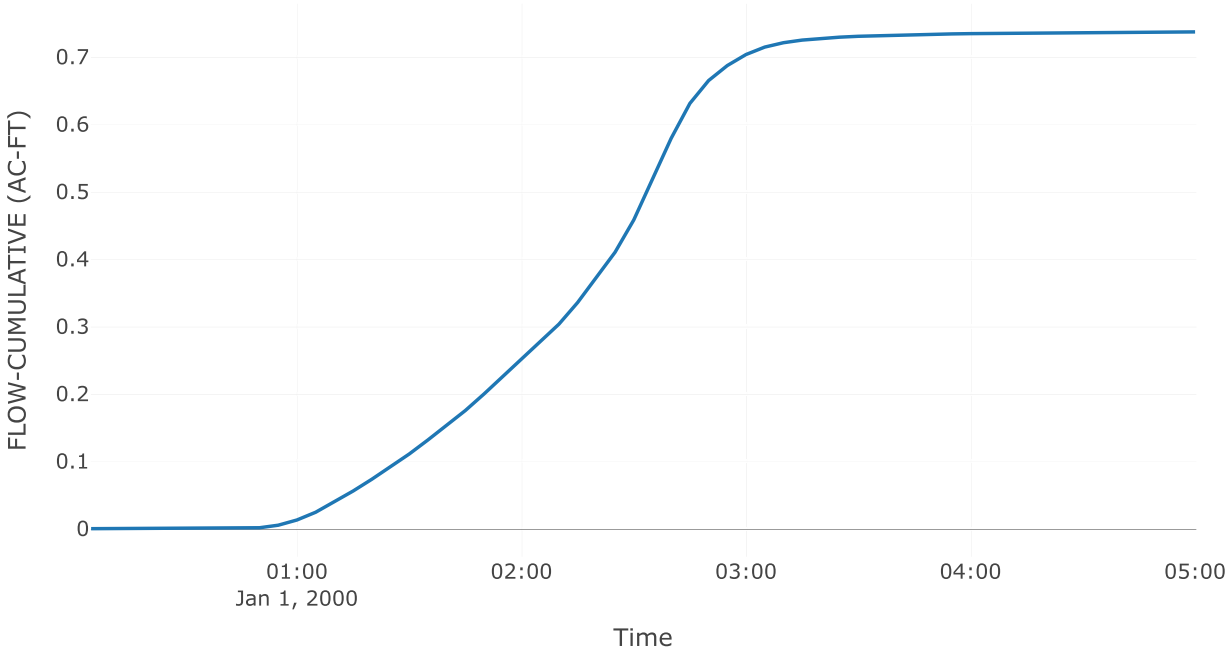

## Storage



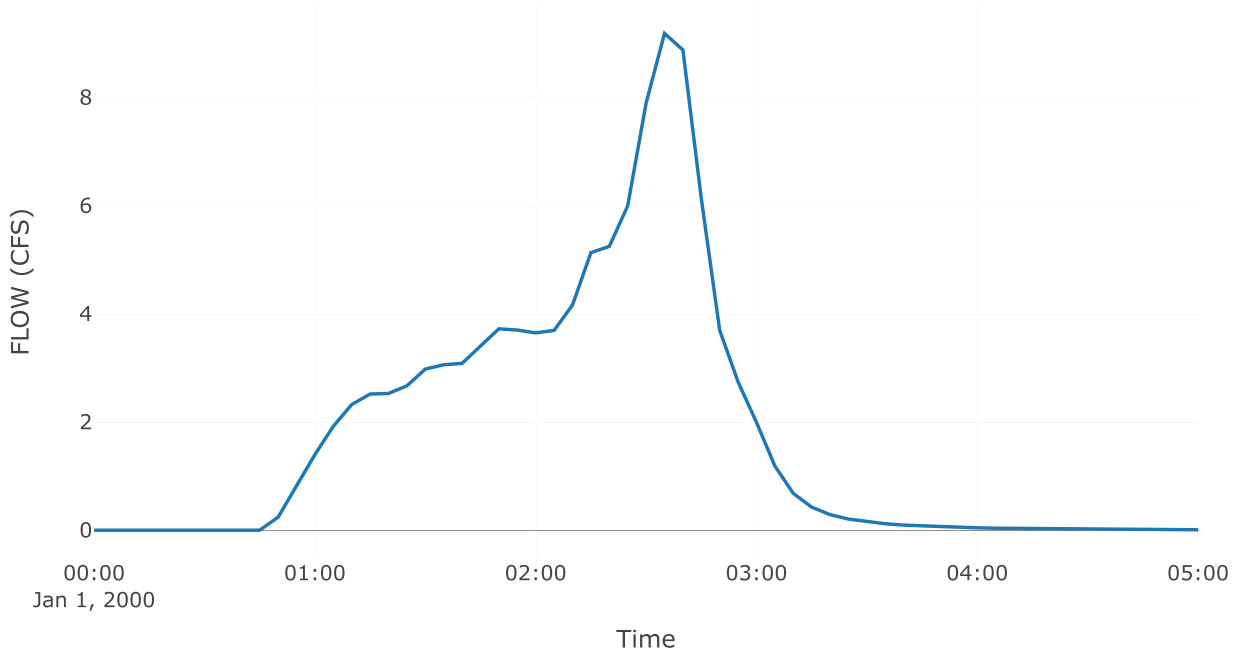
## Combined Inflow



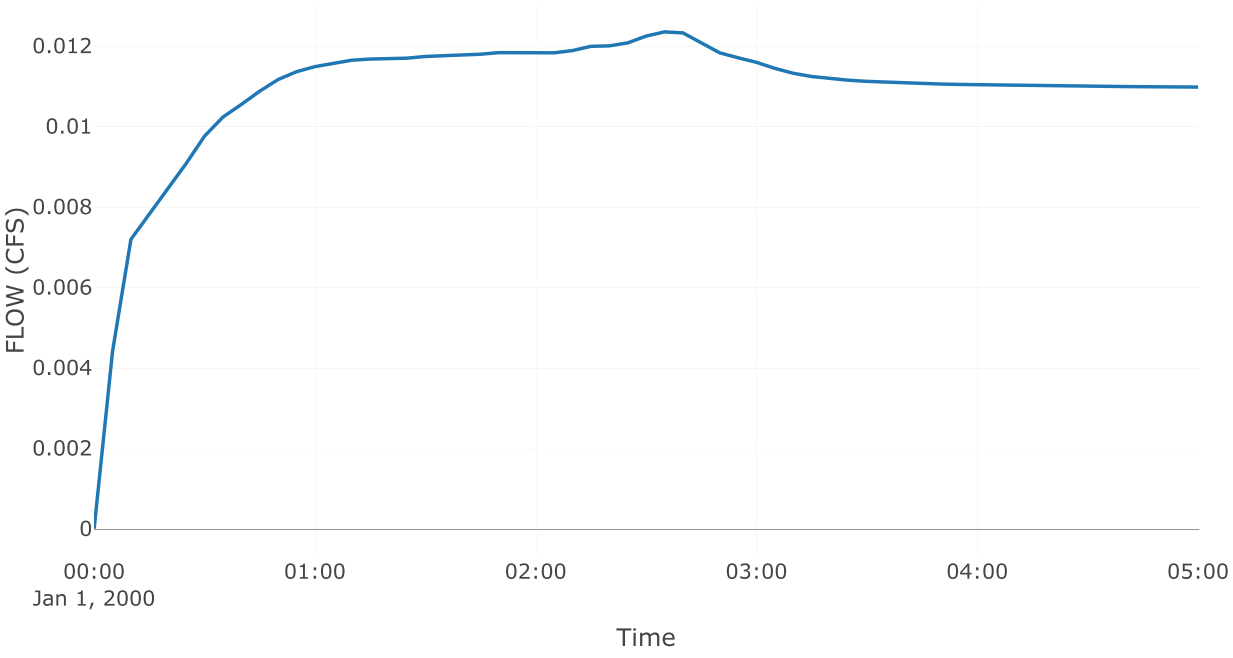

## Cumulative Outflow



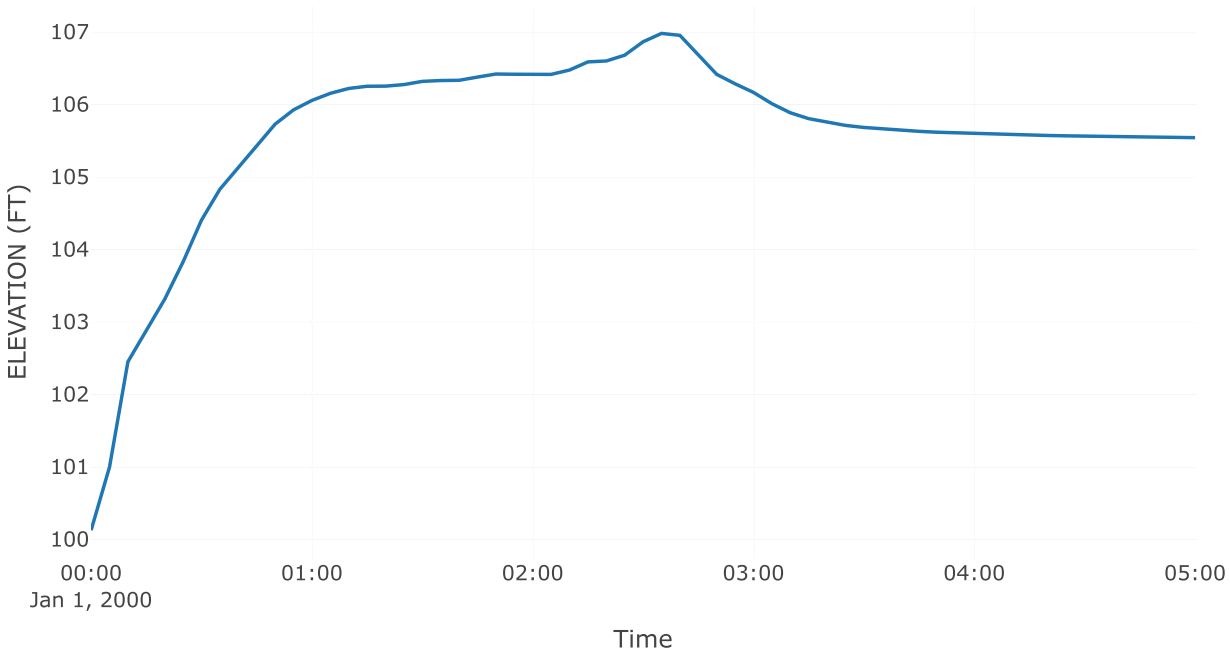
## Outlet 2



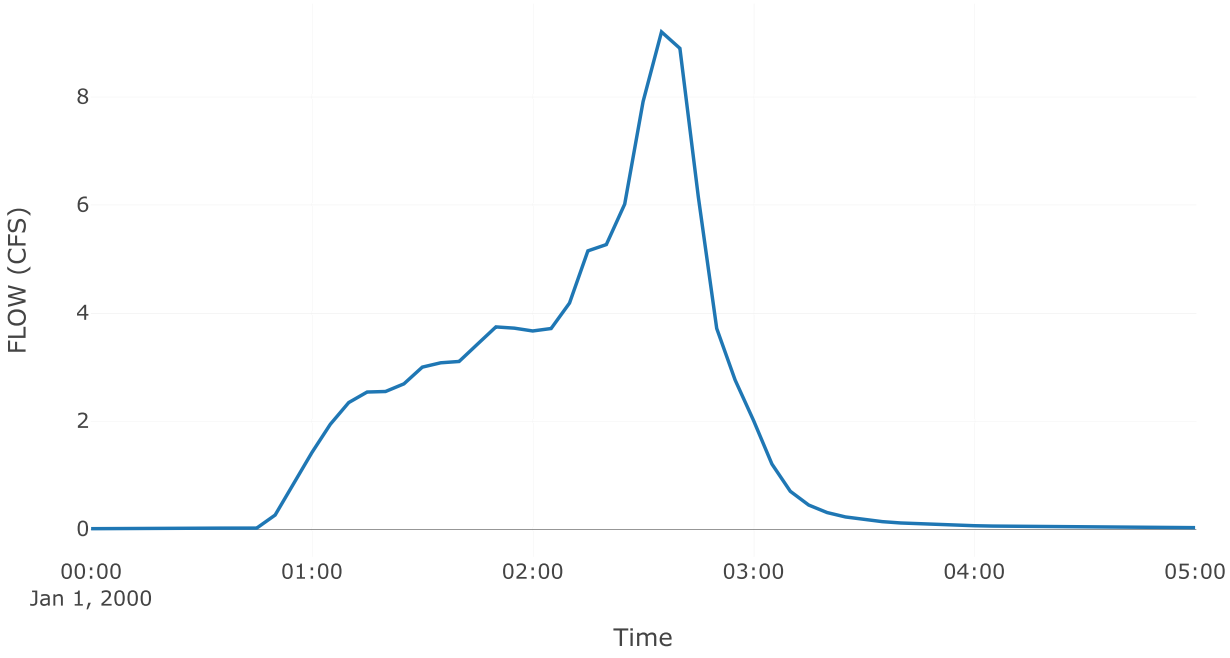

## Outlet 1



## Pool Elevation



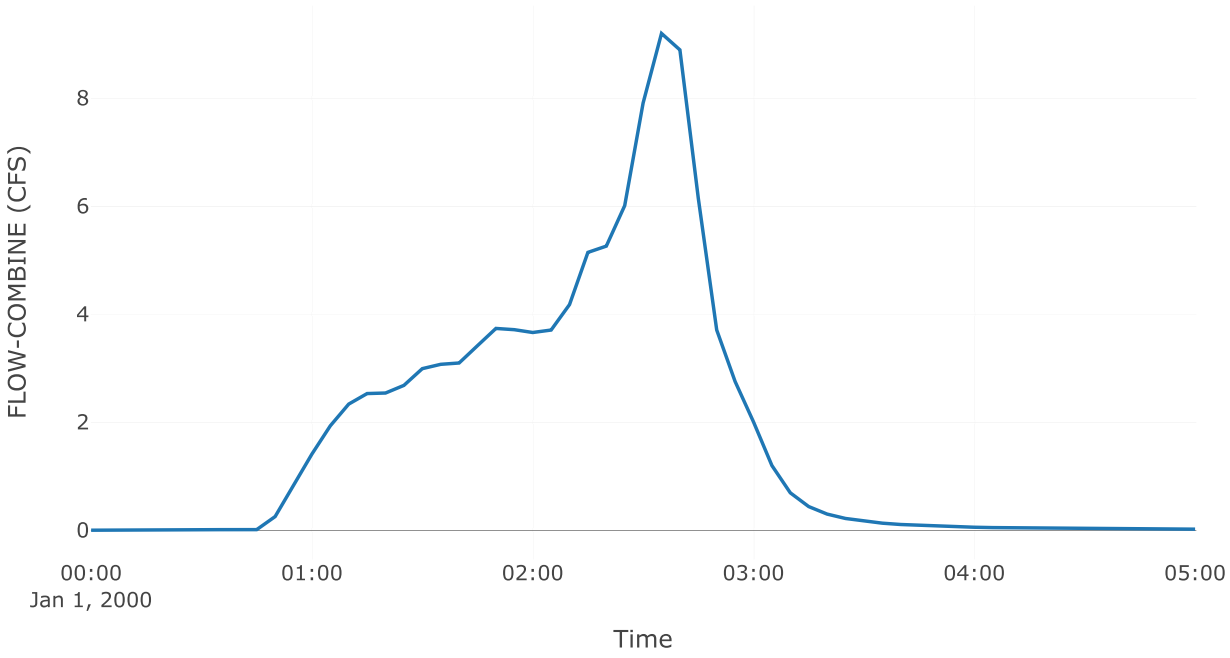

## Outflow



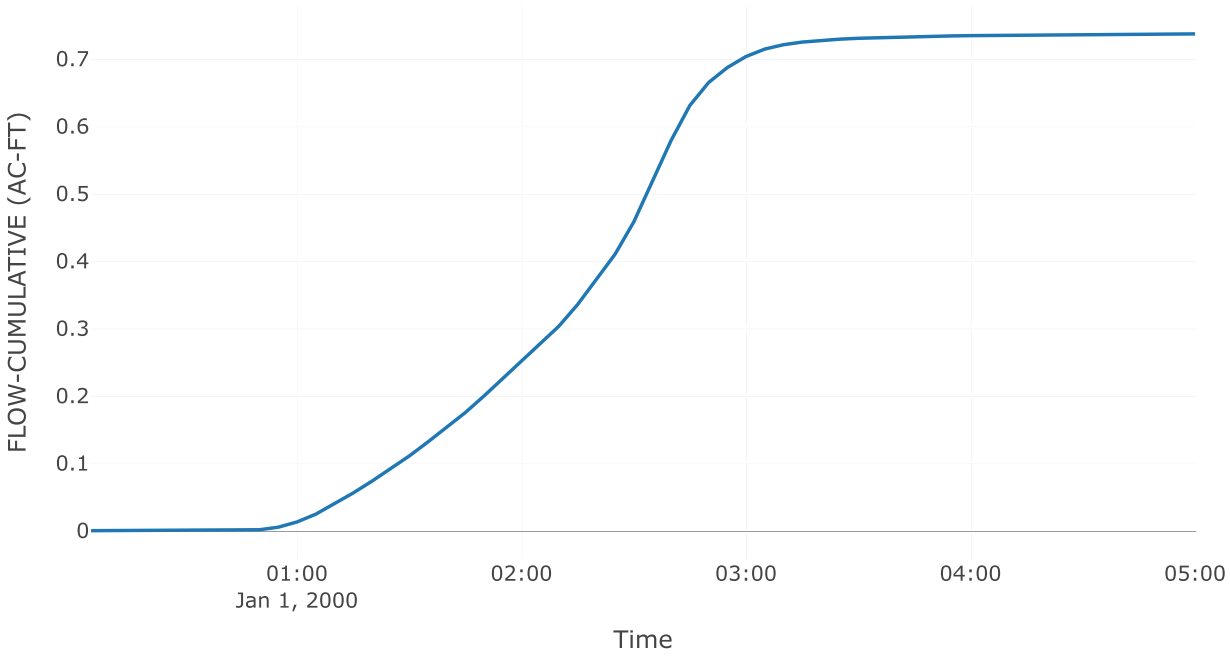
# Sink: Sink-1

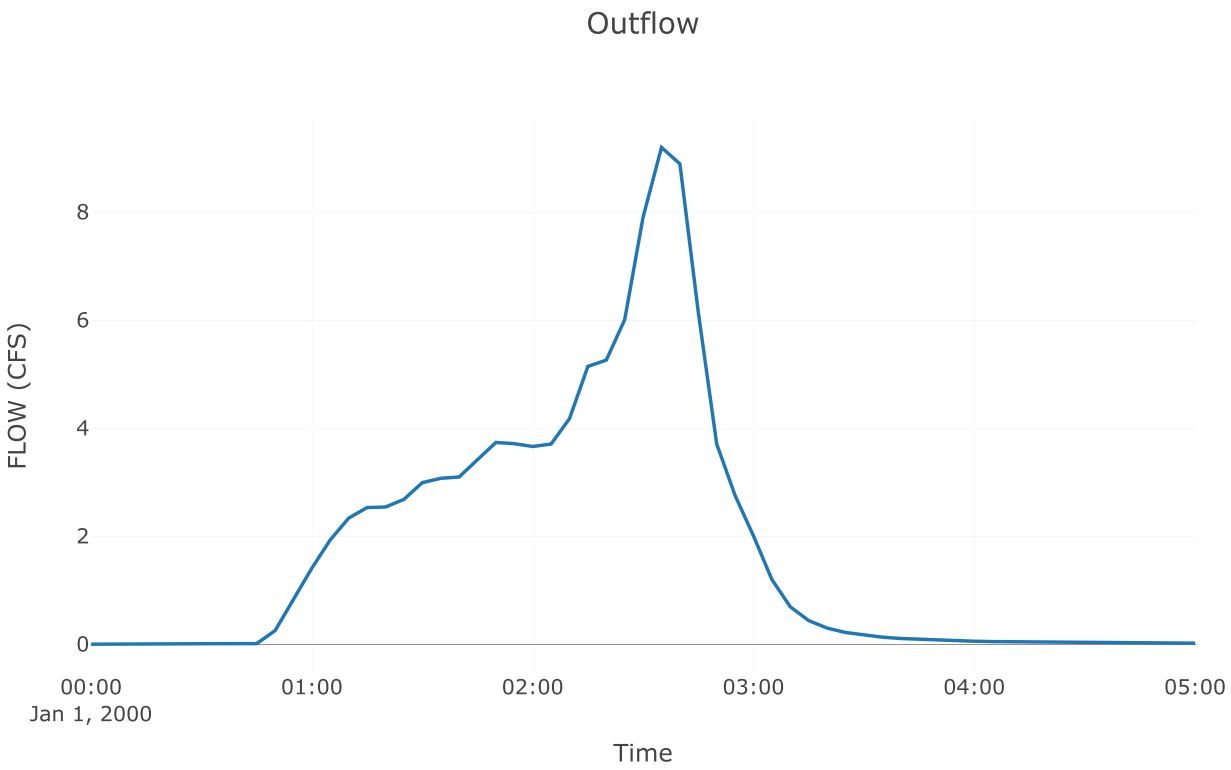
| Results: Sink-1 | |
|---|---|
| Peak Discharge (CFS) | 9.2 |
| Time of Peak Discharge | 01Jan2000, 02:35 |
| Volume (IN) | 1.86 |

## Combined Inflow




## Cumulative Outflow




Outflow
FLOW (CFS)
8
6
4
2
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

**Project:** 0724 Hec
**Simulation Run:** 6hr 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:23

## Global Parameter Summary - Subbasin

**Area (ft²)**

| Element Name | Area (ft²) |
|---|---|
| CB - 1 | 0 |
| CB - 2 | 0 |
| CB - 3 | 0 |

**Downstream**

| Element Name | Downstream |
|---|---|
| CB - 1 | UG - DT |
| CB - 2 | UG - DT |
| CB - 3 | UG - DT |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| CB - 1 | S - Graph | Specified | 0.03 |
| CB - 2 | S - Graph | Specified | 0.03 |
| CB - 3 | S - Graph | Specified | 0.03 |

## Global Results Summary

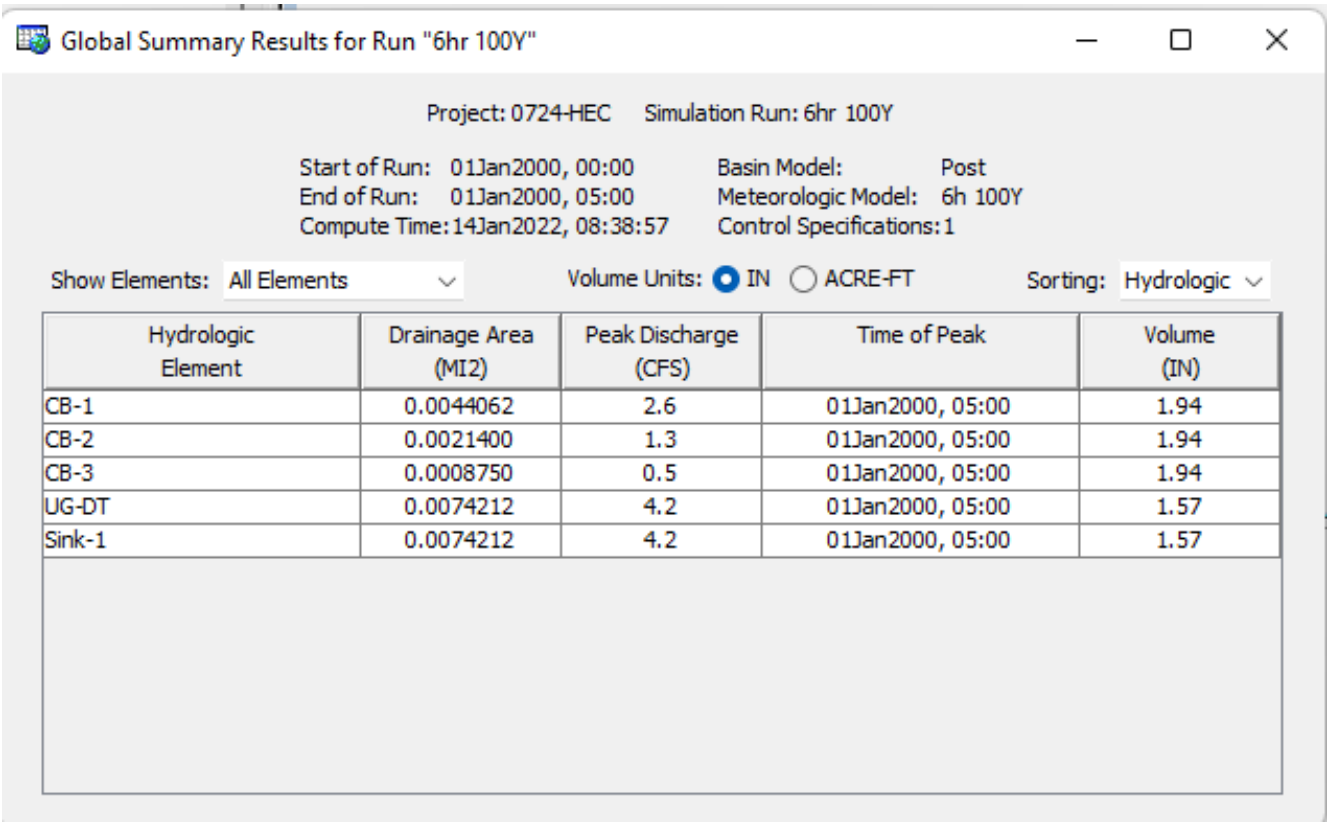
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB - 1 | 0 | 2.58 | 01Jan2000, 05:00 | 1.94 |
| CB - 2 | 0 | 1.25 | 01Jan2000, 05:00 | 1.94 |
| CB - 3 | 0 | 0.51 | 01Jan2000, 05:00 | 1.94 |
| UG - DT | 0.01 | 4.21 | 01Jan2000, 05:00 | 1.57 |
| Sink - 1 | 0.01 | 4.21 | 01Jan2000, 05:00 | 1.57 |

# Subbasin: CB-1

**Area (ft²)** : 0
**Downstream** : UG - DT

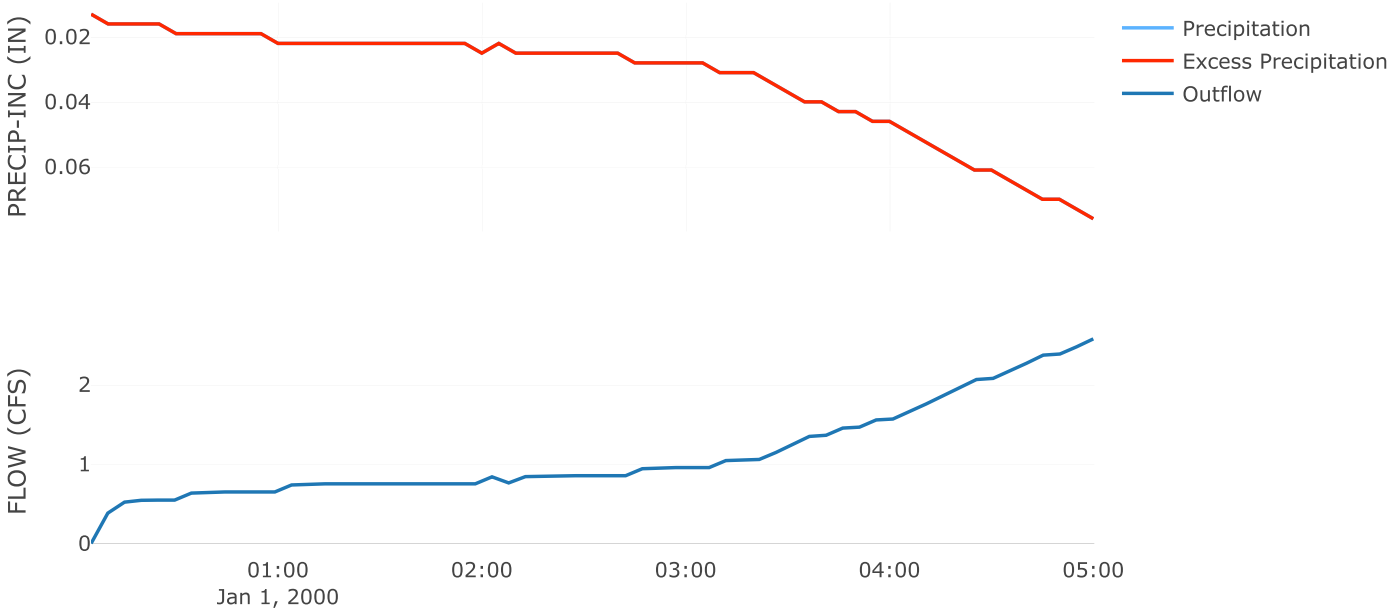
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-1 | |
|---|---|
| Peak Discharge (CFS) | 2.58 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.94 |
| Precipitation Volume (AC - FT) | 0.47 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.47 |
| Direct Runoff Volume (AC - FT) | 0.46 |
| Baseflow Volume (AC - FT) | 0 |

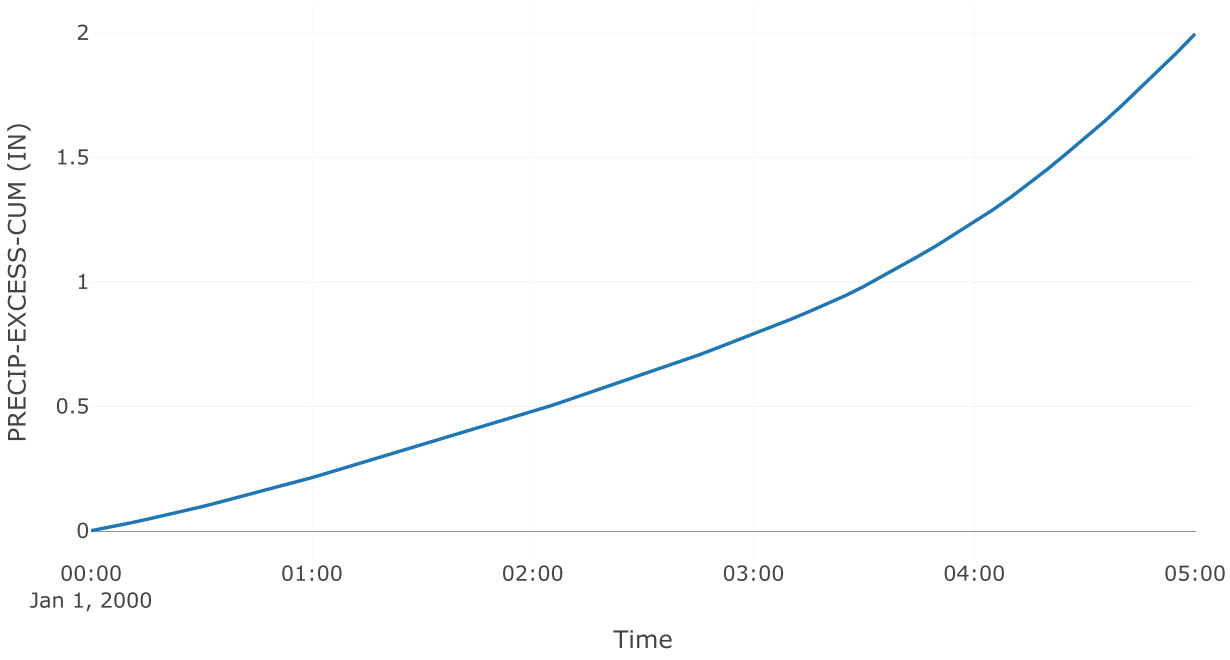



| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB-1 | 0.0044062 | 2.6 | 01Jan2000, 05:00 | 1.94 |
| CB-2 | 0.0021400 | 1.3 | 01Jan2000, 05:00 | 1.94 |
| CB-3 | 0.0008750 | 0.5 | 01Jan2000, 05:00 | 1.94 |
| UG-DT | 0.0074212 | 4.2 | 01Jan2000, 05:00 | 1.57 |
| Sink-1 | 0.0074212 | 4.2 | 01Jan2000, 05:00 | 1.57 |

