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### **Sources and accumulation rates of belowground carbon stored in tropical intact mangroves**

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Mangrove forests store large amounts of terrestrial organic carbon (C) with a majority stored in sediments. However, knowledge of the origin and dynamics of accumulated C is hardly known, but required to develop sustainable management strategies.

Currently, we assess C stocks and their origin in sediments of intact tropical mangrove forests located in the Bintuni Bay in West Papua. Sampling locations followed a transect starting in upland forest, crossing mangrove forest and ending in mudflats. We used stable isotopes (i.e.  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ), C:N and lead-210 ( $^{210}\text{Pb}$ ) to assess origin of C and sedimentation rates.

Combining these methods along the soil profile with their isotopic signature provide the first insights in the sources of sequestered C in tropical mangrove sediments and its cycling. This is a prerequisite for development of reliable conservation and management strategies of this unique ecosystem type.

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