



Watch your Danube



JDS2: MONITORING DANUBE BASIN WATERS

What is the Joint Danube Survey?

The Joint Danube Survey 2, also known as 'JDS2', is the world's biggest river research expedition in 2007. Its main goal is to produce highly comparable and reliable information on water quality and pollution for the entire Danube River and many of its tributaries. The Secretariat of the International Commission for the Protection of the Danube River (ICPDR) coordinates the implementation of JDS 2.

Launched on August 14, 2007 from Regensburg, Germany, the three boats of the JDS2 will travel 2,375 km downstream the Danube River, through 10 countries, to the Danube Delta in Romania and Ukraine until late September.

The History of Danube Water Monitoring

The Danube has an extensive history of water quality monitoring. In 1985, Danube countries had agreed on the 'Bucharest Declaration on Water Management of the Danube River' to coordinate their joint water management activities. One of the most significant outcomes from this Convention was a series of monitoring stations and a programme of sampling and analysis that were created for the Danube River Basin. The stations focused mainly on boundaries between nations and a limited range of chemical determinands.

In 1992, the development of the Trans-National Monitoring Network (TNMN) for the Danube River was launched. Coordinated by the ICPDR, it now comprises over 75 monitoring stations. Over the last 25 years, other expeditions have navigated the Danube including the Equipe Cousteau in 1992 and the Burgund Survey in 1998 – however, these only focused on certain stretches of the Danube or limited parameters. In 2001, the JDS1 was the first expedition to test the entire length of the Danube River and produce comparable, quality results.

The Trans-National Monitoring Network and JDS1

After 1992, efforts focused on developing the **Trans-National Monitoring Network (TNMN)** and adding sampling stations and determinants to be monitored. The main objective of the TNMN was to provide an overall view of pollution and long-term trends in water quality and pollution loads in the major rivers of the Danube Basin. It would also ensure comparable data and techniques to exchange information in a common format.

Formally launched by the ICPDR in June 1999 in Bratislava, Slovakia, the TNMN network now comprises over 75 water quality monitoring stations. Ultimately, it gives decision-makers data to make the right policy and investment decisions to improve water quality. Recent monitoring upgrades are further helping to ensure that the TNMN will meet the requirements of the EU Water Framework Directive, especially by broadening its scope to consider biological monitoring.

In 2001, the first **Joint Danube Survey (JDS)** was carried out by the ICPDR to improve the validity and

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comparability of water quality data received from the TNMN. With over 140 chemical and biological parameters analysed and over 40,000 laboratory results generated, the Survey became the most homogeneous analysis of the water quality and ecological status of the Danube River. JDS2 will continue to improve water quality data received from the TNMN.

Sampling the Iron Gates

The massive 'Iron Gates dam' is located along the Romanian and Serbian border. In 2006, a three-day study was made to assess the sediment 'trapped' by the dam, in the large artificial reservoir that was created behind it. The ICPDR study was made aboard the research vessel *Argus*, a vessel that is again being used during the JDS2. It was financially supported by the UNDP/GEF Danube Regional Project.

Samples were tested for heavy metals, organic micro-pollutants and nutrients, with government partners from Romania's National Research and Development Institute for Environmental Protection - ICIM Bucharest and Serbia's Jaroslav Cerni Institute, Belgrade. The results are providing valuable information to the two countries and the ICPDR about the accumulation and distribution of pollution in the reservoir. This will then inform decisions about whether measures need to be taken to clean the sediment as part of basin-wide efforts to meet the EU Water Framework Directive by 2015.

In 2001, the first 'Joint Danube Survey (JDS)' had showed that water transparency in some places downstream from the dam was two metres deep, while the average for the entire Danube is 50 cm and in Budapest it is only 30 cm. This proved that sediment was accumulating. Pollutants were also discovered in the sediment including pesticides. However, no extreme pollution peaks were mapped. The Iron Gates was included during JDS1, but not in great detail – hence the need for the more in-depth study in 2006.

Emissions Inventories

The ICPDR developed an **Emission Inventory** comprised of databases that contain basic information on pollution (e.g. from agriculture, industry and municipalities). They also include supporting data such as the methods used for measurement, the type of wastewater treatment and expected pollution reductions. The information, available on the ICPDR website, provides the public with the means to raise their awareness and understanding about emissions in their communities. It is also intended for use by Danube Basin decision-makers.

On a Europe-wide scale, the **European Pollutant Release and Transfer Register (PRTR)** will have its first reporting year in 2007. This PRTR will provide information about pollution emissions including 91 substances released to the air, water and land through 65 activities.

Get involved! Online (www.icpdr.org/JDS) you can view the JDS2 and some of its results, stories and pictures. Or just come to the river and see it live!

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JDS2 Stops:

Regensburg, 14 August
Vienna, 20 August
Bratislava, 22 August
Budapest, 28 August
Osijek, 2 September
Belgrade, 6 September
Turnu Severin, 12 September
Ruse, 19 September
Vilko, 25 September
Tulcea, 27 September