

Annual Report 2006

Geographic Environmental Sciences

Department of Geography
Graduate School and Faculty of Urban Environmental Sciences
Tokyo Metropolitan University

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1 Laboratory of Quaternary Geology and Geomorphology

1) Staff

Haruo YAMAZAKI Professor / Dr.Sc.
Geomorphology, Quaternary Science, Seismotectonics

Takehiko SUZUKI Associate Professor / PhD (D.Sc.)
Geomorphology, Quaternary science, Volcanology

2) Overview of Research Activities

Our laboratory aims to study the various earth scientific phenomena and processes on the solid earth surface. Especially, main object of our research is to prospect the futuristic view of our environment changes through the understanding of the history and process of landform development during the Quaternary period. The followings are some examples of our studies.

Tephra study: Tephra means a generic term on the volcanic ejecta excluding lava-flow and related explosive deposits. We are trying to identify the source volcano, age of the eruption and the distribution of widespread tephra that have covered the Japanese Islands through the Pliocene, Pleistocene and Holocene.

Reconstruction of paleo-environment and land forming process: Using tephra deposits as key time markers, we are reconstructing the paleo-environment and land forming process since the late Pliocene in Japan.

Paleo-sea-level change: We are trying to reconstruct the universal Quaternary sea-level changes through the modeling of crustal deformation based on the geological and geomorphological data along the coastal region.

Plate tectonics: The Quaternary tectonics including the historical process of seismic and volcanic activity are our special interest along the plate collision zone in central Japan.

Natural hazards: We study the historical process of topographic changes caused by mass movement, volcanic eruption and fault activity to prevent and mitigate the future natural hazards.

3) List of Research Activities in 2006

Peer-reviewed Articles

Suzuki, T. 2006 .Analysis of titanomagnetite within weathered middle Pleistocene KMT tephra and its application for fluvial terrace chronology, Kanto Plain, central Japan. *Quaternary International*, doi:10.1016/j.quaint.2006.10.039

Suzuki, T. and Nakayama, T. 2007 . A 2.0 Ma widespread tephra associated with a large-scale

pyroclastic flow from the Sengan geothermal area, northeast Japan arc. 52 : 23-38 . *Bulletin of the Volcanological Society of Japan*. (in Japanese)

Other Articles

Yamazaki, H. 2006. Tectonic movement, igneous activity, uplift and erosion: Issues and challenges on the geological disposal for the radioactive waste. *Civil Engineering*, 91: No.11, 21-22, (in Japanese)

Yamazaki, H. 2006. Lowland and Hills in the downstream region of River Fuji. In *Regional geomorphology of the Japanese Islands. Geomorphology of Chubu. vol. 5.* ed. H. Machida, T. Matsuda, M. Umitsu and T. Koizumi, 70-77. Tokyo: University of Tokyo Press. (in Japanese)

Yamazaki, H. 2006. Hida Plateau and Takayama Basin. In *Regional geomorphology of the Japanese Islands. Geomorphology of Chubu. vol. 5.* ed. H. Machida, T. Matsuda, M. Umitsu and T. Koizumi, 182-187. Tokyo: University of Tokyo Press. (in Japanese)

Suzuki, T. 2006 . Mountains and volcanoes in Izu peninsula. In *Regional geomorphology of the Japanese Islands. Geomorphology of Chubu. vol. 5.* ed. H. Machida, T. Matsuda, M. Umitsu and T. Koizumi, 82-88. Tokyo: University of Tokyo Press. (in Japanese)

Reports

Yamazaki, H. (ed.) 2007. Reconstruction of high-resolution paleogeography in the Plio-Pleistocene. Report for Grant-in-Aid for Scientific Research(B) 2004-2006, 191p. (in Japanese)

Yamazaki, H. 2006. On the small active faults cutting terrace surfaces far off the topographic boundary. In *Prediction of destructive shallow earthquakes in Japan. Report for the cooperative Research (A), Earthquake Research Institute, Univ. Tokyo.* ed. Tsukuda, T. 23-27. (in Japanese)

Tamura, I. Takagi, H. and Yamazaki, H. 2007. Garnet-bearing tephra layer Na-G in the Inubo Group, Chyoshi area, Chiba prefecture, central Japan —Correlation with Mk19 tephra in the Nakatsu Group, Kanagawa Prefecture—. Report for Grant-Aid for Scientific research (B) 2004-2006, 14-20. (in Japanese)

Book reviews

Suzuki, T. 2006 . Book review of Volcanism by Hans-Ulrich Schmincke. *Journal of Geography*, 115: 243-244. (in Japanese)

Miscellaneous articles

Machida, M., Suzuki, T., Matsushima, Y., Kubo, S. and Mizuno, K. 2006. Excursion of significant Quaternary outcrops. Guidebook for the 2006 JAQUA meetings excursion. 60p.

Presentations

- Yamazaki, H. 2006. Natural history in Musashino: quest for landform and geology in neighborhood. Science Partnership Program at Tokorozawa High School, Saitama.
- Yamazaki, H. 2006. Natural feature and Disaster Prevention for Kanagawa. "Disaster Prevention" 2006 Super Science High School Program at Seisho High School. Odawara.
- Yamazaki, H. 2006. The role of the Quaternary studies to solve the environmental issues: as an instance for the geological disposal of the high level radioactive waste. 2006 JA QUA meeting and Symposia, Hachioji Tokyo.
- Yamazaki, H. 2006. Natural environment in Tama area, Tokyo. Science Partnership Program at Wakaba High School, Inagi Tokyo..
- Yamazaki, H. 2006. Natural history and disaster in Tama area, Hachioji. Hachioji City Academe, Hachioji Tokyo.
- Yamazaki, H. 2006. Active faults and earthquake disaster prevention. Lecture for the local leaders of Disaster and Crime Preventions in Shinjuku-Ku, Tokyo. Shinjuku.
- Suzuki, T. and Nakayama, T. 2006 . A 2 Ma widespread tephra associated with a large scale pyroclastic flow, Sengan geothermal area, northeast Japan. Japan Geoscience Union Meeting 2006, Chiba.
- Suzuki, T. 2006. Landform in Tokyo and its development: the history during the last 2 million years. Tokyo Metropolitan University Open University, Tokyo.
- Suzuki, T. 2006. Natural history in Musashino: quest for landform and geology in neighborhood (field exercise). Science Partnership Program at Tokorozawa High School, Saitama.
- Suzuki, T. 2006. How to read nature: part 1. Training Lecture for Support Ranger, Tokyo Metropolitan University Open University, Tokyo.
- Suzuki, T. 2006. Tephrochronological study on frequency and magnitude of explosive eruptions in Japan. 2006 JAQUA meetings and symposia, Tokyo.
- Suzuki, T., Murata, M., Oishi, M., Yamazaki, H., Nakayama, T., Kawashima, S. and Kawai, M. 2006. Tephrochronological study on the long term activity of Tachikawa Fault, Tokyo Metropolitan Area, central Japan. 2006 JAQUA meetings and symposia, Tokyo.
- Suzuki, T., Murata, M., Oishi, M., Yamazaki, H., Nakayama, T., Kawashima, S. and Kawai, M. 2006. Tephrochronological study on the activity of Tachikawa Fault during Quaternary, Tokyo Metropolitan area, central Japan. The Study Meeting of the Association of Japanese Geographers Autumn 2006, Hamamatsu.
- Suzuki, T., Kurokawa, S. and Yasugi, S. 2006. Field lecture on natural history in Izu-Oshima: volcano, sea and life. Tokyo Metropolitan University Open University, Izu-Oshima.
- Suzuki, T. 2006. Tephrochronological study on age and environment of archeological site. Yaita City Historical Lecture. Tochigi.

