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The development and cut-off of the Čičov/Csicsó and Nagybajcs oxbow lakes, Danube River, Slovakia/Hungary – indicators of a quickly variable riverine environment

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The reach of the Danube between Vienna and Komárno/Komárom represents the alluvial fan of the river as it leaves the Alps and enters the Pannonian Basin. High sediment and water discharge resulted in forming of a wandering planform of river. The channel of the river was very quickly moving laterally during and after the Little Ice Age mainly because of the frequent ice flood. The oxbow lakes at Čičov/Csicsó in the southern part of the Žitný ostrov island ('Csallóköz' in the Hungarian literature) and at Nagybajcs in the Szigetköz island provide excellent examples of the high speed of the river channel changes. Fortunately, between 1783 and 1822, the area was mapped repeatedly with the best accuracy available at that time. In the sheets of the First Military Survey (from the 1780s), there is not a sign of the later channel curves. By the period of the Second Military Survey (in the 1820s – only forty years later) the two oxbows have cut off yet. In between the above surveys, some local hydrographic maps were ordered by the Council of Governor-General of Hungary, showing the gradual building of the curve system, causing even the partial destruction of the village of Nagybajcs. Rapid development of mainchannel bends associated with heavy lateral erosion became a serious problem of flood protection. Since the Danube was a natural boundary between two counties - Győr and Komárom, this took coordinated efforts of their administrators. The curves were cut off artificially in 1798, leaving the two oxbows on the opposing banks of the river. The maps show even the minor changes of

the channel after the artificial cutoff.