

A wide, shallow river with a sandy or silty bed, surrounded by a flat landscape under a clear sky. The water is light-colored, and the horizon is low.

# CHR Spring Seminar

**From source to mouth, a sediment budget of the  
Rhine River, 25 -26 March 2015 in Lyon, France**

A wide, shallow river with a light-colored, sandy or silty bed. The water is calm and reflects the sky. In the distance, there are some trees and buildings on the banks.

## Several CHR-KHR Colloquia

**Bregenz, April 2005, Extrem Floods**

**Würzburg, September 2007, Low Flow and Droughts**

**Alkmaar, Mai 2010, Advances in Flood Forecasting**

**Bonn, October 2010, RheinBlick 2050**

**Bregenz, March 2014, Sozio-Economic Influences**

**The word *seminar* is derived from the Latin word *seminarium*, meaning "seed plot"**

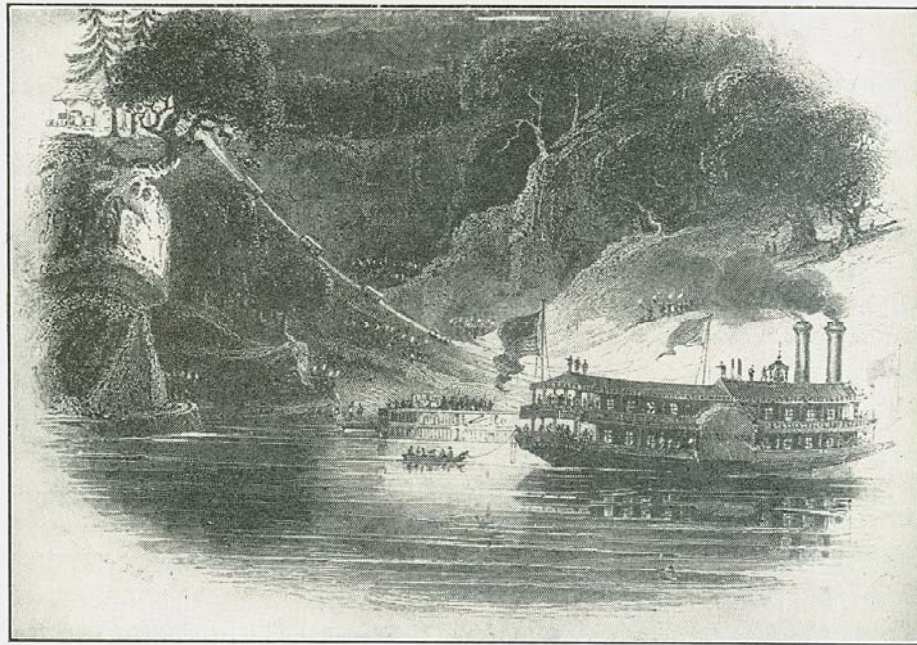
# Theme areas of CHR-KHR



Specifically mentioned:

- ...
- Sediment management in relation to the discharge regime and the morphological conditions;
- Models for the description of hydrological and morphological processes and the charting of influences of various measures taken in water courses;
- ...