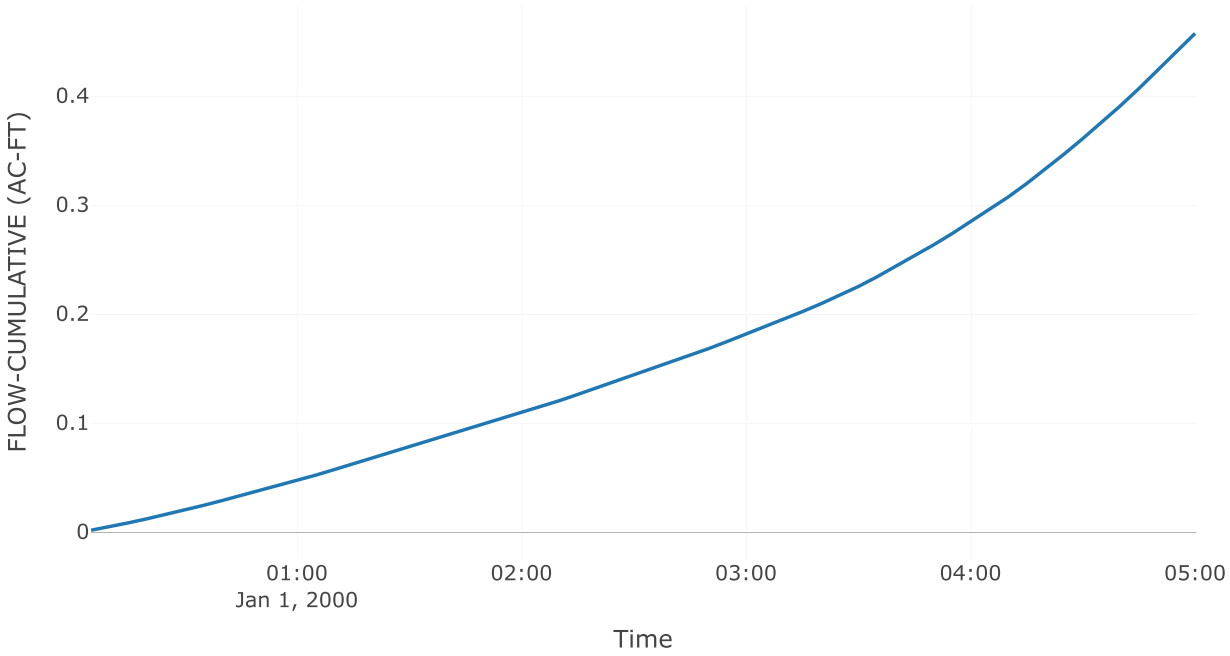
## Precipitation and Outflow



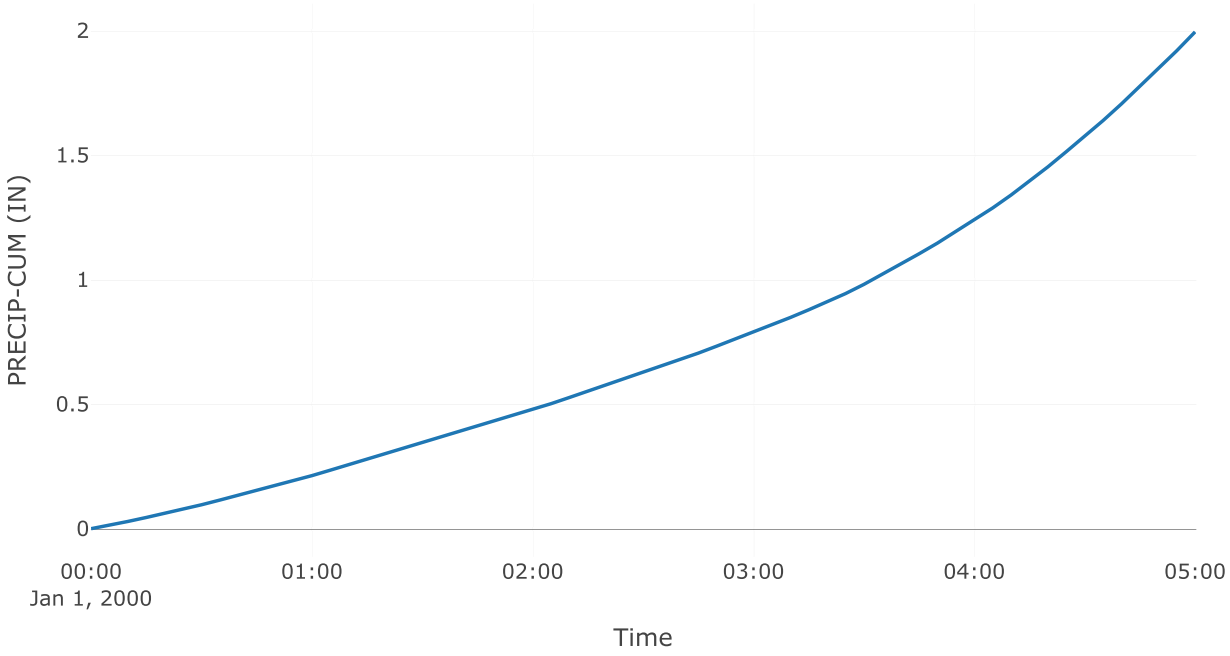

## Cumulative Excess Precipitation



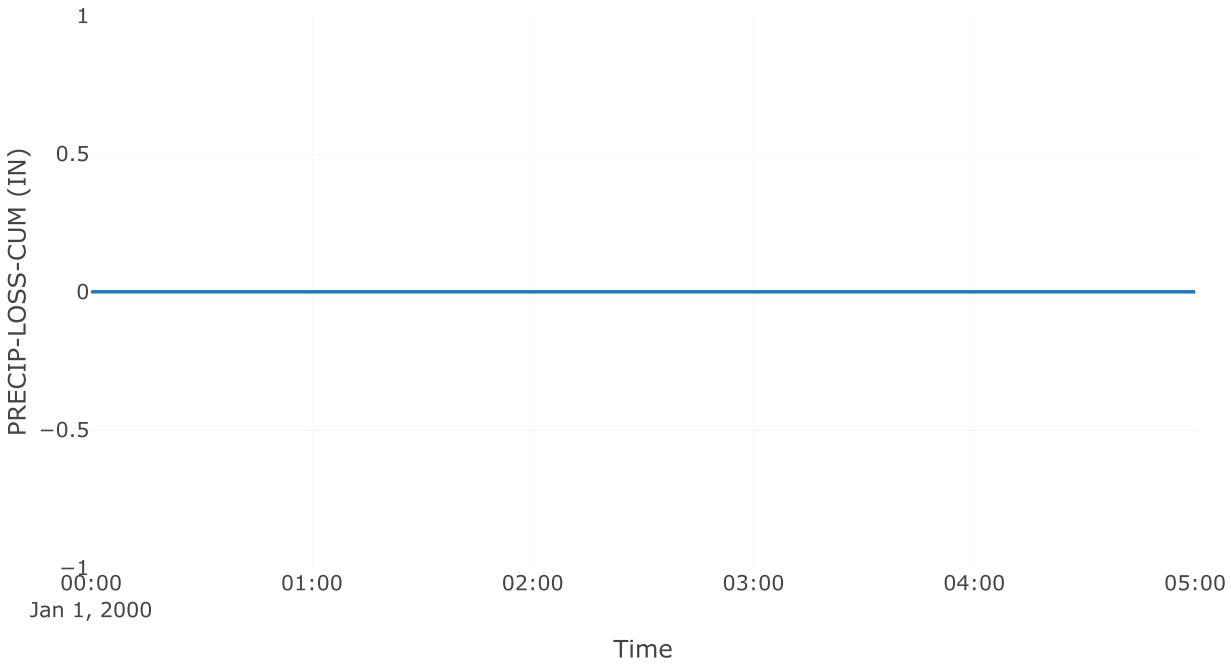
## Cumulative Outflow



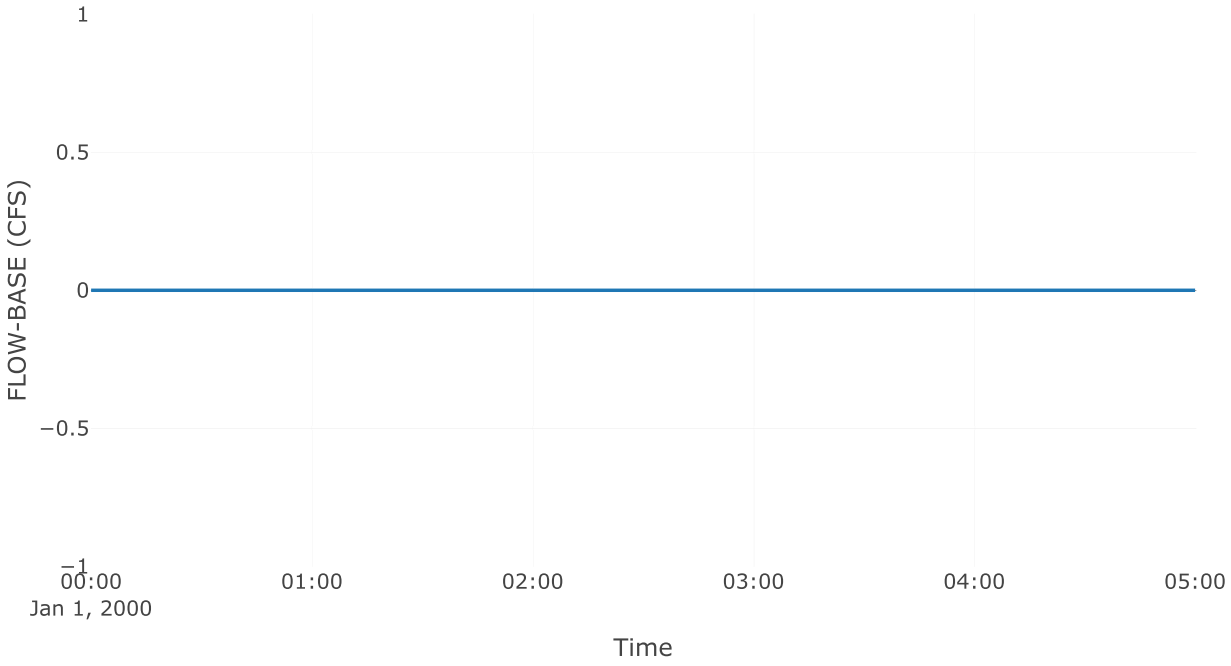

## Cumulative Precipitation

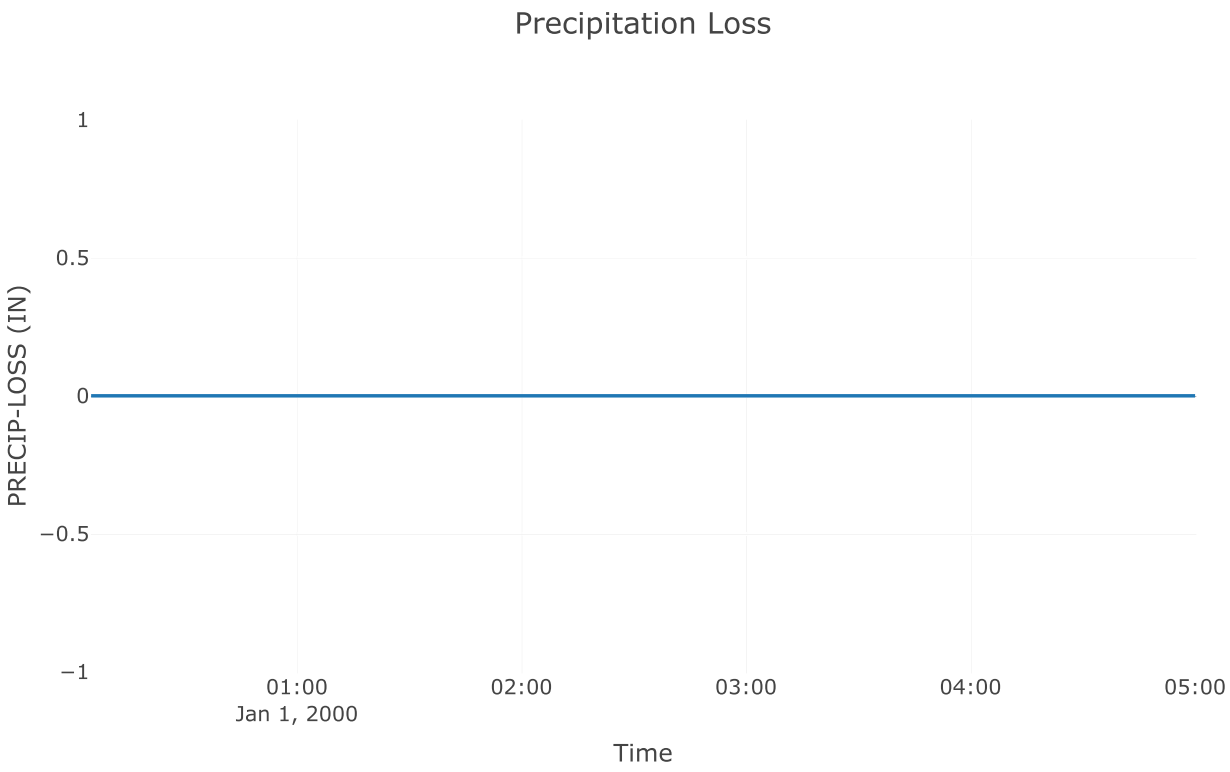


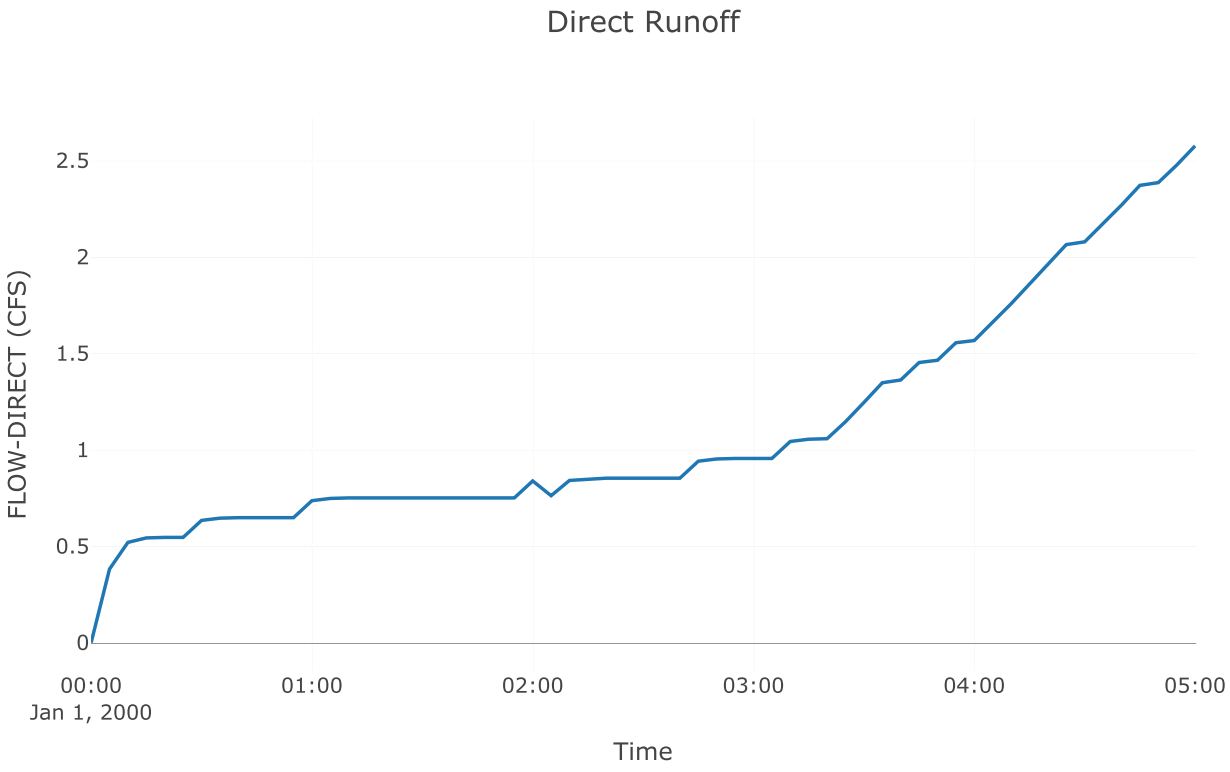
## Cumulative Precipitation Loss

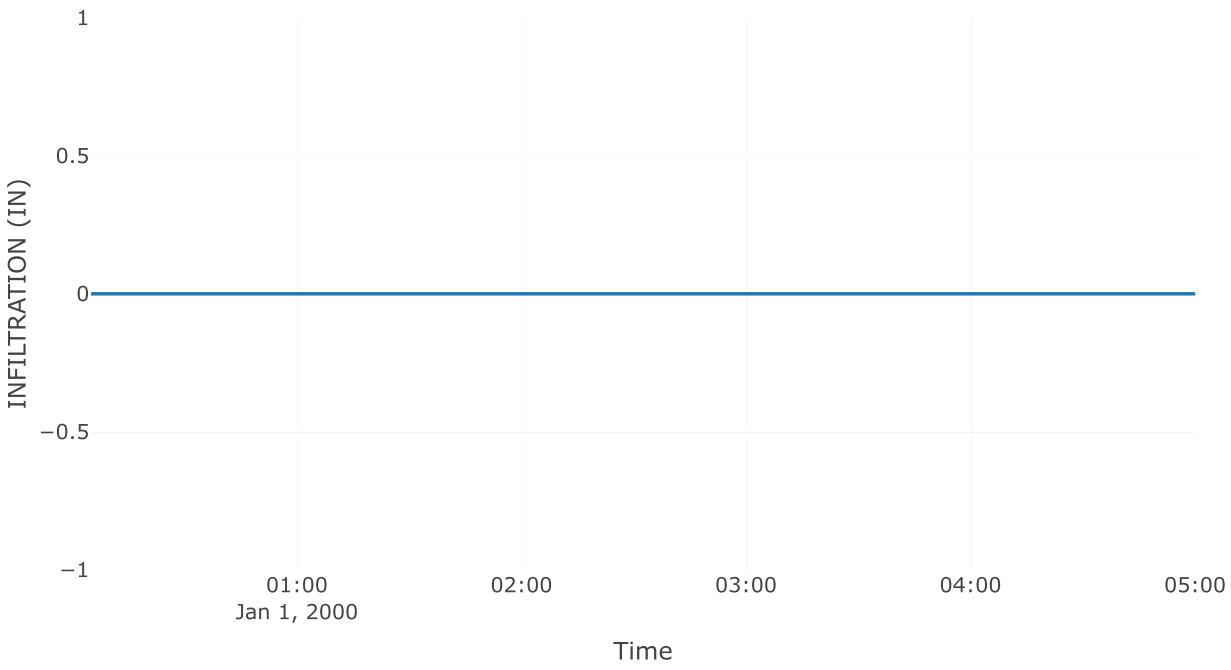



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
2.5
2
1.5
1
0.5
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

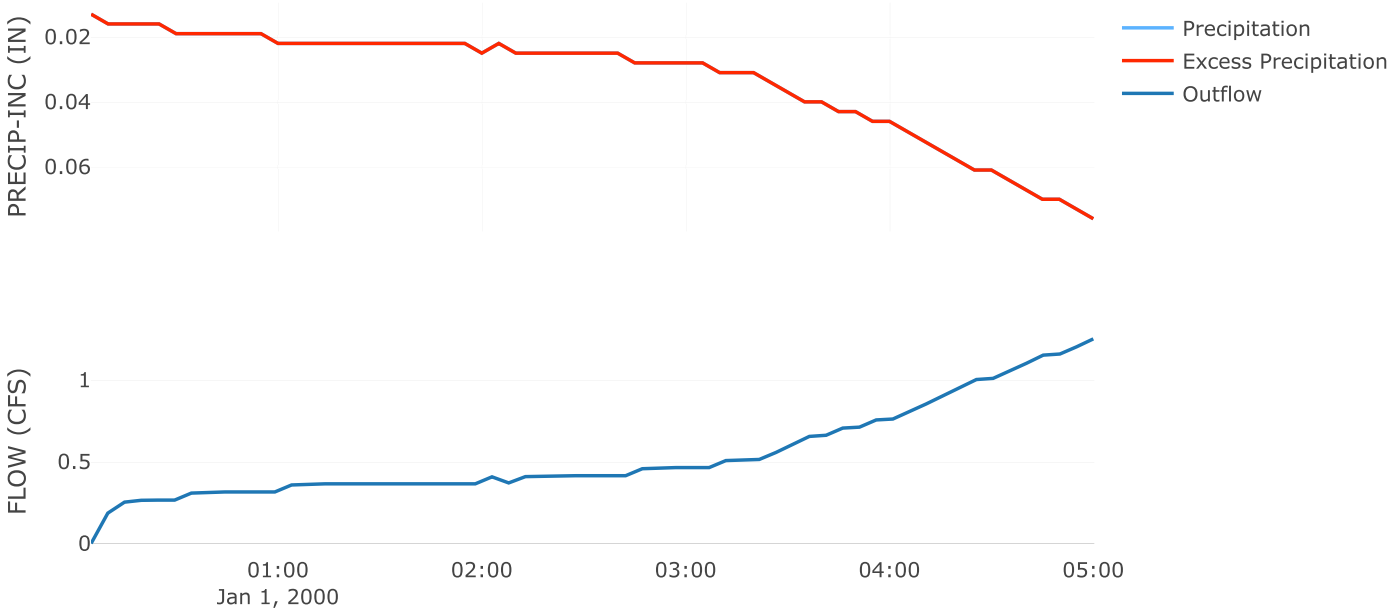
# Subbasin: CB-2

**Area ($ft^2$)** : 0
**Downstream** : UG - DT

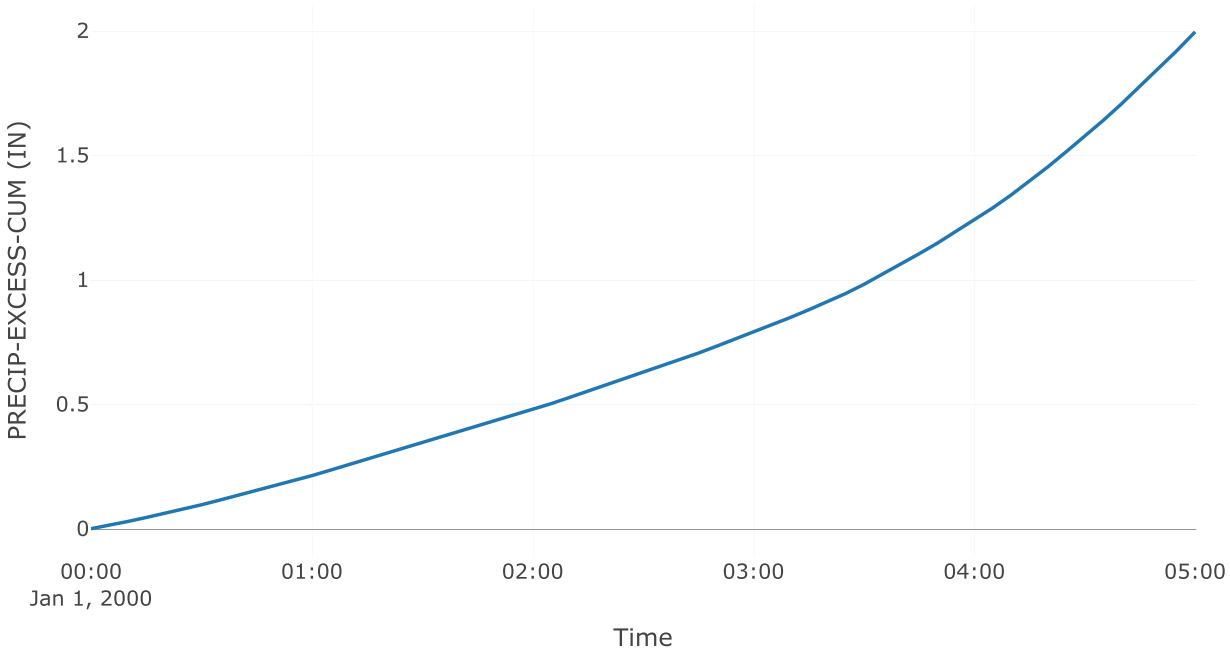
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-2 | |
|---|---|
| Peak Discharge (CFS) | 1.25 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.94 |
| Precipitation Volume (AC - FT) | 0.23 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.23 |
| Direct Runoff Volume (AC - FT) | 0.22 |
| Baseflow Volume (AC - FT) | 0 |

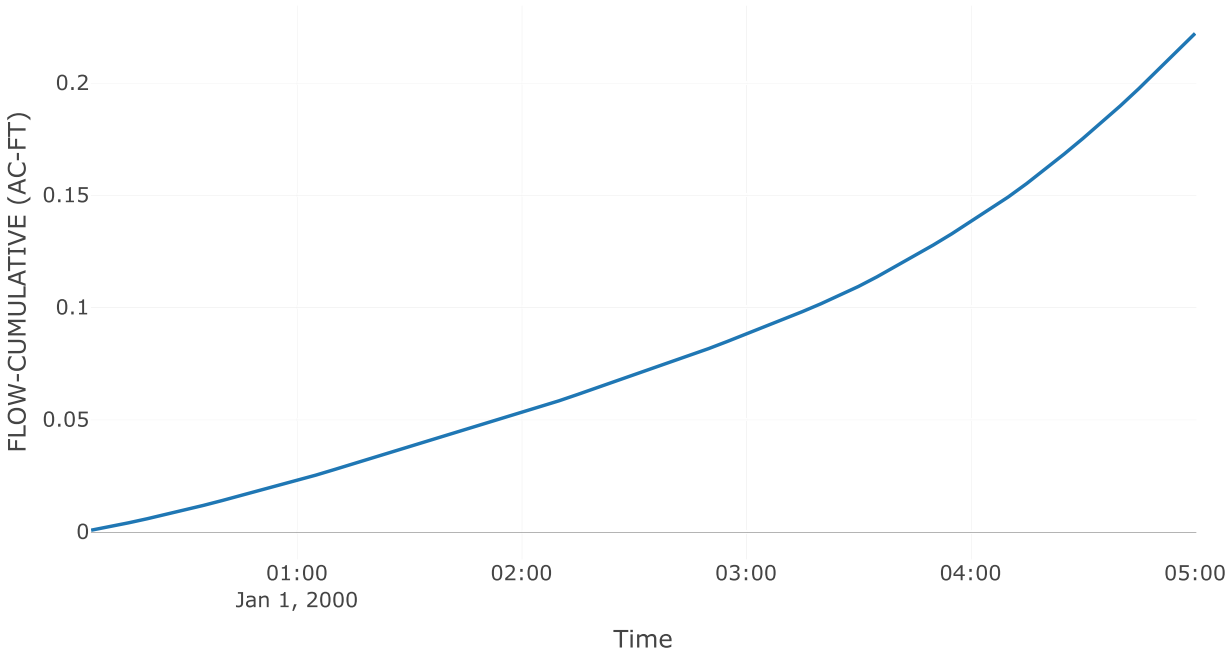
## Precipitation and Outflow



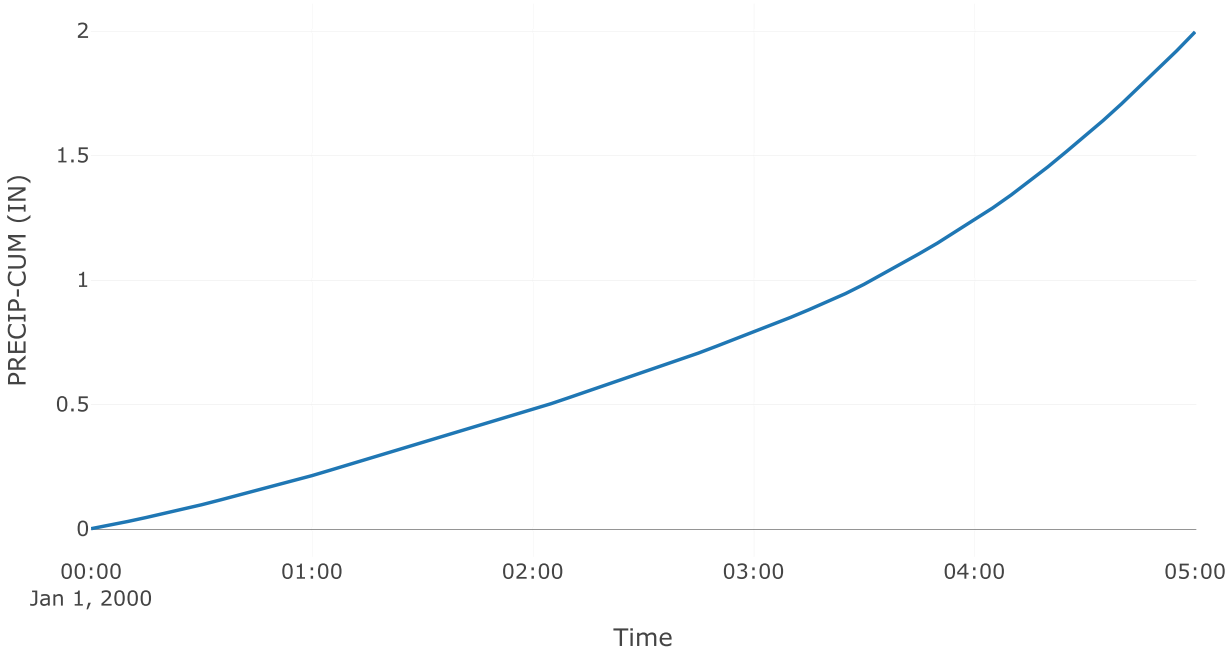

## Cumulative Excess Precipitation



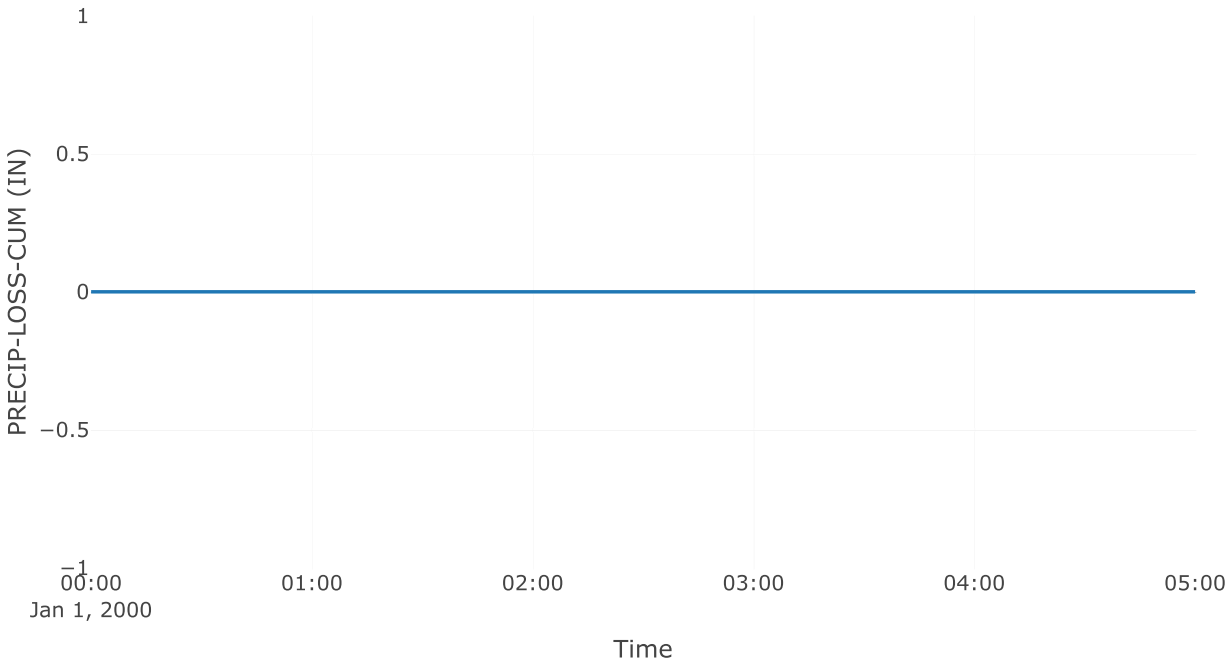
## Cumulative Outflow



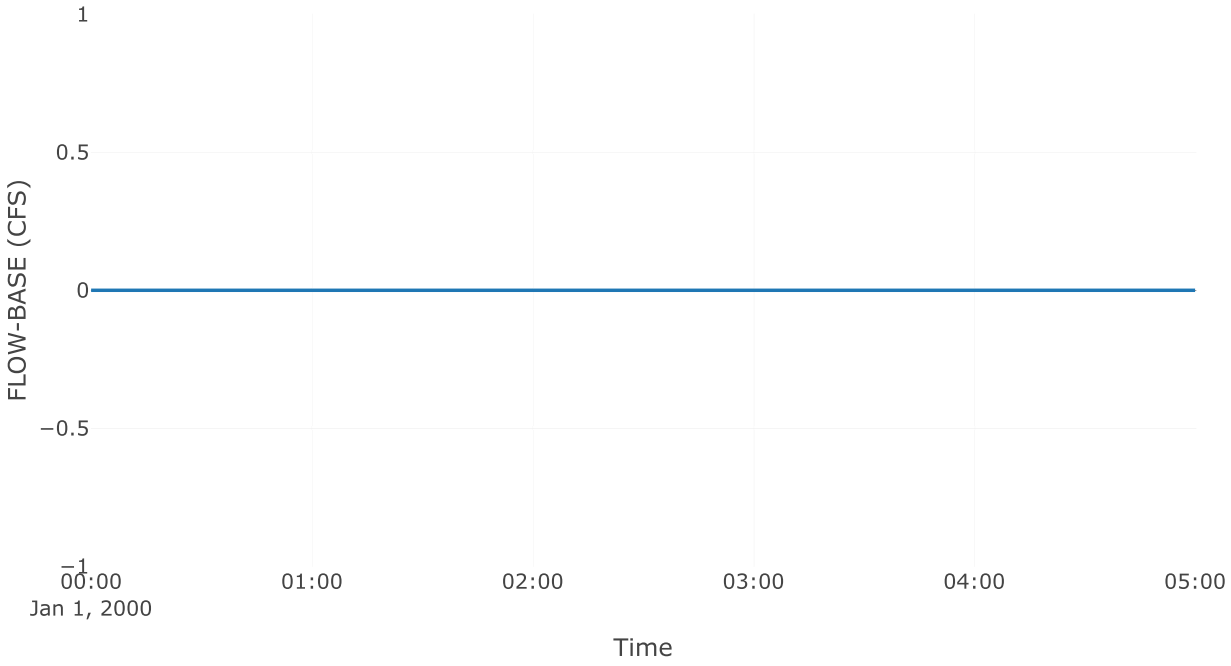

## Cumulative Precipitation

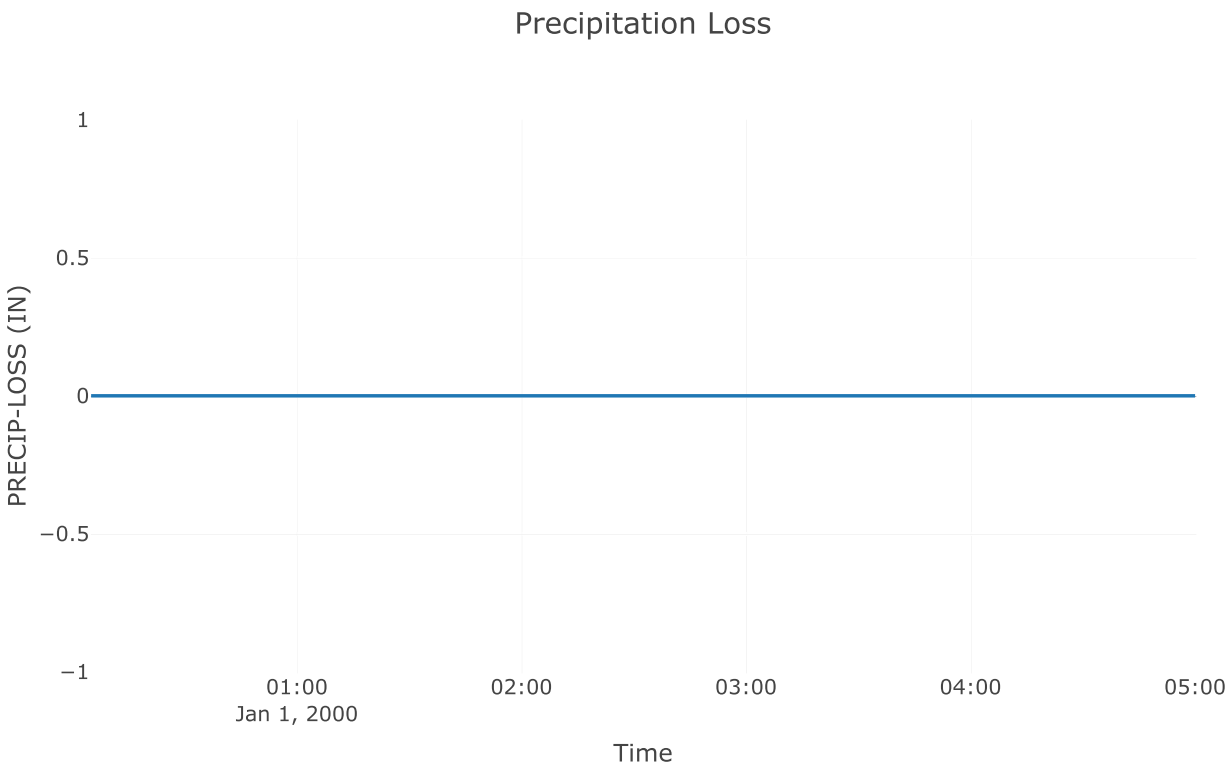


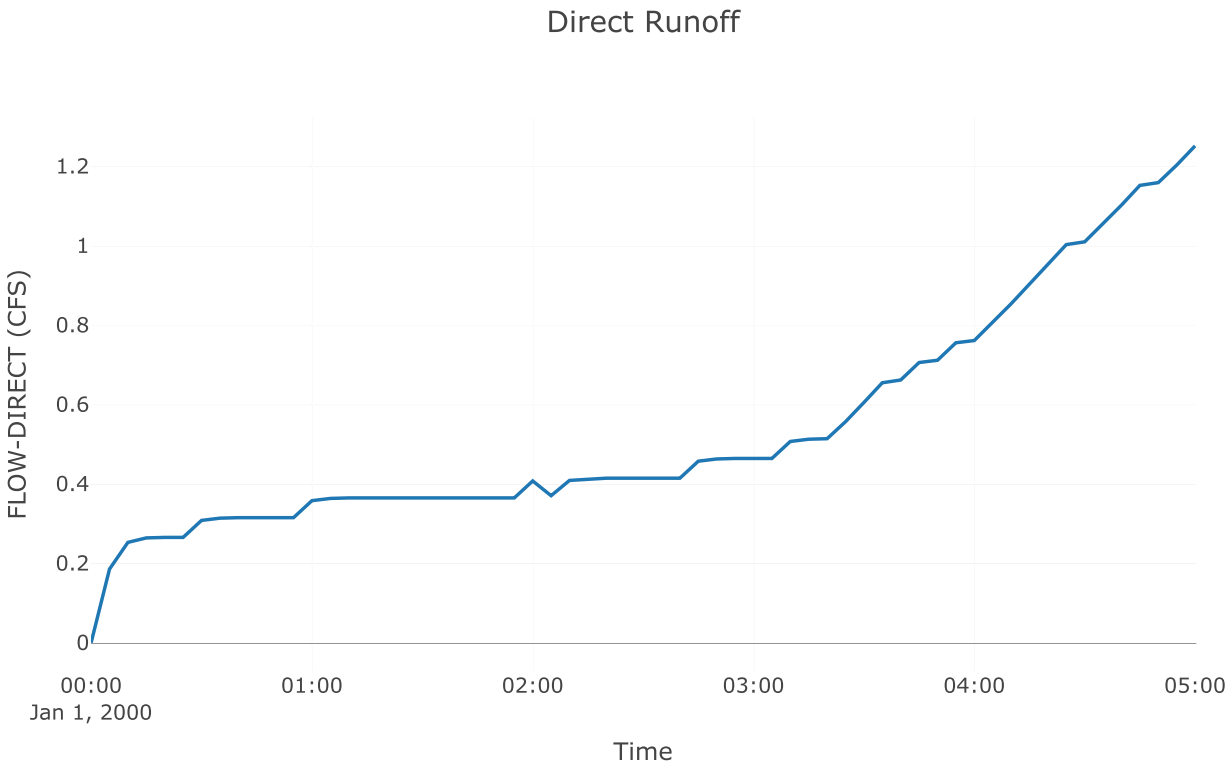
## Cumulative Precipitation Loss

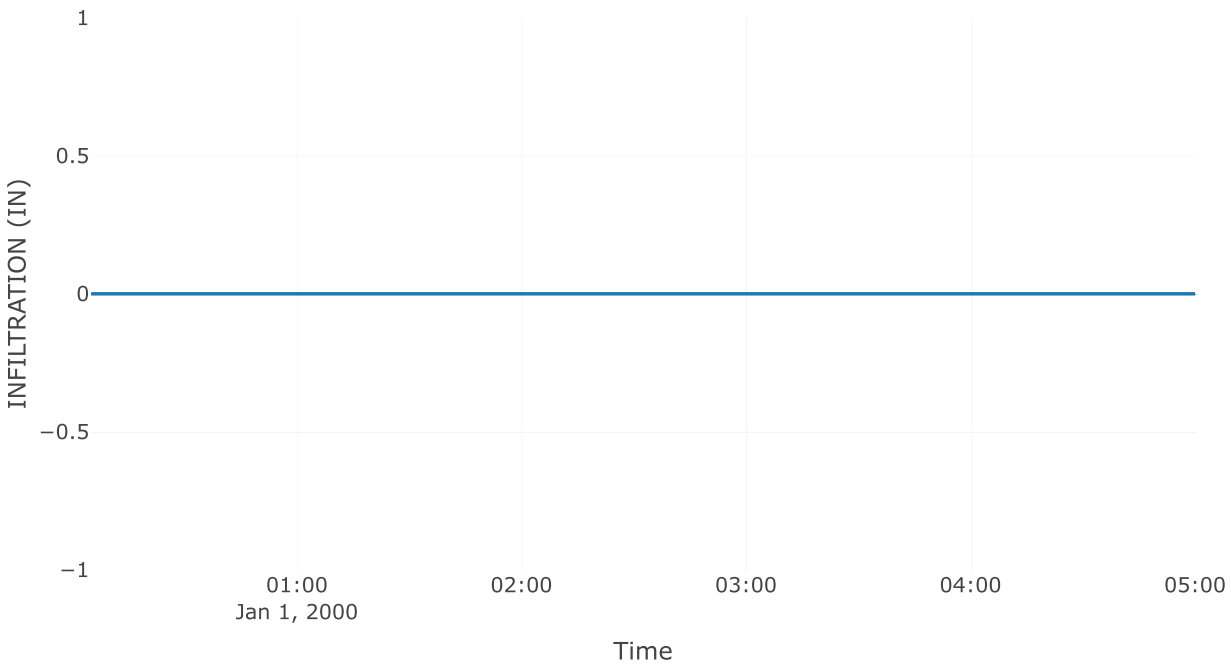



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time


Direct Runoff
FLOW-DIRECT (CFS)
1.2
1
0.8
0.6
0.4
0.2
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

