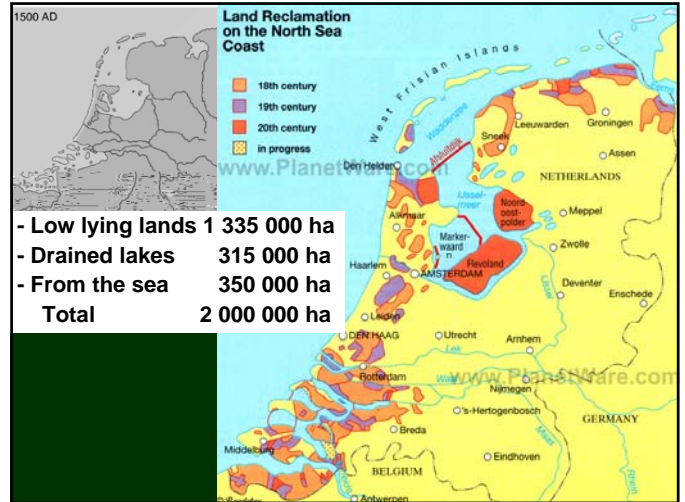


MAGYARORSZÁG
VIZBORÍTOTTÁ ÉS ÁRVIZÁRTA
TERÜLETÉRE
AZ ÁRMENTESÍTŐ ÉS
LECSAPOLÓ MUNKÁLATOK
MEGKEZDÉSE ELŐTT.

HISTORICAL BACKGROUND OF SOME PRESENT FLOOD MANAGEMENT PLANS IN HUNGARY AND IN THE NETHERLANDS

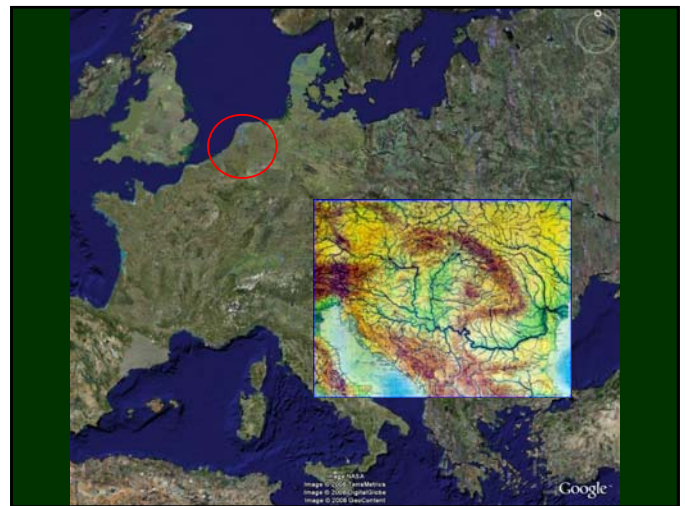
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Water conditions of the Carpathian Basin before the beginning of comprehensive regulating works



Protection against flooding has always been priority in Dutch history with increasing environmental and ecological sensitivity.

Areas in the Netherlands that need protection

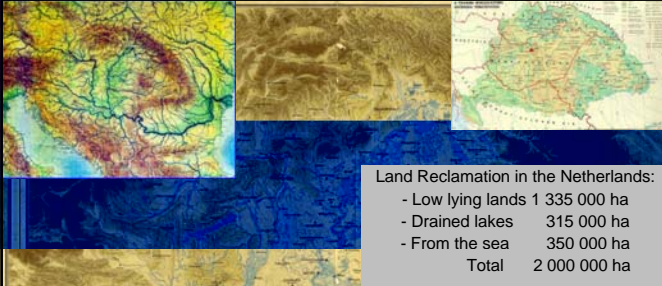


19th century comprehensive regulating works

The unitary task, river control works were started in 1846.

The concept for Tisza river regulation was elaborated by Pál Vásárhelyi





Land Reclamation in the Netherlands:

- Low lying lands 1 335 000 ha
- Drained lakes 315 000 ha
- From the sea 350 000 ha
- Total 2 000 000 ha**

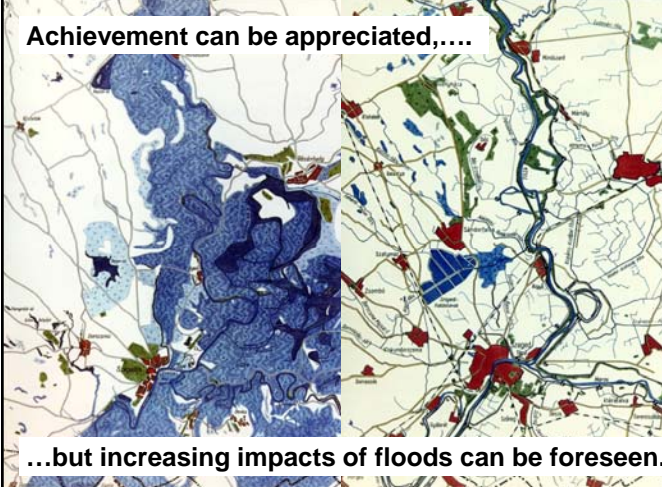
Considering the area of the present Hungary, formulated after World War I. (the area lying on the present country from the above mentioned total):

