water abstraction from the Changjiang River. And the water discharge of several branches is the important factor that impact the quantity of water drainage into the Changjiang River, such as Huaihe River, Guxi River, and Qingyijiang River. Water abstraction of sluices is regularly, which corresponds to the magnitude of tides. And the water discharge into the Changjiang River of some branches is also impacted by tides. In September and October 2006, the quantity of water abstraction is much more than water drainage. The net decreased water discharge reached more than 1400 m^3/s, which will affect the water discharge into estuary of the Changjiang River, especially when the water discharge from the upper and middle basin is low.

Krka river estuary (Eastern Adriatic Coast) evaluation of natural and anthropogenic in fluences by multielemental analysis

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The Krka river estuary is located on the Eastern Adriatic coast and is a typical highly stratified karstic estuary with fresh/brackish surface water layer flowing seawards and bottom upstream counter-current seawater flow. The estuary has a total length of 22 km, its deapth gradually increasing from 2-42 m. Input of terrestrial material into the Krka river estuary is relatively small and prevented by the number of calc tufa barriers at the river/estuary confluence. Due to the uniqueness of these tufa barriers and waterfalls, this area now is a National Park.
The town of Šibenik (40000 inhabitants) is located in the central part of the estuary. The main sources of anthropogenic pollution in this part of the estuary are phosphate-ore handling in the Šibenik port, the input of untreated wastewaters from the city of Šibenik and the now defunct factory of ferromanganese alloys. All these sources of pollution are now either inoperational or being remediated. Previous work established localized pollution with some elements (Hg, Mn, U, ref. 1, 2, 3), but assessment of the contamination of the entire area of the Krka river estuary with a variety of eco-toxic elements was never performed.
The aim of the work was to establish the degree of anthropogenic influences in the estuary by multielemental analysis of sediment and water. Surface sediments and sediment cores as well as surface water were analyzed for trace element composition by means of the HR ICP-MS (High Resolution Inductively Coupled Plasma Mass Spectrometry).
Obtained results indicate a clear anthropogenic point-source influence on several locations within the Krka river estuary. The most severe impact was established for the Šibenik port - for elements Hg, Cd, Zn, Pb, As and Cu and must be understood in terms of a combined effect of contamination related to phosphate-ore unloading over many years and input of untreated municipal wastewaters.
Further contamination of the estuarine sediment column was established in front of the closed ferromanganese-alloy factory, where high concentrations of Mn, Pb and Ba were measured. However, in the largest part of the Krka river estuary the concentrations of measured elements were low and within expected ranges of natural (lithogenic and marine) variations. This indicates that the major part of the Krka river estuary is still unpolluted.

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Increase in moon Jellyfish populations in Seto Inland Sea, Japan: possible effect on predator -prey enteractions under summer hypoxia

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The moon jellyfish *Aurelia aurita* has increased in abundance in coastal waters around Japan during recent decades. Since the moon jellyfish is highly tolerant of low dissolved oxygen concentrations, predation impacts by moon jellyfish on zooplankton can increase during summer hypoxia in coastal waters, which is often caused by anthropogenic effects such as an increase in nutritional loading from the land and grobal warming. Field sampling during summer 2006 and 2007 revealed that moon jellyfish was abundant in the upper Hiroshima Bay, Seto Inland Sea, southwestern Japan, where summer hypoxia commonly occurs. Laboratory experiments were conducted in order to test the hypothesis that summer hypoxia leads to qualitative changes in predator-prey interactions between moon jellyfish and larval fish. Larvae of a common coastal fish, red sea bream *Pagrus major* (2.9, 4.1, 6.2 and 8.6 mm in standard length), were used for the experiments. Predation rates (% of larvae preyed on by a moon jellyfish per 10 min.) were examined at four oxygen concentrations (1, 2, 4 and 5.8 mg/L) in 10 L tanks (4 replicates). Size-selective predation was observed at the two highest oxygen concentrations (4 and 5.8 mg/L): about half of the 6.2 and 8.6 mm larvae survived the 10 min. trials while more than 85% of the 2.9 and 4.1 mm larvae were captured. Larval body size did not affect the predation rates at the two lowest oxygen concentrations (1 mg/L and 2 mg/L): more than 90% of larvae in all size classes were caught. These results indicate that trophic flow from ichthyoplankton to moon jellyfish increases during summer hypoxia in coastal waters and a qualitative change in predator-prey interaction, i.e., shift from size-selective to non-size-selective predation occurs at oxygen concentrations < 2 mg/L.

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200-year development of Tokyo, Ise-Nagoya, and Osaka Bays: on-line learning tools on environmental management of enclosed coastal seas

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Three major urban areas in Japan, Tokyo, Nagoya, and Osaka, are located at the mouth of major rivers in Bays that open to the sea and have functioned as the major commercial centers and transportation nodes. This paper looks at landform changes of the three major bay areas and environmental risks that accompany rapidly changing land use patterns. The analysis is based on graphical information from Tadataka Inoh's maps some 200 years ago, modern maps since the Meiji era starting 150 years ago, and IKONOS satellite images for the recent years. Statistical data on the landform changes are then examined from three aspects: pressures including population and economic activities from 1880 on; state of environment as indicated by reclamation of the bay area; and responses to environmental risks such as water pollution, loss of biodiversity, and vulnerability of sub-zero meter zones against rising sea levels and frequent typhoons induced by global warming. Geographically, Osaka Bay is located at the end of the Seto Inland Sea that provides tranquil sea lane. The City of Osaka developed on the delta of Yodo River. The City of Nagoya opens to the Ise Bay located at the central part of Japan. Several major rivers flow from the central mountain ranges into the Bay, including Kiso, Nagara, Ibi, and others origins of which are traced to the central mountain range beyond the Nobi Plain. Tokyo was formerly called Edo during the Tokugawa Period covering 300 years preceding the Meiji Restoration, and Tokyo housed the largest number of population among world largest cities already during the Edo period. Tadataka Inoh (1745－1818), a geographer who lived close to the end of the Tokugawa period, successfully measured the entire Japan through a series of expeditions during 1800 to 1816, including the three major bay areas that are examined here. He left several versions of detailed Japanese maps from about 200 years ago*. Detailed maps are 1/36,000; mid-scale