Study: Polarization dynamics of coastal wetlands in Northeast Italy from 1984 to 2016

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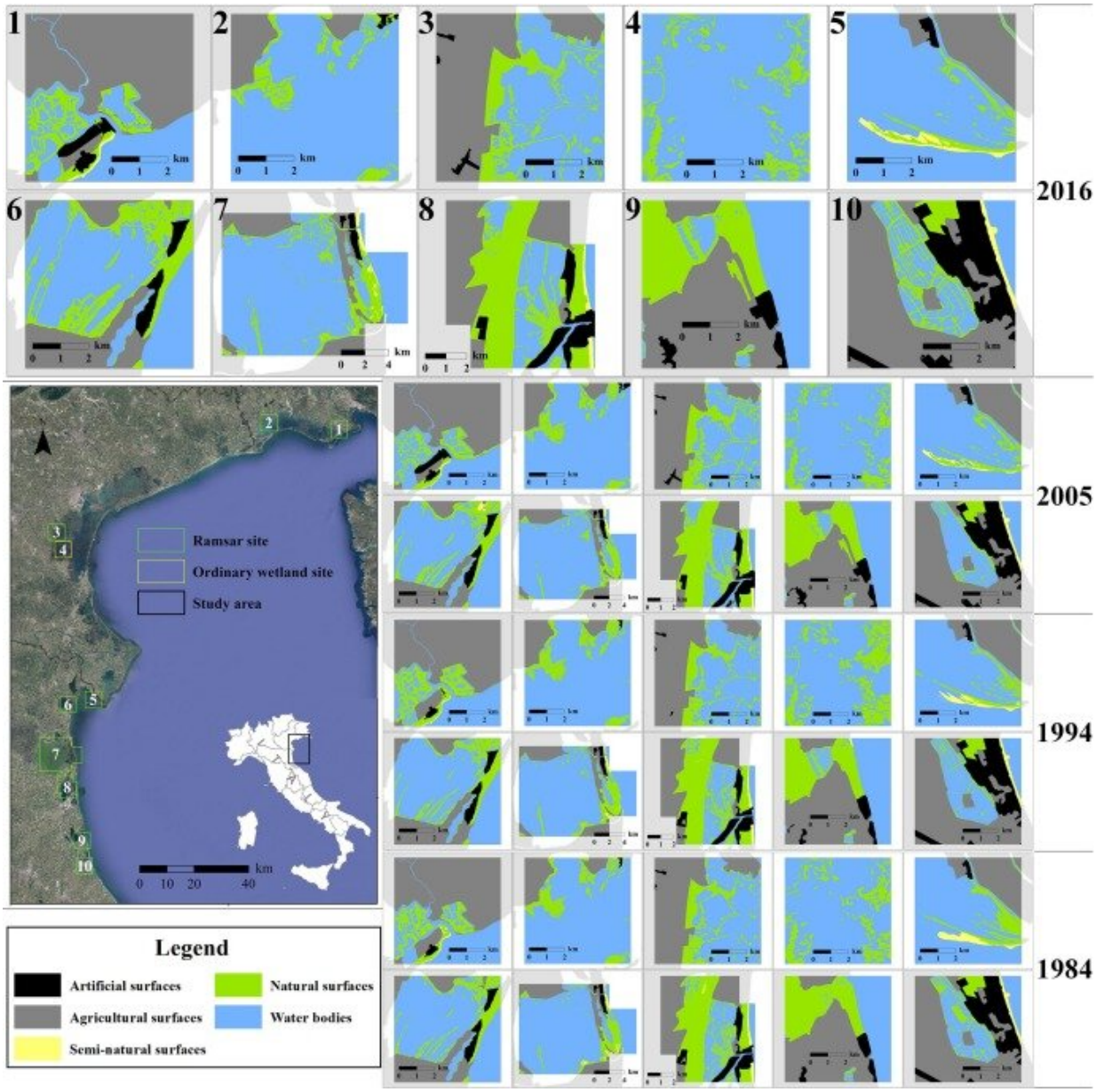

Fig. 1. Maps showing landuse in Northeast Italy in 1984, 1994, 2005, and 2016, clustered into five main categories. Credit: SIAT

Driven by strict reservation policy and contiguous aggressive anthropogenic activities, the continental coastal wetlands in the reserve area of NE Italy show the polarization phenomenon, according to a study conducted by the Shenzhen Institutes of Advanced Technology (SIAT) of the Chinese Academy of Science.

The study was published online on *Ecological Indicators* on June 25, 2021.

The Adriatic coast of NE Italy is a representative area holding high ecological value in the Mediterranean. With data from multiple European remote sensing agencies, the researchers have monitored the environmental change (1984-2016) of the coastal wetland in 10 study sites covering all the Ramsar sites and most of the natural reserve in NE Italy.

"The change of the coastal wetland environment in this area is associated with a series of influential factors. Across the continental coastal wetland sites, environmental polarization effects have been strengthened by strict reservation policy and contiguous aggressive anthropogenic activities. It subsequently intensifies the anthropogenic pressure along the border and increases the vulnerability of the reserve," said Dr. Wang Jin, first author of the study, who is serving as an assistant professor at SIAT.

According to the co-author of the study, Prof. Chen Jinsong from ISAT, the landcover of the coastal wetland sites remained generally stable despite the continuous anthropogenic disturbance due to robust reservation policies. However, wetlands located in the insular area are

subject to more severe inundation impacts. As the sea-level rise shall be an inevitable trend, the survival of insular wetlands with low elevation will become more challenging in the future.

Fig. 2. Low-elevation insular coastal wetland in the Venetian lagoon. Credit: WANG Jin

More information: Jin Wang et al, Monitoring the coastal wetlands dynamics in Northeast Italy from 1984 to 2016, *Ecological Indicators* (2021). DOI: 10.1016/j.ecolind.2021.107906

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