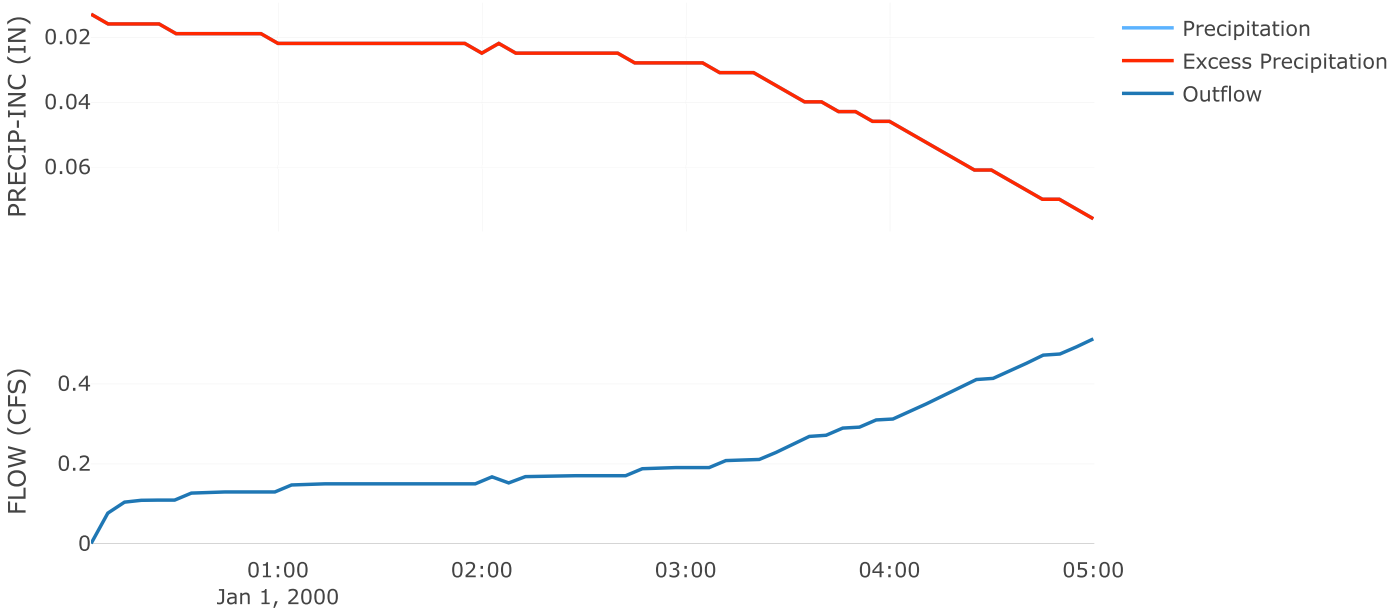
# Subbasin: CB-3

**Area (ft²)** : 0
**Downstream** : UG - DT

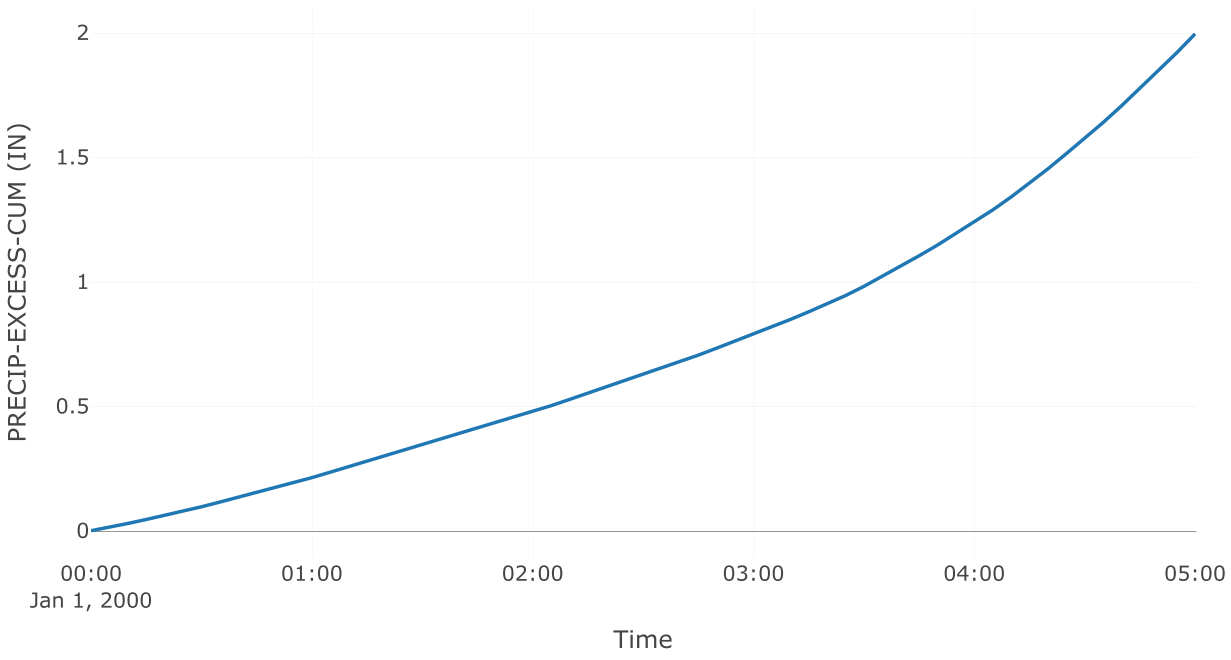
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-3 | |
|---|---|
| Peak Discharge (CFS) | 0.51 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.94 |
| Precipitation Volume (AC - FT) | 0.09 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.09 |
| Direct Runoff Volume (AC - FT) | 0.09 |
| Baseflow Volume (AC - FT) | 0 |

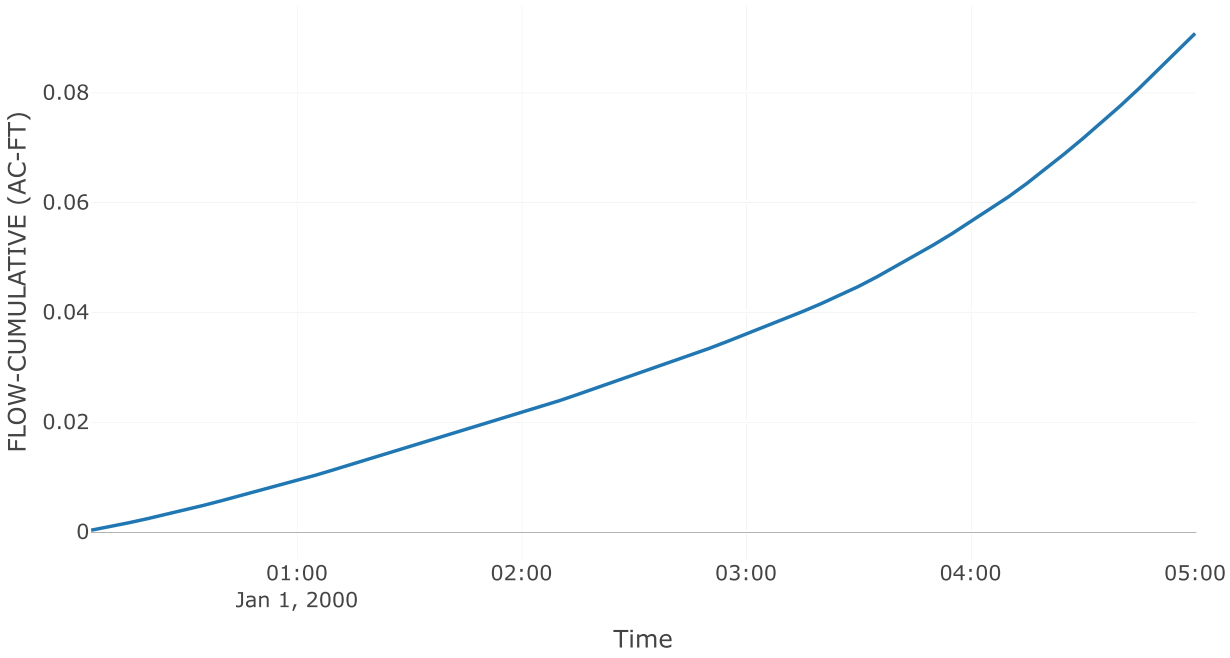
## Precipitation and Outflow



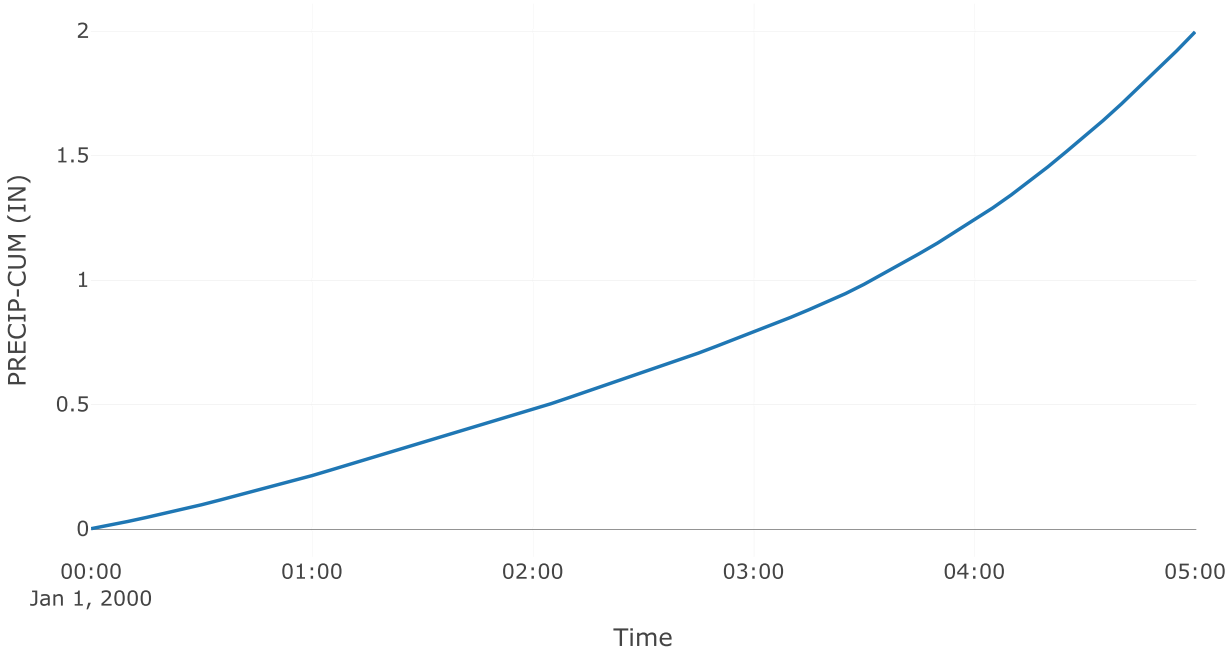

## Cumulative Excess Precipitation



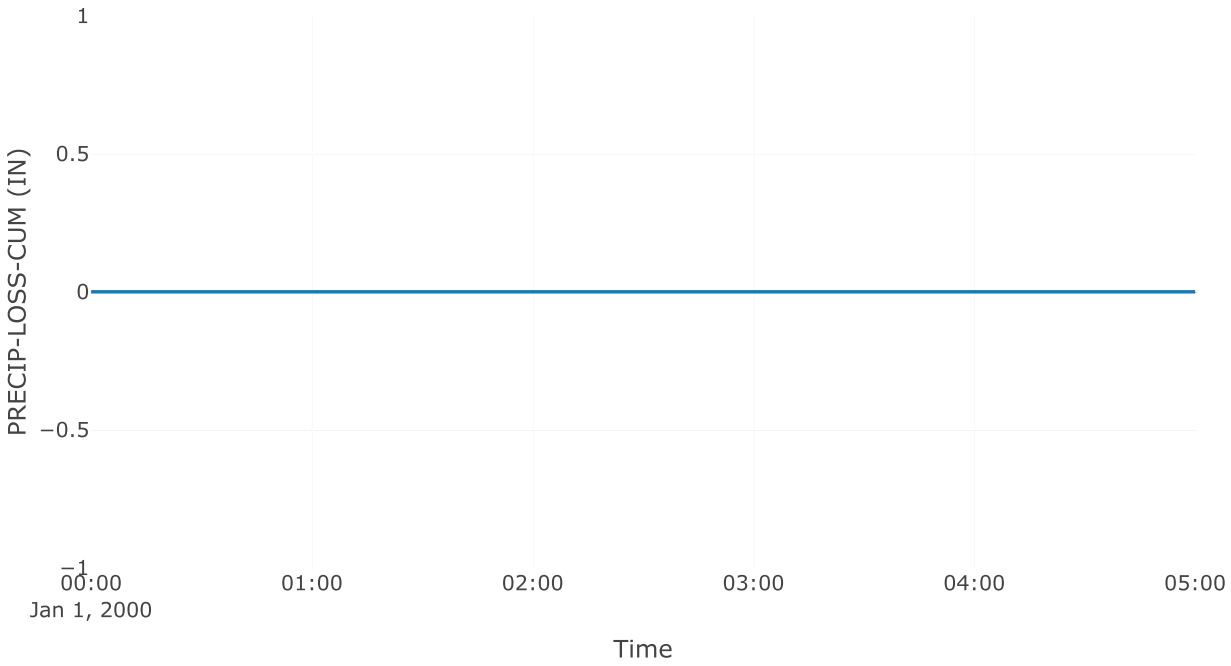
## Cumulative Outflow



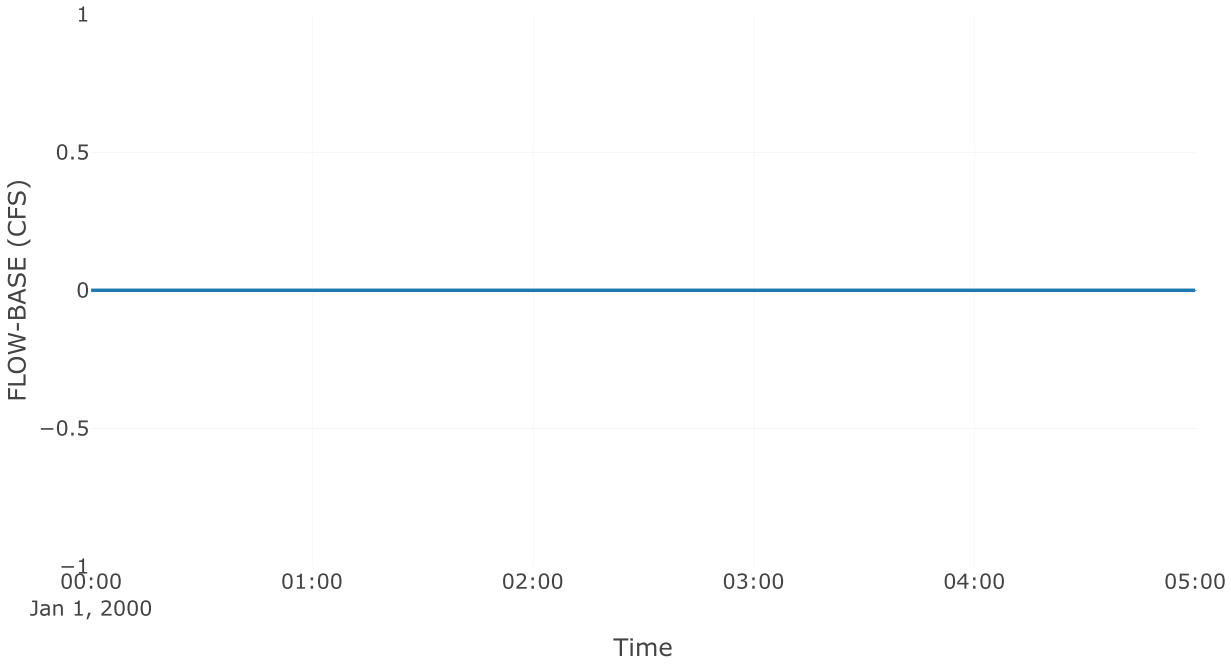

## Cumulative Precipitation

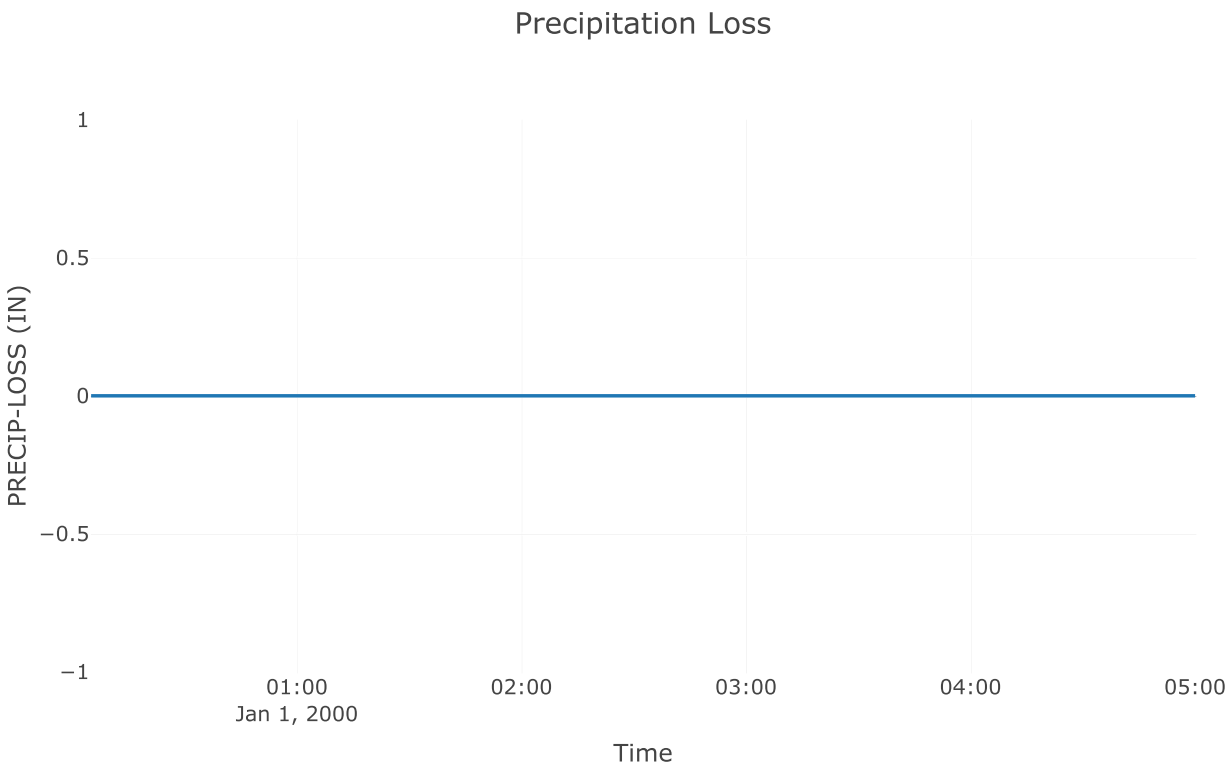


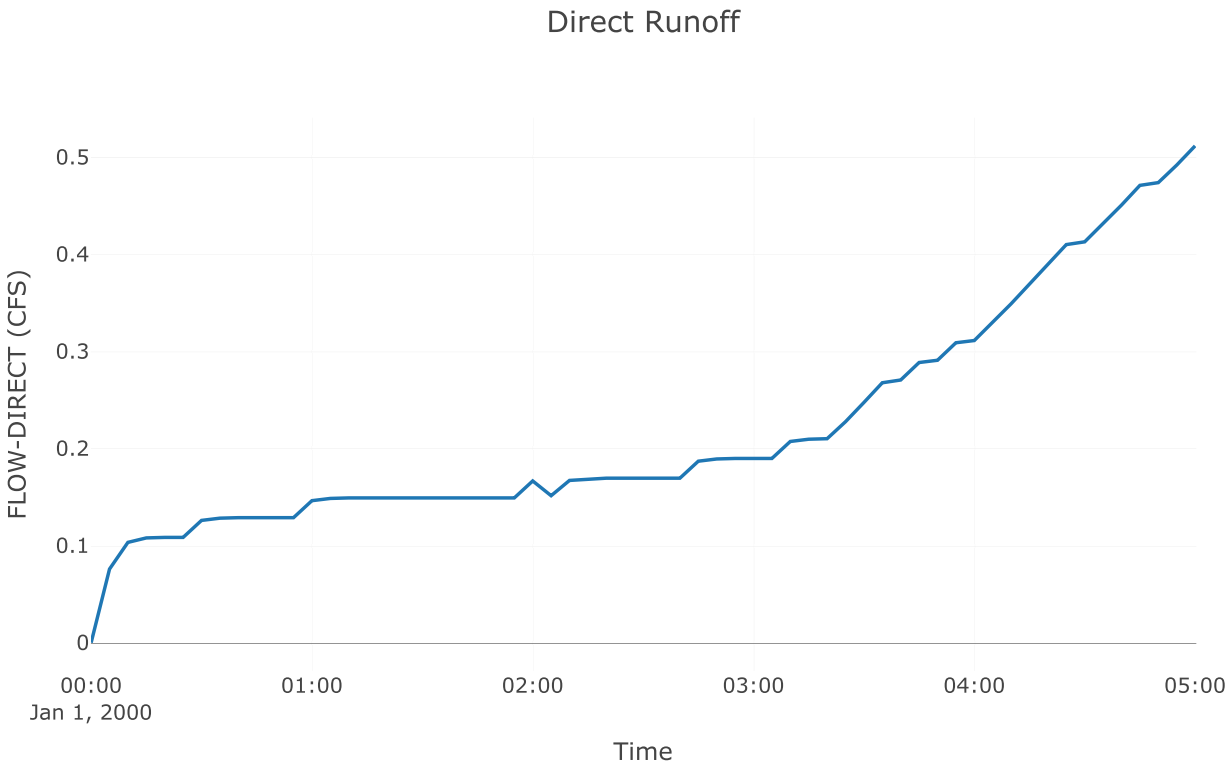
## Cumulative Precipitation Loss

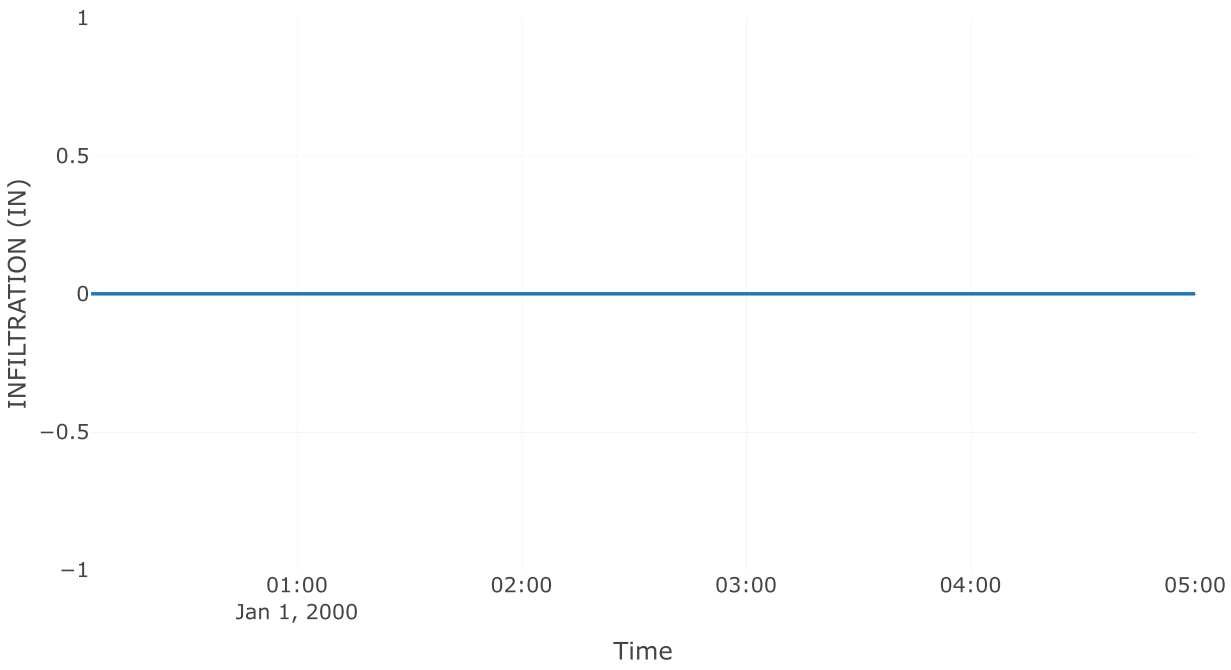



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

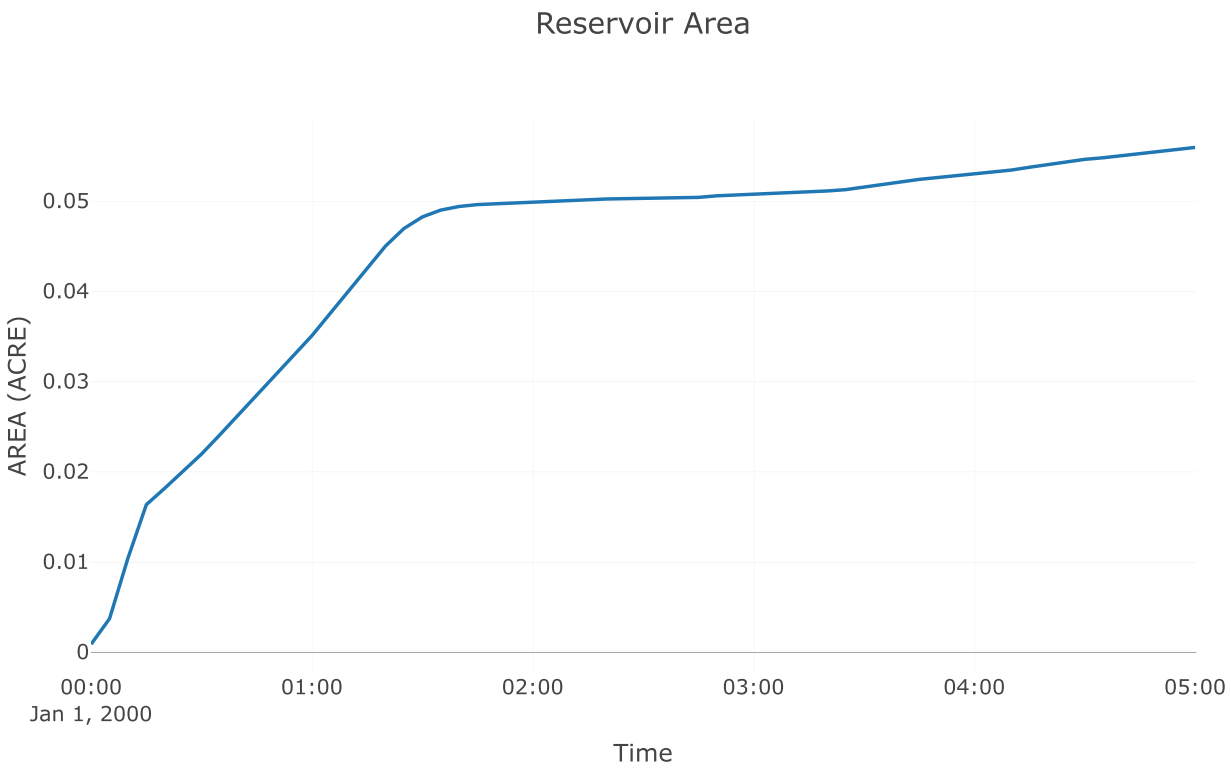

Direct Runoff
FLOW-DIRECT (CFS)
0.5
0.4
0.3
0.2
0.1
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

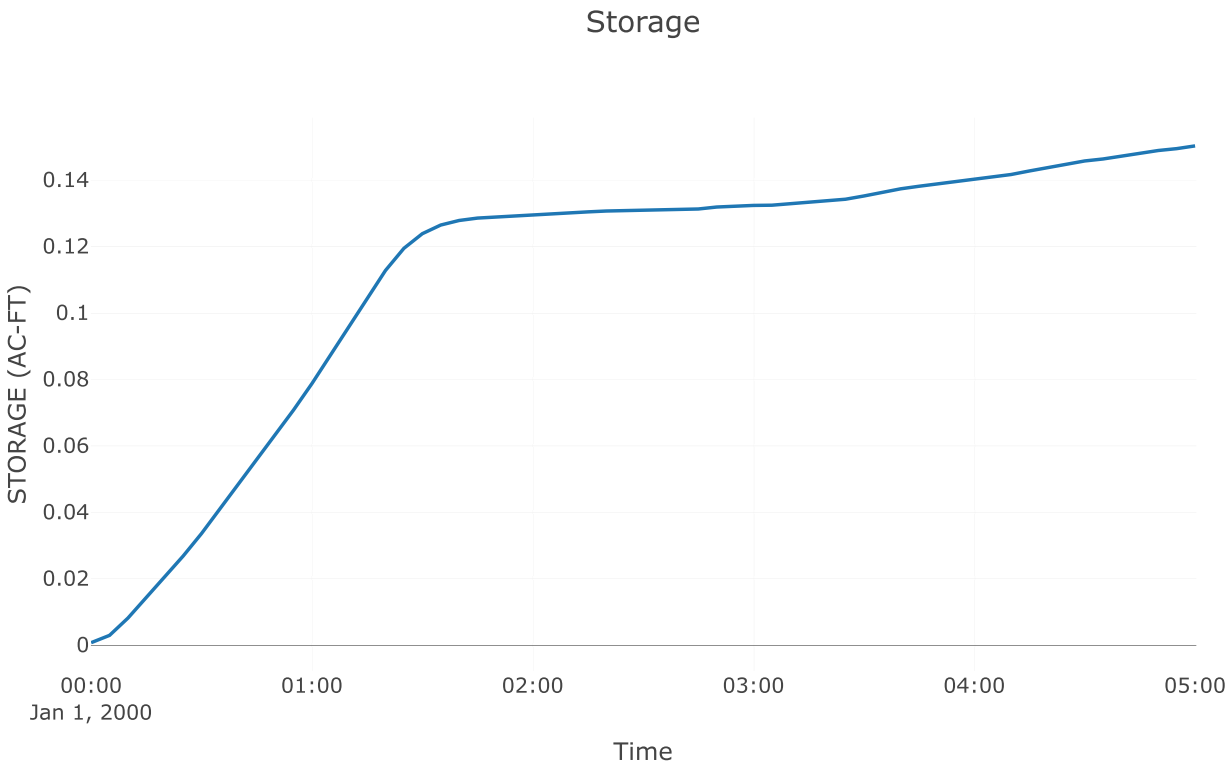

Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

# Reservoir: UG-DT

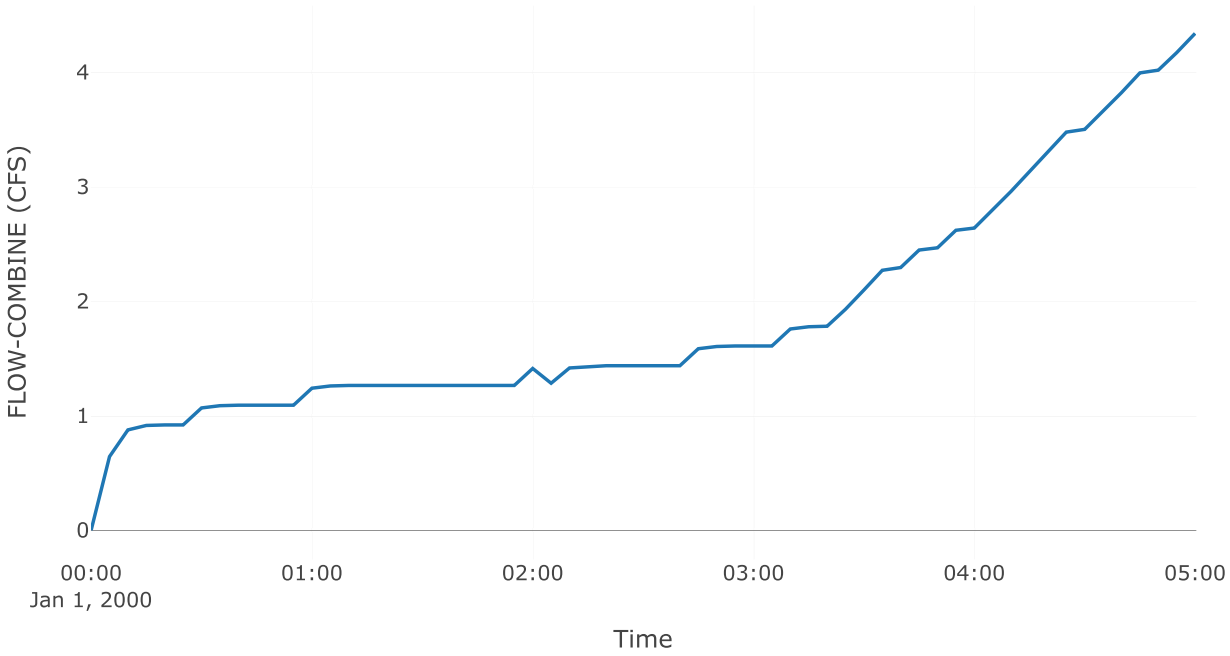
**Downstream** : Sink - 1

| Results: UG-DT | |
|---|---|
| Peak Discharge (CFS) | 4.21 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.57 |
| Peak Inflow (CFS) | 4.34 |
| Time of Peak Inflow | 01Jan2000, 05:00 |
| Inflow Volume (AC - FT) | 0.77 |
| Maximum Storage (AC - FT) | 0.15 |
| Peak Elevation (FT) | 106.48 |
| Discharge Volume (AC - FT) | 0.62 |

