

## ***Interactive comment on “Inventory of dams in Germany” by Gustavo Andrei Speckhann et al.***

**Benjamin Fersch (Referee)**

benjamin.fersch@kit.edu

Received and published: 5 January 2021

The authors present a dataset of a nationwide inventory of dams for Germany. In addition to location information and operations startup date, additional important properties are listed.

The dataset is a valuable compilation that unifies information that is typically split due to the federal state structure of Germany and that is often not available in a usable digital format.

I have the following comments:

1. The title refers to dams in Germany, but the introduction focuses mainly on dams in other parts of the world and some global inventories. I think that a paragraph describing the situation (history of water management, federal structure) in Ger-

C1

many would be interesting to the readers / users.

2. Section 3.2 lists the purposes of the dams in the inventory, but it's not clear if structures without considerable manageable reservoir volume (e.g., hydraulic power stations, channels, or locks) are generally considered, or excluded. These kind of structures usually don't alter the discharge too much. Some dams along the Lech river were considered, others, e.g., for the Danube were excluded.
3. Although there were many different sources used to fill the database, the very easy to exploit database of Openstreetmap (which exhibits a very good data quality for Germany) was apparently not used here. Using a simple query on <http://overpass-turbo.eu/>

```
[out:json][timeout:25];  
// gather results  
(  
  // query part for: ``dam``  
  node["waterway"="dam"]({{bbox}});  
  way["waterway"="dam"]({{bbox}});  
);  
// print results  
out body;  
>;  
out skel qt;
```

one can easily find many more reservoirs, that are of equal size / volume as those listed in the inventory. E.g., Herrenteich, Reinfeld (Holstein), Padersee, Paderborn, more than 50 reservoirs around Clausthal whereof 3 are listed in your inventory, Blaibacher See (Schwarzer Regen, near Viechtach) just downstream of the listed Hoellenstein Talsperre, or Baerensee and Bachtelsee (Werach) close

C2

to Kaufbeuren. So in case you have no capacities to rework your inventory based on the OSM data source you may want to provide this hint in your outlook as a starting point for further investigations, also outside of Germany.

4. The dataset is restricted to the political boundaries of Germany. It would be nice if the extent was "hydrological" Germany including the whole catchments of Elbe, Rhine and Danube, but that would include Czechia, France, Austria and Switzerland. For hydrological modeling this would be desirable but I admit that this is out of scope of this work.

---

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-266>, 2020.