

# ***Interactive comment on “Historical cartographic and topo-bathymetric database on the French Rhône River (17th–20th centuries)” by Fanny Arnaud et al.***

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General comments: The manuscript provides an inventory of very extensive historical database on the French Rhône Rive from the 17th to mid-20th century. The presented dataset is very imposing and include: numerous historical maps, plans, cross-sections, topo-bathymetry data items and profiles. Such a dataset is particularly useful for proper reconstruction of the river channel evolution and past fluvial processes and can be especially applied in river revitalization planning process. On the basis of this data the changes of the river hydromorphological condition can be assessed.

Specific comments: The data items was collected on one layer in ArcMap 10.5, which

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facilitated the quick use of dataset.

The authors tested the spline transformation on archival maps. This issue requires more clarification why the second or third order polynomial transformation wasn't applied.

The article is based on rich references to literature. In my opinion the dataset is complete, additionally the informations about 350 archive resources and about georeferencing on maps are depicted clearly in the tables. For each map the RMS terror is estimated. The archival maps are geo-referenced and can be used to compare river channel elements between time horizons in ArcGIS and QGIS softwares.

I suggest to consider adding the chapter 5: 5. Limitations resulting from inaccuracies of archival materials (or critical analysis of the dataset). In this chapter authors can collect all the limitations of archival maps that make it impossible to analyse some long-term environmental changes (for example, exact area size changes or the type of forest changes). It should contain the considerations if the use of such materials (maps from the 18th and 19th centuries) for the analysis of smaller rivers of Europe give good results or is it sufficient only for large rivers?

Figures and tables are correct and high quality. The information in the figure 6 and 7 are especially valuable allowing to quickly find out about the availability, scale, time horizon and topo-bathymetric information for given river reach. I suggest only to enlarge the figure 11 to make the letters and numbers more readable.

The dataset publication is of high quality. Collecting data on a layer in ArcGis will enable their easy use in the future for various studies.

Detailed comments are included in PDF.

Please also note the supplement to this comment:

<https://essd.copernicus.org/preprints/essd-2020-274/essd-2020-274-RC2-supplement.pdf>

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