- Tisza valley 1 700 000 ha
- Danube valley 609 000 ha
- Total 2 309 000 ha**


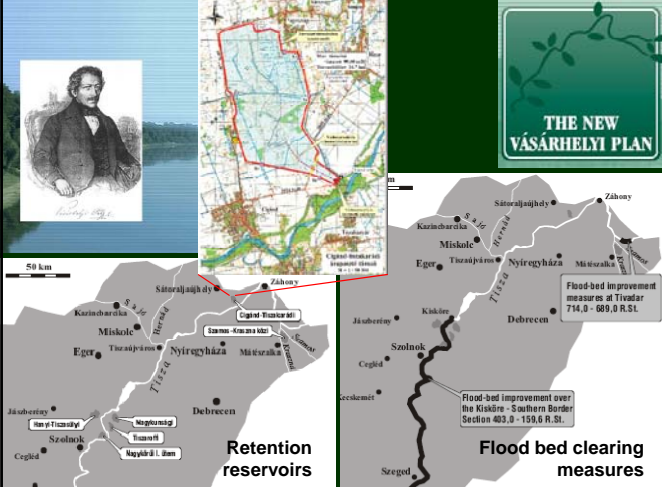
The accomplishment of the 19th century flood control and reclamation works, as well as drainage of inland waters resulted in the following overall area :

- Tisza valley 2 583 000 ha
- Danube valley 1 246 000 ha
- Total 3 829 000 ha**

Achievement can be appreciated,....



...but increasing impacts of floods can be foreseen.

THE NEW VÁSÁRHELYI PLAN

Retention reservoirs

Flood bed clearing measures

Flood-bed improvement measures at Tiszaár Section 403.0 - 159.6 R.St.

Flood-bed improvement over the Kisköre - Southern Border Section 403.0 - 159.6 R.St.

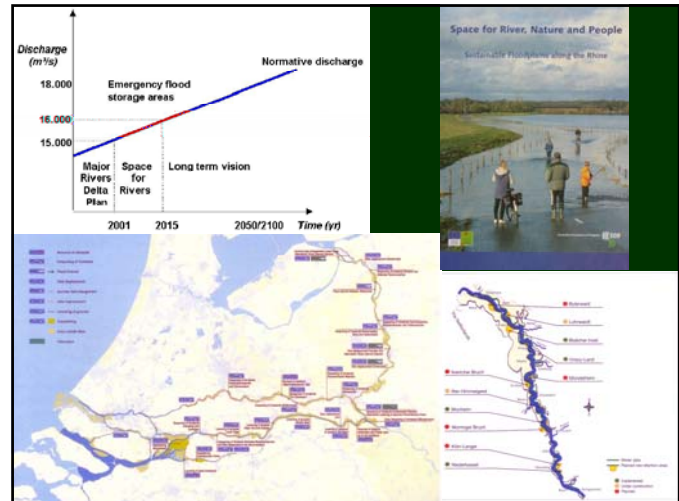
The New Vásárhelyi-Plan

Further develop the 1846 concept of Pál Vásárhelyi,

- in line with the changed socio-economic conditions
- to preserve and rehabilitate natural resources,
- to harmonize agricultural activity with local conditions,
- to promote eco-tourism and rural development

Two decisive parts: improvement of the conveyance capacity of the flood way, together with the rehabilitation of the floodplain areas.

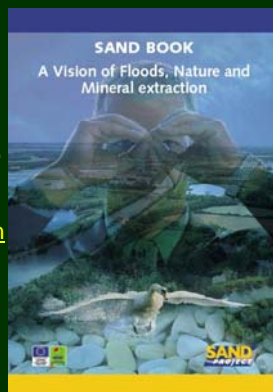
This approach shows similarities with the Dutch concepts.



Another project from the same time period 2003-2008 is the SAND project, meaning:

- Spatial quality enhancement;
- Alleviation of flood damage;
- Nature expansion through
- Development of mineral extraction sites along the rivers.

In the SAND project Dutch, French and German partners have been working together for the integration of former, active or future clay, sand and gravel mining sites into flood mitigation strategies. (e.g. retention area), which might offer new cost-effective win-win-opportunities between public and entrepreneurial interests.



Conclusions

- Parallel to the implementation of the EU Water Framework Directive and the Flood Directive, projects and plans have been started for integrated management solutions.
- Flood events are part of nature.
- Increasing impacts of floods to be taken into account.
- Spatial river planning flood mitigation can be well combined with potential for both nature conservation and human use.
- Integrating and satisfying different ecologic economic and social issues.