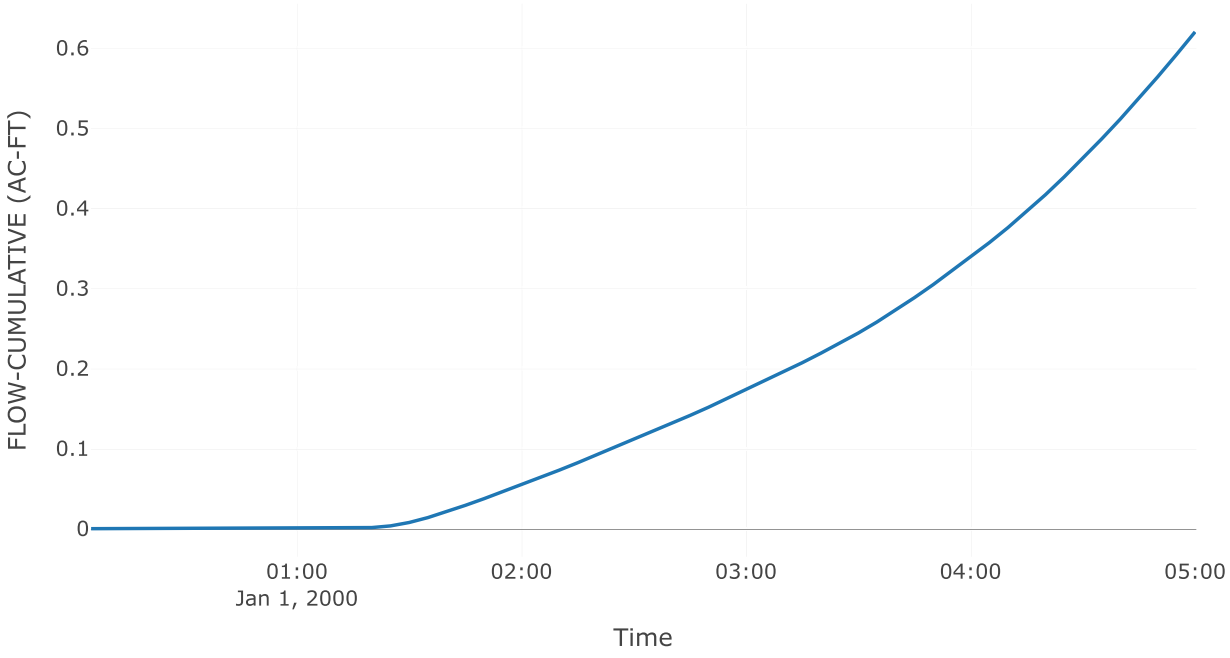

Reservoir Area
AREA (ACRE)
0.05
0.04
0.03
0.02
0.01
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

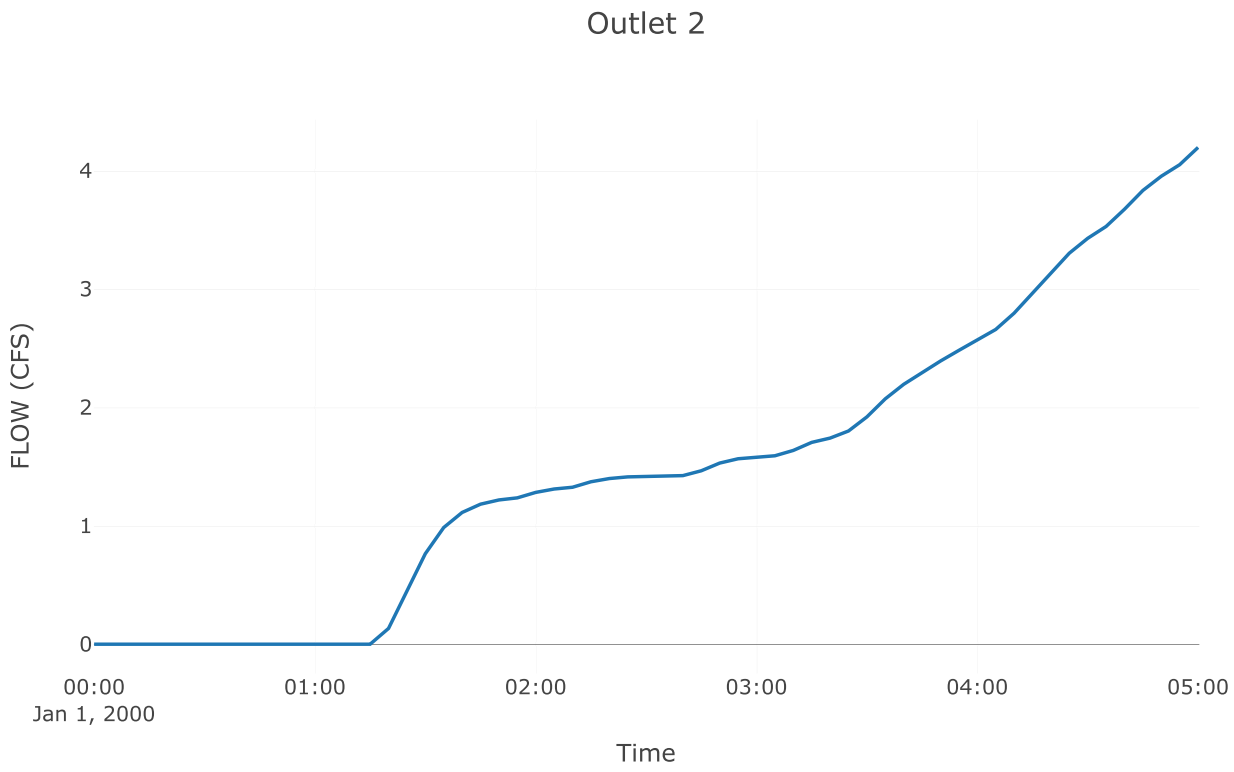

Storage
STORAGE (AC-FT)
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

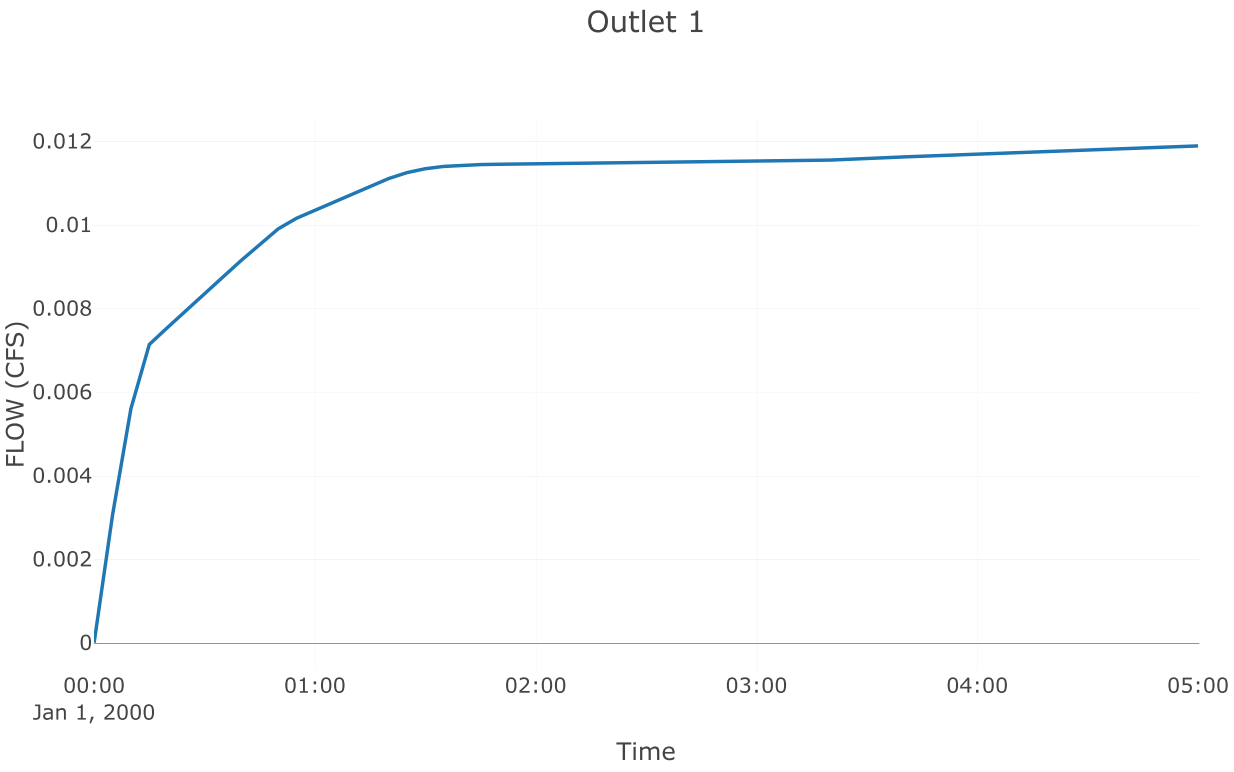
## Combined Inflow



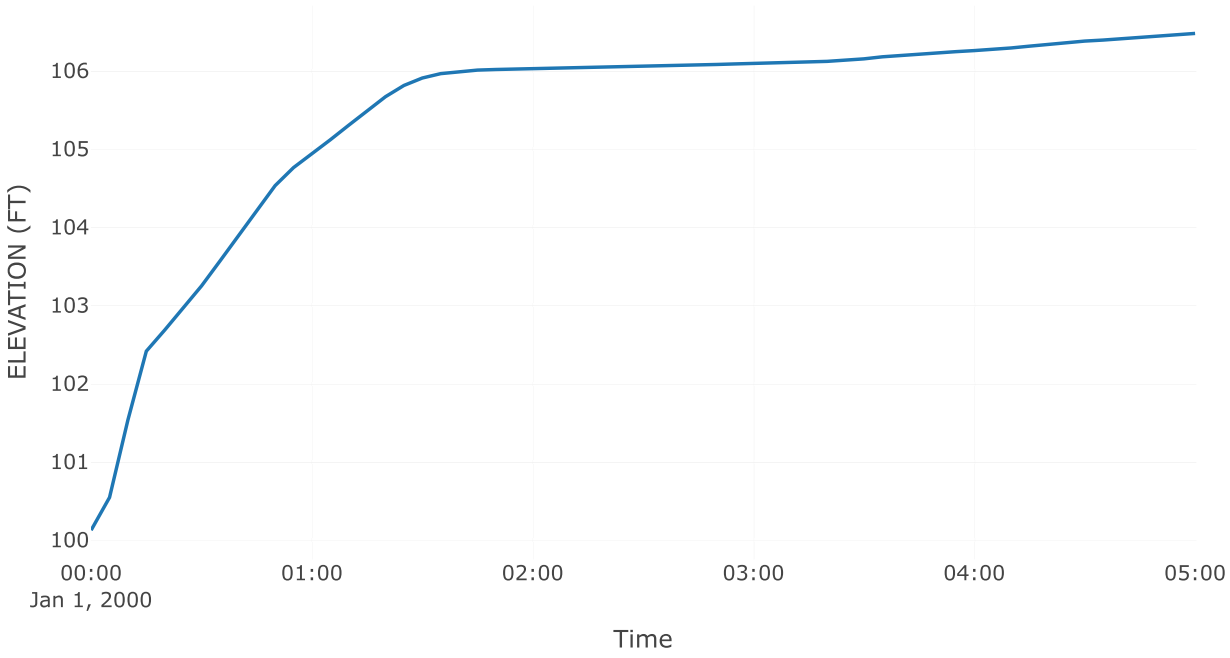

## Cumulative Outflow



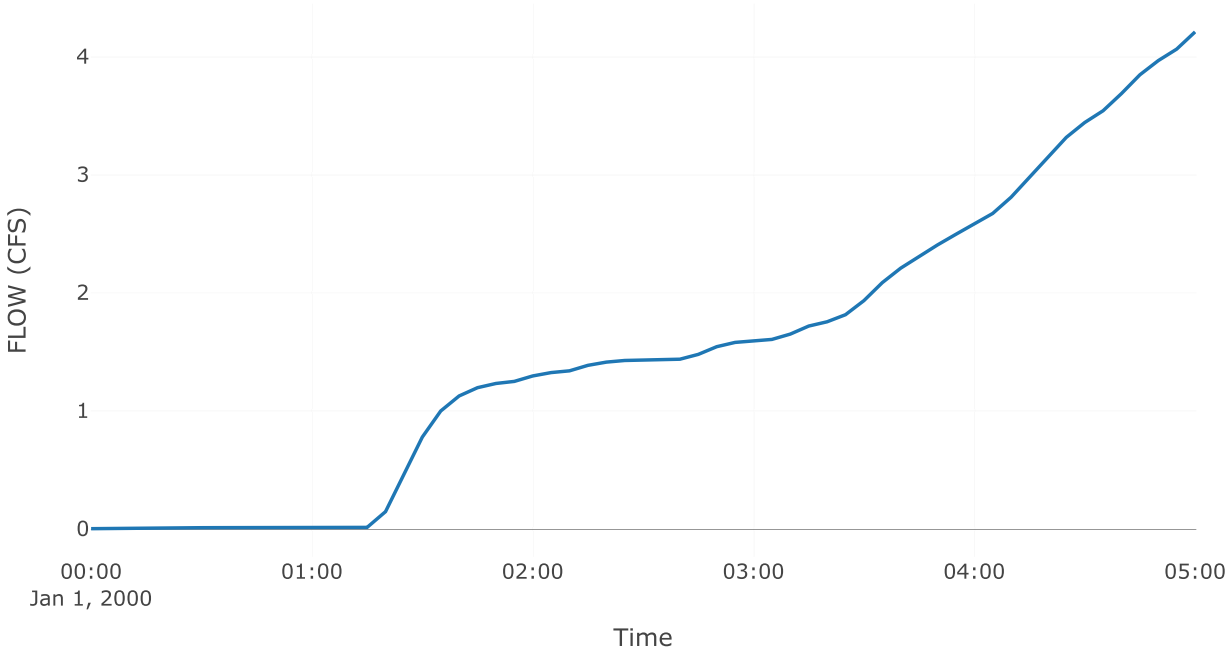

Outlet 2
FLOW (CFS)
4
3
2
1
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Outlet 1
FLOW (CFS)
0.012
0.01
0.008
0.006
0.004
0.002
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

## Pool Elevation



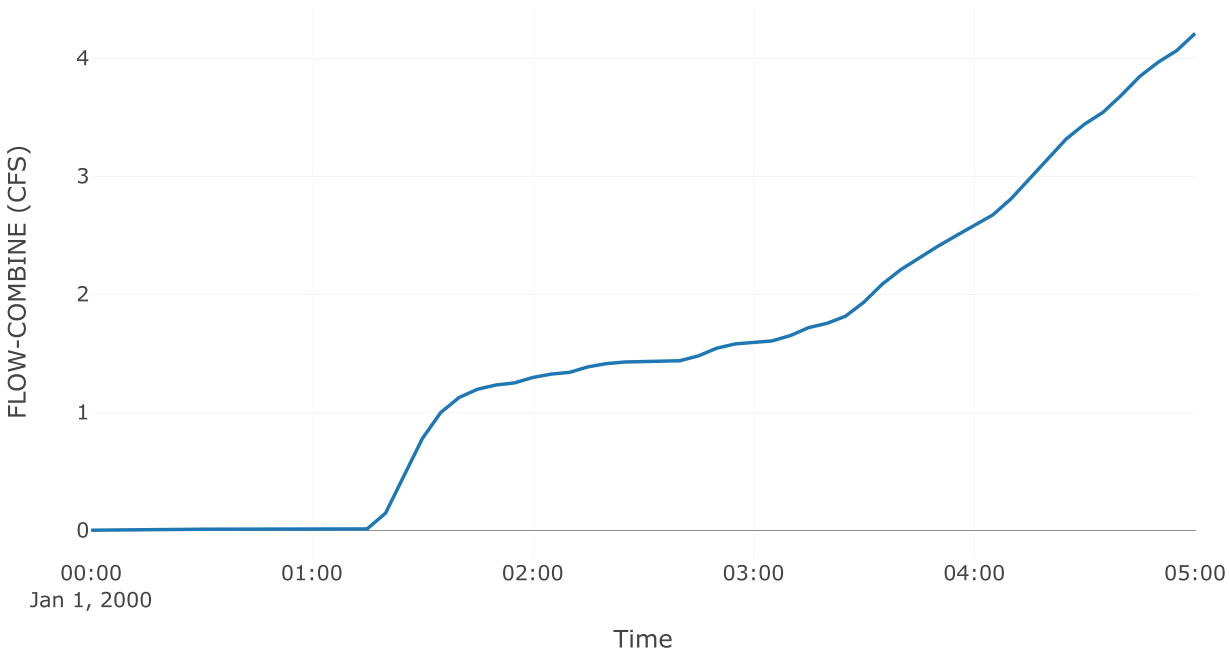

## Outflow



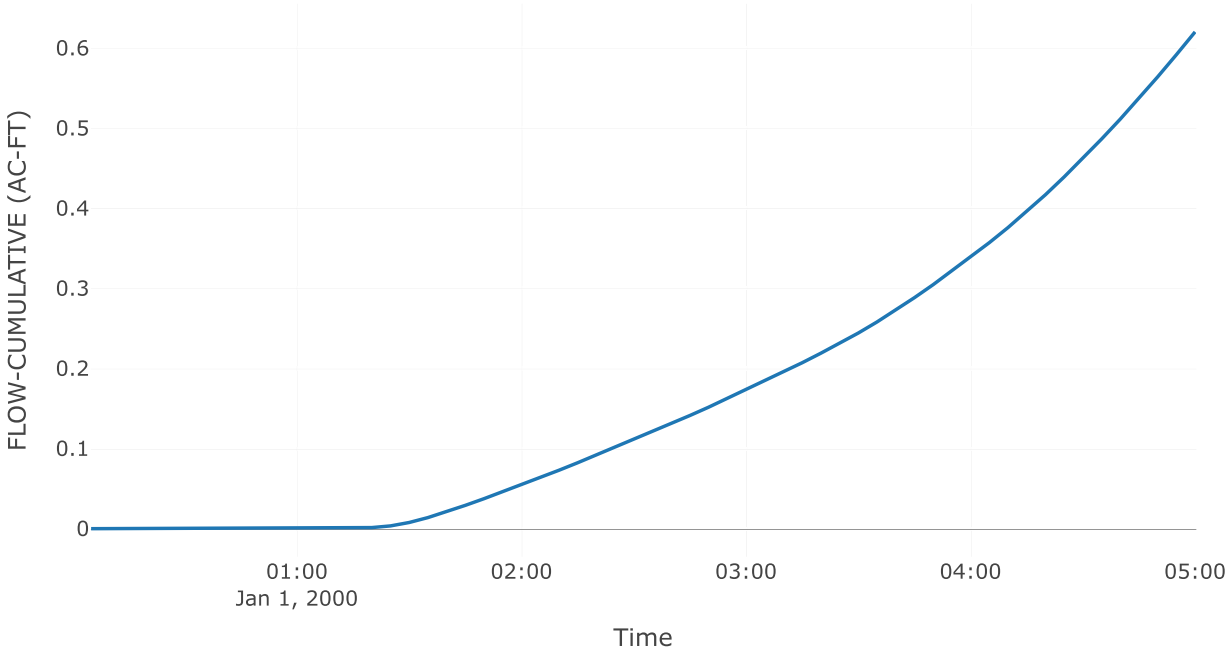
# Sink: Sink-1

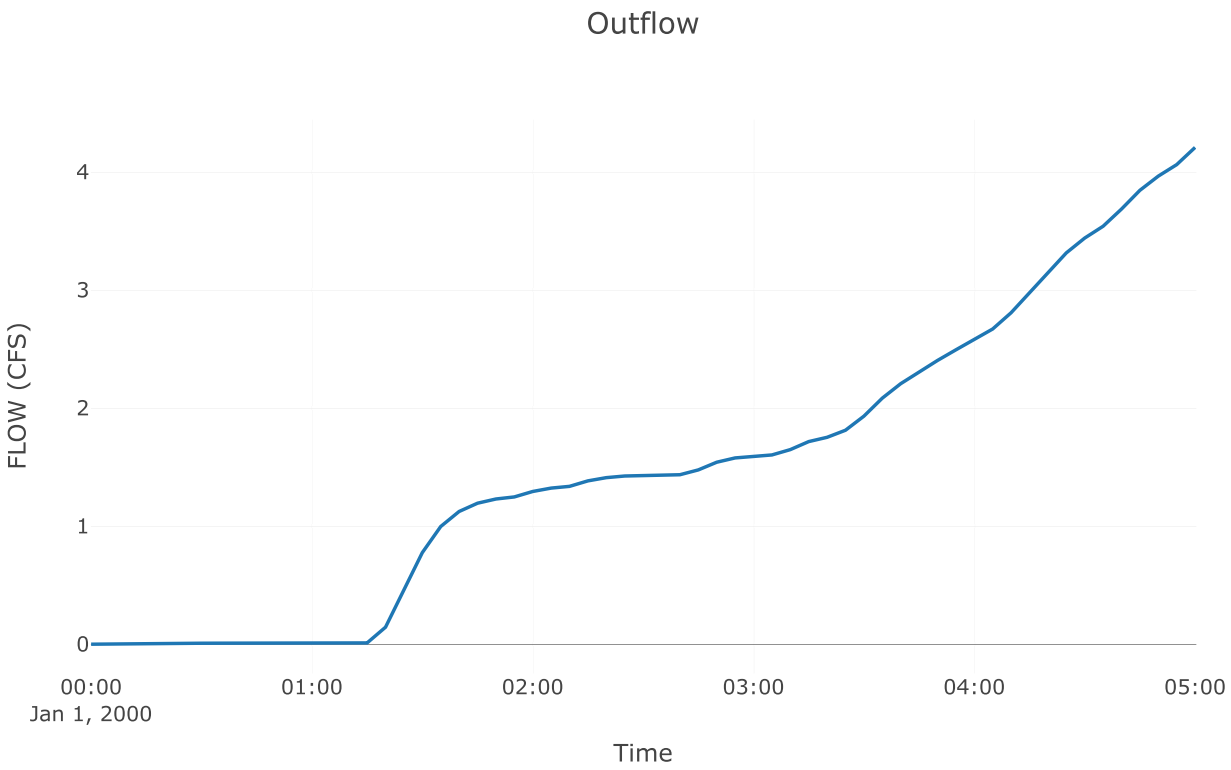
| Results: Sink-1 | |
|---|---|
| Peak Discharge (CFS) | 4.21 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 1.57 |

## Combined Inflow




## Cumulative Outflow




Outflow
FLOW (CFS)
4
3
2
1
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

**Project:** 0724 Hec
**Simulation Run:** 24 hr 100Y
**Simulation Start:** 31 December 1999, 24:00
**Simulation End:** 1 January 2000, 05:00

**HMS Version:** 4.8
**Executed:** 14 January 2022, 16:24

## Global Parameter Summary - Subbasin

**Area (ft²)**

| Element Name | Area (ft²) |
|---|---|
| CB - 1 | 0 |
| CB - 2 | 0 |
| CB - 3 | 0 |

**Downstream**

| Element Name | Downstream |
|---|---|
| CB - 1 | UG - DT |
| CB - 2 | UG - DT |
| CB - 3 | UG - DT |

**Transform: User - Specified S - Graph**

| Element Name | S - graph | Lag Method | Lag |
|---|---|---|---|
| CB - 1 | S - Graph | Specified | 0.03 |
| CB - 2 | S - Graph | Specified | 0.03 |
| CB - 3 | S - Graph | Specified | 0.03 |

## Global Results Summary

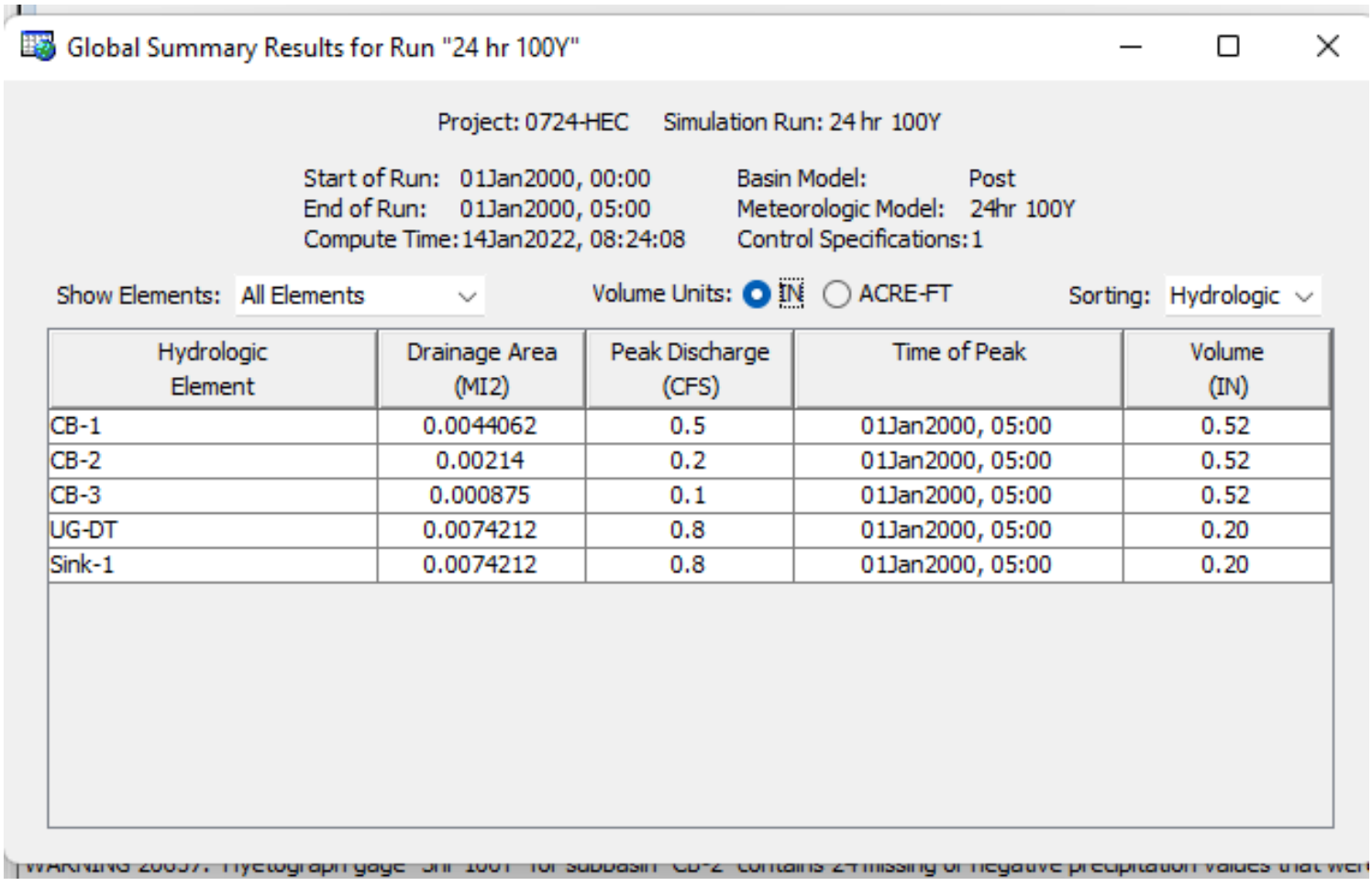
| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB - 1 | 0 | 0.51 | 01Jan2000, 05:00 | 0.52 |
| CB - 2 | 0 | 0.25 | 01Jan2000, 05:00 | 0.52 |
| CB - 3 | 0 | 0.1 | 01Jan2000, 05:00 | 0.52 |
| UG - DT | 0.01 | 0.83 | 01Jan2000, 05:00 | 0.2 |
| Sink - 1 | 0.01 | 0.83 | 01Jan2000, 05:00 | 0.2 |

# Subbasin: CB-1

**Area (ft²)** : 0
**Downstream** : UG - DT

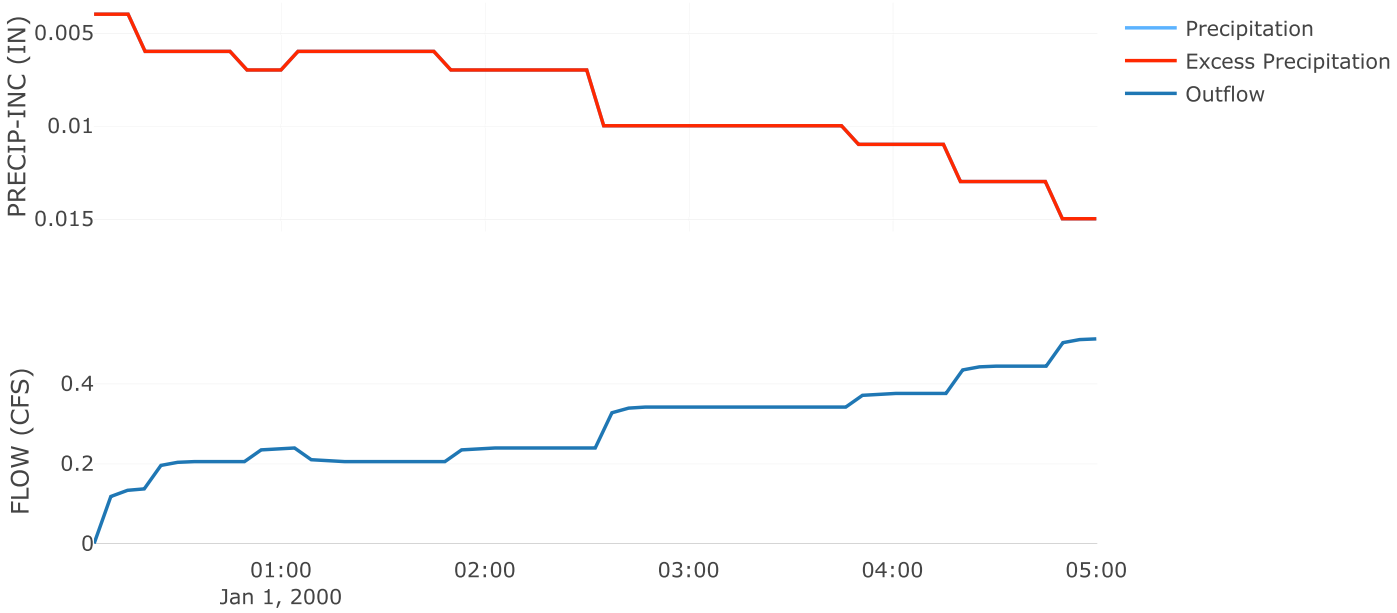
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-1 | |
|---|---|
| Peak Discharge (CFS) | 0.51 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.52 |
| Precipitation Volume (AC - FT) | 0.12 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.12 |
| Direct Runoff Volume (AC - FT) | 0.12 |
| Baseflow Volume (AC - FT) | 0 |

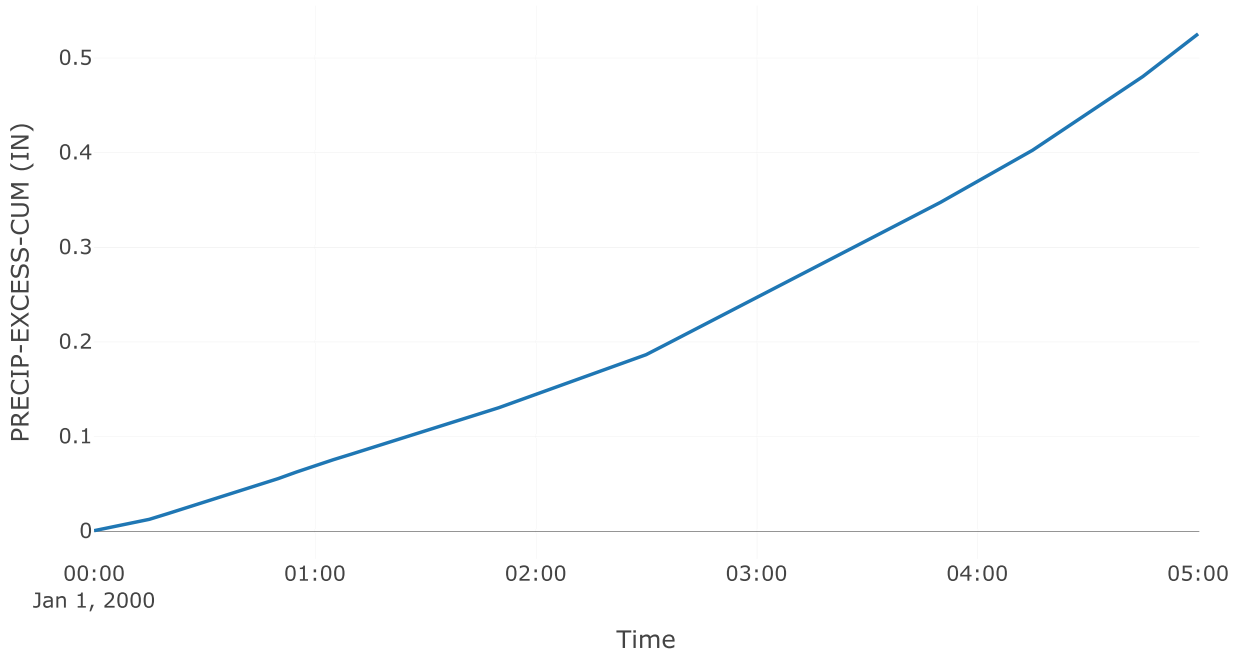



| Hydrologic Element | Drainage Area (MI2) | Peak Discharge (CFS) | Time of Peak | Volume (IN) |
|---|---|---|---|---|
| CB-1 | 0.0044062 | 0.5 | 01Jan2000, 05:00 | 0.52 |
| CB-2 | 0.00214 | 0.2 | 01Jan2000, 05:00 | 0.52 |
| CB-3 | 0.000875 | 0.1 | 01Jan2000, 05:00 | 0.52 |
| UG-DT | 0.0074212 | 0.8 | 01Jan2000, 05:00 | 0.20 |
| Sink-1 | 0.0074212 | 0.8 | 01Jan2000, 05:00 | 0.20 |

