



Sediment mass balance using drone based measurements

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In natural or even nature like river systems processes are highly linked and can rarely be seen as only one dimensional. This is especially relevant when it comes to links between hydraulics, sediment and vegetation in rivers and along rivers. Any change in the system, such as occurs for river regulation due to use for hydropower production or flood protection but also as result of climate change and land use changes will in most cases lead to a change of all three parameters. Also for any restoration activity all factors need to be taken into account. This is valid even if the focus of restoration is not directly all parameters or their link itself, as otherwise the restoration success can be low or in the worst case even reversed.

Within this study we investigated the sediment mass transports as a result of interaction between hydraulics, sediment and vegetation in the river Gaula, Norway. We conducted two field campaigns using drone pictures to investigate the changes in sediment masses. The respective areas is a hotspot for vegetation growth and hence the vegetation is a huge factor influencing the hydraulics and sediment structures in this area.

The results are very promising and will be the basis for further investigations.