Hideki Kobayashi

Contact information

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137 Mulford Hall (Mail)

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Department of Environmental Science, Policy, and Management,

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Professional employment

2008 November – 2010 November: Postdoctral Scholar University of California, Berkeley, (Postdoctral research fellowship for research abroad, Japan Society for the Promotion of Science)

2007 April – 2008 November: Researcher Frontier

Research Center for Global Change, Japan Agency for Marine Earth Science and Technology (JAMSTEC)

2004 April – 2007 March: Postdoctral Researcher

Frontier Research Center for Global Change, Japan Agency for Marine Earth Science and Technology (JAMSTEC)

Education

2004 March, Ph D. (Remote Sensing),

Department of Environmental Science and Technology, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology

2001 March: Master of Engineering (Remote Sensing)

Department of Environmental Science and Technology, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology.

1999 March: Bachelor of Science (Solid state physics)

Department of Physics, Tokyo University of Science.

Research Interests

- Satellite data analysis

  Large-scale estimation of leaf area index in Siberian larch forest

  Large-scale estimation of photosynthetically active radiation in Southeast

- Plant canopy radiative transfer modeling

  Development of 3-D radiative transfer model

  Participation in Radiation Model Inter-comparison (RAMI4PILPS) activity (Planned)

- Some field activities for satellite data validation
  Deployment of in-situ PAR monitoring in Thailand, and Qinghai-Tibetan, Spectral reflectance and biomass sampling in Qinghai-Tibetan Plateau

Publication

Sato H, Kobayashi H, Delbart N (in press) Modeling vegetation structure and function in an east Siberian larch forest using the dynamic vegetation model SEIB-DGVM, Forest Ecology and Management

Kobayashi, H., Nicolas Delbart, Rikie Suzuki, and Keiji Kushida, (In press), A satellite-based method for monitoring seasonality in the overstory leaf area index of Siberian larch forest, Journa of Geophysical Research, Biogeosciences

Ryu, Youngryel, Oliver Sonnentag, Tiit Nilson, Rodrigo Vargas, Hideki Kobayashi, Rebecca Wenk, Dennis D. Baldocchi (In press), How to quantify tree leaf area index in an open savanna ecosystem: A multi-instrument and multi-model approach, Agricultural and Forest Meteorology

Kobayashi, H. and H. Iwabuchi (2008), A coupled 1-D atmosphere and 3-D canopy radiative transfer model for canopy reflectance, light environment, and photosynthesis simulation in a heterogeneous landscape, *Remote Sensing of Environment*, 112, 173-185

Kobayashi, H, R. Suzuki, S. Kobayashi (2007), Reflectance seasonality and its relation to the canopy leaf area index in an eastern Siberian larch forest: Multi-satellite data and radiative transfer analyses, *Remote Sensing of Environment*, 106, 238-252.

Kobayashi, H., and D. G. Dye (2005), Atmospheric conditions for monitoring the long-term vegetation dynamics in the Amazon using normalized difference vegetation index, *Remote Sensing of Environment*, 97, 519-525.

Kobayashi, H., T. Matsunaga, and A. Hoyano (2005), Net primary production in Southeast Asia following a large reduction in photosynthetically active radiation owing to smoke, *Geophys. Res. Lett.*, 32, L02403, doi:10.1029/2004GL021704.

Kobayashi, H., T. Matsunaga, A. Hoyano, M. Aoki, D. Komori, and S. Boonyawat (2004), Satellite estimation of photosynthetically active radiation in Southeast Asia: Impacts of smoke and cloud cover, *J. Geophys. Res.,* 109, D04102, doi:10.1029/2003JD0038074

Japanese reviewed articles:

Kobayashi, H. (2008), Definition, uncertainty, and validation method of the satellite–based global leaf area index products, *Journal of Remote Sensing Society of Japan*, 28(1), 1-16 (Written in Japanese with English abstract).

Kobayashi, H., T. Matsunaga, A. Hoyano (2002), Effect of the absorbed photosynthetically active radiation estimation error on net primary production estimation -A study with MODIS FPAR and TOMS ultraviolet reflectivity products-, *Journal of Remote Sensing Society of Japan*, 22(5), 612-624. (Written in Japanese with English abstract)

Kobayashi, H., T. Matsunaga, A. Hoyano (2002), A study of the applicability of the leaf area index (LAI) estimation method through the inversion using vegetation canopy reflectance model to the grasslands, *Journal of Remote Sensing Society of Japan*, 22(3), 274-287. (Written in Japanese with English abstract)

Professional membership

American Geophysical Union
Ecological Society of Japan
Meteorological Society of Japan
Remote Sensing Society of Japan

Other skills

Computer Languages: FORTRAN, C, MPI (Parallel computing), some Visual Basic

Operating system: Linux/Unix, Macintosh, Windows Image Processing: ENVI, some IDL

Field measurement FieldSpec and other portable field spectrometer LAI-2000 and leaf area meter