- Suzuki, T. 2007. Field observation and geological excursion on Hachioji City. Training Lecture for Leader of Hachioji City Environmental Learning, Tokyo.
- Akihiko, N., Maeda, T., Suzuki, M., Naka, T., Kacho, K., Koyama, M., Miiyaji, N., Kawajiri, K., Suzuki, T., Yamazaki, H. and Ueki, T. (2006) Results and problems of SPP, Volcano Fuji; Volcanic activity and Disaster Prevention. Japan Geoscience Union Meeting 2006, Chiba.
- Akihiko, N., Maeda, T., Suzuki, M., Naka, T., Kacho, K., Koyama, M., Miiyaji, N., Kawajiri, K., Suzuki, T., Yamazaki, H. and Ueki, T. (2006) Volcano Fuji; Volcanic activity and disaster prevention. Japan Geoscience Union Meeting 2006, Chiba.
- Ueki, T., Suzuki, T. and Mizuno, K. (2006) Magnetostratigraphy and tephrochronology of the Plio-Pleistocene in the Kaji (Azuyama) hills, western Kanto Plain, central Japan. 2006 JAQUA meetings and symposia, Tokyo.
- Oishi, M. and Suzuki, T. 2006. Estimation of source craters of the Yatsugatake Younger Tephra Beds based on the refractive indices and chemistry of phenocrysts, and volcanic history of North Yatsugatake, central Japan. 2006 JAQUA meetings and symposia, Tokyo.
- Tamura, I, Yamazaki, H. and Mizuno, K. 2006. Late Pliocene widespread tephtras of the Inubou Group in the Choshi district: Detection of the Mitsumatsu, Tng and Hap2 tephtras. Japan Geoscience Union Meeting 2006, Makuhari.
- Tamura, I., Yamazaki, H., Mizuno, K. and Shimogama, K. 2006. Reconsideration of tephrostratigraphy at Tama Hills and the Boso Peninsula based on the correlation of Zushi2 tephra and Kd24 tephra, Noborito tephra and Kd11 tephra. JAQUA meeting, Tokyo.
- Tamura, I, Yamazaki, H. and Mizuno, K. 2006. The age of Inubou Group based on tephra correlations. The 113th Annual meeting of the Geological Society of Japan(Kochi)

2 Laboratory of Climatology

1) Staff

Takehiko MIKAMI Professor / PhD(D.Sc.)

Urban climatology, Climatic variation

Jun MATSUMOTO Professor / D. Sc

monsoon climatology

Tomoko NAKANO Assistant Professor / PhD (D.Sc.)

Land-atmosphere interaction, Carbon cycle, Biogeoscience

2) Overview of Research Activities

Our studies cover various scales of climate from urban to global phenomena, aiming at understanding their climatic processes and mechanisms. We use a wide variety of techniques such as field observation, data collection in historical climate, and statistical analysis of global scale dataset. Our research topics are as follows:

- * Urban climate (observation and analysis for heat island and cool island)
- * Climate change (historical and observational period)
- * Compiling database for paleoclimatic record measured by meteorological instruments
- * Seasonal march of Asian Monsoon and its variation
- * Climatological studies by using remote-sensing data
- * Carbon dioxide exchanges between grassland and the atmosphere in a semiarid region
- * Heat and water budget in a semiarid ecosystem

3) List of Research Activities in 2006

Peer-reviewed Articles

Malmgren, B.A., Hullugalla, R., Lindeberg, G., Inoue, Y., Hayashi, Y. and Mikami, T. 2007.

Oscillatory behavior of monsoon rainfall over Sri Lanka during the late 19th and 20th centuries and its relationships to SSTs in the Indian Ocean and ENSO. *Theoretical and Applied Climatology*, 89, 115-125.

Sugawara, H., Narita, K., Mikami, T., Honjo, T. and Ishii, K. 2006. Cool Island Intensity in a Large Urban Green : Seasonal Variation and Relationship to Atmospheric Condition. *Tenki (Weather)*, 53, 393-404. (in Japanese)

- Mikami, T. 2006. Recent progress in urban heat island studies: Focusing on the case studies in Tokyo. *E-journal GEO*, 1, 79-88. (in Japanese)
- Salahuddin, A., Isaac, R.H., Curtis, S. and Matsumoto, J. 2006. Teleconnections between the sea surface temperature in the Bay of Bengal and monsoon rainfall in Bangladesh. *Global and Planetary Change*, 53, 188–197.
- Endo, N., Kadota, T., Matsumoto, J., Ailikun, B. and Yasunari, T. 2006. Climatology and trends in summer precipitation characteristics in Mongolia for the period 1960-98. *Jour. Met. Soc. Japan*, 84, 543-551.
- He, J.-H., Sun, C.-H., Liu, Y.-Y., Matsumoto, J. and Li, W.-J. 2007. Seasonal Transition Features of Large-Scale Moisture Transport in the Asian-Australian Monsoon Region. *Advances in Atmospheric Sciences*, 24, 1-14.
- Takeuchi, W., Nakano, T., Ochi, S., and Yasuoka, Y. 2007. Monitoring of re-generation condition for burnt forested wetland in Western Siberia with sub-pixel land cover characterization. *J. Remote Sensing Society of Japan* 27(1), 13-23. (in Japanese)

Other articles

- Mikami, T. 2006 . A practical use of wind and green effect for city planning: Wind system in Tokyo and its role for mitigating urban heat islands . *Environmental Research Quaterly*, No.141, 29-34. (in Japanese)
- Mikami, T. 2006 . Amelioration of microclimate in urban area with the use of green spaces. *Journal of Hydrological System* (Association for Rainfall Water Storage and Infiltration Technology) , Vol.62, 13-16. (in Japanese)
- Mikami, T. 2006. Urban heat island phenomena. *Environmental Solution Technology* , Vol.5,No.4, 1-4. (in Japanese)
- Mikami, T. 2006 . Climatic variations based on historical documents and observational data. *Environmental Science* (Kokon Shoin Co.), 124-160. (in Japanese)
- Mikami, T. 2006 . Unusual weather caused by the changes in global circulation patterns. *The Issues for Japan* (ed. by Bungei Shunju Co.), 464-467. (in Japanese)
- Mikami, T. 2007 . Mitigation of urban heat islands using urban greeneries . *Construction Finishing Technology*, No.387, 15. (in Japanese)
- Inoue, T. and Matsumoto J. 2006. Recent interdecadal changes observed in the summer seasonal marches over East Asia. *Monthly Kaiyo Special Issue*, 44, 169-175 . (in Japanese)
- Nakano, T. 2006. Changes in surface methane flux after a forest fire in West Siberia. In Hatano, R. and Guggenberger, G. eds., *Symptom of Environmental Change in Siberian Permafrost Region*, Hokkaido University Press, 55-63.
- Nakano, T., Nemoto, M., and Shinoda, M. 2007. CO₂ exchanges between grassland ecosystem and

the atmosphere in Mongolia. *Bulletin of the Terrestrial Environment Research Center, the University of Tsukuba* 7 supplement 2: 51-53. (in Japanese)

