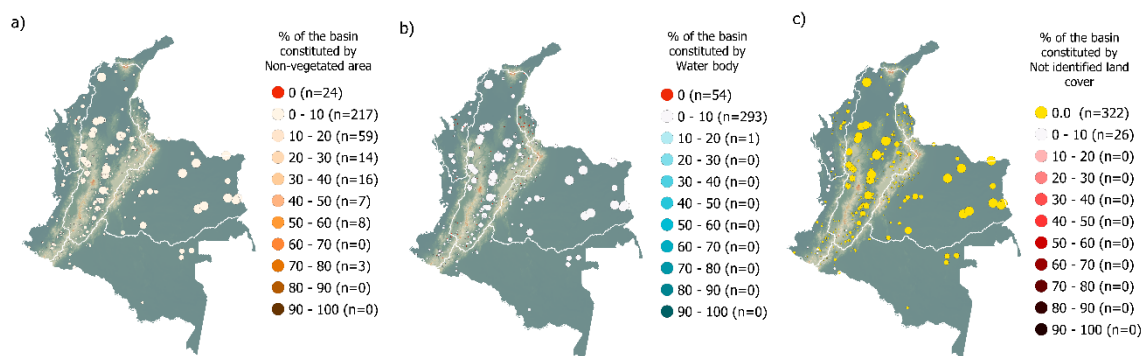


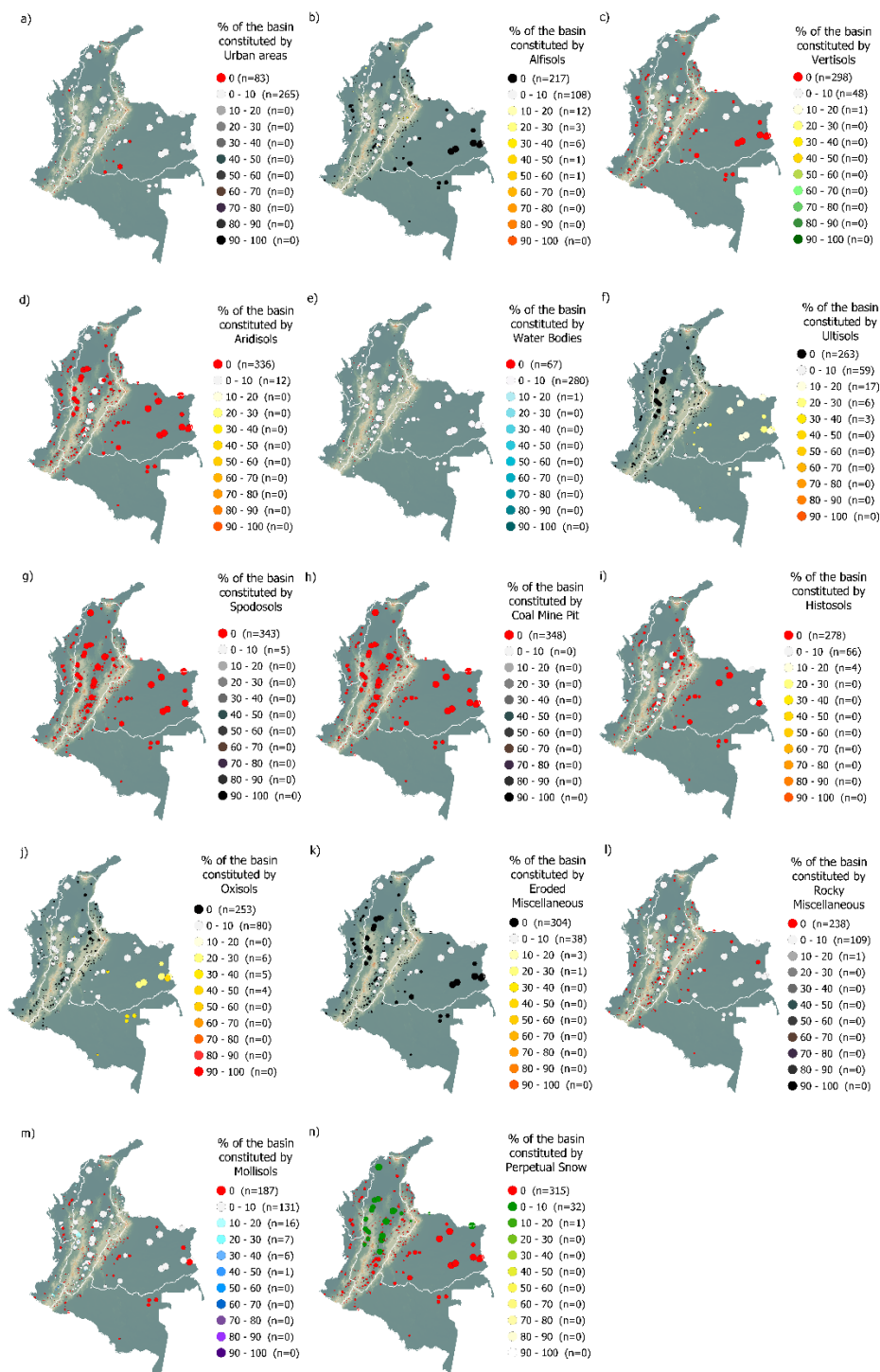
## SUPPLEMENTARY MATERIAL

### Spatial distribution of the Secondary land cover typologies



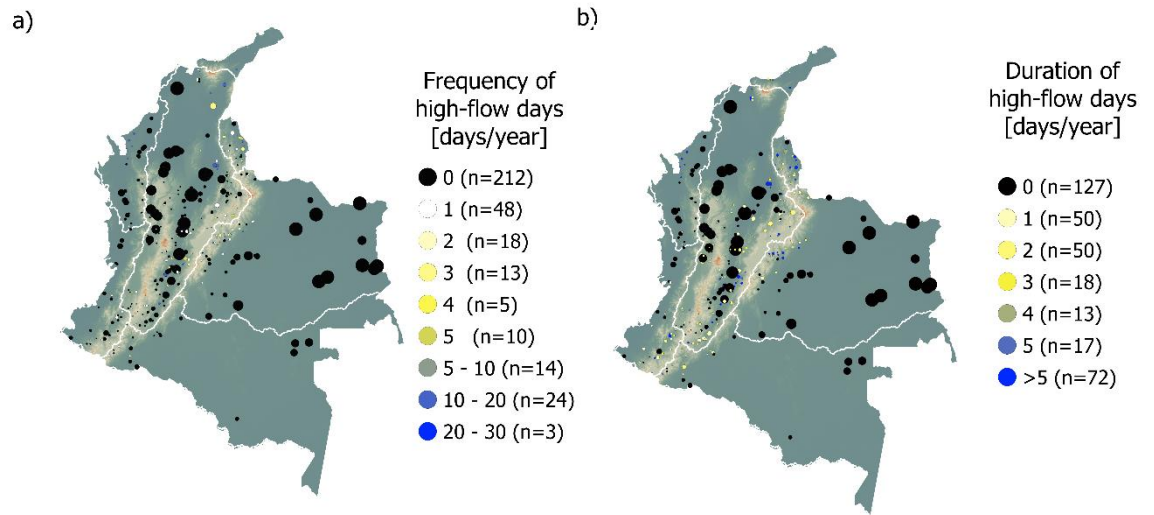
**Figure S1 Secondary land cover typologies of the 348 Selected Catchments: The Circle Size is Proportional to the Catchment Area: A). Non-Vegetated area, B) Water body, C) Not identified land cover.**

## Spatial distribution of Secondary soil typologies



**Figure S2 Secondary soil typologies of the 192 Selected Catchments: The Circle Size is Proportional to the Catchment Area: A). Urban Areas, B) Alfisols, C) Vertisols, D) Aridisols, E) Water Bodies, F) Ultisols, G) Spodosols, H) Coal mine pit, I) Histosols, J) Oxisols, K) Eroded Miscellaneous, L) Rocky Miscellaneous, M) Mollisols, N) Perpetual Snow.**

### Spatial distribution of Hydrological signatures



**Figure S3 Hydrological signatures of the 347 selected catchments. The size of the circles is proportional to the size of the catchment. a) Frequency of high-flow days, b) Duration of high-flow days,**