# Term „navigability“

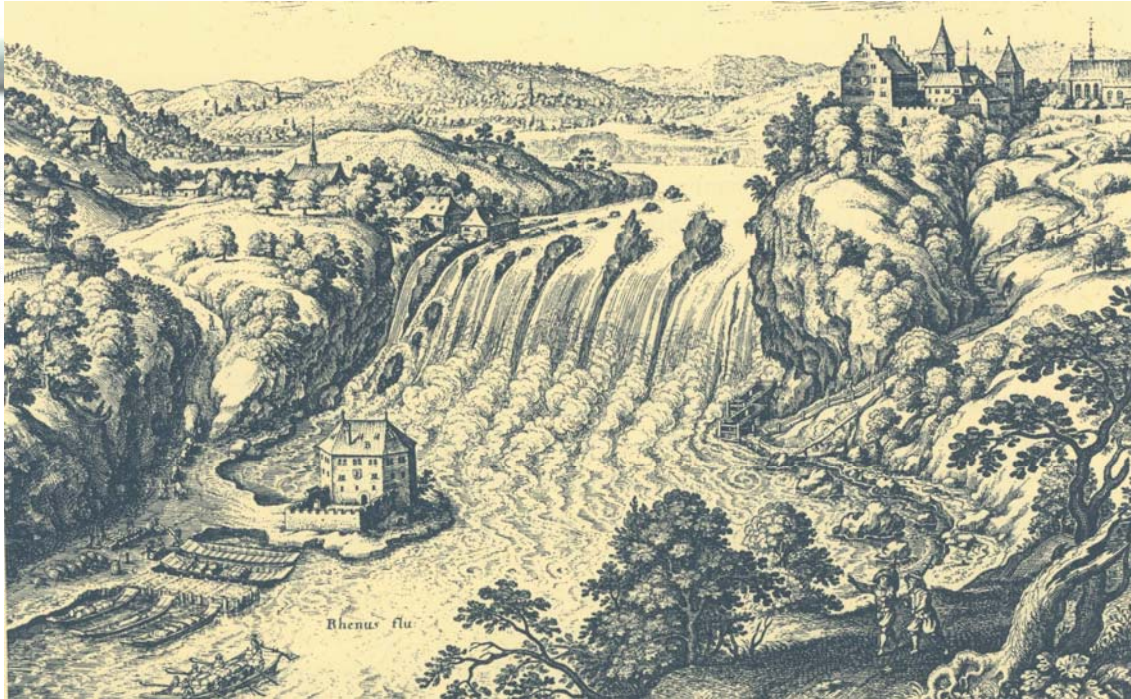


Navigable bodies of water are bodies that are navigated in fact.

Exactness demanded in scientific writings calls for a statement of the minimum depth for navigation.

Perkins, A.E. and Whitaker, J.R.; „Our Natural Resources and Their Conservation“, John Wiley & Sons, New York 1939

# Term „navigability“



## Quantity of water

Rheinfall bei Schaffhausen

langjähriges Monatsmittel  
im Sommer ~ 500 m<sup>3</sup>/s

langjähriges Monatsmittel  
im Winter ~ 250 m<sup>3</sup>/s

Matthäus Merian 1642 aus: „Der Rhein – Porträt einer europäischen Stromlandschaft“, Herder Verlag Freiburg 1973



# Term „navigability“



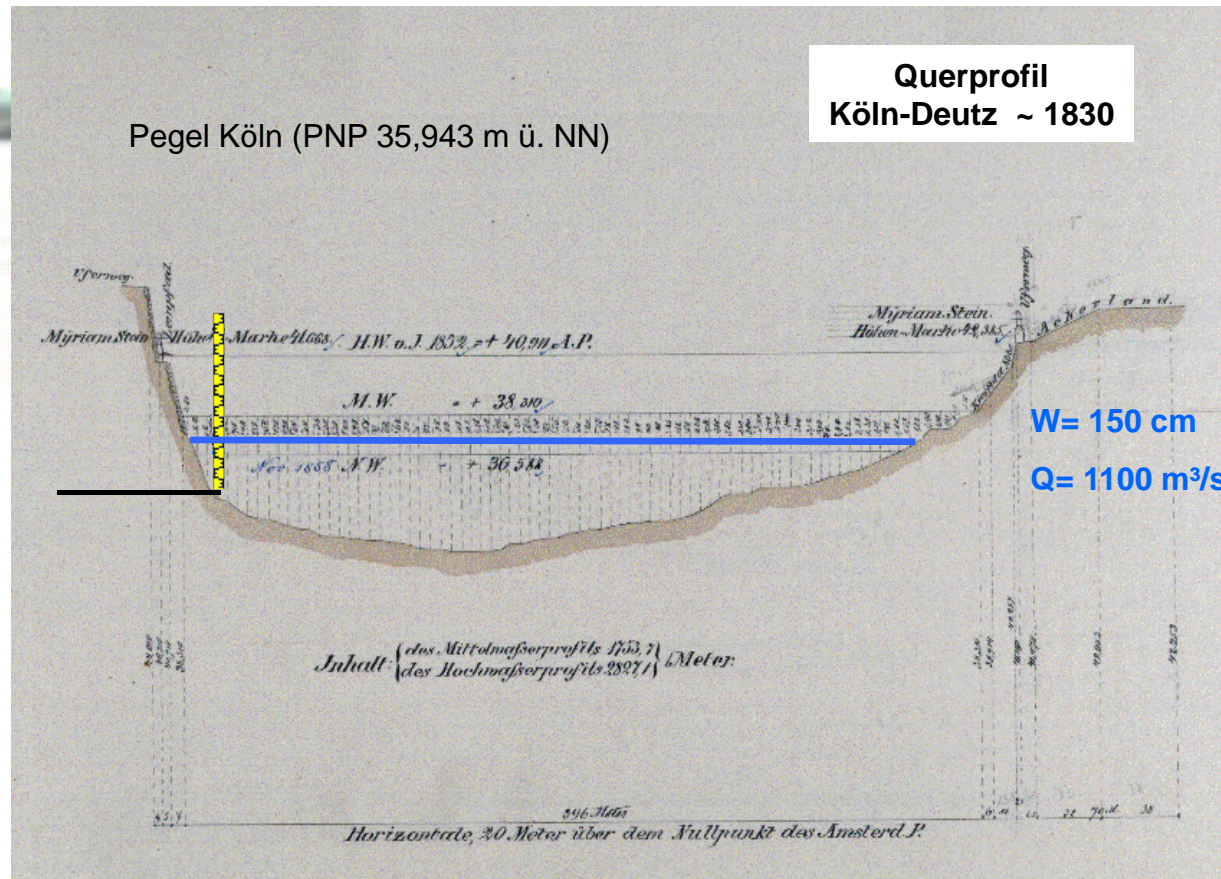
## Vessel size

Kölner Rheinufer mit dem unvollendeten Dom um 1830



W. C. Stanfield (1793 – 1867), Rheinisches Landesmuseum Bonn

# Term „navigability“



## Gemittelter niedrigster Wasserstand

Zeitreihe von  
1817 bis 1887

Wasserstand von 1,50m  
am Kölner Pegel ist  
durchschnittlich an 20  
Tagen im Jahr  
unterschritten

