

# Stemflow double-funneling

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## Objectives

- Apply a novel dual-tracer experiment for belowground channelization of stemflow
- Quantitative and qualitative assessment of preferential stemflow flowpaths

## Procedure

The experiment was set up to simulate stemflow artificially. A dye (Brilliant Blue) and deuterated water ( $^2\text{H}$ ) were applied as tracers to the stemflow water. 45 liters of stemflow were discharged over a period of 6 hours.



*Experiment set up*



*Dual tracers*



*Simulated stemflow*



*SWC Monitoring*



*Dig a soil pit*



*Soil sampling*

## Results

Preliminary results indicated that stemflow infiltrated along coarse roots, macropores and around stones and that the tracer was found more frequently at depth than at the soil surface.

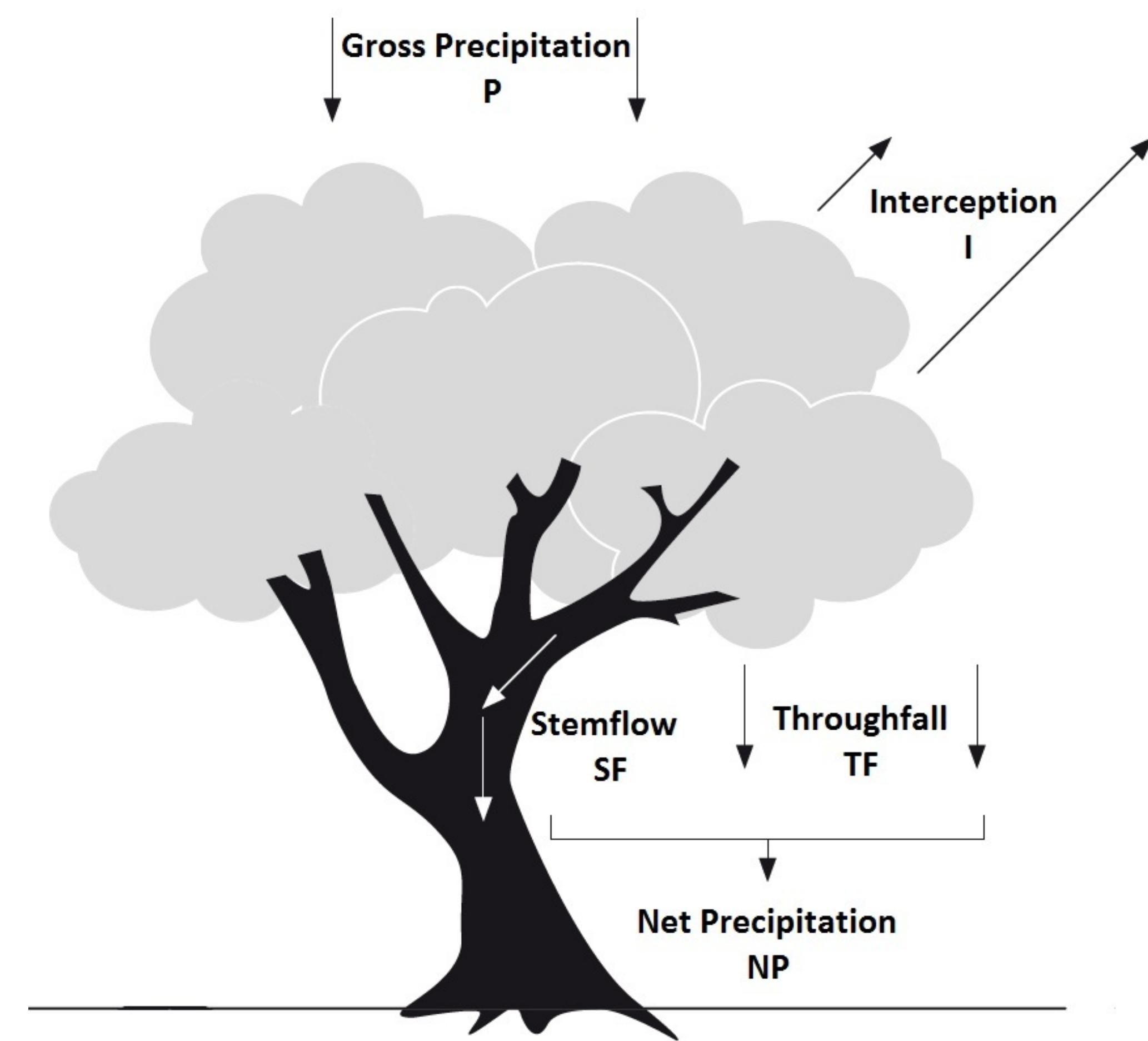


## Conclusion

Stemflow preferential flow clearly influenced the dynamics of soil moisture. This study is investigating a novel approach to shed light about on the dynamics of stemflow infiltration. Detailed interpretations of the data set must await further work.

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## Introduction

Stemflow is the intercepted precipitation that drains from leaves and branches and is channelled to the stem, which eventually flows downward and reaches the forest floor around the stem base.

Stemflow fluxes of water and nutrients are then funneled preferentially belowground along tree roots and other preferential flow paths, bypassing much of the bulk soil.