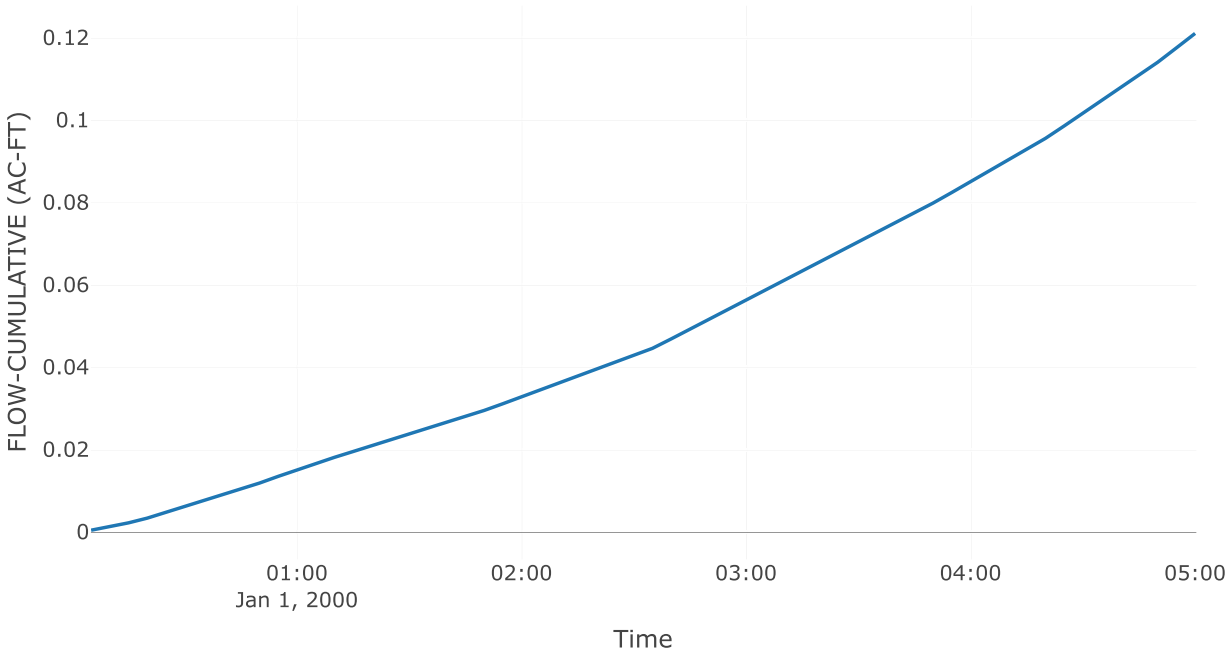
## Precipitation and Outflow



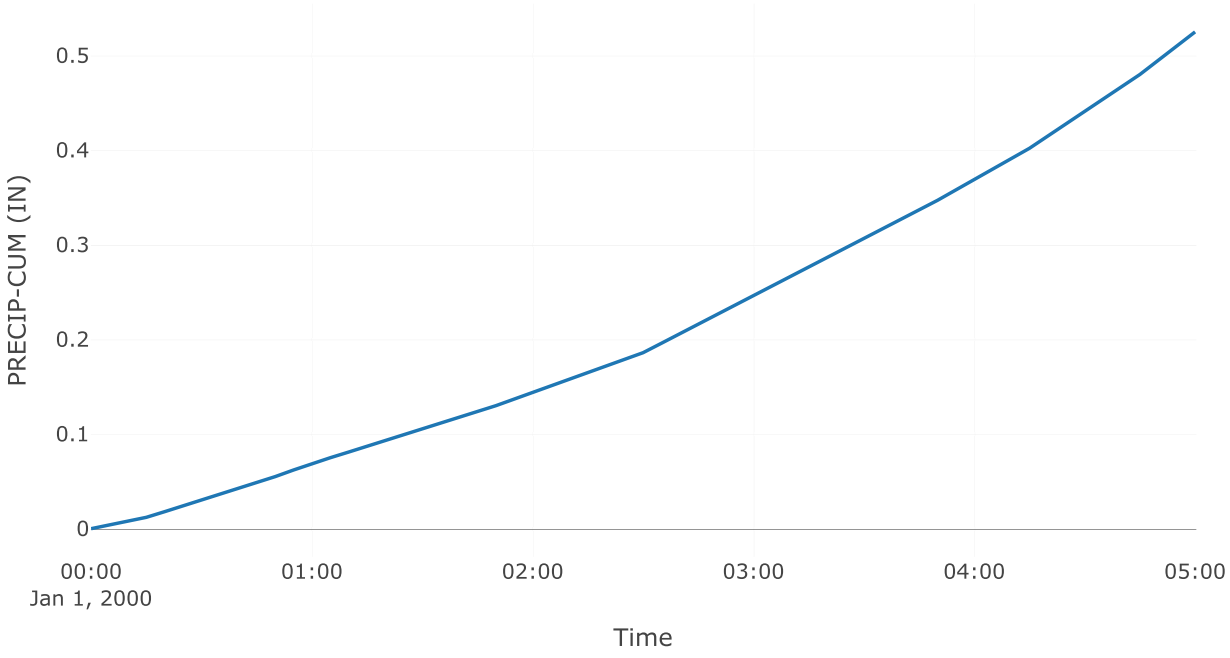

## Cumulative Excess Precipitation



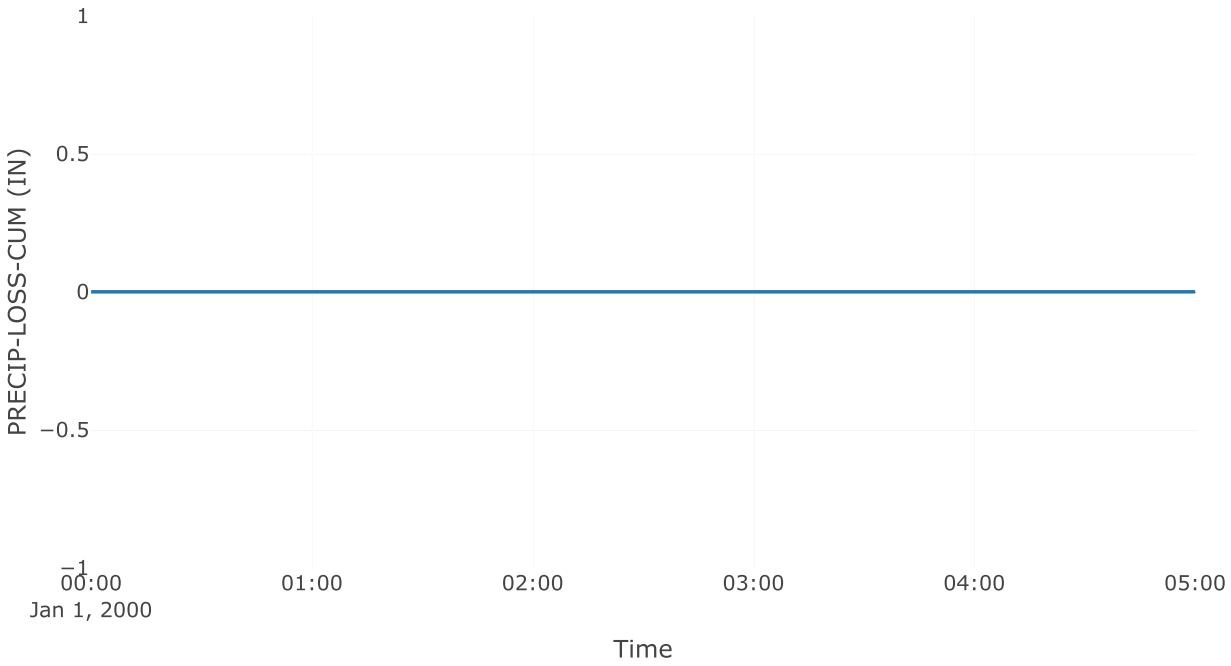
## Cumulative Outflow



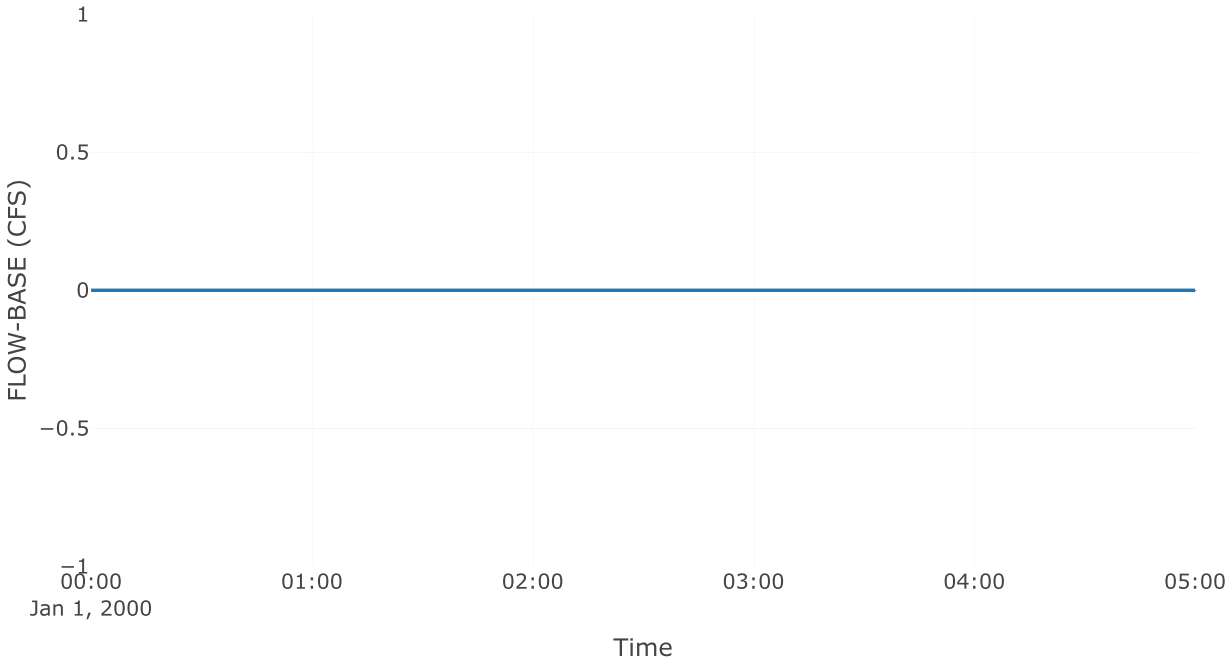

## Cumulative Precipitation



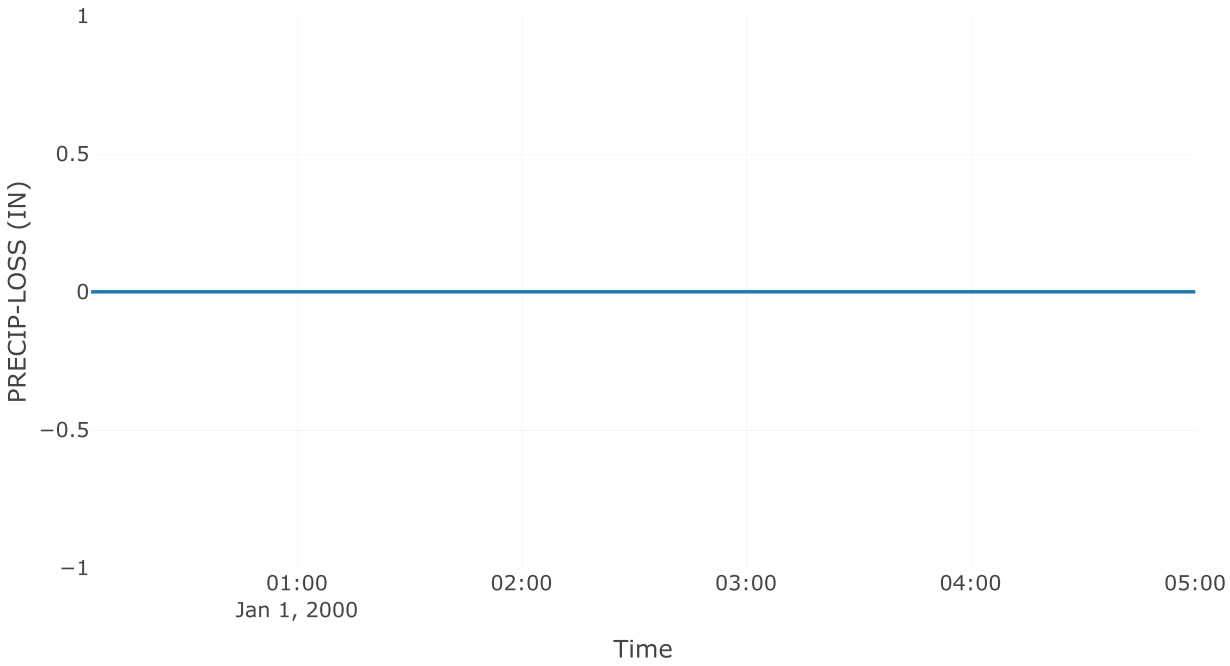
## Cumulative Precipitation Loss



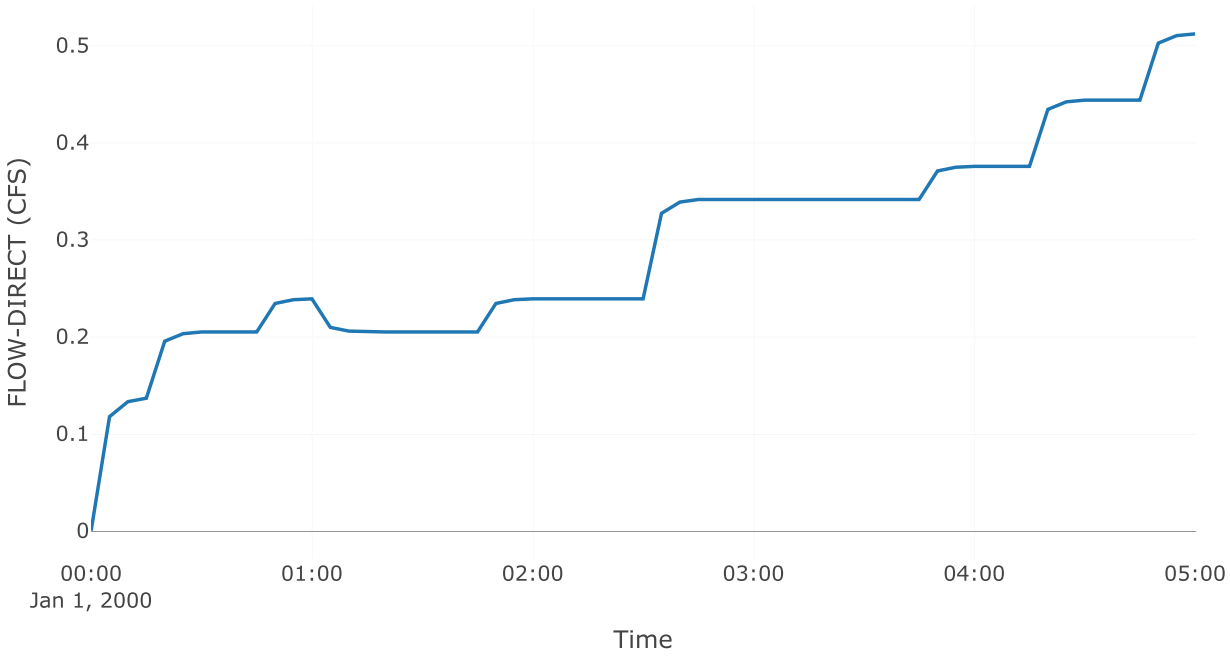

## Baseflow

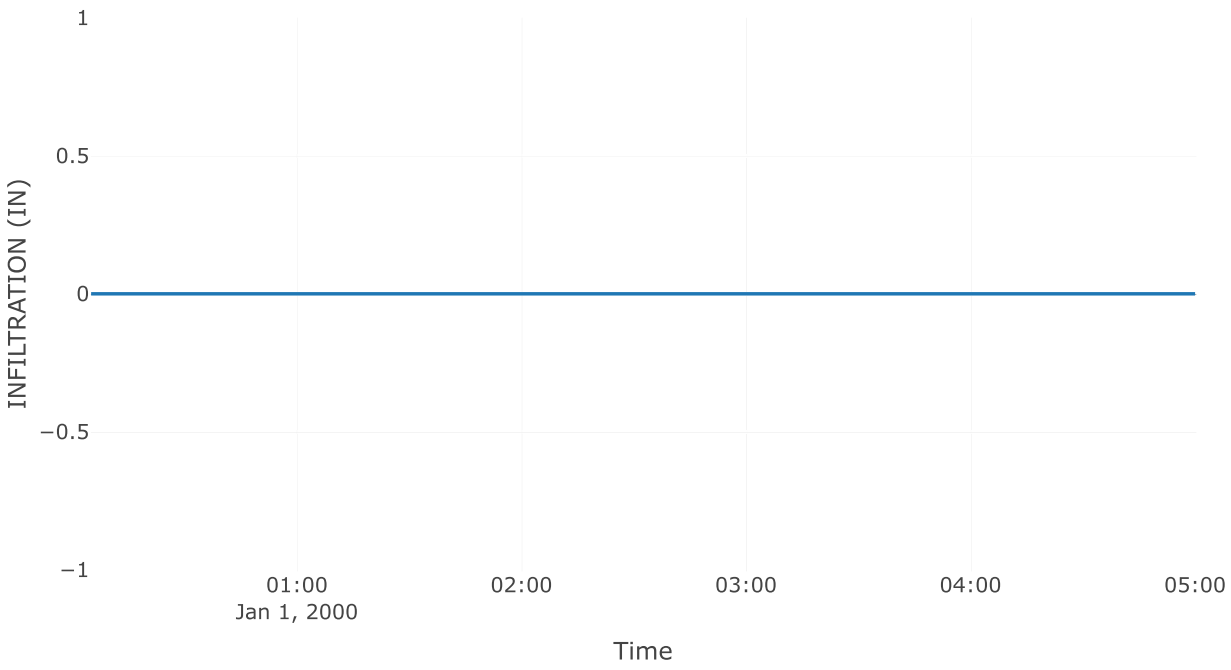


## Precipitation Loss




## Direct Runoff




Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

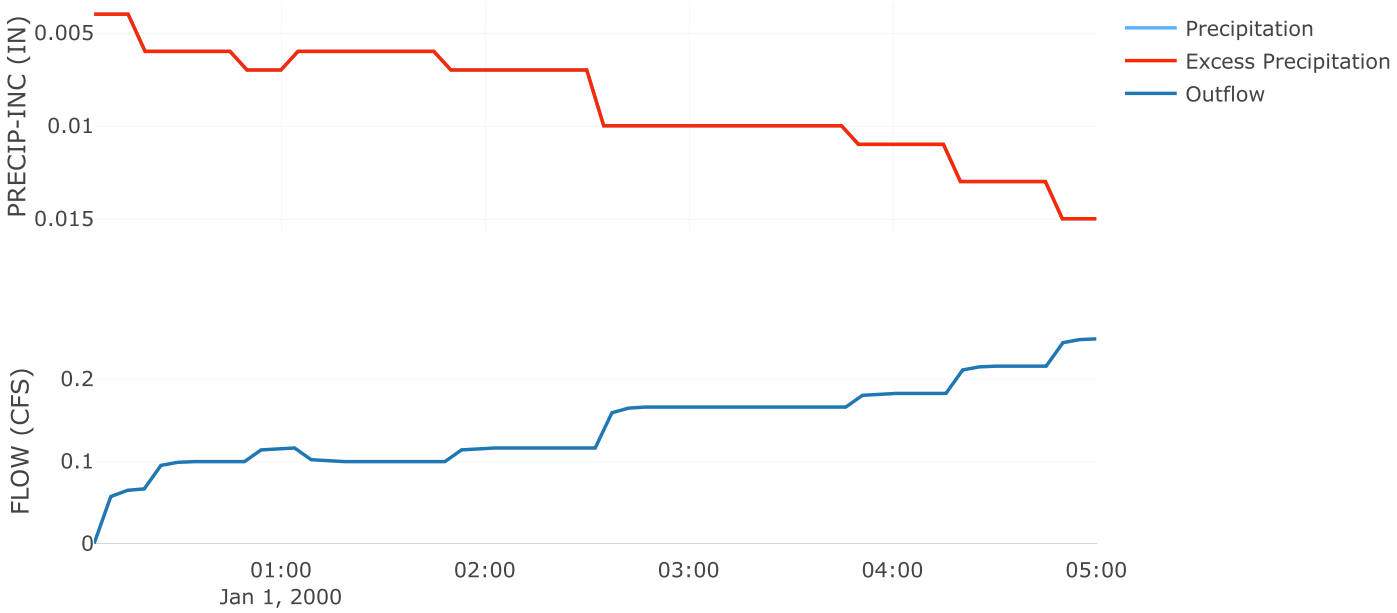
# Subbasin: CB-2

**Area (ft²)** : 0
**Downstream** : UG - DT

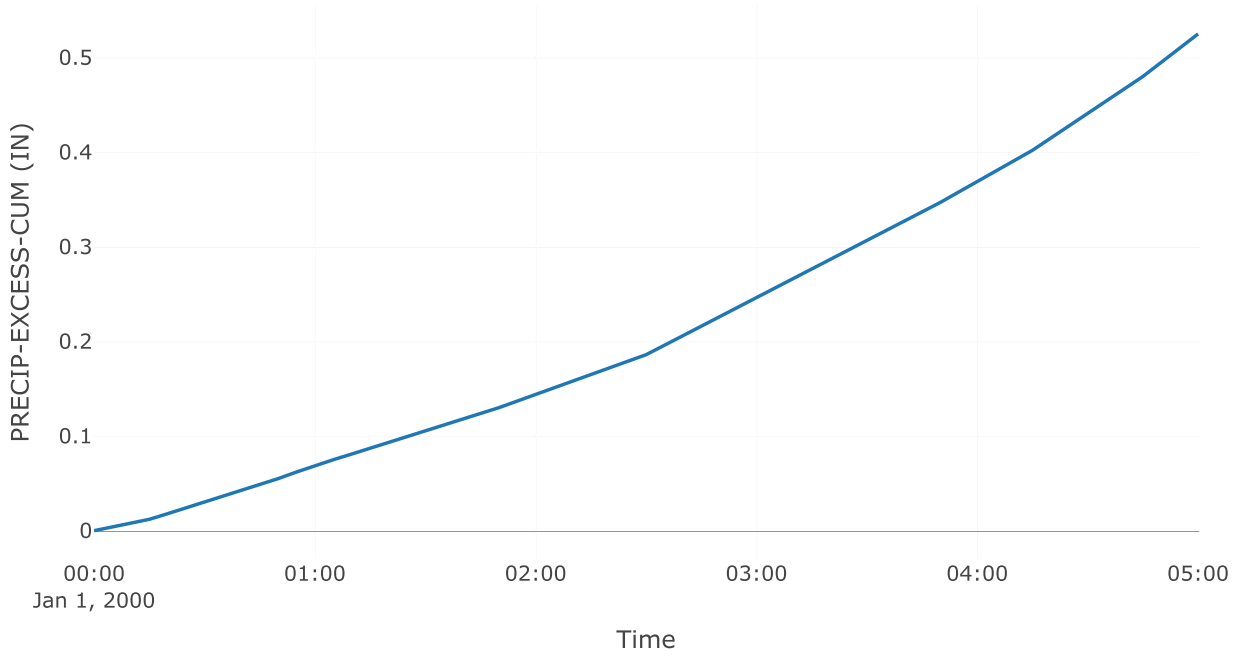
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-2 | |
|---|---|
| Peak Discharge (CFS) | 0.25 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.52 |
| Precipitation Volume (AC - FT) | 0.06 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.06 |
| Direct Runoff Volume (AC - FT) | 0.06 |
| Baseflow Volume (AC - FT) | 0 |

