

Runoff variability in Fennoscandia

My aim was to study the spatial and temporal variation of runoff in Fennoscandia. Fennoscandia is here defined as the rectangular area limited by 54° N, 4° E as the southwestern corner and 71° N, 31° E as the northeastern corner.

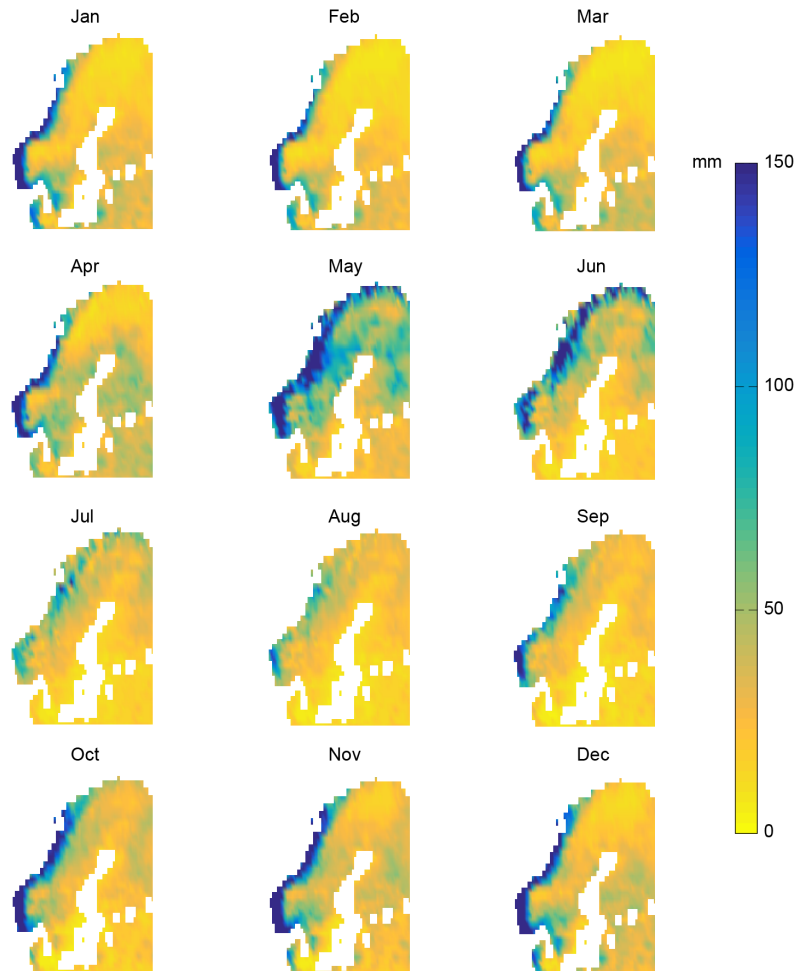


Figure 1. Monthly runoff in Fennoscandia.

Figure 1 presents the monthly runoff in Fennoscandia in mm. The spatial as well as temporal variation of runoff is evident from the maps. Throughout the year, coastal Norway is the wettest area in Fennoscandia in terms of runoff. There runoff is generally over 150 mm/month when in most of Sweden, Finland and Denmark typical monthly runoff is well under 100 mm. Maximum annual runoff of 3362 mm can be found in Southwestern Norway, close to Bergen (60.5° N, 6° E). The area with the smallest annual runoff (108 mm) is located in the Stockholm archipelago at 59° N, 18.5° E.

Figure 1 shows that runoff is fairly low during the winter months in most of Finland and Sweden, apart from the very southern areas. This is most likely due to most of rainfall coming as snow that stays on the ground. The consequences of this are clearly seen in April–June, when snowmelt visibly increases runoff. The month-by-month variation can also be detected from Figure 2, which presents the total monthly runoff in all of Fennoscandia. Runoff is fairly low in January–March, and then peaks in May, followed by lower runoff during the summer months.

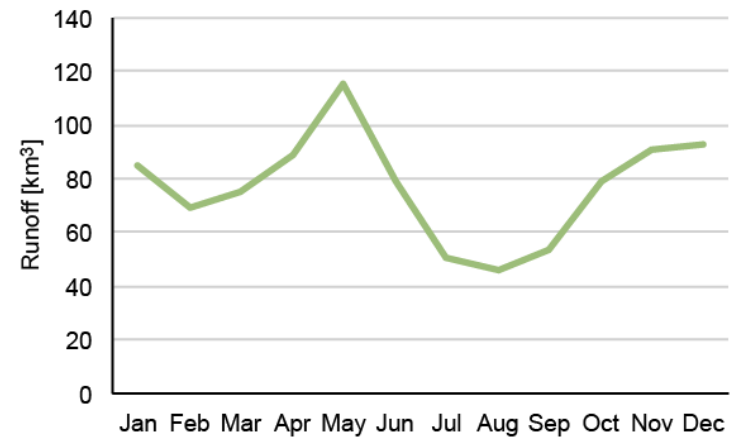


Figure 2. Total monthly runoff in Fennoscandia.