Assessing continental pressure on the Chorochi-Ajaristskali coastal waters using Land Use Simplified Index (LUSI)

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Anthropogenic pressure on land is one of a major pressure which causes the high level production of nutrients. That leads to the eutrophication process while the nutrients reach coastal water. Eutrophication is one of the major and oldest threats in coastal marine ecosystems that results undesirable changes in ecosystems (reference). It would be considered a significant problem in the Chorokhi-Ajaristskali coastal zone, where the nutrient load has strongly increased from its natural level, which stimulates phytoplankton growth, this leads to marked changes in the coastal ecosystem.

Eutrophication may result from changes in the physical characteristics of a system (e.g. hydrology), biological interactions (e.g. reduced grazing), or an increased organic and inorganic nutrient loading. Accordingly, it is likely to be aggravated where river discharge and fertilizer use increase.

Land Uses Simplified Index (LUSI) is an easy-to-use tool for assessing continental pressures on coastal waters. This assessment is done by indirectly estimating continental nutrient loads and concentrations, and their influence on coastal waters. LUSI is based on systematic information describing both the land uses that influence coastal waters by providing nutrient-rich freshwater inflows (urban, industrial, agricultural, and riverine) and the coastline morphology, which can modify this influence, as it determines the degree of coastal water confinement and therefore the likelihood that these inflows will be diluted.