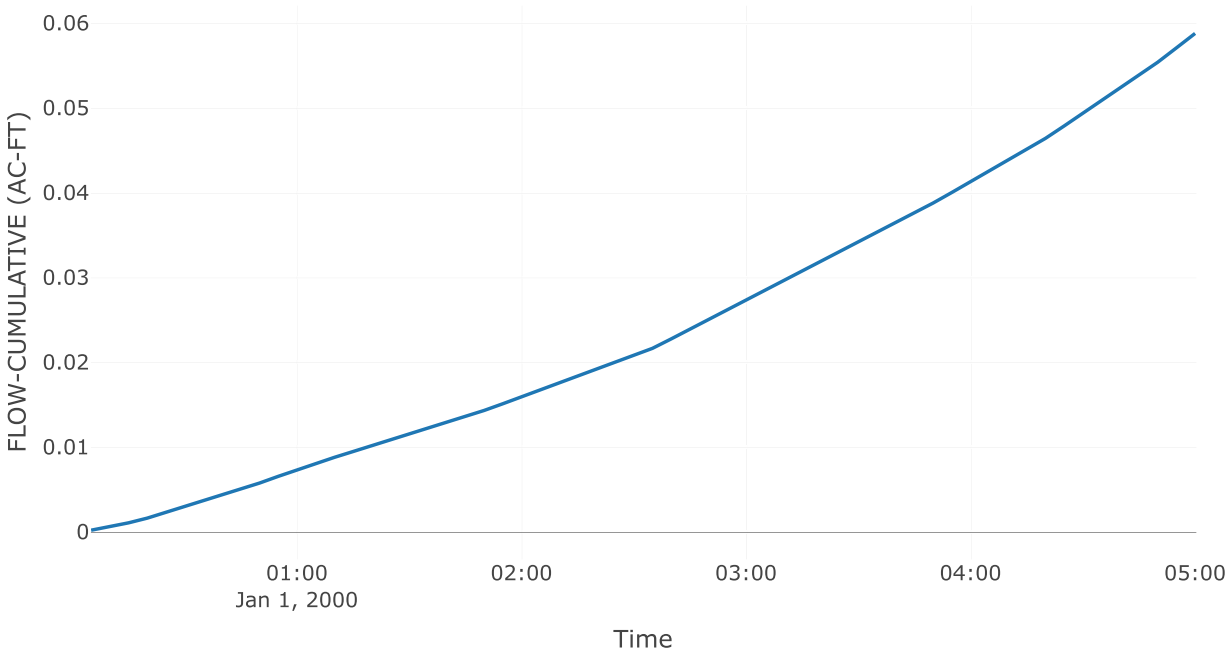
## Precipitation and Outflow



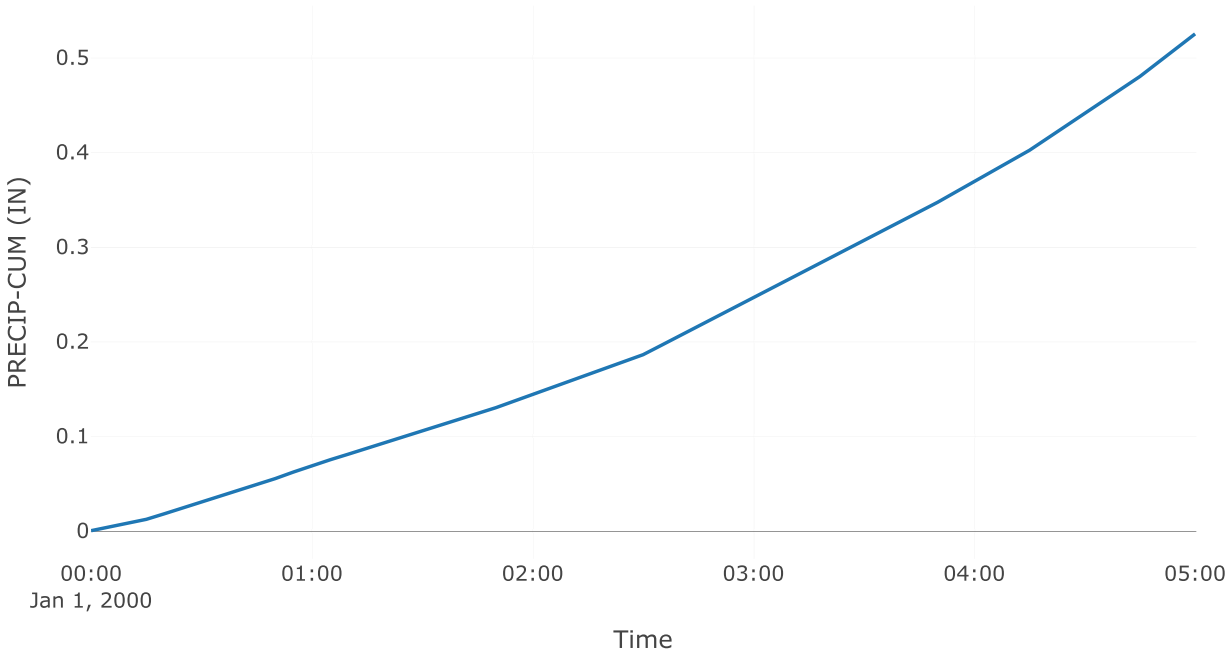

## Cumulative Excess Precipitation



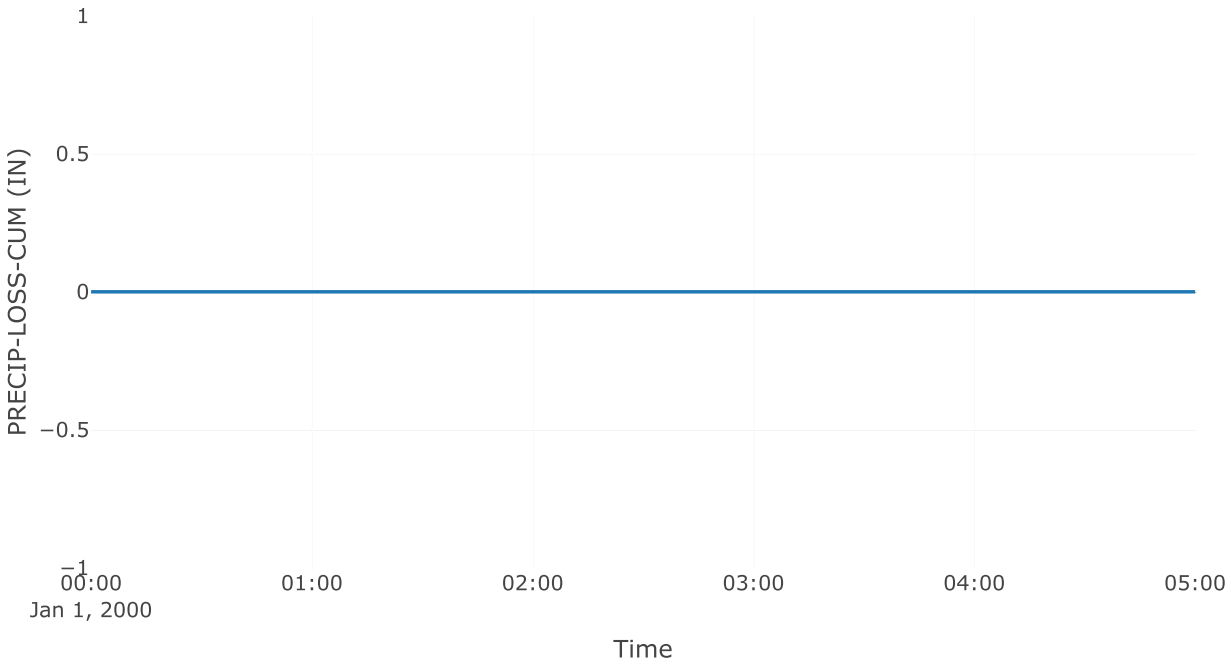
## Cumulative Outflow



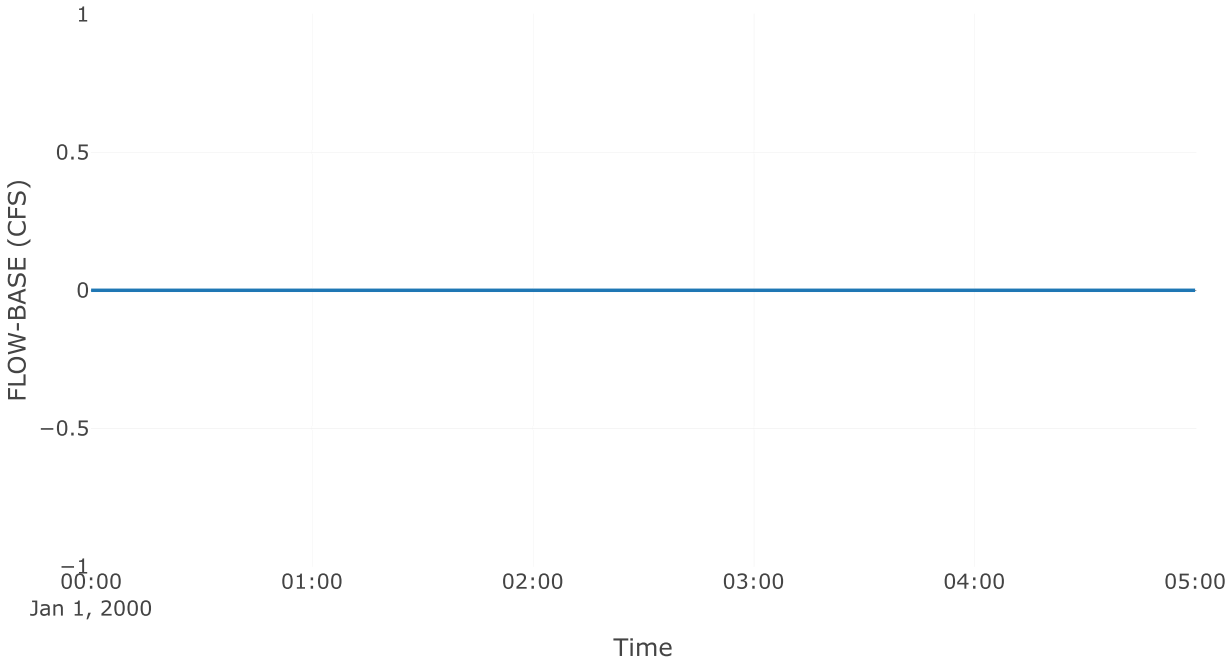

## Cumulative Precipitation



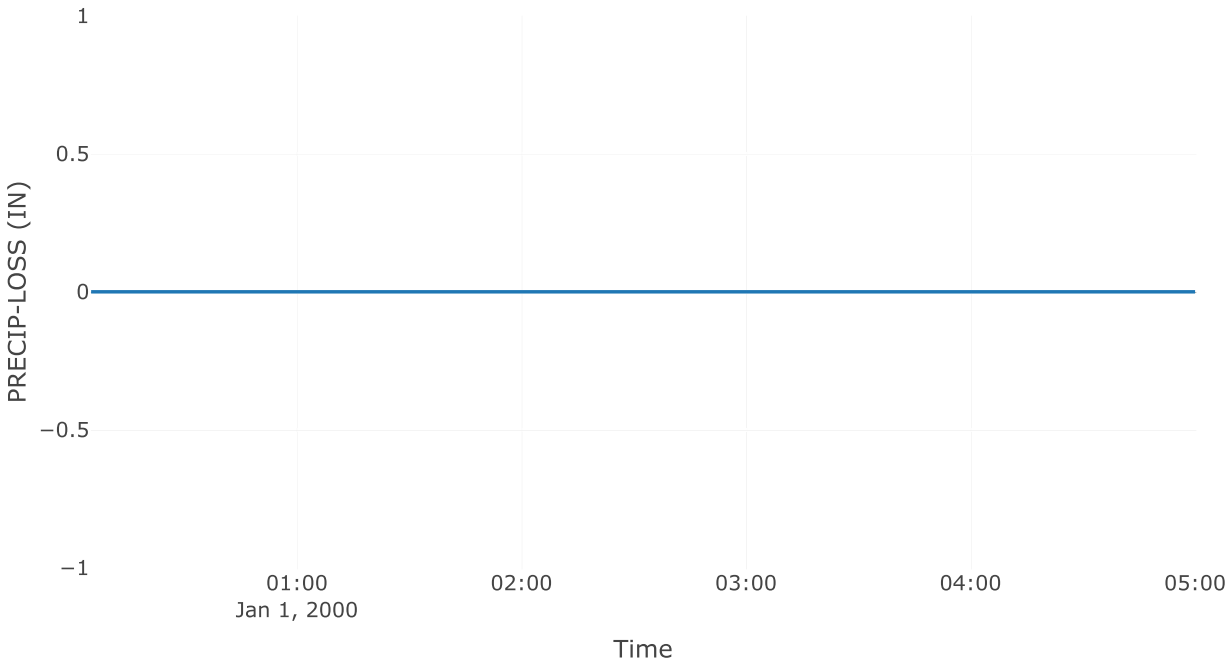
## Cumulative Precipitation Loss



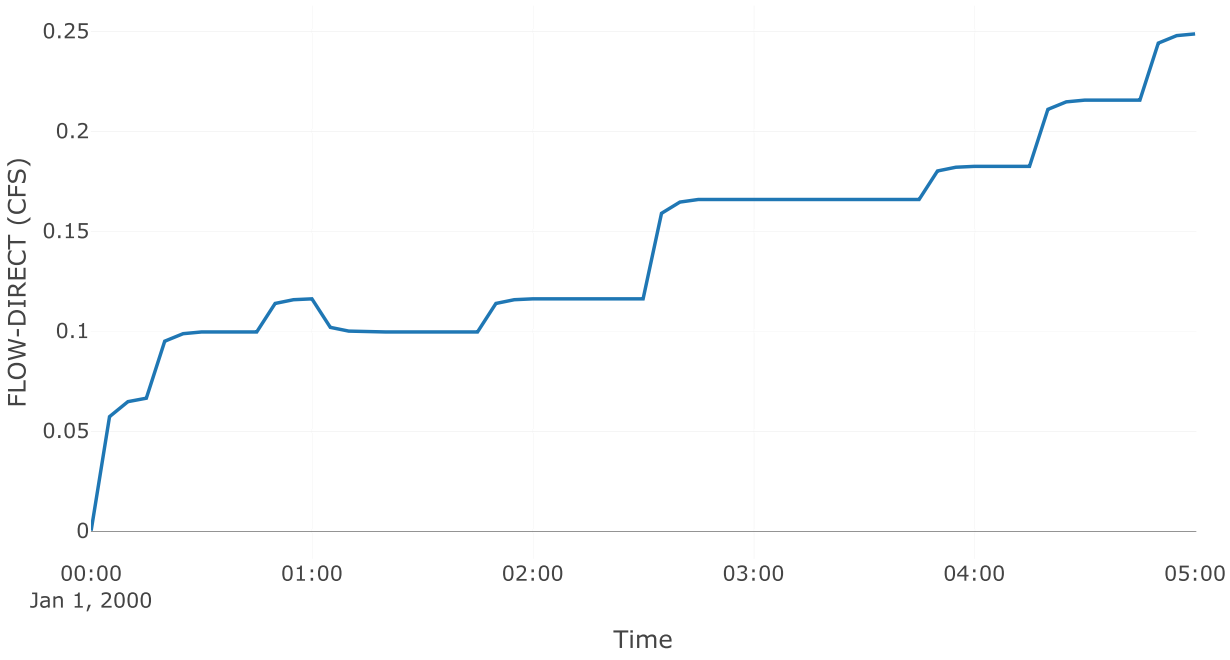

## Baseflow

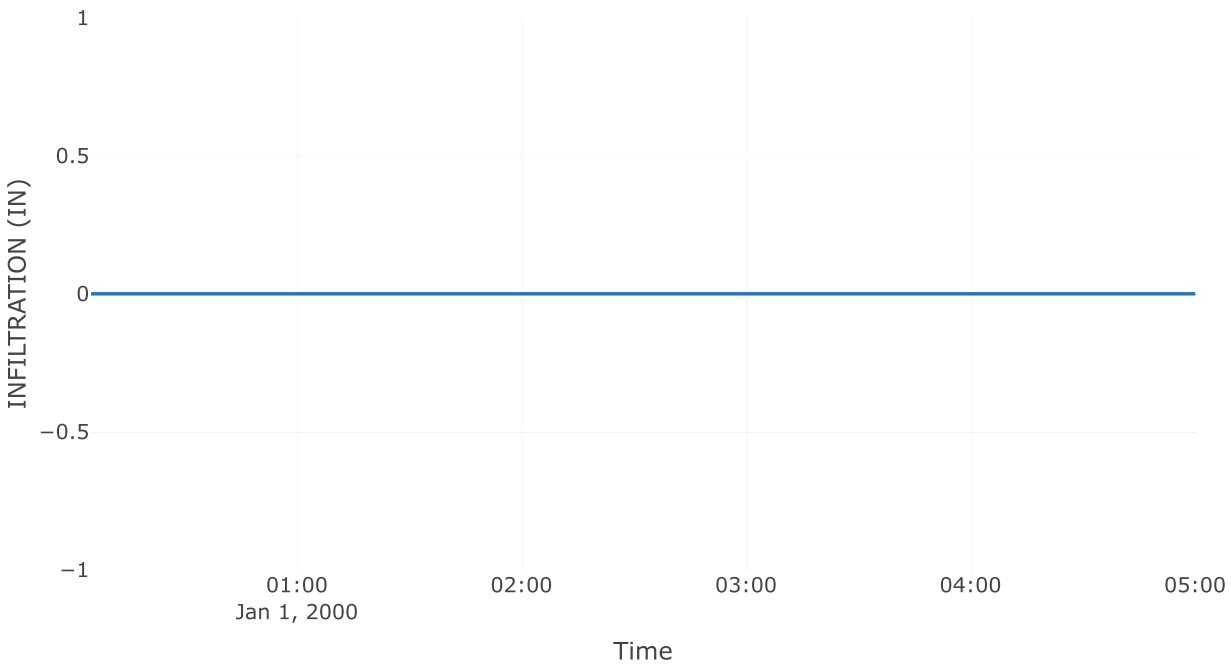


## Precipitation Loss




## Direct Runoff




Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

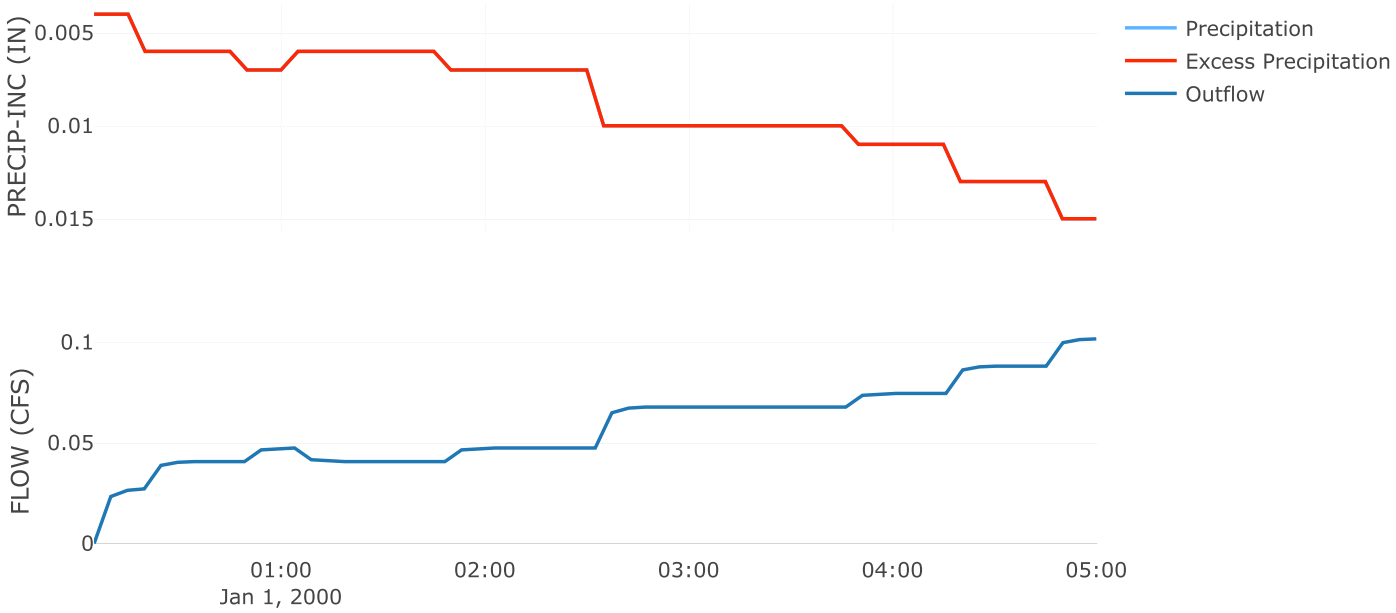
# Subbasin: CB-3

**Area (ft²)** : 0
**Downstream** : UG - DT

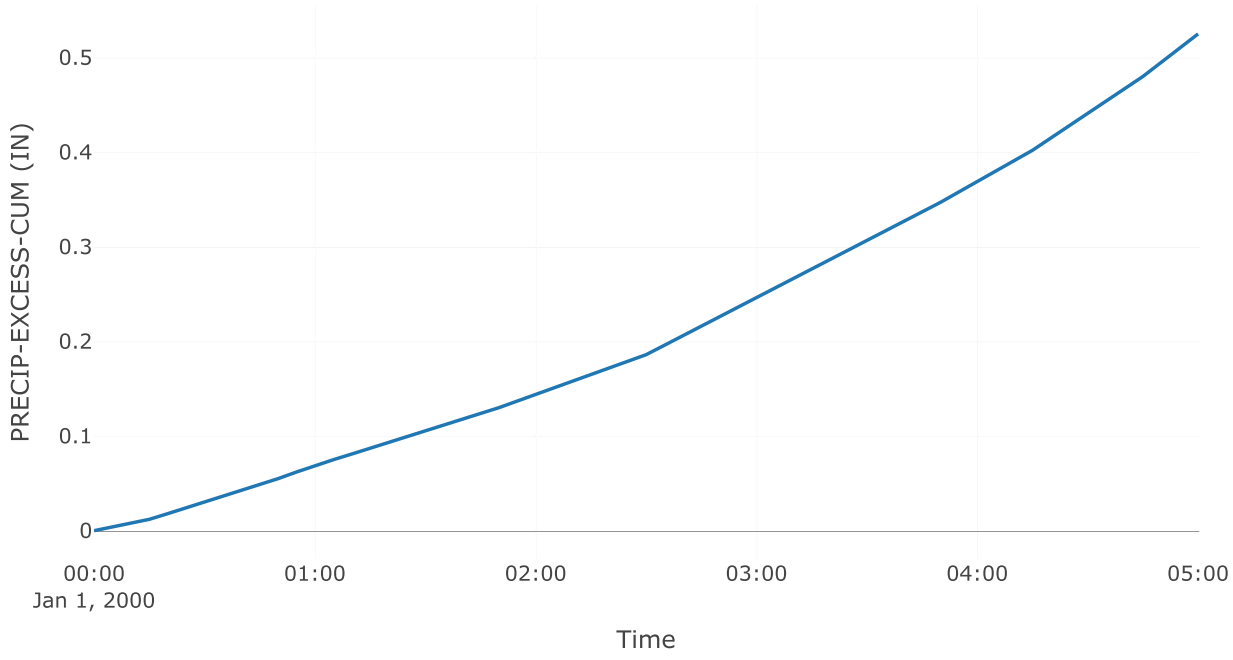
| Transform: User - Specified S - Graph | |
|---|---|
| S - graph | S - Graph |
| Lag Method | Specified |
| Lag | 0.03 |

| Results: CB-3 | |
|---|---|
| Peak Discharge (CFS) | 0.1 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.52 |
| Precipitation Volume (AC - FT) | 0.02 |
| Loss Volume (AC - FT) | 0 |
| Excess Volume (AC - FT) | 0.02 |
| Direct Runoff Volume (AC - FT) | 0.02 |
| Baseflow Volume (AC - FT) | 0 |

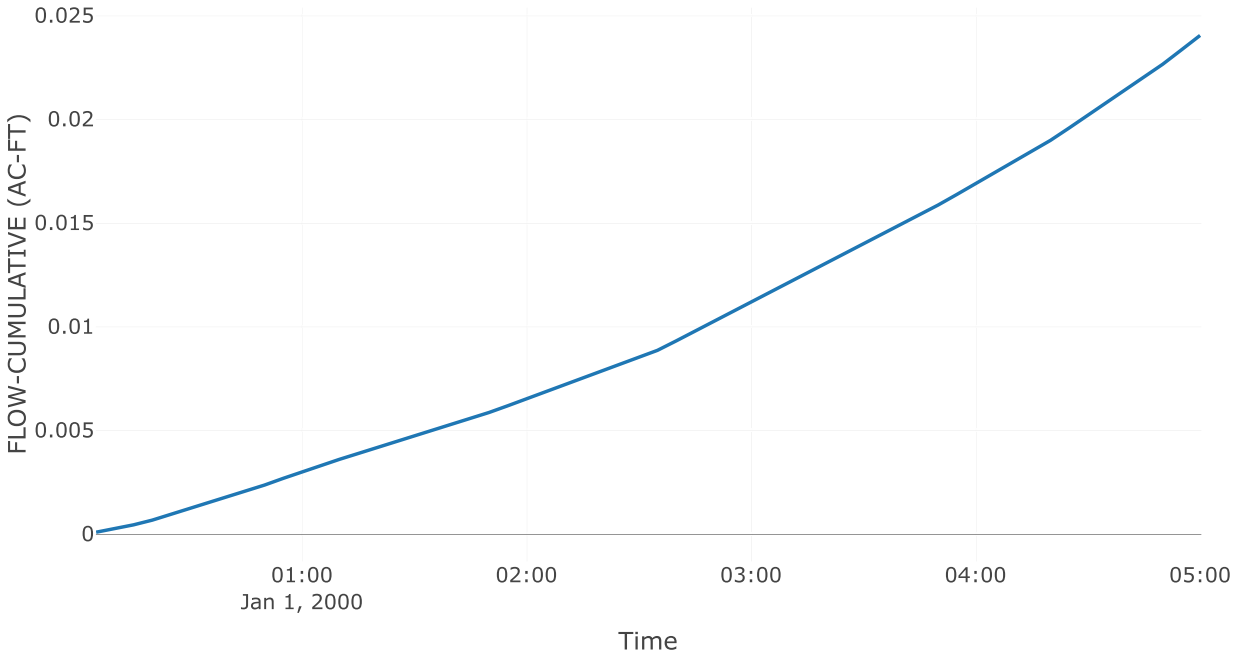
## Precipitation and Outflow



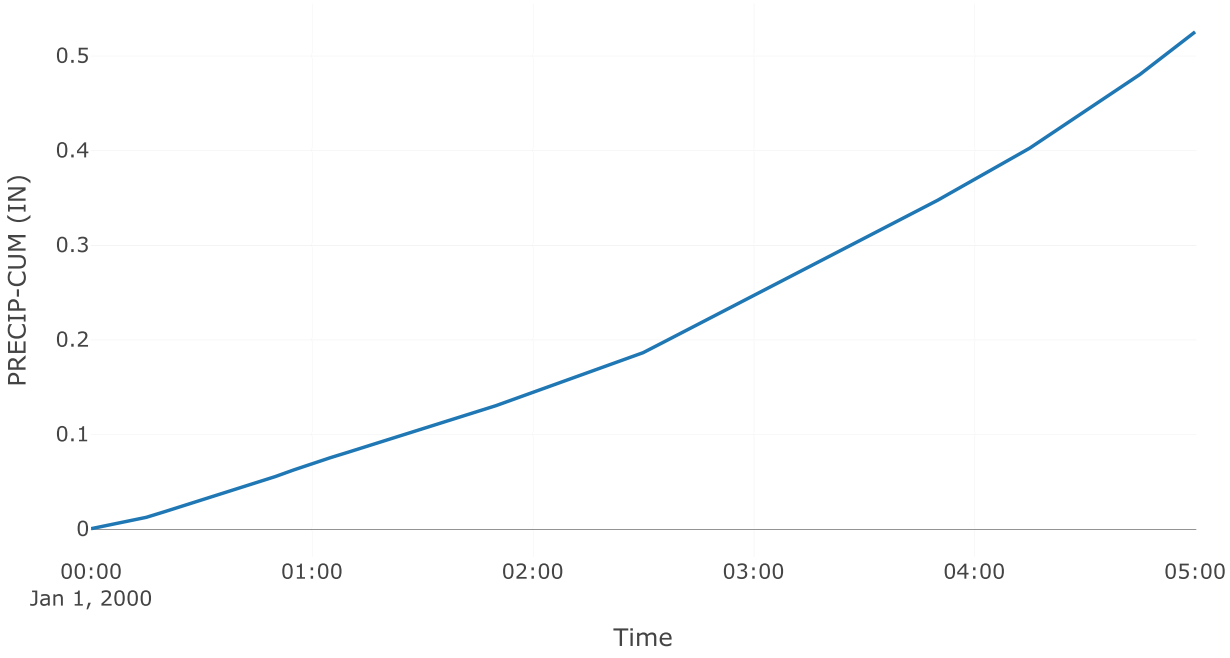

## Cumulative Excess Precipitation



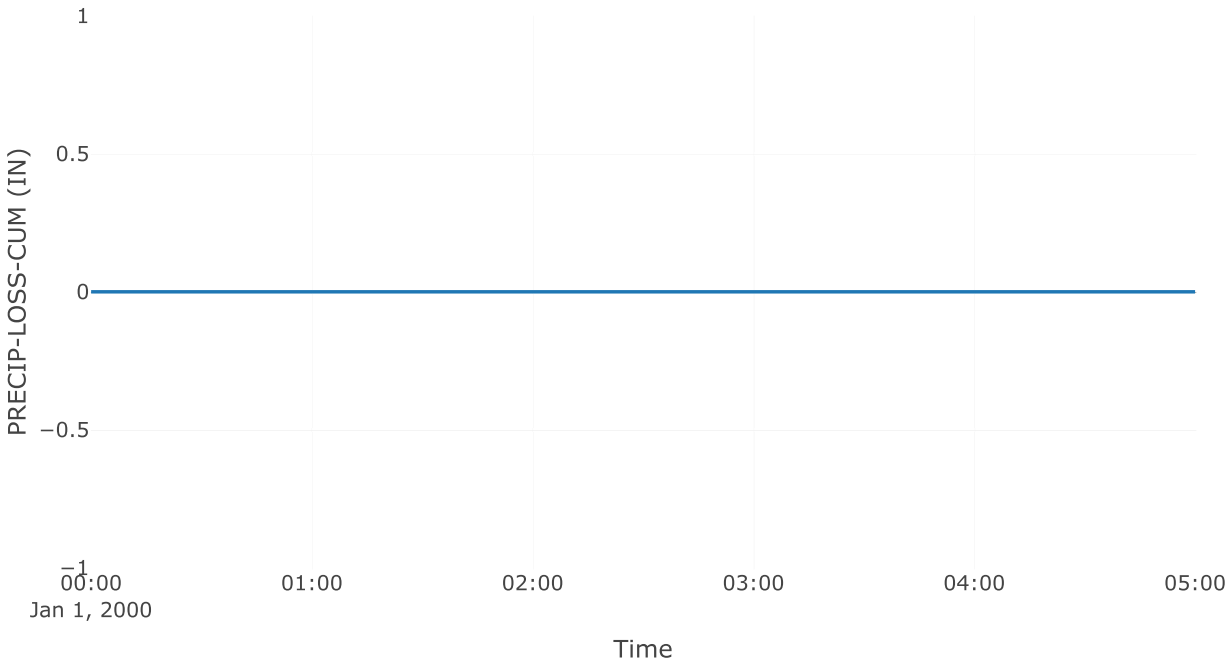
## Cumulative Outflow



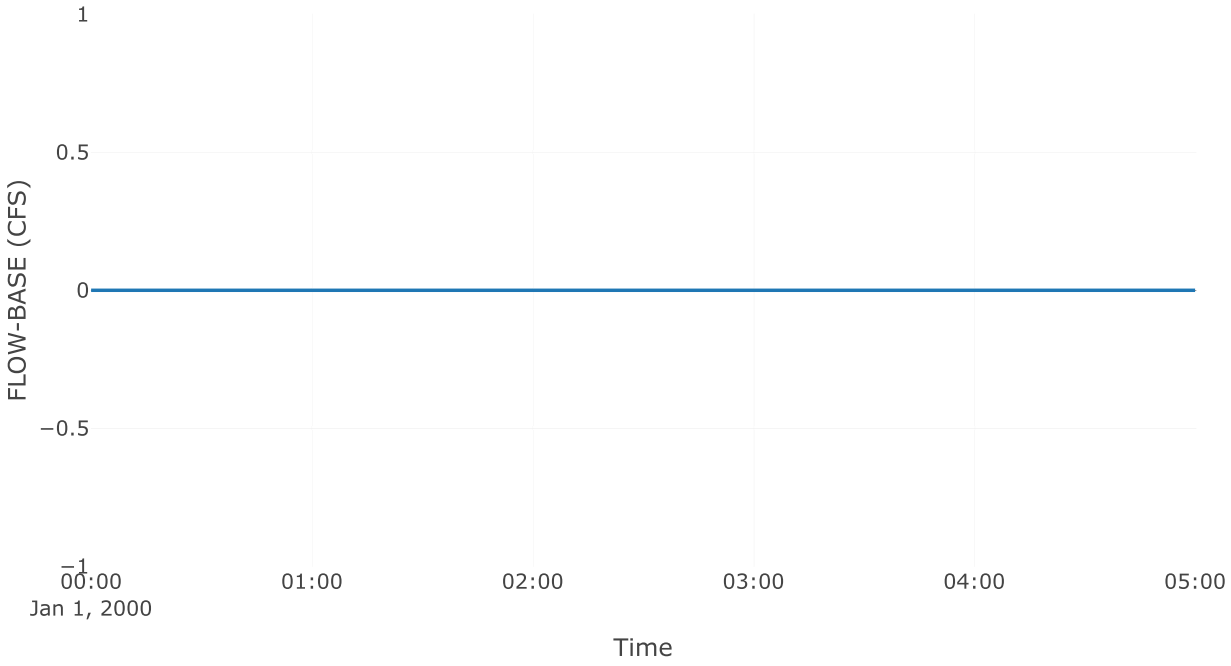

## Cumulative Precipitation

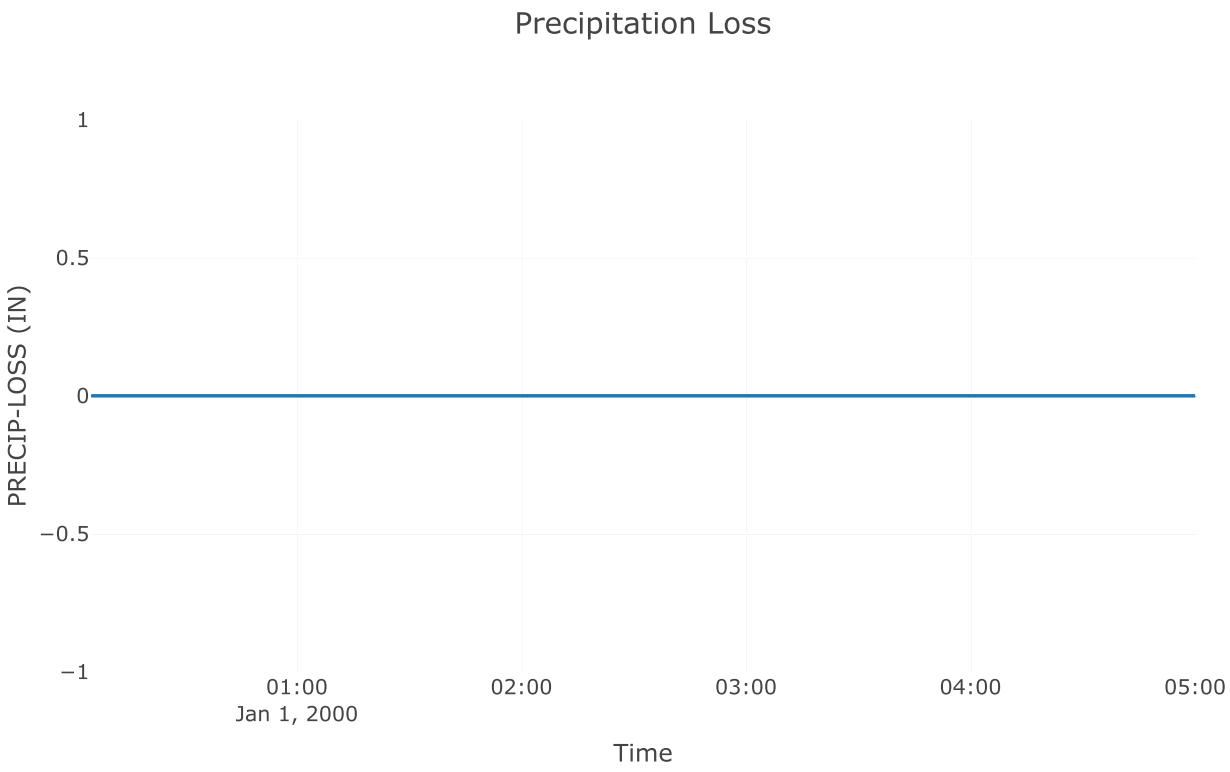


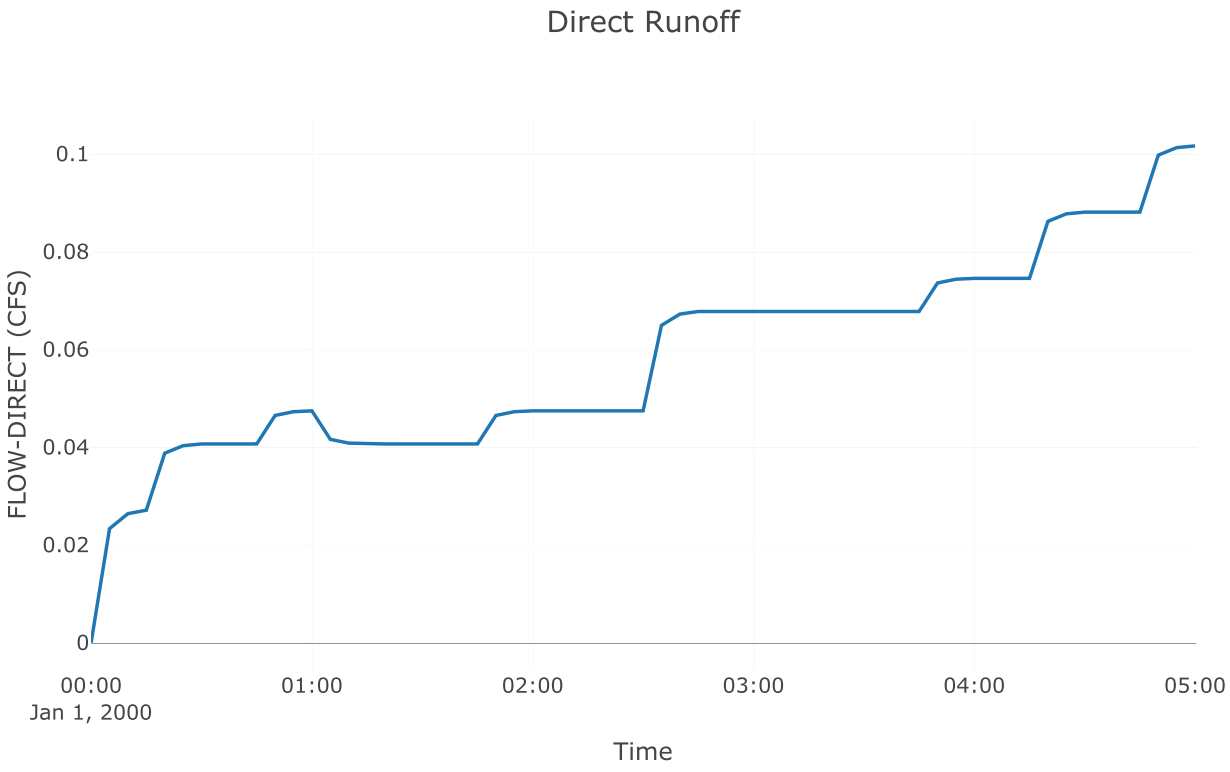
## Cumulative Precipitation Loss

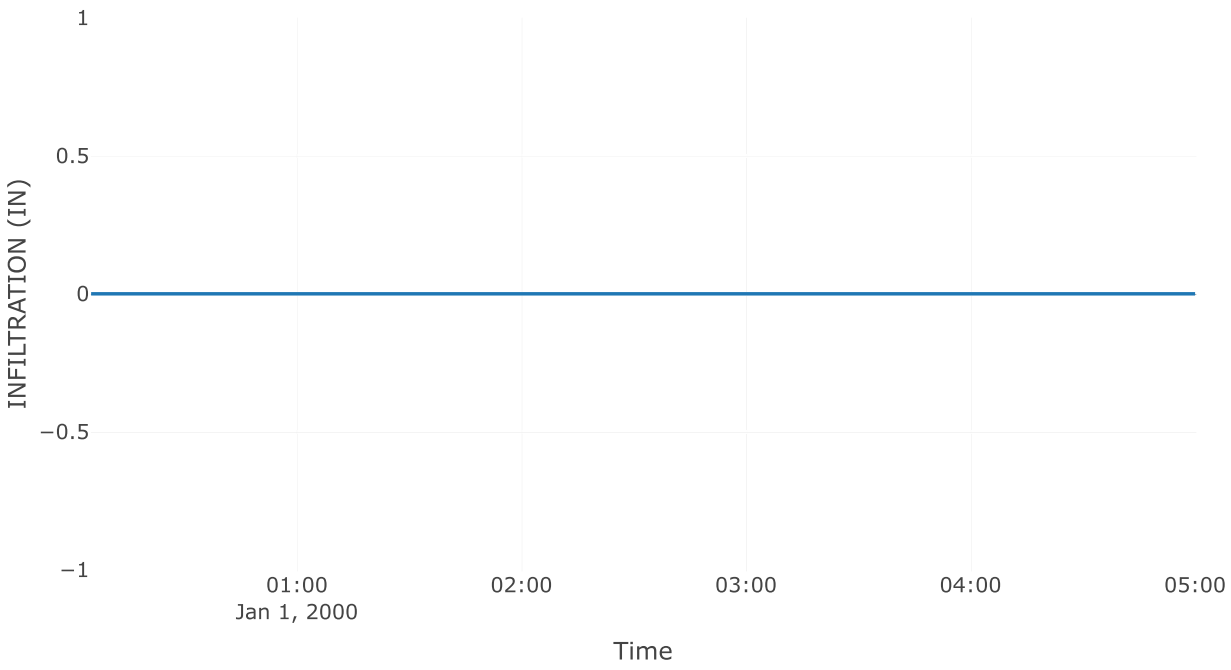



## Baseflow




Precipitation Loss
PRECIP-LOSS (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

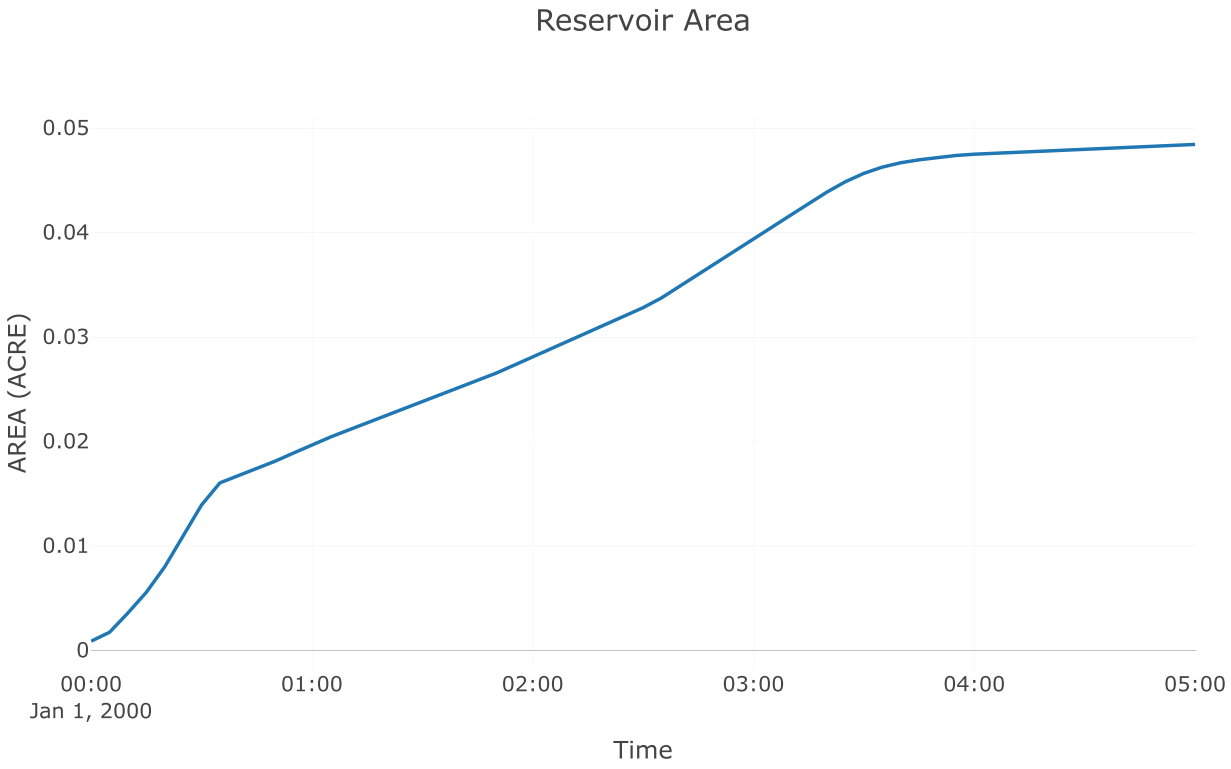

Direct Runoff
FLOW-DIRECT (CFS)
0.1
0.08
0.06
0.04
0.02
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

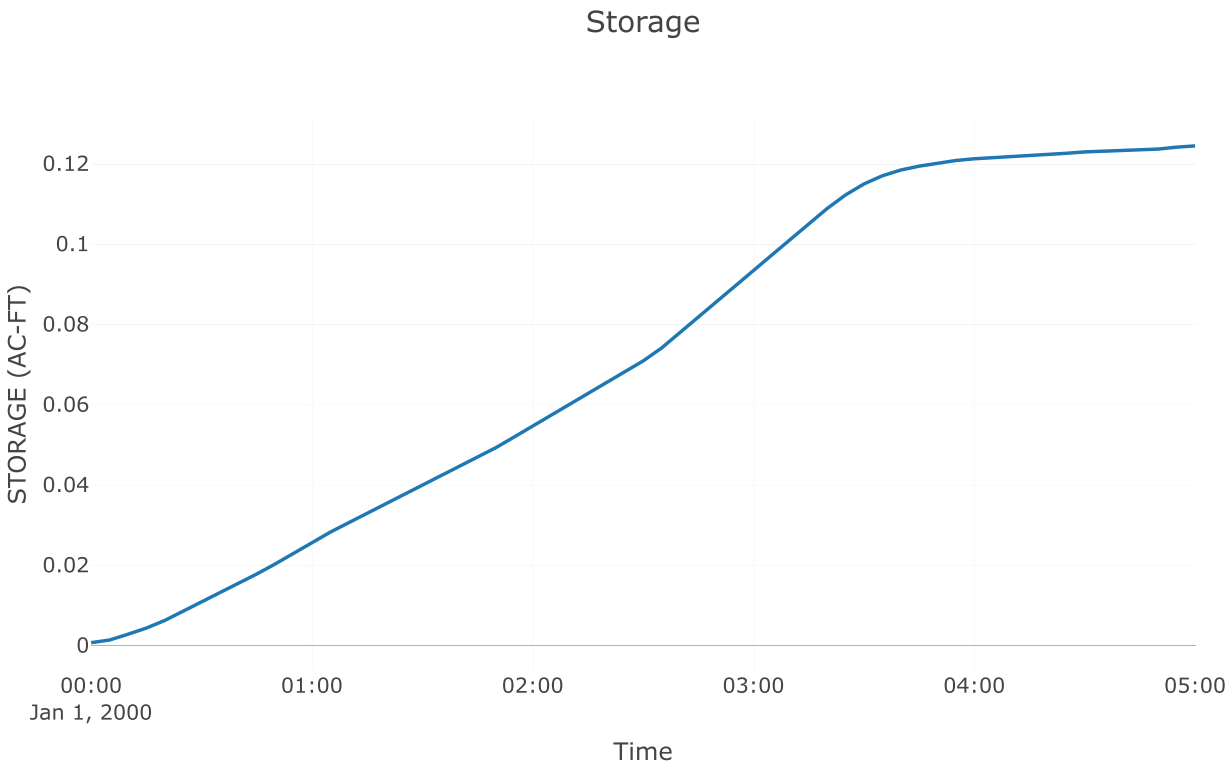

Soil Infiltration
INFILTRATION (IN)
1
0.5
0
−0.5
−1
01:00
Jan 1, 2000
02:00
03:00
04:00
05:00
Time

# Reservoir: UG-DT

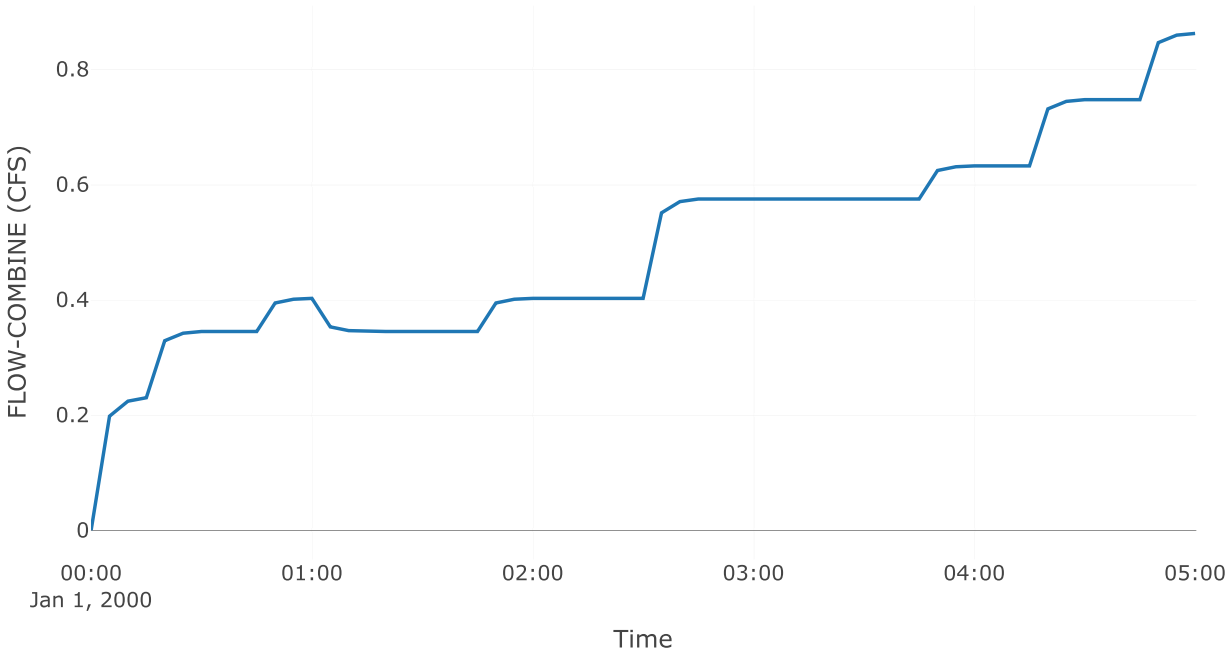
**Downstream** : Sink - 1

| Results: UG-DT | |
|---|---|
| Peak Discharge (CFS) | 0.83 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.2 |
| Peak Inflow (CFS) | 0.86 |
| Time of Peak Inflow | 01Jan2000, 05:00 |
| Inflow Volume (AC - FT) | 0.2 |
| Maximum Storage (AC - FT) | 0.12 |
| Peak Elevation (FT) | 105.92 |
| Discharge Volume (AC - FT) | 0.08 |