Books

Mikami, T. (ed.) 2006 . *Unusual weather Mechanisms of global warming and storm*. Published from Midori Shobou Co., 144P. (in Japanese)

Matsumoto, J. 2006. East Asian monsoon and climate of Yakushima Island. In *World Heritage Yakushima*, Asakura-Shoten Publisher, 1-4. (in Japanese)

Reports

Matsumoto, J. 2006. Development of rainfall measurement system in Southeast Asia., *Project Report of the Japan EOS Promotion Program for FY2006*, 47pp. (in Japanese)

Miscellaneous reports

Mikami,T. 2006 . Warming of Tokyo and the unusual weather. *National Science Museum News*, No.448, 6-7. (in Japanese)

Presentations

Mikami,T. and Morishima,W. 2006. Climatological studies on the summer intensive heavy rainfall in Tokyo and its relation to urban heat island phenomena. International Geographical Union Conference 2006. Brisbane, Australia.

Mikami,T. 2006. Global cooling in the early 1800s - Links with solar and volcanic forcing - . International Workshop on Historical Climate Simulations over East Asia, Beijing, China.

Akasaka, I., Morishima, W. and Mikami, T. 2006. Seasonal March of Rainfall and Its Interannual Variation in the Philippines. 2006 IGU (International Geographical Union) conference, Brisbane, Australia.

Mikami,T., Tanaka,H. and Kagiya,K. 2006 . Observational studies of heat island phenomena in central Tokyo (No.3). 2006 Annual meeting: Architectural Institute of Japan (Kanagawa). (in Japanese)

Ohkubo,S. and Mikami,T. 2006. Relationship between SPM concentration and meteorological elements in terms of spatial patterns and year-to-year variations. 47th Meeting, Japan Society for Atmospheric Environment, Tokyo. (in Japanese)

Nagata,R. and Mikami,T. 2006. Response of East Asian summer circulation fields to the variations in Tropical Pacific SST. Annual meeting 2006, Meteorological Society of Japan, Tsukuba. (in Japanese)

Hirano,J. and Mikami,T. 2006. Temperature variations in winter during 19th century reconstructed

- from weather patterns. Annual meeting 2006, Meteorological Society of Japan, Tsukuba. (in Japanese)
- Hirano, J. and Mikami, T. 2007. Reconstruction of weather types in summer during the 18th and 19th century. Annual meeting 2007, Association of Japanese Geographers, Tokyo. (in Japanese)
- Zaiki, M., Tsukahara, T., Können, G.P. and Mikami, T. 2006. Reconstruction of pressure patterns based on meteorological observational data in Japan during 19th century. Annual meeting 2006, Meteorological Society of Japan, Tsukuba. (in Japanese)
- Matsumoto, J. 2006. MAHASRI - the New International Program on Asian Monsoon. The Vietnam-Japan Joint Workshop on Asian Monsoon, Ha Long, Vietnam.
- Ogino, S.-Y., Nodzu, M. I., Hoang Thuy Ha, Tachibana, Y., Fujiwara, Satomura, T., Matsumoto, J. and Nguyen Thi Tan Thanh 2006. Temperature inversion layers over the Indochina Peninsula, Vietnam-Japan Joint Workshop on Asian Monsoon, Ha Long, Vietnam.
- Matsumoto, J. 2006. MAHASRI Program, International Workshop for the East Asian Monsoon Experiment, Chung-Li, Taiwan.
- Matsumoto, J. 2006. MAHASRI, International Workshop on Capacity Building in Asia, "Earth Observations in the Service of Water Management", Bangkok, Thailand.
- Sato, S., Kubota, T., Kuraji, K. and Matsumoto, J., 2006. Comparisons between rainfall amount measured by rain gauges and satellite estimations. 2006 Fall Meeting of the Meteorological Society of Japan, Nagoya. (in Japanese)
- Ogino, S., Nodzu, M., Tachibana, Y., Fujiwara, M., Satomura, T., Matsumoto, J. and Nguyen Thi Tan Thanh, 2006. Inversion layer in the lower troposphere at Hanoi, Vietnam. 2006 Fall Meeting of the Meteorological Society of Japan, Nagoya. (in Japanese)
- Matsumoto, J. 2006. MAHASRI - the new international program on Asian monsoon research. The 3rd Asia Pacific Association of Hydrology and Water Resources (APHW) Conference, Bangkok, Thailand.
- Matsumoto, J. and Asada, H. 2006. Impact of recent severe floods on rice production in Bangladesh. Earth System Science Partnership (ESSP), Global Environmental Change Open Science Conference, Beijing, China.
- Matsumoto, J. 2006. MAHASRI - a new international program on Asian monsoon research. Earth System Science Partnership (ESSP), Global Environmental Change Open Science Conference, Beijing, China.
- Matsumoto, J. 2007. MAHASRI and AMY'08. The 4th EU-Japan Workshop on Climatic Change Research, Brussels, Belgium.
- Asada, H., Matsumoto, J. Lin, Z. and Oguchi, T. 2007. Relationship between residential area and elevation in Nepal Himalayas, Spring General Meeting of the Association of Japanese Geographers, Tokyo. (in Japanese)

- Nakano, T. 2006. Measurement of water vapor flux by using a closed-chamber technique. 2006 Spring Meeting of the Society of Agricultural Meteorology in Japan, Chiba. (in Japanese)
- Nakano, T., Nemoto, M. and Shinoda, M. 2006. Nighttime water vapor flux in Mongolian semiarid grassland. 2006 Fall Meeting of the Meteorological Society of Japan, Nagoya. (in Japanese)
- Nakano, T., Nemoto, M. and Shinoda, M. 2006. Environmental controls on carbon dioxide flux in a semi-arid grassland of Mongolia. 2006 AGU (American Geophysical Union) Fall Meeting, San Francisco, USA.
- Nakano, T., Nemoto, M., and Shinoda, M. 2007. CO₂ exchanges between grassland ecosystem and the atmosphere in Mongolia. Workshop on processes of atmosphere, water, and ecosystem and their interaction in northeast Asia, Tsukuba. (in Japanese)
- Nemoto, M., Shinoda, M. and Nakano, T. 2006. Impact of Snow and Vegetation Activity on Surface Energy Balance in a Mongolian Grassland. 2006 AGU (American Geophysical Union) Fall Meeting, San Francisco, USA.
- Shinoda, M., Tsunekawa, A., Nemoto, M., Nachinshonhor, G. U., Nakano, T., Tamura, K., Asano, M. and Erdenetsetseg, D. 2006. Drought Experiment of a Mongolian Grassland Ecosystem. 2006 AGU (American Geophysical Union) Fall Meeting, San Francisco, USA.

