

# **Proposal for carbon status of old-growth forest**

## **1 Title**

### **Sink or Source? Carbon metabolism and regulating factors of old-growth forest ecosystems**

## **2 Outline**

Several researchers from both south and north hemisphere reported that old forests can be carbon sink even strong carbon sink and argued the traditional idea that old-growth forest captures and emits almost same amount of carbon. Given the importance of the world's old-growth forests as a major terrestrial carbon store, the study on the dynamics of carbon stock capacity and carbon sink strength of old-growth forests will help to reduce the uncertainties in carbon accounting.

### **1) Sink or source?**

**What's old forest?** Does 'old' mean equilibrium or source? The definition of 'age'

**Sink or Source?** The results by eddy-covariance measurements

### **2) Factors and ways regulating the variability:**

**Meteorological ?**How the old-growth forest response the environmental variability

**Management ?** Does natural forest differ significantly with artificial planted forest?

**Structure?** Do biodiversities of species and age contribute significantly to differences

### **3) Possible change of carbon status under changing climate**

## **3 Sites that initially would be involved**

Changbaishan, China;

Walker Branch Watershed, USA;

need more information to select other sites

## **4 Proposing group**

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## **5 Rules applied for co-authorship**

Colleagues who contribute data and ideas can be co-authored.