SUMMARY OF NEW CONCLUSIONS OF PhD THESIS

Title: **Research on mangrove vegetation change in the coastal region of northern Viet Nam in the context of climate change and sea level rise**
Speciality: Ecology
Classification: 62.42.01.20
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New conclusions

- Mangrove vegetation in coastal region of Northern Viet Nam (CRNVN) is developed, but the number of mangrove species is limited with 15 species belonging to 13 genera, 12 families, in which *R. stylosa* and *K. obovata* are distributed and involved in the dominant species group at all study sites. Tree density is about 7,900-10,188 trees/ha; average height is relatively low, about 2.1-3.6 m and average stem diameter is quite small, about 5.0-8.7 cm.

- Density, tree height, stem diameter, Shannon index and importance value of the two dominant species (*K. obovata* and *R. stylosa*) of mangrove vegetation in the CRNVN are strongly influenced by climatic and hydrological factors such as temperature, rainfall and tidal inundation frequency ($R = 0.61-0.93$, $p < 0.05$).

- By 2050, mangrove vegetation in the CRNVN has not been altered by other vegetations or ecosystems, but they could change in 2 trends:

+ Mangrove vegetation naturally declines with reduced density, tree size and species composition change (e.g. mangrove vegetation in Dong Rui and Xuan Thuy National Park). In the context of climate change and sea level rise, the mangroves is more stable and less degraded than in non-climate change condition.

+ Mangrove vegetation developes stably in both assumptions of climate change and non-climate change conditions with stable density and tree size, species composition change but not much (e.g. mangrove vegetation in Da Loc).

- It is necessary to have a comprehensive solutions to protect and develop mangrove vegetation in the CRNVN. In particular, it should focus on technical solutions: 1) to slow down the vegetation degradation process in the area which is gradually accreted; and 2) to create space and favorable conditions to promote the development of mangroves to the sea.

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