3 Laboratory of Environmental Geography

1) Staff

Nobuyuki HORI Professor / D.Sci.

Environmental Geomorphology, Landscape Ecology, Study of Environmental Changes

Shuichi OKA Associate Professor / D.Sci.

Vegetation Geography, Landscape Ecology

Shuichi OYAMA Assistant Professor / PhD (D. Human and Environment)

Area Study(Africa, South America), Environmental Geography, Ecological Anthropology

2) Overview of Research Activities

Our laboratory focuses on the relations between human and natural environment. Especially we attach great importance on the structure and its changes of the relationships in the local and global scales. Therefore we are trying to apply inter-disciplinary approach flexibly, with not only physical and human geography but also other environmental sciences, such as botanical science, forest ecology, zoology, soil science, landscape design, political ecology, folklore, anthropology and so on. Research methods are primarily based on fieldwork, including weather observation, land survey, interview survey and participatory research as well as analysis of aerial photos and satellite images. Study fields are all over the world, especially Japan, Asia, Africa and America. We are engaged in long-term fieldwork on (1) environmental changes and human responses in Africa, (2) vegetation and climatic landscape in north and south America and Siberia, (3) karst topography including coral reef in tropical area and Europe, and (4) cultural ecology of slash-and-burn cultivators in Africa.

Recent themes are as follows;

- 1) Interrelation between environmental change and human response in savanna area of Africa
- 2) Process of land degradation in environment (ex. desertification, and savannization)
- 3) Coral reef formation and interrelation between coral and reef topography
- 4) Geo-ecological research on landscape and the change in alpine and sub-alpine
- 5) Hydro-climatic environment based on the water balance in the Bonin Islands, Japan
- 6) Climatic landscape in view of vegetation and land use
- 7) Cultural geography of slash-and-burn cultivators and development of cultivation system in miombo woodland zone of Africa
- 8) Applied ecological study to combat desertification in Sahel zone, Africa.
- 9) Domestication of camelid animals and Solanum crops in Andes, South America

- 10) Use of natural resource in the Polish Carpathians
- 11) Genetic distribution of beech tree, Japan
- 12) Change of environment and community by building dam in Tenryu River area, Japan
- 13) Vegetation structure and its environmental factors around the timberline of Mt. Fuji, Japan
- 14) Change of social organization and form of occupation in a fishermen village of Izu Peninsula, Japan
- 15) Spatial structure and ecological environment in Ryukyu Islands, Japan
- 16) Physical environment and land use in wetland area, Japan
- 17) Interrelation between organization of disaster prevention and community characteristic, Japan

3) List of Research Activities in 2006

Peer-reviewed Articles

- Yoshida, K., Iwashita, K., Iijima, Y., and Oka, S. 2006. Long-term changes in the hydroclimatic environment during the 20th century on Chichi-jima in the Ogasawara (Bonin) Islands. *Geographical Review of Japan*, 79-10, 516-526.
- Takeya, M., Sugiyama, Y. and Oyama, S. 2006. The Citemene system, social leveling mechanism, and agrarian changes in the Bemba villages of northern Zambia- an overview of 23 years of “fix point” research. *African Study Monographs* 27 (1): 27-38.
- Oyama, S. and Kondo, F. 2007. Sorghum cultivation and soil fertility preservation under bujimi slash-and-burn cultivation in northwestern Zambia. *African Study Monographs Supplementary Issue* 34: 115-135.
- Kobashi, S. 2006. Changes of air and soil temperature within beech (*Fagus crenata*) forest in thawing season: comparison between heavy and less snowfall regions in Japan. *Quarterly Journal of Geography*, 58, 237-241.

Other Articles

- Hori, N. 2007. Deserts in the world-their distribution and characteristics. In Hori, N. and Kikuchi, T. (eds.), *Deserts in the World*. Series of Meguro City College, 7, 2-17, Ninomiya-shoten. (in Japanese)
- Hori, N. 2007. Desert in Africa-the desert of Sahara: changing nature and wavered people. In Hori, N. and Kikuchi, T. (eds.) ,*Deserts in the World*. Series of Meguro City College, 7, 110-132, Ninomiya-shoten (in Japanese)
- Hori, N. 2007. Future of desert-conclusion. In Hori, N. and Kikuchi, T. (eds.), *Deserts in the World*. Series of Meguro City College, 7, 183-189, Ninomiya-shoten. (in Japanese)
- Oka, S. 2006. Understanding the forest of vegetation-the distribution, morphology and function. In

- Kikuchi, T. and Inui, T. (eds.), Realizing Forest and Learning from Forest-to enjoy life in forest, Series of Meguro City College, 6, 54-64, Ninomiya-shoten (in Japanese)
- Oka, S. 2006. Succession of forest-forest ecology. In Kikuchi, T. and Inui, T. (eds.), Realizing Forest and Learning from Forest - to enjoy life in forest, Series of Meguro City College, 6, 65-72, Ninomiya-shoten. (in Japanese)
- Oka, S. 2006. (coffee break) Understand the urban forest and its nature. In Kikuchi, T. and Inui, T. (eds.), Realizing Forest and Learning from Forest-to enjoy life in forest, Series of Meguro City College, 6,88-91, Ninomiya-shoten. (in Japanese)
- Oka, S. 2006. To Understand the natural environments sustaining regional diversity-case study of Oki-Islands-. In Wada, a., Asano, T., Utsumi, T., Ohno, A., Sasagawa K., and Fukuda, Y. (eds.), Research the region, Learn from the Region-aim for sustainable regional society, Kokon-shoin, 254-263. (in Japanese)
- Oka, S. 2007. Desert in South America. In Hori, N. and Kikuchi, T. (eds.), Deserts in the World. Series of Meguro City College, 7, 159-181, Ninomiya-shoten (in Japanese)
- Watanabe, M. and Oka, S. 2007. Geographical distribution and its causal factors of the vegetation in Minuma-tanbo, south-eastern Saitama Prefecture. *Research of Poly-nature*, 141, 3-8. (in Japanese)
- Oyama, S. 2005. Ecological knowledge of land degradation and soil improvement of Hausa cultivators in Sahel, West Africa. Annual Reports of Interdisciplinary Research Institute of Environmental Sciences 24: 51-64. (in Japanese with English abstract)
- Oyama, S. 2006. The nature in Andean mountain and the cradle of wild potato. *Ecosophia* 17: 81-87 . (in Japanese)
- Oyama, S. 2006. Ecology and wildlife conservation of vicuña in Peruvian Andes. *Geographical repots of Tokyo Metropolitan University* 41: 27-44 .
- Oyama, S. 2006. The diversity of slash-and-burn cultivations in miombo woodland of Africa. In Kikuchi, T. and Inui, T. (eds.), Realizing Forest and Learning from Forest-to enjoy life in forest, Series of Meguro City College, 6. 35-43.Ninomiya-shoten. (in Japanese)
- Oyama, S. 2006. Desertification, forest degradation and organic circulation between rural and urban areas. In Kikuchi, T. and Inui, T. eds. *Understanding and learning forest ecology- For getting close to the forest* In Kikuchi, T. and Inui, T. (eds.), Realizing Forest and Learning from Forest-to enjoy life in forest, Series of Meguro City College, 6. 101-111. Ninomiya-shoten. (in Japanese)
- Oyama, S. 2007. Ecological knowledge of site selection and cultivating methods of Kaonde shifting cultivators in northwestern Zambia. *Geographical repots of Tokyo Metropolitan University* 42: 15-20.
- Oyama, S. 2007. Desertification and daily life of cultivators in Sahel area of West Africa. In Ikeya,

