

# Linkage with AsiaFlux to GEOSS Toward collaboration between terrestrial carbon cycle and ecosystem observations

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Linkage with AsiaFlux: Toward collaboration between terrestrial carbon cycle and ecosystem observations

## Contents

- 1. Current activity of AsiaFlux
- 2. Research topics based on collaboration between terrestrial carbon cycle and ecosystem observations
- Needs and next step to integrate terrestrial observation networks for long-term ecosystem responses and feedbacks



#### 1. Current activity of AsiaFlux



#### Asian Carbon Tracking System(ACTS)

 Develop infrastructure, a synthesized measurement and modeling systems that keeps tracks of emissions and removal of atmospheric CO<sub>2</sub> in Asia

1<sup>st</sup> Report on "The Asian Carbon Budget and implication for the global carbon cycles

 Publish 1<sup>st</sup> report on "The Asian Carbon Budget and Implication for the Global Carbon Cycles" by 2011

(AsiaFlux Main Office)

#### 1. Current activity of AsiaFlux



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# Topic 1: Inter-site comparison based on data sharing

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#### Topic 1: Inter-site comparison based on data sharing

## **C** Other A Far east Asia East As South Asia Southeast Asia Site available in AsiaFlux DB • Site available shortly

Data available in AsiaFlux DB:

- Meteorology, soil temp., soil water
- CO<sub>2</sub> flux, sensible & latent heat flux
- Radiation budget, PAR, (fPAR, LAI)...





Important task: Estimation of spatial distribution of carbon budget by ecosystem models validated using fluxnet data



# Topic 2: Integrated analyses based on comprehensive datasets



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Sites in AsiaFlux DB overlap with Asian LTER network



Comparison of annual net carbon uptake (NEP) between AsiaFlux data (eddy covariance) and LTER data (tree census)





Ohtsuka, Saigusa, Koizumi (2009) Global Change Biol. (in press)

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3. Needs and next step to integrate terrestrial observation networks for long-term ecosystem responses and feedbacks

### JapanFlux and JaLTER work together:

Comprehensive, ✓ Share sites and data coordinated and ✓ Share technical skills sustained terrestrial ✓ Expand from Japan to Asia monitoring network •JapanFlux OJaLTER OPEN O Monitoring-site 1000 Japan Long-Term Ecological **Research Network** JapanFlux Monitoring-site 1000 Ecosystem monitoring for conservation and sustainable

> Phenological Eyes Network (optical properties for vegetation)

use of biological diversity

Linkage with AsiaFlux: Toward collaboration between terrestrial carbon cycle and ecosystem observations

# Summary

- 1. Current activity of AsiaFlux
- 2. Research topics: Inter-site comparison and comprehensive observations at core sites
- Needs and next step: Action program of JapanFlux & JaLTER for monitoring long-term ecosystem responses and feedbacks



### Summary: Needs and the next step

#### **Network terrestrial observation networks**

Logo\_AsiaFlux...

 Monitoringsite 1000
Phenological Eyes Network
Share core sites
Observe comprehensively
Reduce uncertainty
Anticipation
Integrate analyses

> Comprehensive, coordinated and sustained terrestrial monitoring network for long-term ecosystem responses and feedbacks

3. Needs and next step to integrate terrestrial observation networks for long-term ecosystem responses and feedbacks

### Action program of JapanFlux & JaLTER

- $\checkmark$  Share sites and data
- ✓ Share technical skills
- ✓ Expand from Japan to Asia

Comprehensive, coordinated and sustained terrestrial monitoring network

• Japan Flux