Ministerium für öffentliche Arbeiten; „Denkschrift über die deutschen Ströme“, Berlin 1888





**navigability = f (quantity of water, geometry, vessel size)**

# Today



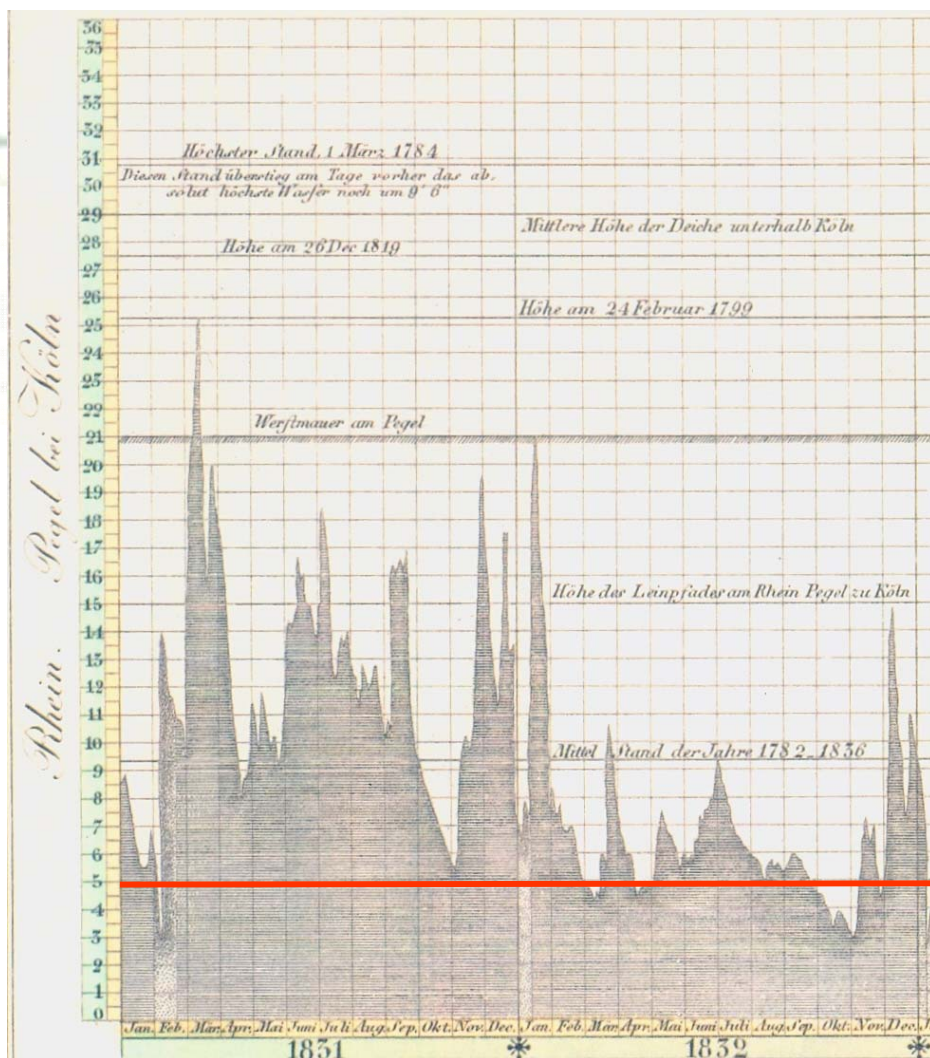
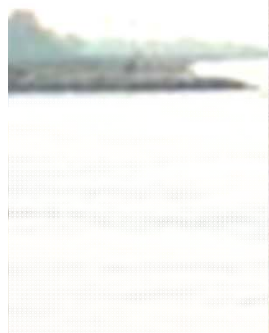
- Session 1: Background of the project
- Session 2: Laboratory and field studies contributing to the sediment budget
- Session 3: Sediment budget
  
- Dinner at Brasserie Georges, 7.30 pm

# Tomorrow



- Session 4: Process knowledge gaps
  - Keynote Prof. Habersack on spatial and temporal variability
- Session 5: Use of sediment budgets in ecology, morphology and flood control
- Session 6: Outlook CHR research agenda

# Quellenkritik



## Wasserstandsganglinie 1831 - 1832 am Pegel Köln

Wasserstand von 1,50m am  
Kölner Pegel ist  
Entspricht vier Fuß x Zoll im  
rheinländischen Maß