- K., Sato, R. and Takeuchi, S. eds. *World Geography Series: Africa I General description, Islam Africa and Ethiopia*. 221-233. Asakura-shoten. (in Japanese)
- Oyama, S. 2007. Strange relationship between animal dung and potato. In Yamamoto, N ed. *Andean Highlands*. Kyoto 135-154. University Press. (in Japanese)
- Oyama, S. 2007. The ecology and wildlife conservation of vicuña in Peruvian Andes. In Yamamoto, N ed. *Andean Highlands*. 335-359. Kyoto University Press. (in Japanese)
- Yamamoto, N. and Oyama, S. 2007. From removing poison to food stock: indigenous food processing in central Andes. In Yamamoto, N ed. *Andean Highlands*. 117-134. Kyoto University Press. (in Japanese)
- Oyama, S., Kondo, F. and Yamamoto, N. 2007. Where is the original place of potato (*Solanum* sp.) in Andean Mountains ? *Japanese Journal of Tropical Agriculture* **51** (extra issue 1): 103-104. (in Japanese)
- Fall, O., Hori, N. & Diaw A.T. 2007. Using the nexus between regional cooperation and public participation and issues associated with laws, power, equity, and indigenous knowledge to prevent conflicts in the Senegal River Basin. *Geographical reports of Tokyo Metropolitan University* **42**: 55-62.

Books

- Hori, N. and Kikuchi, T. (eds.), *Deserts in the World*. Series of Meguro City College, 7, Ninomiya-shoten, 194p. (in Japanese)

Reports

- Oyama, S. 2006. The ecology of vicuña and wild potato species. In Yamamoto, N. ed. The characteristics of environmental use in Andean mountains: comparison with Himalaya and Tibet. Grant-in-Aid for Scientific Research (A) research report, 2-3-1 ~ 2-3-9 . (in Japanese)
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- Yamamoto, N. and Oyama, S. From removing the poison to food processing. In Yamamoto, N. ed. The characteristics of environmental use in Andean mountains: comparison with Himalaya and Tibet. Grant-in-Aid for Scientific Research (A) research report, 2-2-1 ~ 2-2-7 . (in Japanese)

Miscellaneous reports

- Hori, N. 2007. The Japanese natural monuments: representing the dynamics of the earth. *Monthly Magazine of Cultural Assets* **523**: 22-27. (in Japanese)
- Oyama, S. 2006 . Thrust hoe and blacksmith of Hausa people in Niger: Rethinking human activity

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- Oyama, S. 2006 . Run faster! : The animal chasing hunt method for vicuña in Andean mountains of South America. *Biostory* **6**: 88-89 . (in Japanese)
- Oyama, S. 2006. The environmental recognition and coping techniques of Hausa cultivators to desertification in Sahel area.
- Ministry of Education, Culture, Science and Technology Grant-in-Aid for Scientific Research of Priority Area “Distribution and Sharing of Resources in Symbolic and Ecological Systems” Newsletter Data and Report **8**: 7 . (in Japanese)
- Oyama, S. 2006. Development and environmental issue in Africa. TICAD (Tokyo International Conference on African Development) Civil Society Forum. “African Study Class Files: middle class ” 3-1 ~ 3-15 . (in Japanese)

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- Hori, N. 2006. The eternity of the “Mona Lisa” Opening Lecture for Meguro City College, Tokyo.
- Hori, N. 2006. The Distribution and utilization of *Acacia albida* in savanna zone of Africa. The Japanese society of Geographical Sciences Spring Meeting, Higashi-Hiroshima.
- Hori, N. 2006. Floodplain agriculture in the Tokar Delta of the Red Sea coast, Sudan. International symposium "Future Potentiality of Traditional Knowledge, Water Use and Local Development : To combat livelihood degradation in dry lands of the Middle East and Africa. Tottori.
- Hori, N. 2007. What Japanese people make sense out of the mountains ?: thinking about the spiritual sense of the Mt. Fuji. National Museum of Japanese History. Inter-University Research Seminar “Development, conservation and cultural resources of landscape ” (Representative R. Aoki), Sakura.
- Hori, N. 2007. Spatial structure of desert and environmental changes. National Museum of Ethnology Inter-University Research Seminar “Anthropological Studies on the building of natural histories” (Representative K. Ikeya), Suita.
- Oka, S. 2006. How to understand the nature?-fundamental of understanding the environments: fundamental of climatology and meteorology concerning vegetation. The training course of support ranger, Open University of Tokyo Metropolitan University. Tokyo.
- Kikuchi, T., Oka, S., Suzuki, T., and Oyama, S. 2006. Observation and consideration of nature of mountain. Guidance of excursion in the training course of support ranger, Open University of Tokyo Metropolitan University. Tokyo.
- Oka, S. 2007. Andean music-folklore-. Meguro City College in 2007, World Mountains-their nature and culture, Tokyo.
- Oka, S. 2007. The Maya civilization and the Andean civilization. Meguro City College in 2007,