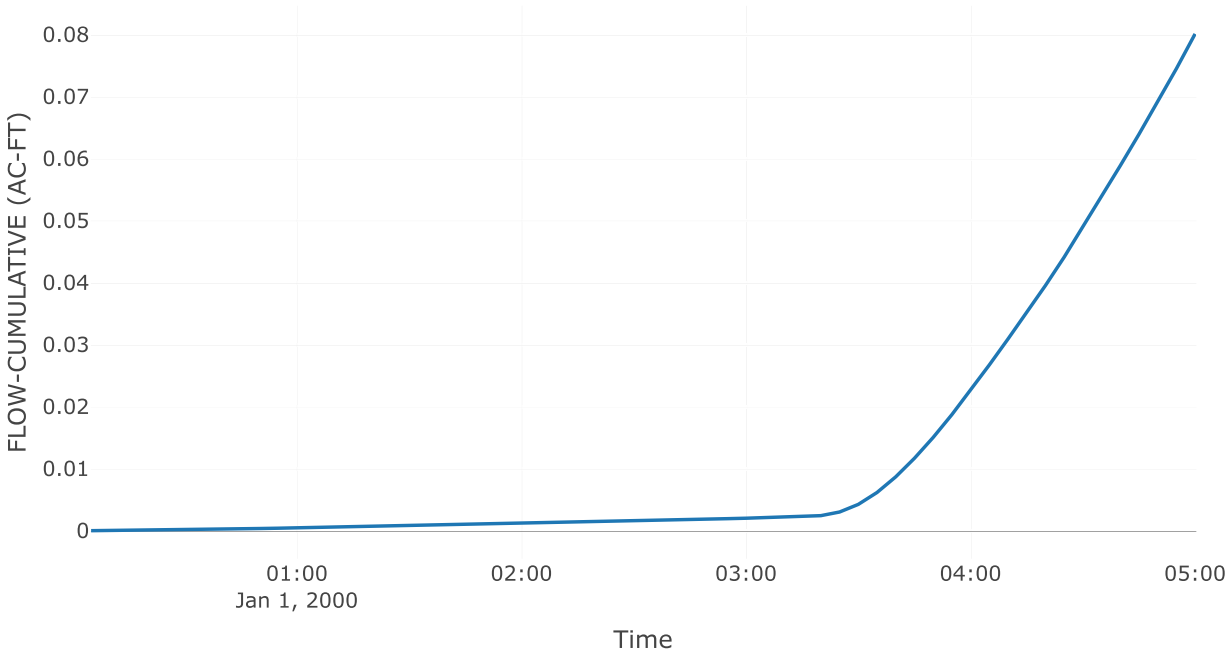

Reservoir Area
AREA (ACRE)
0.05
0.04
0.03
0.02
0.01
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

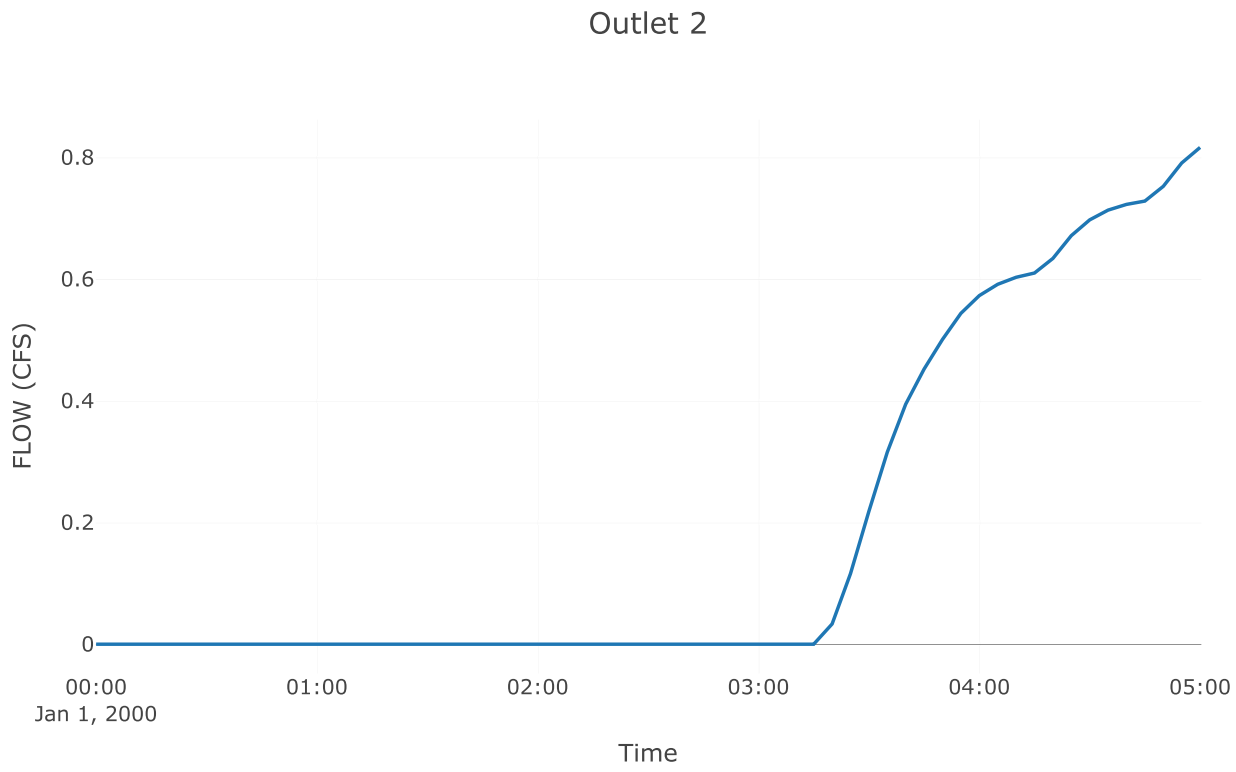

Storage
STORAGE (AC-FT)
0.12
0.1
0.08
0.06
0.04
0.02
0
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

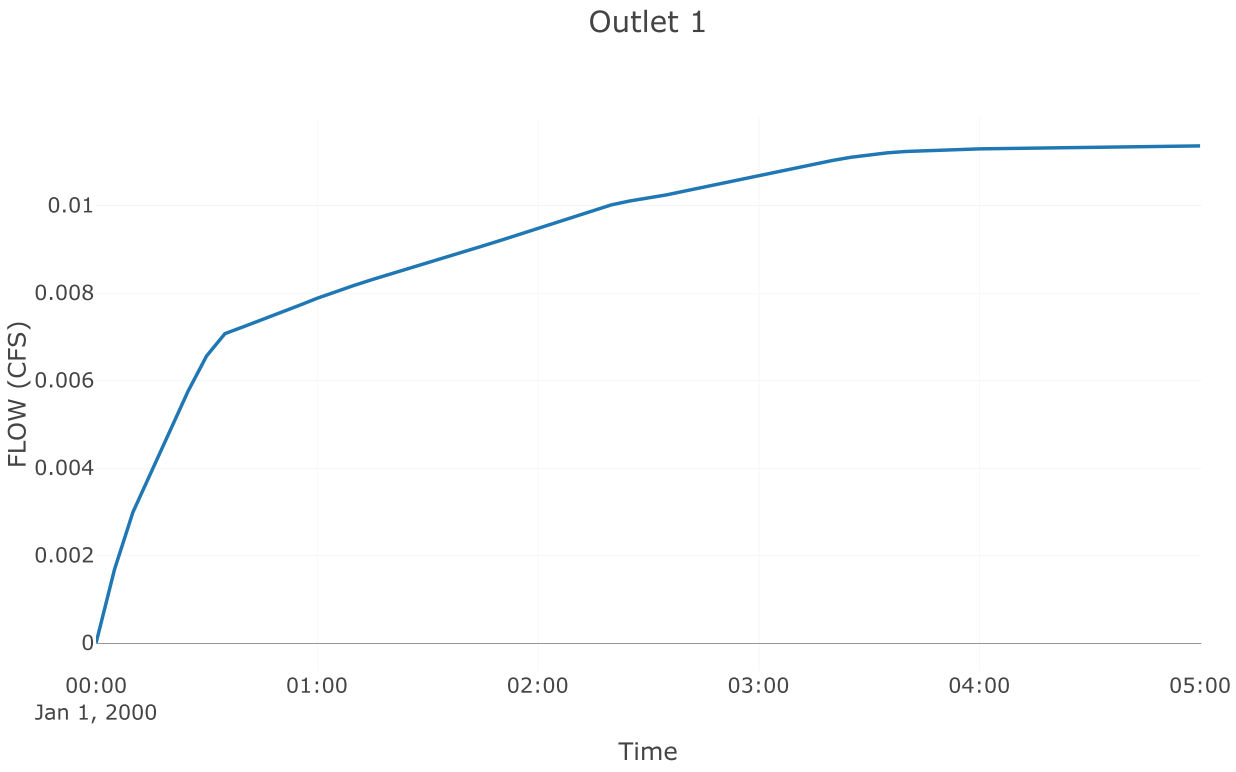
## Combined Inflow



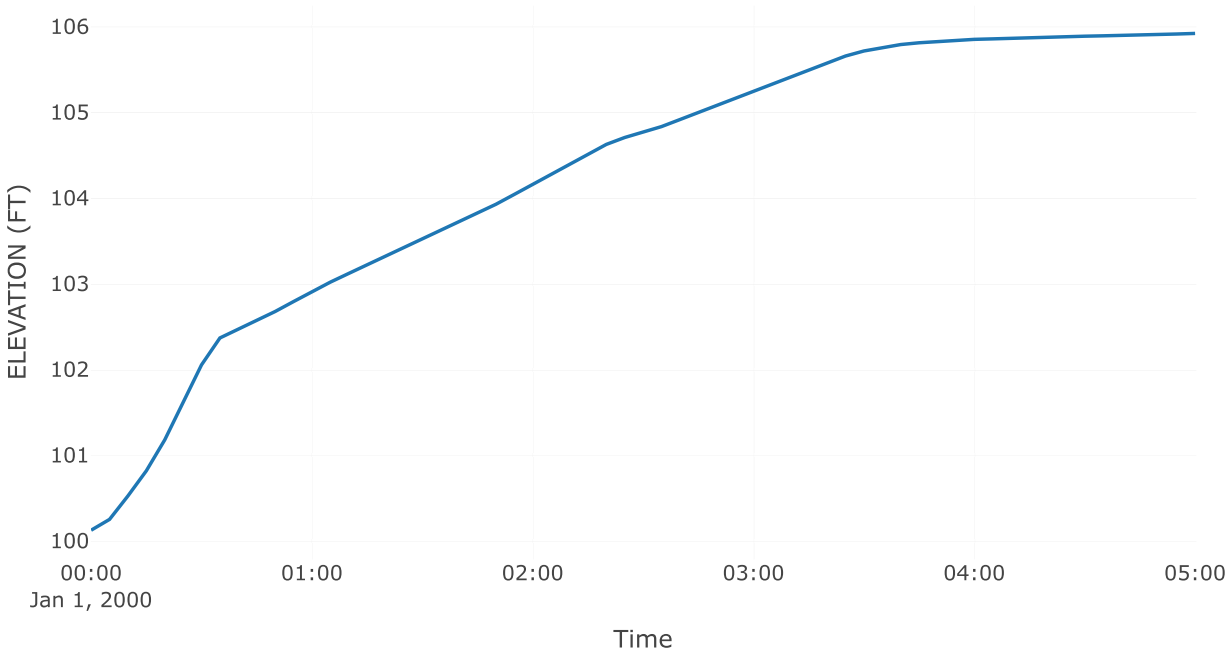

## Cumulative Outflow



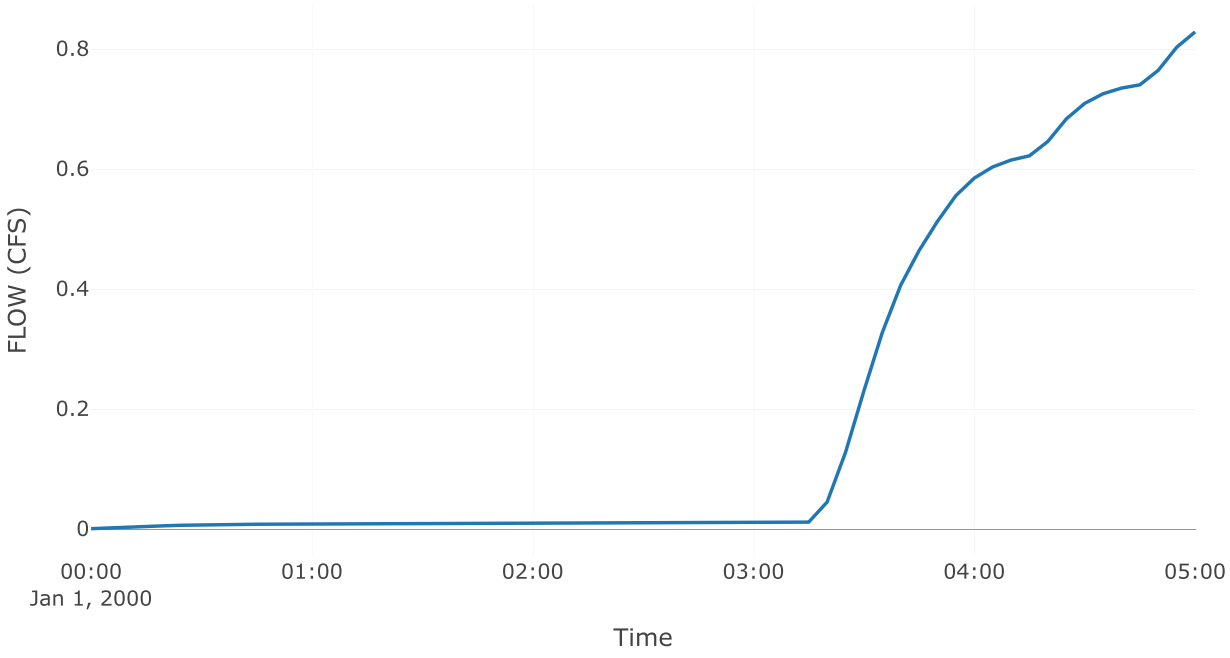

Outlet 2
0.8
0.6
0.4
0.2
0
FLOW (CFS)
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time


Outlet 1
0.01
0.008
0.006
0.004
0.002
0
FLOW (CFS)
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

## Pool Elevation



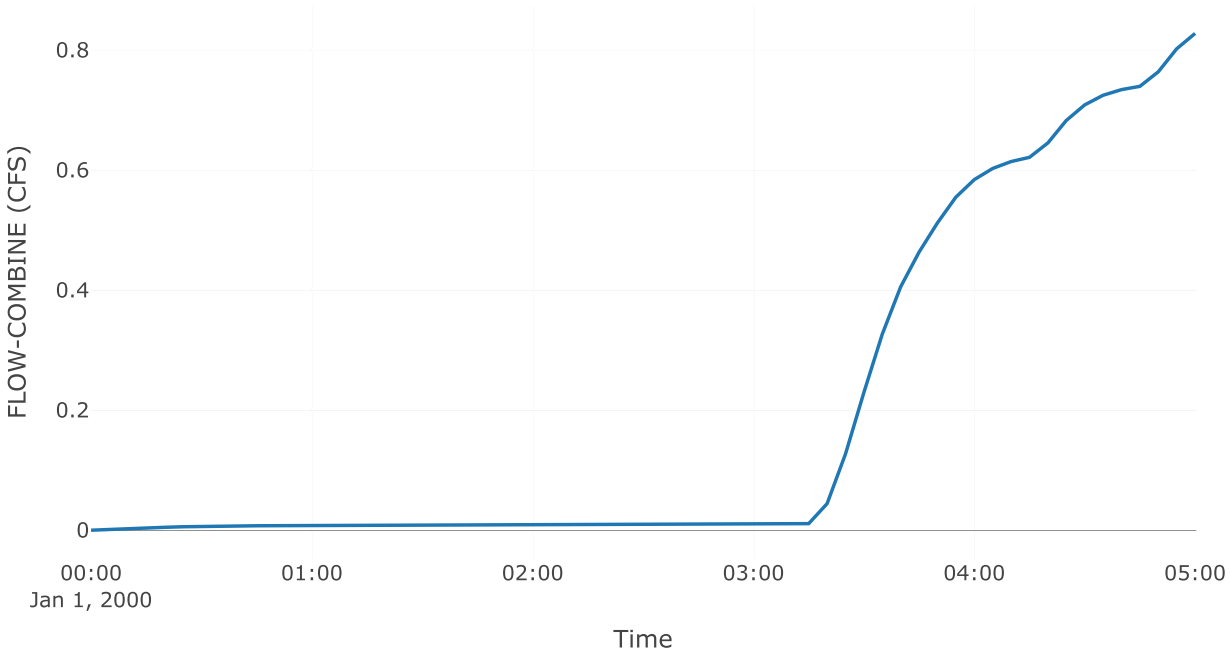

## Outflow



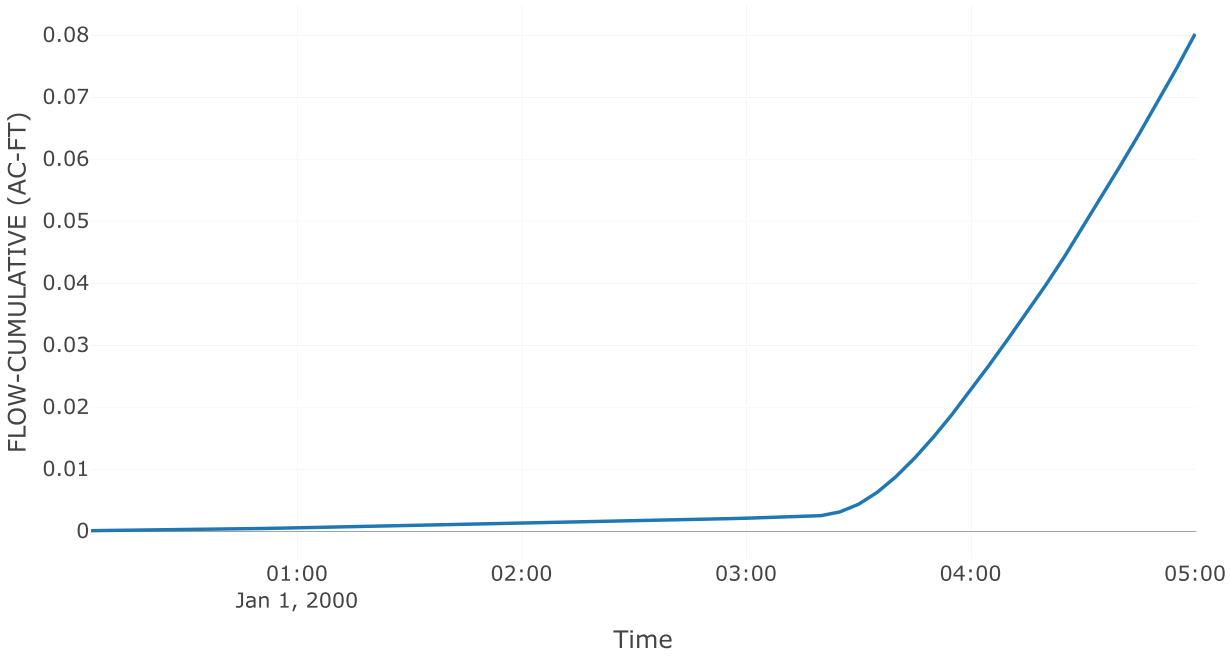
# Sink: Sink-1

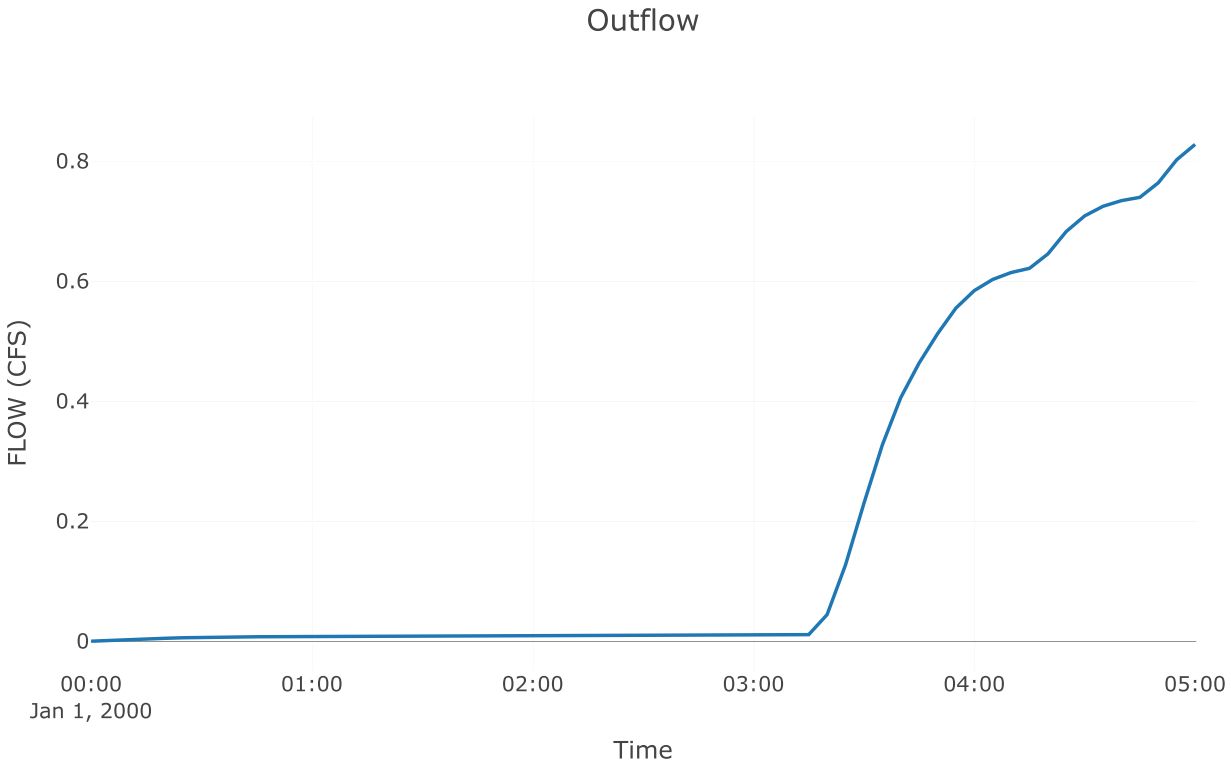
| Results: Sink-1 | |
|---|---|
| Peak Discharge (CFS) | 0.83 |
| Time of Peak Discharge | 01Jan2000, 05:00 |
| Volume (IN) | 0.2 |

## Combined Inflow




## Cumulative Outflow

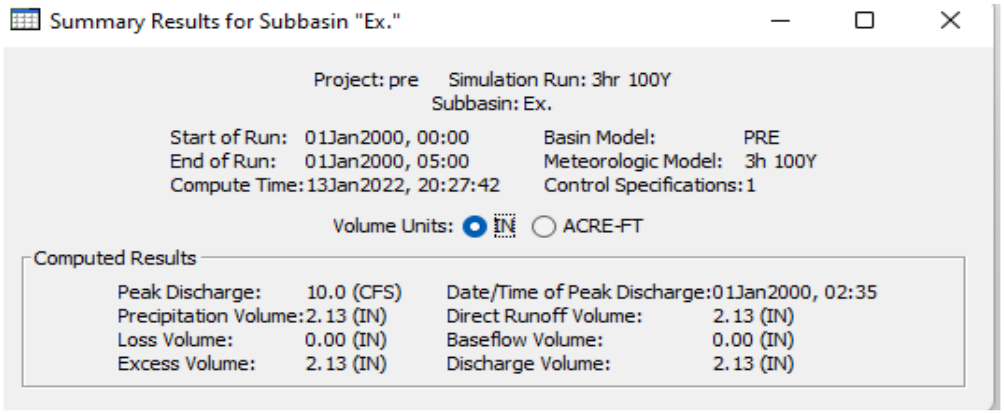



Outflow
0.8
0.6
0.4
0.2
0
FLOW (CFS)
00:00
Jan 1, 2000
01:00
02:00
03:00
04:00
05:00
Time

| | |
|---|---|
| **Project:** | **Pre** |
| Simulation Run: | 3hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 1-Jan-00 |
| Basin Model | PRE |
| Meterologic Model | 3hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) | BASEFLOW (CFS) | TOTAL FLOW (CFS |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 0:00 | | | | 0 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0.03 | 0 | 0.03 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 0:10 | 0.03 | 0 | 0.03 | 1.5 | 0 | 1.5 |
| 1-Jan-00 | 0:15 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 0:20 | 0.03 | 0 | 0.03 | 1.7 | 0 | 1.7 |
| 1-Jan-00 | 0:25 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |
| 1-Jan-00 | 0:30 | 0.04 | 0 | 0.04 | 2.1 | 0 | 2.1 |
| 1-Jan-00 | 0:35 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |
| 1-Jan-00 | 0:40 | 0.04 | 0 | 0.04 | 2.1 | 0 | 2.1 |
| 1-Jan-00 | 0:45 | 0.04 | 0 | 0.04 | 2.2 | 0 | 2.2 |
| 1-Jan-00 | 0:50 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |
| 1-Jan-00 | 0:55 | 0.03 | 0 | 0.03 | 1.9 | 0 | 1.9 |
| 1-Jan-00 | 1:00 | 0.04 | 0 | 0.04 | 2.1 | 0 | 2.1 |
| 1-Jan-00 | 1:05 | 0.05 | 0 | 0.05 | 2.6 | 0 | 2.6 |
| 1-Jan-00 | 1:10 | 0.05 | 0 | 0.05 | 2.6 | 0 | 2.6 |
| 1-Jan-00 | 1:15 | 0.05 | 0 | 0.05 | 2.6 | 0 | 2.6 |
| 1-Jan-00 | 1:20 | 0.04 | 0 | 0.04 | 2.4 | 0 | 2.4 |
| 1-Jan-00 | 1:25 | 0.05 | 0 | 0.05 | 3.1 | 0 | 3.1 |
| 1-Jan-00 | 1:30 | 0.06 | 0 | 0.06 | 3.2 | 0 | 3.2 |
| 1-Jan-00 | 1:35 | 0.05 | 0 | 0.05 | 3 | 0 | 3 |
| 1-Jan-00 | 1:40 | 0.06 | 0 | 0.06 | 3.2 | 0 | 3.2 |
| 1-Jan-00 | 1:45 | 0.07 | 0 | 0.07 | 3.9 | 0 | 3.9 |
| 1-Jan-00 | 1:50 | 0.07 | 0 | 0.07 | 3.8 | 0 | 3.8 |
| 1-Jan-00 | 1:55 | 0.06 | 0 | 0.06 | 3.6 | 0 | 3.6 |
| 1-Jan-00 | 2:00 | 0.06 | 0 | 0.06 | 3.7 | 0 | 3.7 |
| 1-Jan-00 | 2:05 | 0.07 | 0 | 0.07 | 3.8 | 0 | 3.8 |
| 1-Jan-00 | 2:10 | 0.09 | 0 | 0.09 | 5 | 0 | 5 |
| 1-Jan-00 | 2:15 | 0.11 | 0 | 0.11 | 6 | 0 | 6 |
| 1-Jan-00 | 2:20 | 0.08 | 0 | 0.08 | 4.5 | 0 | 4.5 |
| 1-Jan-00 | 2:25 | 0.15 | 0 | 0.15 | 7.9 | 0 | 7.9 |
| 1-Jan-00 | 2:30 | 0.16 | 0 | 0.16 | 8.9 | 0 | 8.9 |
| 1-Jan-00 | 2:35 | 0.18 | 0 | 0.18 | 10 | 0 | 10 |
| 1-Jan-00 | 2:40 | 0.13 | 0 | 0.13 | 7.7 | 0 | 7.7 |
| 1-Jan-00 | 2:45 | 0.04 | 0 | 0.04 | 3.2 | 0 | 3.2 |
| 1-Jan-00 | 2:50 | 0.04 | 0 | 0.04 | 2.3 | 0 | 2.3 |
| 1-Jan-00 | 2:55 | 0.04 | 0 | 0.04 | 2.2 | 0 | 2.2 |
| 1-Jan-00 | 3:00 | 0.01 | 0 | 0.01 | 0.8 | 0 | 0.8 |
| 1-Jan-00 | 3:05 | 0 | 0 | 0 | 0.1 | 0 | 0.1 |
| 1-Jan-00 | 3:10 | 0 | 0 | 0 | 0 | 0 | 0 |

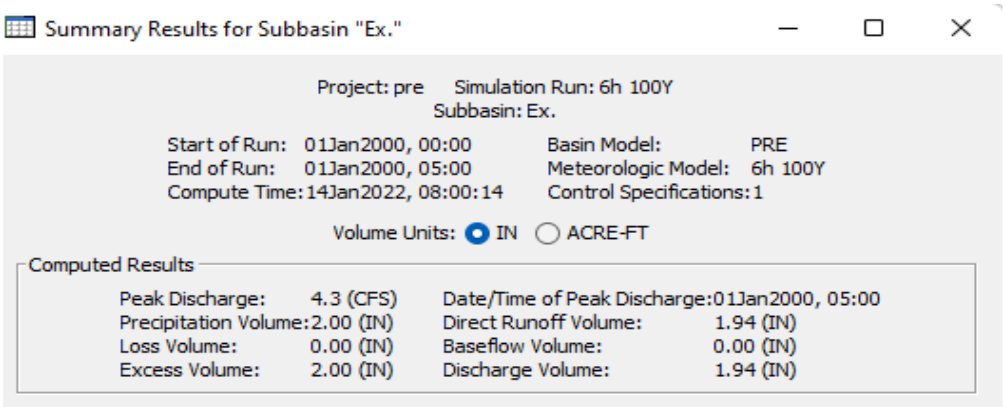
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 3:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:25 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:35 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:40 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 3:55 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:05 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:25 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:35 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:40 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:45 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:55 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 5:00 | 0 | 0 | 0 | 0 | 0 | 0 |



| | |
|---|---|
| **Project:** | **Pre** |
| Simulation Run: | 6hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 1-Jan-00 |
| Basin Model | PRE |
| Meterologic Model | 6hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) | BASEFLOW (CFS) | TOTAL FLOW (CFS |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 0:00 | | | | 0 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 0:10 | 0.02 | 0 | 0.02 | 0.9 | 0 | 0.9 |
| 1-Jan-00 | 0:15 | 0.02 | 0 | 0.02 | 0.9 | 0 | 0.9 |
| 1-Jan-00 | 0:20 | 0.02 | 0 | 0.02 | 0.9 | 0 | 0.9 |
| 1-Jan-00 | 0:25 | 0.02 | 0 | 0.02 | 0.9 | 0 | 0.9 |
| 1-Jan-00 | 0:30 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 0:35 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 0:40 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 0:45 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 0:50 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 0:55 | 0.02 | 0 | 0.02 | 1.1 | 0 | 1.1 |
| 1-Jan-00 | 1:00 | 0.02 | 0 | 0.02 | 1.2 | 0 | 1.2 |
| 1-Jan-00 | 1:05 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:10 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:15 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:20 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:25 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:30 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:35 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:40 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:45 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:50 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 1:55 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 2:00 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:05 | 0.02 | 0 | 0.02 | 1.3 | 0 | 1.3 |
| 1-Jan-00 | 2:10 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:15 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:20 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:25 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:30 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:35 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:40 | 0.03 | 0 | 0.03 | 1.4 | 0 | 1.4 |
| 1-Jan-00 | 2:45 | 0.03 | 0 | 0.03 | 1.6 | 0 | 1.6 |
| 1-Jan-00 | 2:50 | 0.03 | 0 | 0.03 | 1.6 | 0 | 1.6 |
| 1-Jan-00 | 2:55 | 0.03 | 0 | 0.03 | 1.6 | 0 | 1.6 |
| 1-Jan-00 | 3:00 | 0.03 | 0 | 0.03 | 1.6 | 0 | 1.6 |
| 1-Jan-00 | 3:05 | 0.03 | 0 | 0.03 | 1.6 | 0 | 1.6 |
| 1-Jan-00 | 3:10 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |

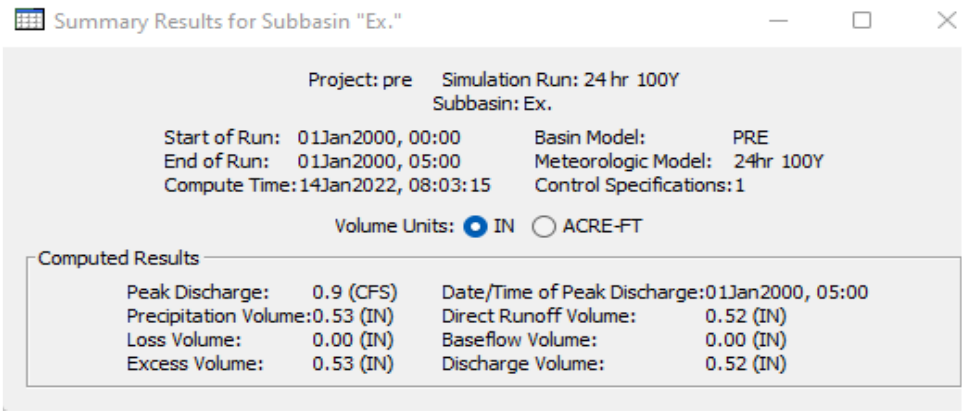
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 3:15 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |
| 1-Jan-00 | 3:20 | 0.03 | 0 | 0.03 | 1.8 | 0 | 1.8 |
| 1-Jan-00 | 3:25 | 0.03 | 0 | 0.03 | 1.9 | 0 | 1.9 |
| 1-Jan-00 | 3:30 | 0.04 | 0 | 0.04 | 2.1 | 0 | 2.1 |
| 1-Jan-00 | 3:35 | 0.04 | 0 | 0.04 | 2.3 | 0 | 2.3 |
| 1-Jan-00 | 3:40 | 0.04 | 0 | 0.04 | 2.3 | 0 | 2.3 |
| 1-Jan-00 | 3:45 | 0.04 | 0 | 0.04 | 2.4 | 0 | 2.4 |
| 1-Jan-00 | 3:50 | 0.04 | 0 | 0.04 | 2.5 | 0 | 2.5 |
| 1-Jan-00 | 3:55 | 0.05 | 0 | 0.05 | 2.6 | 0 | 2.6 |
| 1-Jan-00 | 4:00 | 0.05 | 0 | 0.05 | 2.6 | 0 | 2.6 |
| 1-Jan-00 | 4:05 | 0.05 | 0 | 0.05 | 2.8 | 0 | 2.8 |
| 1-Jan-00 | 4:10 | 0.05 | 0 | 0.05 | 3 | 0 | 3 |
| 1-Jan-00 | 4:15 | 0.05 | 0 | 0.05 | 3.1 | 0 | 3.1 |
| 1-Jan-00 | 4:20 | 0.06 | 0 | 0.06 | 3.3 | 0 | 3.3 |
| 1-Jan-00 | 4:25 | 0.06 | 0 | 0.06 | 3.5 | 0 | 3.5 |
| 1-Jan-00 | 4:30 | 0.06 | 0 | 0.06 | 3.5 | 0 | 3.5 |
| 1-Jan-00 | 4:35 | 0.06 | 0 | 0.06 | 3.6 | 0 | 3.6 |
| 1-Jan-00 | 4:40 | 0.07 | 0 | 0.07 | 3.8 | 0 | 3.8 |
| 1-Jan-00 | 4:45 | 0.07 | 0 | 0.07 | 4 | 0 | 4 |
| 1-Jan-00 | 4:50 | 0.07 | 0 | 0.07 | 4 | 0 | 4 |
| 1-Jan-00 | 4:55 | 0.07 | 0 | 0.07 | 4.2 | 0 | 4.2 |
| 1-Jan-00 | 5:00 | 0.08 | 0 | 0.08 | 4.3 | 0 | 4.3 |



| | |
|---|---|
| **Project:** | **Pre** |
| Simulation Run: | 24hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 2-Jan-00 |
| Basin Model | PRE |
| Meterologic Model | 24hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) | BASEFLOW (CFS) | TOTAL FLOW (CFS |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 0:00 | | | | 0 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0 | 0 | 0 | 0.2 | 0 | 0.2 |
| 1-Jan-00 | 0:10 | 0 | 0 | 0 | 0.2 | 0 | 0.2 |
| 1-Jan-00 | 0:15 | 0 | 0 | 0 | 0.2 | 0 | 0.2 |
| 1-Jan-00 | 0:20 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:25 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:30 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:35 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:40 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:45 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 0:50 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 0:55 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 1:00 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 1:05 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 1:10 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:15 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:20 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:25 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:30 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:35 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:40 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:45 | 0.01 | 0 | 0.01 | 0.3 | 0 | 0.3 |
| 1-Jan-00 | 1:50 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 1:55 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:00 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:05 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:10 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:15 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:20 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:25 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:30 | 0.01 | 0 | 0.01 | 0.4 | 0 | 0.4 |
| 1-Jan-00 | 2:35 | 0.01 | 0 | 0.01 | 0.5 | 0 | 0.5 |
| 1-Jan-00 | 2:40 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 2:45 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 2:50 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 2:55 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:00 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:05 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:10 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |

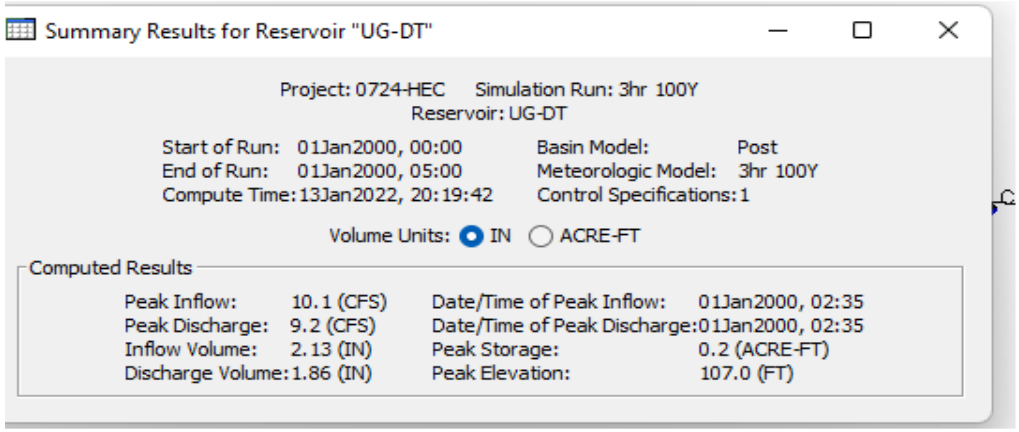
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1-Jan-00 | 3:15 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:20 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:25 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:30 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:35 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:40 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:45 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:50 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 3:55 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 4:00 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 4:05 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 4:10 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 4:15 | 0.01 | 0 | 0.01 | 0.6 | 0 | 0.6 |
| 1-Jan-00 | 4:20 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:25 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:30 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:35 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:40 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:45 | 0.01 | 0 | 0.01 | 0.7 | 0 | 0.7 |
| 1-Jan-00 | 4:50 | 0.01 | 0 | 0.01 | 0.8 | 0 | 0.8 |
| 1-Jan-00 | 4:55 | 0.01 | 0 | 0.01 | 0.9 | 0 | 0.9 |
| 1-Jan-00 | 5:00 | 0.01 | 0 | 0.01 | 0.9 | 0 | 0.9 |



**Project:** **POST**
Simulation Run: 3hr 100Yr
Start of Run: 1-Jan-00
End of Run: 1-Jan-00
Basin Model Underground Detention
Meterologic Model 3hr 100Yr
Control Spec 1

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) |
|---|---|---|---|---|---|
| 1-Jan-00 | 0:35 | 1.8 | 0.1 | 104.8 | 0 |
| 1-Jan-00 | 0:40 | 2.1 | 0.1 | 105.1 | 0 |
| 1-Jan-00 | 0:45 | 2.2 | 0.1 | 105.4 | 0 |
| 1-Jan-00 | 0:50 | 1.8 | 0.1 | 105.7 | 0.3 |
| 1-Jan-00 | 0:55 | 1.9 | 0.1 | 105.9 | 0.8 |
| 1-Jan-00 | 1:00 | 2.1 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 1:05 | 2.6 | 0.1 | 106.2 | 1.9 |
| 1-Jan-00 | 1:10 | 2.6 | 0.1 | 106.2 | 2.3 |
| 1-Jan-00 | 1:15 | 2.6 | 0.1 | 106.2 | 2.5 |
| 1-Jan-00 | 1:20 | 2.4 | 0.1 | 106.3 | 2.5 |
| 1-Jan-00 | 1:25 | 3.1 | 0.1 | 106.3 | 2.7 |
| 1-Jan-00 | 1:30 | 3.2 | 0.1 | 106.3 | 3 |
| 1-Jan-00 | 1:35 | 3 | 0.1 | 106.3 | 3.1 |
| 1-Jan-00 | 1:40 | 3.2 | 0.1 | 106.3 | 3.1 |
| 1-Jan-00 | 1:45 | 3.9 | 0.1 | 106.4 | 3.4 |
| 1-Jan-00 | 1:50 | 3.8 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 1:55 | 3.6 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 2:00 | 3.7 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 2:05 | 3.8 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 2:10 | 5 | 0.2 | 106.5 | 4.2 |
| 1-Jan-00 | 2:15 | 6 | 0.2 | 106.6 | 5.1 |
| 1-Jan-00 | 2:20 | 4.5 | 0.2 | 106.6 | 5.3 |
| 1-Jan-00 | 2:25 | 7.9 | 0.2 | 106.7 | 6 |
| 1-Jan-00 | 2:30 | 8.9 | 0.2 | 106.9 | 7.9 |
| 1-Jan-00 | 2:35 | 10.1 | 0.2 | 107 | 9.2 |
| 1-Jan-00 | 2:40 | 7.7 | 0.2 | 107 | 8.9 |
| 1-Jan-00 | 2:45 | 3.2 | 0.2 | 106.7 | 6.1 |
| 1-Jan-00 | 2:50 | 2.3 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 2:55 | 2.2 | 0.1 | 106.3 | 2.8 |
| 1-Jan-00 | 3:00 | 0.8 | 0.1 | 106.2 | 2 |
| 1-Jan-00 | 3:05 | 0.1 | 0.1 | 106 | 1.2 |
| 1-Jan-00 | 3:10 | 0 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 3:15 | 0 | 0.1 | 105.8 | 0.4 |
| 1-Jan-00 | 3:20 | 0 | 0.1 | 105.7 | 0.3 |
| 1-Jan-00 | 3:25 | 0 | 0.1 | 105.7 | 0.2 |
| 1-Jan-00 | 3:30 | 0 | 0.1 | 105.7 | 0.2 |
| 1-Jan-00 | 3:35 | 0 | 0.1 | 105.7 | 0.1 |
| 1-Jan-00 | 3:40 | 0 | 0.1 | 105.6 | 0.1 |
| 1-Jan-00 | 3:45 | 0 | 0.1 | 105.6 | 0.1 |

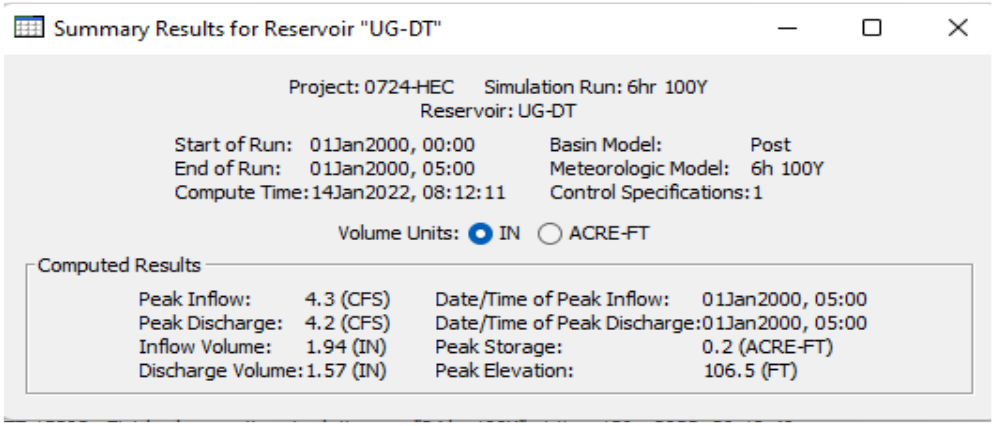
| | | | | | |
|---|---|---|---|---|---|
| 1-Jan-00 | 3:50 | 0 | 0.1 | 105.6 | 0.1 |
| 1-Jan-00 | 3:55 | 0 | 0.1 | 105.6 | 0.1 |
| 1-Jan-00 | 4:00 | 0 | 0.1 | 105.6 | 0.1 |
| 1-Jan-00 | 4:05 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:10 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:15 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:20 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:25 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:30 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:35 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:40 | 0 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 4:45 | 0 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 4:50 | 0 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 4:55 | 0 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 5:00 | 0 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 4:30 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:35 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:40 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:45 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:50 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 4:55 | 0 | 0 | 0 | 0 |
| 1-Jan-00 | 5:00 | 0 | 0 | 0 | 0 |



**Project:** **POST**
Simulation Run: 6hr 100Yr
Start of Run: 1-Jan-00
End of Run: 1-Jan-00
Basin Model Underground Detention
Meterologic Model 6hr 100Yr
Control Spec 1

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) |
|---|---|---|---|---|---|
| 1-Jan-00 | 0:00 | 0 | 0 | 100.1 | 0 |
| 1-Jan-00 | 0:05 | 0.6 | 0 | 100.5 | 0 |
| 1-Jan-00 | 0:10 | 0.9 | 0 | 101.5 | 0 |
| 1-Jan-00 | 0:15 | 0.9 | 0 | 102.4 | 0 |
| 1-Jan-00 | 0:20 | 0.9 | 0 | 102.7 | 0 |
| 1-Jan-00 | 0:25 | 0.9 | 0 | 103 | 0 |
| 1-Jan-00 | 0:30 | 1.1 | 0 | 103.2 | 0 |
| 1-Jan-00 | 0:35 | 1.1 | 0 | 103.6 | 0 |
| 1-Jan-00 | 0:40 | 1.1 | 0 | 103.9 | 0 |
| 1-Jan-00 | 0:45 | 1.1 | 0.1 | 104.2 | 0 |
| 1-Jan-00 | 0:50 | 1.1 | 0.1 | 104.5 | 0 |
| 1-Jan-00 | 0:55 | 1.1 | 0.1 | 104.8 | 0 |
| 1-Jan-00 | 1:00 | 1.2 | 0.1 | 104.9 | 0 |
| 1-Jan-00 | 1:05 | 1.3 | 0.1 | 105.1 | 0 |
| 1-Jan-00 | 1:10 | 1.3 | 0.1 | 105.3 | 0 |
| 1-Jan-00 | 1:15 | 1.3 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 1:20 | 1.3 | 0.1 | 105.7 | 0.1 |
| 1-Jan-00 | 1:25 | 1.3 | 0.1 | 105.8 | 0.5 |
| 1-Jan-00 | 1:30 | 1.3 | 0.1 | 105.9 | 0.8 |
| 1-Jan-00 | 1:35 | 1.3 | 0.1 | 106 | 1 |
| 1-Jan-00 | 1:40 | 1.3 | 0.1 | 106 | 1.1 |
| 1-Jan-00 | 1:45 | 1.3 | 0.1 | 106 | 1.2 |
| 1-Jan-00 | 1:50 | 1.3 | 0.1 | 106 | 1.2 |
| 1-Jan-00 | 1:55 | 1.3 | 0.1 | 106 | 1.2 |
| 1-Jan-00 | 2:00 | 1.4 | 0.1 | 106 | 1.3 |
| 1-Jan-00 | 2:05 | 1.3 | 0.1 | 106 | 1.3 |
| 1-Jan-00 | 2:10 | 1.4 | 0.1 | 106 | 1.3 |
| 1-Jan-00 | 2:15 | 1.4 | 0.1 | 106 | 1.4 |
| 1-Jan-00 | 2:20 | 1.4 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 2:25 | 1.4 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 2:30 | 1.4 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 2:35 | 1.4 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 2:40 | 1.4 | 0.1 | 106.1 | 1.4 |
| 1-Jan-00 | 2:45 | 1.6 | 0.1 | 106.1 | 1.5 |
| 1-Jan-00 | 2:50 | 1.6 | 0.1 | 106.1 | 1.5 |
| 1-Jan-00 | 2:55 | 1.6 | 0.1 | 106.1 | 1.6 |
| 1-Jan-00 | 3:00 | 1.6 | 0.1 | 106.1 | 1.6 |
| 1-Jan-00 | 3:05 | 1.6 | 0.1 | 106.1 | 1.6 |
| 1-Jan-00 | 3:10 | 1.8 | 0.1 | 106.1 | 1.6 |

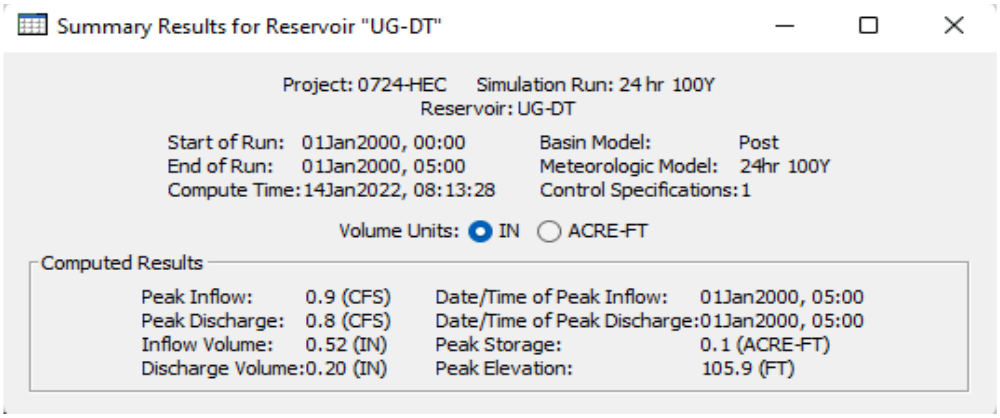
| | | | | | |
|---|---|---|---|---|---|
| 1-Jan-00 | 3:15 | 1.8 | 0.1 | 106.1 | 1.7 |
| 1-Jan-00 | 3:20 | 1.8 | 0.1 | 106.1 | 1.8 |
| 1-Jan-00 | 3:25 | 1.9 | 0.1 | 106.1 | 1.8 |
| 1-Jan-00 | 3:30 | 2.1 | 0.1 | 106.2 | 1.9 |
| 1-Jan-00 | 3:35 | 2.3 | 0.1 | 106.2 | 2.1 |
| 1-Jan-00 | 3:40 | 2.3 | 0.1 | 106.2 | 2.2 |
| 1-Jan-00 | 3:45 | 2.4 | 0.1 | 106.2 | 2.3 |
| 1-Jan-00 | 3:50 | 2.5 | 0.1 | 106.2 | 2.4 |
| 1-Jan-00 | 3:55 | 2.6 | 0.1 | 106.2 | 2.5 |
| 1-Jan-00 | 4:00 | 2.6 | 0.1 | 106.3 | 2.6 |
| 1-Jan-00 | 4:05 | 2.8 | 0.1 | 106.3 | 2.7 |
| 1-Jan-00 | 4:10 | 3 | 0.1 | 106.3 | 2.8 |
| 1-Jan-00 | 4:15 | 3.1 | 0.1 | 106.3 | 3 |
| 1-Jan-00 | 4:20 | 3.3 | 0.1 | 106.3 | 3.1 |
| 1-Jan-00 | 4:25 | 3.5 | 0.1 | 106.4 | 3.3 |
| 1-Jan-00 | 4:30 | 3.5 | 0.1 | 106.4 | 3.4 |
| 1-Jan-00 | 4:35 | 3.7 | 0.1 | 106.4 | 3.5 |
| 1-Jan-00 | 4:40 | 3.8 | 0.1 | 106.4 | 3.7 |
| 1-Jan-00 | 4:45 | 4 | 0.1 | 106.4 | 3.8 |
| 1-Jan-00 | 4:50 | 4 | 0.1 | 106.4 | 4 |
| 1-Jan-00 | 4:55 | 4.2 | 0.1 | 106.5 | 4.1 |
| 1-Jan-00 | 5:00 | 4.3 | 0.2 | 106.5 | 4.2 |



**Project:** **POST**
Simulation Run: 24hr 100Yr
Start of Run: 1-Jan-00
End of Run: 1-Jan-00
Basin Model Underground Detention
Meterologic Model 24hr 100Yr
Control Spec 1

| DATE | TIME | PREIP (IN) | LOSS (IN) | EXCESS (IN) | DIRECT FLOW (CFS) |
|---|---|---|---|---|---|
| 1-Jan-00 | 0:00 | 0 | 0 | 100.1 | 0 |
| 1-Jan-00 | 0:05 | 0.2 | 0 | 100.3 | 0 |
| 1-Jan-00 | 0:10 | 0.2 | 0 | 100.5 | 0 |
| 1-Jan-00 | 0:15 | 0.2 | 0 | 100.8 | 0 |
| 1-Jan-00 | 0:20 | 0.3 | 0 | 101.2 | 0 |
| 1-Jan-00 | 0:25 | 0.3 | 0 | 101.6 | 0 |
| 1-Jan-00 | 0:30 | 0.3 | 0 | 102.1 | 0 |
| 1-Jan-00 | 0:35 | 0.3 | 0 | 102.4 | 0 |
| 1-Jan-00 | 0:40 | 0.3 | 0 | 102.5 | 0 |
| 1-Jan-00 | 0:45 | 0.3 | 0 | 102.6 | 0 |
| 1-Jan-00 | 0:50 | 0.4 | 0 | 102.7 | 0 |
| 1-Jan-00 | 0:55 | 0.4 | 0 | 102.8 | 0 |
| 1-Jan-00 | 1:00 | 0.4 | 0 | 102.9 | 0 |
| 1-Jan-00 | 1:05 | 0.4 | 0 | 103 | 0 |
| 1-Jan-00 | 1:10 | 0.3 | 0 | 103.1 | 0 |
| 1-Jan-00 | 1:15 | 0.3 | 0 | 103.2 | 0 |
| 1-Jan-00 | 1:20 | 0.3 | 0 | 103.3 | 0 |
| 1-Jan-00 | 1:25 | 0.3 | 0 | 103.4 | 0 |
| 1-Jan-00 | 1:30 | 0.3 | 0 | 103.5 | 0 |
| 1-Jan-00 | 1:35 | 0.3 | 0 | 103.6 | 0 |
| 1-Jan-00 | 1:40 | 0.3 | 0 | 103.7 | 0 |
| 1-Jan-00 | 1:45 | 0.3 | 0 | 103.8 | 0 |
| 1-Jan-00 | 1:50 | 0.4 | 0 | 103.9 | 0 |
| 1-Jan-00 | 1:55 | 0.4 | 0.1 | 104 | 0 |
| 1-Jan-00 | 2:00 | 0.4 | 0.1 | 104.2 | 0 |
| 1-Jan-00 | 2:05 | 0.4 | 0.1 | 104.3 | 0 |
| 1-Jan-00 | 2:10 | 0.4 | 0.1 | 104.4 | 0 |
| 1-Jan-00 | 2:15 | 0.4 | 0.1 | 104.5 | 0 |
| 1-Jan-00 | 2:20 | 0.4 | 0.1 | 104.6 | 0 |
| 1-Jan-00 | 2:25 | 0.4 | 0.1 | 104.7 | 0 |
| 1-Jan-00 | 2:30 | 0.4 | 0.1 | 104.8 | 0 |
| 1-Jan-00 | 2:35 | 0.6 | 0.1 | 104.8 | 0 |
| 1-Jan-00 | 2:40 | 0.6 | 0.1 | 104.9 | 0 |
| 1-Jan-00 | 2:45 | 0.6 | 0.1 | 105 | 0 |
| 1-Jan-00 | 2:50 | 0.6 | 0.1 | 105.1 | 0 |
| 1-Jan-00 | 2:55 | 0.6 | 0.1 | 105.2 | 0 |
| 1-Jan-00 | 3:00 | 0.6 | 0.1 | 105.3 | 0 |
| 1-Jan-00 | 3:05 | 0.6 | 0.1 | 105.3 | 0 |
| 1-Jan-00 | 3:10 | 0.6 | 0.1 | 105.4 | 0 |

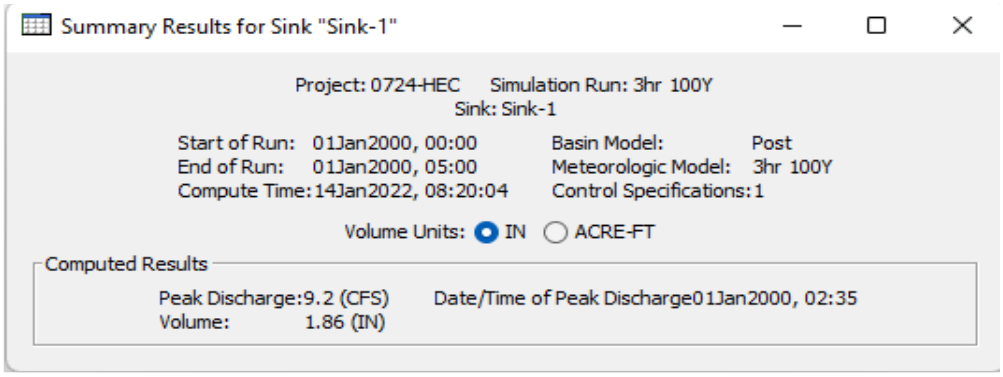
| | | | | | |
|---|---|---|---|---|---|
| 1-Jan-00 | 3:15 | 0.6 | 0.1 | 105.5 | 0 |
| 1-Jan-00 | 3:20 | 0.6 | 0.1 | 105.6 | 0 |
| 1-Jan-00 | 3:25 | 0.6 | 0.1 | 105.7 | 0.1 |
| 1-Jan-00 | 3:30 | 0.6 | 0.1 | 105.7 | 0.2 |
| 1-Jan-00 | 3:35 | 0.6 | 0.1 | 105.8 | 0.3 |
| 1-Jan-00 | 3:40 | 0.6 | 0.1 | 105.8 | 0.4 |
| 1-Jan-00 | 3:45 | 0.6 | 0.1 | 105.8 | 0.5 |
| 1-Jan-00 | 3:50 | 0.6 | 0.1 | 105.8 | 0.5 |
| 1-Jan-00 | 3:55 | 0.6 | 0.1 | 105.8 | 0.6 |
| 1-Jan-00 | 4:00 | 0.6 | 0.1 | 105.9 | 0.6 |
| 1-Jan-00 | 4:05 | 0.6 | 0.1 | 105.9 | 0.6 |
| 1-Jan-00 | 4:10 | 0.6 | 0.1 | 105.9 | 0.6 |
| 1-Jan-00 | 4:15 | 0.6 | 0.1 | 105.9 | 0.6 |
| 1-Jan-00 | 4:20 | 0.7 | 0.1 | 105.9 | 0.6 |
| 1-Jan-00 | 4:25 | 0.7 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 4:30 | 0.7 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 4:35 | 0.7 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 4:40 | 0.7 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 4:45 | 0.7 | 0.1 | 105.9 | 0.7 |
| 1-Jan-00 | 4:50 | 0.8 | 0.1 | 105.9 | 0.8 |
| 1-Jan-00 | 4:55 | 0.9 | 0.1 | 105.9 | 0.8 |
| 1-Jan-00 | 5:00 | 0.9 | 0.1 | 105.9 | 0.8 |



| | |
|---|---|
| **Project:** | **POST** |
| Simulation Run: | 3hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 1-Jan-00 |
| Basin Model | Sink |
| Meterologic Model | 3hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | Inflow from UG-DT | Total Inflow (CFS) |
|---|---|---|---|
| 1-Jan-00 | 0:00 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0 | 0 |
| 1-Jan-00 | 0:10 | 0 | 0 |
| 1-Jan-00 | 0:15 | 0 | 0 |
| 1-Jan-00 | 0:20 | 0 | 0 |
| 1-Jan-00 | 0:25 | 0 | 0 |
| 1-Jan-00 | 0:30 | 0 | 0 |
| 1-Jan-00 | 0:35 | 0 | 0 |
| 1-Jan-00 | 0:40 | 0 | 0 |
| 1-Jan-00 | 0:45 | 0 | 0 |
| 1-Jan-00 | 0:50 | 0.3 | 0.3 |
| 1-Jan-00 | 0:55 | 0.8 | 0.8 |
| 1-Jan-00 | 1:00 | 1.4 | 1.4 |
| 1-Jan-00 | 1:05 | 1.9 | 1.9 |
| 1-Jan-00 | 1:10 | 2.3 | 2.3 |
| 1-Jan-00 | 1:15 | 2.5 | 2.5 |
| 1-Jan-00 | 1:20 | 2.5 | 2.5 |
| 1-Jan-00 | 1:25 | 2.7 | 2.7 |
| 1-Jan-00 | 1:30 | 3 | 3 |
| 1-Jan-00 | 1:35 | 3.1 | 3.1 |
| 1-Jan-00 | 1:40 | 3.1 | 3.1 |
| 1-Jan-00 | 1:45 | 3.4 | 3.4 |
| 1-Jan-00 | 1:50 | 3.7 | 3.7 |
| 1-Jan-00 | 1:55 | 3.7 | 3.7 |
| 1-Jan-00 | 2:00 | 3.7 | 3.7 |
| 1-Jan-00 | 2:05 | 3.7 | 3.7 |
| 1-Jan-00 | 2:10 | 4.2 | 4.2 |
| 1-Jan-00 | 2:15 | 5.1 | 5.1 |
| 1-Jan-00 | 2:20 | 5.3 | 5.3 |
| 1-Jan-00 | 2:25 | 6 | 6 |
| 1-Jan-00 | 2:30 | 7.9 | 7.9 |
| 1-Jan-00 | 2:35 | 9.2 | 9.2 |
| 1-Jan-00 | 2:40 | 8.9 | 8.9 |
| 1-Jan-00 | 2:45 | 6.1 | 6.1 |
| 1-Jan-00 | 2:50 | 3.7 | 3.7 |
| 1-Jan-00 | 2:55 | 2.8 | 2.8 |
| 1-Jan-00 | 3:00 | 2 | 2 |
| 1-Jan-00 | 3:05 | 1.2 | 1.2 |
| 1-Jan-00 | 3:10 | 0.7 | 0.7 |

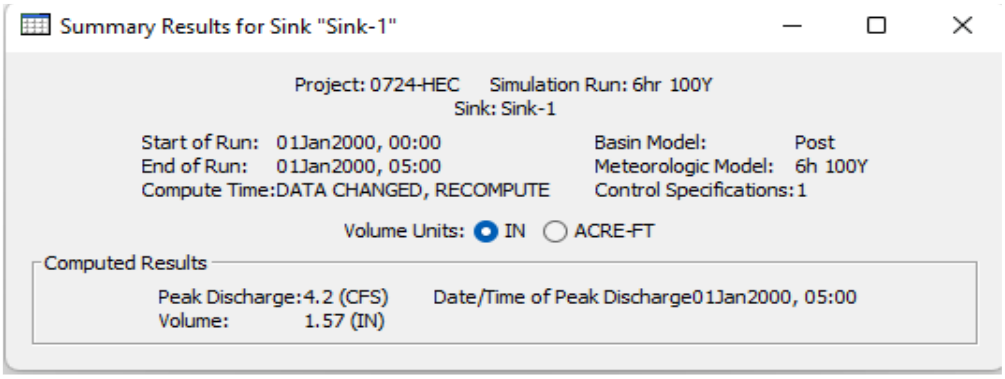
| | | | |
|---|---|---|---|
| 1-Jan-00 | 3:15 | 0.4 | 0.4 |
| 1-Jan-00 | 3:20 | 0.3 | 0.3 |
| 1-Jan-00 | 3:25 | 0.2 | 0.2 |
| 1-Jan-00 | 3:30 | 0.2 | 0.2 |
| 1-Jan-00 | 3:35 | 0.1 | 0.1 |
| 1-Jan-00 | 3:40 | 0.1 | 0.1 |
| 1-Jan-00 | 3:45 | 0.1 | 0.1 |
| 1-Jan-00 | 3:50 | 0.1 | 0.1 |
| 1-Jan-00 | 3:55 | 0.1 | 0.1 |
| 1-Jan-00 | 4:00 | 0.1 | 0.1 |
| 1-Jan-00 | 4:05 | 0 | 0 |
| 1-Jan-00 | 4:10 | 0 | 0 |
| 1-Jan-00 | 4:15 | 0 | 0 |
| 1-Jan-00 | 4:20 | 0 | 0 |
| 1-Jan-00 | 4:25 | 0 | 0 |
| 1-Jan-00 | 4:30 | 0 | 0 |
| 1-Jan-00 | 4:35 | 0 | 0 |
| 1-Jan-00 | 4:40 | 0 | 0 |
| 1-Jan-00 | 4:45 | 0 | 0 |
| 1-Jan-00 | 4:50 | 0 | 0 |
| 1-Jan-00 | 4:55 | 0 | 0 |
| 1-Jan-00 | 5:00 | 0 | 0 |



| | |
|---|---|
| **Project:** | **POST** |
| Simulation Run: | 6hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 1-Jan-00 |
| Basin Model | Sink |
| Meterologic Model | 6hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | Inflow from UG-DT | Total Inflow (CFS) |
|---|---|---|---|
| 1-Jan-00 | 0:00 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0 | 0 |
| 1-Jan-00 | 0:10 | 0 | 0 |
| 1-Jan-00 | 0:15 | 0 | 0 |
| 1-Jan-00 | 0:20 | 0 | 0 |
| 1-Jan-00 | 0:25 | 0 | 0 |
| 1-Jan-00 | 0:30 | 0 | 0 |
| 1-Jan-00 | 0:35 | 0 | 0 |
| 1-Jan-00 | 0:40 | 0 | 0 |
| 1-Jan-00 | 0:45 | 0 | 0 |
| 1-Jan-00 | 0:50 | 0 | 0 |
| 1-Jan-00 | 0:55 | 0 | 0 |
| 1-Jan-00 | 1:00 | 0 | 0 |
| 1-Jan-00 | 1:05 | 0 | 0 |
| 1-Jan-00 | 1:10 | 0 | 0 |
| 1-Jan-00 | 1:15 | 0 | 0 |
| 1-Jan-00 | 1:20 | 0.1 | 0.1 |
| 1-Jan-00 | 1:25 | 0.5 | 0.5 |
| 1-Jan-00 | 1:30 | 0.8 | 0.8 |
| 1-Jan-00 | 1:35 | 1 | 1 |
| 1-Jan-00 | 1:40 | 1.1 | 1.1 |
| 1-Jan-00 | 1:45 | 1.2 | 1.2 |
| 1-Jan-00 | 1:50 | 1.2 | 1.2 |
| 1-Jan-00 | 1:55 | 1.2 | 1.2 |
| 1-Jan-00 | 2:00 | 1.3 | 1.3 |
| 1-Jan-00 | 2:05 | 1.3 | 1.3 |
| 1-Jan-00 | 2:10 | 1.3 | 1.3 |
| 1-Jan-00 | 2:15 | 1.4 | 1.4 |
| 1-Jan-00 | 2:20 | 1.4 | 1.4 |
| 1-Jan-00 | 2:25 | 1.4 | 1.4 |
| 1-Jan-00 | 2:30 | 1.4 | 1.4 |
| 1-Jan-00 | 2:35 | 1.4 | 1.4 |
| 1-Jan-00 | 2:40 | 1.4 | 1.4 |
| 1-Jan-00 | 2:45 | 1.5 | 1.5 |
| 1-Jan-00 | 2:50 | 1.5 | 1.5 |
| 1-Jan-00 | 2:55 | 1.6 | 1.6 |
| 1-Jan-00 | 3:00 | 1.6 | 1.6 |
| 1-Jan-00 | 3:05 | 1.6 | 1.6 |
| 1-Jan-00 | 3:10 | 1.6 | 1.6 |

| | | | |
|---|---|---|---|
| 1-Jan-00 | 3:15 | 1.7 | 1.7 |
| 1-Jan-00 | 3:20 | 1.8 | 1.8 |
| 1-Jan-00 | 3:25 | 1.8 | 1.8 |
| 1-Jan-00 | 3:30 | 1.9 | 1.9 |
| 1-Jan-00 | 3:35 | 2.1 | 2.1 |
| 1-Jan-00 | 3:40 | 2.2 | 2.2 |
| 1-Jan-00 | 3:45 | 2.3 | 2.3 |
| 1-Jan-00 | 3:50 | 2.4 | 2.4 |
| 1-Jan-00 | 3:55 | 2.5 | 2.5 |
| 1-Jan-00 | 4:00 | 2.6 | 2.6 |
| 1-Jan-00 | 4:05 | 2.7 | 2.7 |
| 1-Jan-00 | 4:10 | 2.8 | 2.8 |
| 1-Jan-00 | 4:15 | 3 | 3 |
| 1-Jan-00 | 4:20 | 3.1 | 3.1 |
| 1-Jan-00 | 4:25 | 3.3 | 3.3 |
| 1-Jan-00 | 4:30 | 3.4 | 3.4 |
| 1-Jan-00 | 4:35 | 3.5 | 3.5 |
| 1-Jan-00 | 4:40 | 3.7 | 3.7 |
| 1-Jan-00 | 4:45 | 3.8 | 3.8 |
| 1-Jan-00 | 4:50 | 4 | 4 |
| 1-Jan-00 | 4:55 | 4.1 | 4.1 |
| 1-Jan-00 | 5:00 | 4.2 | 4.2 |



| | |
|---|---|
| **Project:** | **POST** |
| Simulation Run: | 24hr 100Yr |
| Start of Run: | 1-Jan-00 |
| End of Run: | 1-Jan-00 |
| Basin Model | Sink |
| Meterologic Model | 24hr 100Yr |
| Control Spec | 1 |

| DATE | TIME | Inflow from UG-DT | Total Inflow (CFS) |
|---|---|---|---|
| 1-Jan-00 | 0:00 | 0 | 0 |
| 1-Jan-00 | 0:05 | 0 | 0 |
| 1-Jan-00 | 0:10 | 0 | 0 |
| 1-Jan-00 | 0:15 | 0 | 0 |
| 1-Jan-00 | 0:20 | 0 | 0 |
| 1-Jan-00 | 0:25 | 0 | 0 |
| 1-Jan-00 | 0:30 | 0 | 0 |
| 1-Jan-00 | 0:35 | 0 | 0 |
| 1-Jan-00 | 0:40 | 0 | 0 |
| 1-Jan-00 | 0:45 | 0 | 0 |
| 1-Jan-00 | 0:50 | 0 | 0 |
| 1-Jan-00 | 0:55 | 0 | 0 |
| 1-Jan-00 | 1:00 | 0 | 0 |
| 1-Jan-00 | 1:05 | 0 | 0 |
| 1-Jan-00 | 1:10 | 0 | 0 |
| 1-Jan-00 | 1:15 | 0 | 0 |
| 1-Jan-00 | 1:20 | 0 | 0 |
| 1-Jan-00 | 1:25 | 0 | 0 |
| 1-Jan-00 | 1:30 | 0 | 0 |
| 1-Jan-00 | 1:35 | 0 | 0 |
| 1-Jan-00 | 1:40 | 0 | 0 |
| 1-Jan-00 | 1:45 | 0 | 0 |
| 1-Jan-00 | 1:50 | 0 | 0 |
| 1-Jan-00 | 1:55 | 0 | 0 |
| 1-Jan-00 | 2:00 | 0 | 0 |
| 1-Jan-00 | 2:05 | 0 | 0 |
| 1-Jan-00 | 2:10 | 0 | 0 |
| 1-Jan-00 | 2:15 | 0 | 0 |
| 1-Jan-00 | 2:20 | 0 | 0 |
| 1-Jan-00 | 2:25 | 0 | 0 |
| 1-Jan-00 | 2:30 | 0 | 0 |
| 1-Jan-00 | 2:35 | 0 | 0 |
| 1-Jan-00 | 2:40 | 0 | 0 |
| 1-Jan-00 | 2:45 | 0 | 0 |
| 1-Jan-00 | 2:50 | 0 | 0 |
| 1-Jan-00 | 2:55 | 0 | 0 |
| 1-Jan-00 | 3:00 | 0 | 0 |
| 1-Jan-00 | 3:05 | 0 | 0 |
| 1-Jan-00 | 3:10 | 0 | 0 |

| | | | |
|---|---|---|---|
| 1-Jan-00 | 3:15 | 0 | 0 |
| 1-Jan-00 | 3:20 | 0 | 0 |
| 1-Jan-00 | 3:25 | 0.1 | 0.1 |
| 1-Jan-00 | 3:30 | 0.2 | 0.2 |
| 1-Jan-00 | 3:35 | 0.3 | 0.3 |
| 1-Jan-00 | 3:40 | 0.4 | 0.4 |
| 1-Jan-00 | 3:45 | 0.5 | 0.5 |
| 1-Jan-00 | 3:50 | 0.5 | 0.5 |
| 1-Jan-00 | 3:55 | 0.6 | 0.6 |
| 1-Jan-00 | 4:00 | 0.6 | 0.6 |
| 1-Jan-00 | 4:05 | 0.6 | 0.6 |
| 1-Jan-00 | 4:10 | 0.6 | 0.6 |
| 1-Jan-00 | 4:15 | 0.6 | 0.6 |
| 1-Jan-00 | 4:20 | 0.6 | 0.6 |
| 1-Jan-00 | 4:25 | 0.7 | 0.7 |
| 1-Jan-00 | 4:30 | 0.7 | 0.7 |
| 1-Jan-00 | 4:35 | 0.7 | 0.7 |
| 1-Jan-00 | 4:40 | 0.7 | 0.7 |
| 1-Jan-00 | 4:45 | 0.7 | 0.7 |
| 1-Jan-00 | 4:50 | 0.8 | 0.8 |
| 1-Jan-00 | 4:55 | 0.8 | 0.8 |
| 1-Jan-00 | 5:00 | 0.8 | 0.8 |