

# SPATIAL AND TEMPORAL DYNAMICS OF ECOLOGICAL QUALITY IN THE YANGTZE RIVER DELTA REGION BASED ON MULTI-SOURCE DATA

Bachelor's thesis

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## ABSTRACT

**The relevance of the research** lies in the fact that the Yangtze River Delta (YRD) region, while possessing rich natural resources and biodiversity, is also facing ecological and environmental problems such as shrinking wetlands, unstable water quality and threatened biodiversity. Therefore, it is of great significance to construct a comprehensive evaluation system of ecosystem quality and study the spatial and temporal dynamics of ecosystem quality in the Yangtze River Delta region for the sustainable development of the regional ecological environment.

In this study, an ecosystem quality index was constructed based on multi-source remote sensing data in the Yangtze River Delta (YRD) region by integrating multiple indicators of ecosystem service function, stability and stress, in order to comprehensively evaluate the spatial and temporal changes of ecosystem quality in the YRD region and its long-term trend from 2001 to 2020.

**The object of the study** is the ecological environment quality in the Yangtze River Delta (YRD) region, and **the subject** is the spatial and temporal dynamics of the ecological environment quality in the YRD region in the past 20 years.

**The purpose of the research** is to assess the changes and trends in the spatial and temporal dynamics of ecological environmental quality in the YRD region over the past 20 years.

To achieve the purpose of the work, the following **tasks** were set:

1. To study the spatial and temporal distribution characteristics of ecosystem service functions, stability and stress in the Yangtze River Delta region.

2. To reveal the spatial and temporal dynamic characteristics of ecological environment quality in the Yangtze River Delta region in the past 20 years.

3. To assess the ecological environment quality level and its trend in the Yangtze River Delta region.

**Structure of the work.** The qualification work consists of introduction, three chapters and conclusions. The reference list includes 50 sources. The thesis is laid out on 44 pages. Contains 9 figures and 10 tables.