- World Mountains-their nature and culture, Tokyo.
- Yoshida, K., Iijima, Y., Oka, S., and Mishio, M. 2007. Adaptation of *Distylium lepidotum* to seasonal drought in the Ogasawara (Bonin) Islands. The General Meeting of the Association of Japanese Geographers in 2007 Spring, Tokyo.
- Watanabe, M. and Oka, S. 2007. study of vegetation distribution and its driving factors on abandoned cultivated lands in the Minuma Tanbo, Saitama prefecture. The General Meeting of the Association of Japanese Geographers in 2007 Spring, Tokyo.
- Kikuchi, T., Oka, S., Yamamoto, M., Obara, N. and Arima, T. 2007. Considering the preservation of Satoyama in the suburbs and the sustainment of rural environments-walking and seeing the rurality of Satoyama and Yato (small valley and its surrounding forest) in Jike, Aoba-ku, Yokohama City. Guidance of the excursion in The General Meeting of the Association of Japanese Geographers in 2007 Spring,
- Oka, S. 2007. The stand structure and its dynamics of the tree line on Mount Fuji, The Symposium of Japanese Study Group for Climate Impact and Application. Tokyo.
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- Oyama, S. 2007. Andes mountains and potato. Meguro City College "Mountains of the world: nature and culture", Tokyo. (in Japanese)
- Oyama, S. 2007. Combat to the desertification by applying urban trash: A trial in Sahel zone of Niger. Africa Japan Forum "Open Seminar on Food Security ", Tokyo. (in Japanese)
- Oyama, S. 2007. Where is the original place of Potato (*Solanum* sp.) in Andean mountains ? The General meeting of the Association of Japanese Geographer Spring, 2007. Tokyo.
- Oyama, S., Kondo, F. and Yamamoto, N. 2007. Where is the original place of potato (*Solanum* sp.) in Andean Mountains ? 101th meeting of Japanese Society of Tropical Agriculture. Tokyo.

4 Laboratory of Global Environmental Changes

1) Staff

Hitoshi FUKUSAWA Professor / PhD (D.Sc.)

Sedimentology

2) Overview of Research Activities

This laboratory is going to study global environmental changes, along with causes to trigger such changes. The study periods are Tertiary and Quaternary including historical era. Based on the analyses and dating of glacial landforms, deep-sea and lake sediments, paleosol, microfossil of plants on the land surface, this laboratory is going to reconstruct the environment from the viewpoint of physical geography, sedimentology, and ecology. The main study themes in this laboratory are listed as follows.

1) Study on the relationship between surface environmental changes and human activities in late Quaternary

- The relationship between environmental changes and human activities from the last interglacial to historic era is clarified by field surveys. Concretely, data concerning glacial landforms, strata, lake deposits, loess, paleosol, pollen and coral rings are collected in the mountains, lowlands, lakes in the east/central Asia and surrounding ocean, then, they are analyzed.
- The relationship between environmental changes and human activities in Holocene is clarified by detecting sea level changes variation, climate change and earthquakes. Concretely, the analyses of grain size distribution, mineral composition, and contents of organic matter in the lake deposits in the east Asia are carried out.

2) Study on the variability of ice sheets and ocean in the earth system

- Clarification of the relationship between glacial-interglacial cycle and ocean circulation, and process and causes of the Cenozoic and Quaternary glaciations, by analyzing marine sediments and landforms on the continental ice sheets.

3) Dating of Quaternary samples

- By the optically stimulated luminescence dating method on terrestrial deposits and the thermo-luminescence dating method on tephtras, numerical ages as datum planes are added to environmental changes obtained by field surveys and by analyses.

In the fiscal year of 2006, Laboratory of Global Environmental Changes conducted researches to

accurately reconstruct paleo-environmental changes globally and locally. Based on these analyses, climate changes and man-made environmental changes recorded in the reconstructed data are clarified to propose a paradigm of human activities to sustainable society in the future. The field surveys were conducted not only in Japan but also in Easter island, Guatemala, China and Korea. The results obtained were presented at symposiums and workshops in Japan and foreign countries. Especially, the following six study themes were promoted in 2006.

- 1) Necessity of the study on the past global environmental changes and its method: Roma Club's model to predict future and the "problem of the year 2020"
- 2) Study on the variability of climate and sea level in the past 10,000 years: In relation to the activity of the sun
- 3) Study on the glacial-interglacial cycle and the prediction of the future: In relation to the orbital elements
- 4) Study on preventing global temperature rise: Nature-Tech
- 5) Study on the evaluation of environment: Regeneration, restoration and preservation of nature
- 6) Study on the utilization history of environment in the city: Edo - A city utilizing the sea level variation

3) List of Research Activities in 2006

Peer-reviewed Articles

- Kitamura, A., Yamamoto, N., Kase, T., Ohashi, S., Hiramoto, M., Fukusawa, H., Watanabe, T., Irino, T., Kojitani, H., Shimamura, M. and Kawakami, I. 2007. Potential of submarine-cave sediments and oxygen isotope composition of cavernicolous micro-bivalve as a late Holocene paleoenvironmental record. *Global and Planetary Change* 55: 301-316.
- Katsuta, N., Takano, M., Kawakami, S., Togami, S., Fukusawa, H., Kumazawa, M. and Yasuda, Y. 2007. Advanced micro-XRF method to separate sedimentary rhythms and event layers in sediments : Its application to lacustrine sediment from Lake Suigetsu, Japan. *Journal of Paleolimnology* 37: 259-271. (doi: 10.1007/s10933-006-9028-3).
- Katsuta, N., Takano, M., Kawakami, S., Togami, S., Fukusawa, H., Kumazawa, M. and Yasuda, Y. 2006. Climate system transition from glacial- to interglacial state around the beginning of the last termination: Evidence from a centennial to millennial scale climate rhythm. *Geochemistry, Geophysics, Geosystems (G-cubed)* 7(12): 1-9 ZQ12006 (doi: 10.1029/2006GC001310).
- Gotanda, K. and Fukusawa, H. 2006. Reconstruction of the biome pattern since 20,000 yr BP using biomization method - (I) Kyushu island - . *Journal of Geography (Japan)* 115: 125-135 (in Japanese with English abstract).

Presentations at International Conferences

Fukusawa, H. 2005. Snow accumulation changes and human impacts during last 2,850 years detected from varved sediments of Lake Mikuri in the Tateyama Volcano, central Japan. 2006 International Sedimentological Congress at Fukuoka, 2005. 8.23.

5 Laboratory of Geographical Information Sciences

1) Staff

Hiroshi MATSUYAMA Associate Professor / PhD (D.Sc.)

Hydrometeorology, Geographical Information Sciences

Takeki IZUMI Assistant Professor / PhD (D.Eng.)

Urban Climatology, Geographical Information Sciences, Computational Meteorological Model

Daichi NAKAYAMA Assistant Professor / PhD (D.Sc.)

Geographical Information Sciences, Remote Sensing, Computational Geomorphology

2) Overview of Research Activities

This laboratory is going to study the natural environment as a whole which is composed of geomorphology, climate, hydrology, vegetation, and so on. Concretely, deductive approach and inductive approach are combined for conducting studies. The former approach is going to explain results from causes by physical laws such as mass balance, energy balance, equation of motion, and so on. The latter approach is going to explain facts demonstratively based on field surveys and *in situ* observations. Therefore, collection of quantitative data, digital mapping, statistical analyses and numerical modeling are main methods used in this laboratory.

The main study themes in this laboratory are listed as follows.

- Energy and water cycle in the atmosphere and hydrosphere
- Capturing snow distribution and snow water resources, along with snowmelt-runoff based on the remote sensing techniques
- Quantitative evaluation of spectral reflectance characteristics of coniferous forests, along with the quantitative evaluation of their leaf area indices.
- Hydrological cycle around Mt. Aso and Tokyo Metropolis
- Numerical simulation of the urban heat island
- Capturing surface conditions of cities such as albedo, roughness length, and evaporative fraction
- Estimating landslides based on digital elevation model, remote sensing, and data mining techniques
- Flood monitoring in Bangladesh based on remote sensing and geographical information systems
- Monitoring urban environment and natural environment by using synthetic aperture radar
- Precise geometric correction of satellite images

3) List of Research Activities in 2006

Peer-reviewed Articles

- Matsuyama, H., Horie, Y., Izumi, T. and Aoki, K. 2006. An observational study on the individual thermal sensation and its relationship with environment. *Japanese Journal of Biometeorology* 43: 67-77. (in Japanese with English abstract)
- Matsuyama, H., Yagi, K., Nakayama, D. and Suzuki, K. 2006. Characteristics of water quality in the upper reaches of Tsuetate-river in the northern slope of Aso-somma. *Journal of Japan Society of Hydrology and Water Resources* 19: 392-400. (in Japanese with English abstract)
- Matsuyama, H., Kitamura, A. and Izumi, T. 2006. Estimation of surface temperatures by Landsat satellites based on the spatially-distributed atmospheric correction. *Journal of Geography (Japan)* 115: 606-625. (in Japanese with English abstract)
- Shimamura, Y., Izumi, T. and Matsuyama, H. 2006. Evaluation of a useful method to identify snow-covered areas under vegetation –Comparisons among a newly-proposed snow index, normalized difference snow index, and visible reflectance–. *International Journal of Remote Sensing* 27: 4867-4884.
- Hasegawa, K., Matsuyama, H., Tsuzuki, H. and Sweda, T. 2006. The effect of bi-directional reflectance distribution function on the estimation of vegetation indices and leaf area index (LAI) - A case study of the vegetation in the succession stages after forest fire in northwestern Canada - . *Journal of the Remote Sensing Society of Japan* 26: 186-201. (in Japanese with English abstract)
- Narumiya, H., Nakayama, D. and Matsuyama, H. 2006. Changes in spring water temperature over the last 20 years in the Tokyo metropolis. *Geographical Review of Japan* 79: 857–868. (in Japanese with English abstract)
- Narama, C., Shimamura, Y., Nakayama, D. and Abdrakhmatov, K. 2006. Recent changes of glacier coverage in the western Terskey–Alatoo range, Kyrgyz Republic, using Corona and Landsat. *Annals of Glaciology* 43: 223-229.

Other Articles

- Shimamura, Y., Izumi, T. and Matsuyama, H. 2006. Rapid digital mapping system for getting ground truth data using tablet PC. *Extended Abstract of the GISA Annual Meeting* 15: 401-406. (in Japanese with English abstract)
- Horie, Y., Izumi, T., Matsuyama, H. and Aoki, K. 2006. An observational study on the individual thermal sensations, skin temperatures and their relationship with exercise experiences. *Journal of the Human–Environment System* 9(1 • 2): 31–34.
- Hoque, R., Nakayama, D. and Matsuyama, H. 2007. Flood monitoring in the Meghna river basin in

Bangladesh using remote sensing and geographical information system, Pre-Conference Paper Volume of International Conference on Water and Flood Management (ICWFM–2007), 12–14 March 2007, Dhaka, Bangladesh, 431–437.

Presentations at International Conferences

Saito, H., Nakayama, D. and Matsuyama, H. 2006. Estimation and evaluation of drainage basins with landslides using data mining techniques and ASTER data. Joint International Symposium, Environmental Changes and Earth Surface Processes in Semi–arid and Temperate Areas, Uraanbaator, Mongolia.

Hoque, R., Nakayama, D. and Matsuyama, H. 2007. Flood monitoring in the Meghna river in Bangladesh using remote sensing and geographical information system. International Conference on Water and Flood Management (ICWFM–2007), Dhaka, Bangladesh.

Kezer, K. and Matsuyama, H. 2006. Decrease of river runoff in the Lake Balkhash basin in Central Asia. Climatic changes and their impact on sustainable utilization and ecological environment of water resources in the eastern parts of middle Asia, Altai, China.

Sakuma, S., Nakayama, D. and Matsuyama, H. 2006. Estimation of discharge in ungauged basin using comparative hydrological approach and distributed hydrological model. Joint International Symposium, Environmental Changes and Earth Surface Processes in Semi–arid and Temperate Areas, Uraanbaator, Mongolia.

Horie, Y., Aoki, K., Izumi, T. and Matsuyama, H. 2006. An observational study on the individual thermal sensations and their relationship with climates in the past–to–present habitations. 17th Conference on Biometeorology and Aerobiology, American Meteorological Society, San Diego, USA.

6 Laboratory of Urban and Human Geography

1) Staff

Yosio SUGIURA Professor / PhD (D.Sc.)

Human geography

Toshio KIKUCHI Associate Professor / D.Sc.

Agricultural and Rural Geography, Regional Geography of Oceania, Nature Based Tourism

Yoshiki WAKABAYASHI Associate Professor / PhD (D.Sc.)

Urban geography, Behavioral geography, Geographic information science

Yuko TAKEDA Assistant Professor / Ph. D.

GIS, Urban geography

Hiroyuki TSUBOMOTO Assistant Professor /

Urban geography, Office study

Michiko HARAYAMA Assistant Professor /

Bibliometrics

2) Overview of Research Activities

This research unit specializes in human geography, with special emphasis on the city and its environs. Our research interests center on the structural explanation of the relationship between human activities and geographic environment by employing approaches of social sciences and humanities. Methodologically, the emphasis lies largely on positivistic (viz., quantitative or mathematical); fieldwork is also encouraged. The research interests cover quantitative, socioeconomic, urban and behavioral geography. The main themes of our current research are as follows:

1. Mathematical modeling of human geographic phenomena
2. Regional analysis of human geographic phenomena
 - 1) Relationship between human activities and geographic environment
 - 2) Land use change in the city and its suburbs
 - 3) Spatial organization of the society
 - 4) Transformation of human activities brought about by environmental change

3. Geographical studies of urban systems
 - 1) Spatial structures of intra-urban system
 - 2) System of cities
4. Geographical thought
 - 1) History of modern geography
 - 2) Bibliometric research of geographical studies

3) List of Research Activities in 2006

Peer-reviewed Articles

- Sugiura, Y. 2006. Planning on settlement location in the Ijsselmeerpolders and central place theory. *Geographical Review of Japan*, 79, 566-587 (in Japanese).
- Sugiura, Y. 2006. Geographical applications of MDS—A review—. *The Japanese Journal of Behaviormetrics*, 33, 95-107 (in Japanese).
- Sugiura, Y. 2006. Reorganization of central place networks in the border area of Upper Shlesia: A Nazi Germany plan. *Notes on Theoretical Geography*, 15, 29-36 (in Japanese).
- Wakabayashi, Y. 2006. Recent trends and regional differences of nursery service provision in Tokyo Metropolitan Area. *Geographical Sciences*, 61: 210-222 (in Japanese).
- Wakabayashi, Y. 2006. Residential choices of single women in Tokyo Metropolitan Area: A multi-method approach. *Geographical Review of Japan* 79: 608-618.
- Wakabayashi, Y. 2006. Applications of multidimensional scaling to behavioral geography: mainly focused on the spatial analysis of cognitive maps. *The Japanese Journal of Behaviormetrics* 33(2): 127-132. (in Japanese)
- Yui, Y., Kamiya, H., Wakabayashi, Y., Nakazawa, T. and Takeda, Y. 2007. Regional diversity in women's work and life throughout Japan. *Geographische Rundschau International Edition* 3(1): 18-26.

Other Articles

- Kikuchi, T., Obara, N., and Kishimoto, S. 2006. Recreating rurality of suburban dairy farming region in the outer fringe of Tokyo metropolis. *Geographical Reports of Tokyo Metropolitan University*, 41, 61-73.
- Kikuchi, T. 2006. Sustainable development of organic vegetable food system with creating social capital in the outer fringe of Tokyo metropolitan area. *Geographical Reports of Tokyo Metropolitan University*, 42, 76-83.
- Kikuchi, T. 2006. Livestock products. In Yamamoto, S. et al eds., *Regional Geography in Japan 2*, Asakura Publishers, Tokyo, 188-195 .

- Kikuchi, T. 2006. Specialization and diversification on Japanese agricultural management. In Yamamoto, S. et al eds., *Regional Geography in Japan 2*, Asakura Publishers, Tokyo, 200-206 .
- Kikuchi, T. 2006. Rural settlements in the basin of central Japan; a case study of Ohnoji area in Misaka-machi, Yamanashi prefecture. In Yamamoto, S. et al eds., *Regional Geography in Japan 2*, Asakura Publishers, Tokyo, 461-465 .
- Kikuchi, T. 2006. The method of fieldwork on rural settlements and agriculture. In Association of Geographical Education ed., *Dictionary of Geographical Education*. Teikoku Publisher, Tokyo, 212-213 .
- Zhang, G. M., Kikuchi, T. and Wang. P. F. 2006. Landscape analysis of land use changes in Beijing, China. *Research Reports of Ehime Univ. Education Faculty*, **53**-1,195-202 .
- Kikuchi, T. 2007. Restructuring of grape growing and viticulture in Kofu basin. *Geography*, **52**-3 , 82-90 .
- Wakabayashi, Y. 2007. Increasing number of “shussan-nanmin (maternity refugees)”, Childcare services, The amount of time spent in housework and commuting, Sex ratio of foreigners, Costs of childrearing, Women and crime, How to read maps of Japan, Variable information transmitted by distribution maps depending on the representation. Takeda, Y. and Kinoshita, R. eds. *Gender Atlas of Japan*. 26, 50-51, 52-53, 62, 63, 76, 80-82, 83-84. Tokyo: Akashishoten.
- Tsubomoto, H. 2007. The Transformation of Location and Office Form of a Foreign-base Japanese IT Company in Tokyo Metropolitan Area. *Geographical Reports of Tokyo Metropolitan University*, 42: 131-136 .

Books

- Kikuchi, T. and Inui, T. eds. *Rethinking and Relearning on Forest*. Ninomiya Publisher, Tokyo, 190p.
- Hori, N. and Kikuchi, T. eds. *Desert in the World –Nature, Culture and Human*. Ninomiya Publisher, Tokyo, 204p.
- Okamoto, K., Wakabayashi, Y. and Teramoto. K. eds. 2006. *The handicapped and the city: geographical and psychological approaches*. Tokyo: Kokonshoin.
- Takeda, Y. and Kinoshita, R. eds. *Gender Atlas of Japan*. Tokyo: Akashishoten

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- Kikuchi, T. 2007. Rice farming management and its sustainable system in Kinki region. In Tabayashi, A. Report of Grand-in-Aid for Scientific Research (B); Regional and temporal changes in agricultural systems of Japan with regard to farm successors. Tsukuba Univ., Tsukuba, 224-233 .
- Kikuchi, T. 2007 . Management aspects on restructuring of Japanese agriculture. In Tabayashi, A. Report of Grand-in-Aid for Scientific Research (B); Regional and temporal changes in agricultural

- systems of Japan with regard to farm successors. Tsukuba Univ., Tsukuba, 306-309 .
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- Kikuchi, T. 2007. The sustainable system in Japanese agricultural. In Tabayashi, A. Report of Grand-in-Aid for Scientific Research (B); Regional and temporal changes in agricultural systems of Japan with regard to farm successors. Tsukuba Univ., Tsukuba, 343-346.
- Wakabayashi, Y. 2007. *A study of the new representations and applications of geographic information in a ubiquitous network society*. Research Report of the Research Project, Grant-in-Aid for Scientific Research (B)(1), 2005-2006.

Book Review

- Wakabayashi, Y. 2006. Book review: Tokyo Chizu Kenkyusha: Jibeta de Saihakken Tokyo no dekokoko Chiz. Gijutsu-hyoronsha. *Tama no Ayumi* 122: 92-94 .

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- Sugiura, Y., Nakagawa, A., and Murayama, Y. 2006. Symposium II: Symposium on expected training for talent of geography. *Geographical Review of Japan* **79**: 743-746.
- Sugiura, Y., Murayama, Y. and Nakagawa, A. 2006. Symposium IV: Symposium on the present status of the education system of geography departments. *Geographical Review of Japan* **79**: 751-755.
- Suzuki, K. and Wakabayashi, Y. 2006. Cross-cultural comparison of tourism spaces described in Japanese and American guidebooks. *Papers and Proceedings of the Geographical Information Systems Association* 15: 113-118.
- Tsubomoto, H. 2006. Annual Reviews: Urban Geography in Japan, 2005. *Japanese Journal of Human Geography (Jimbun Chiri)* 58: 276-278 (in Japanese).
- Tsubomoto, H. 2007. The Transformation of Tokyo Metropolitan Area since the 1980s. *Chiri* 52-2: 84-93 (in Japanese).

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- Kikuchi, T. 2006. Sustainable development of suburban dairying with the recreating rurality in the outer fringe of Tokyo metropolis. International Geographical Union, Commission on Sustainability of Rural System, Cairns, Australia.

- Kikuchi, T. 2006. Rural restructuring with recreating rurality and its social sustainability in Tokyo metropolitan area. Annual Meeting of Gakugei geographical Association, Tokyo.
- Kikuchi, T. 2006. Environmental issues in Australia; rethinking on the relationships between human activities and physical environment. Super Science Programs in Utsunomiya High School, Utsunomiya.
- Wakabayashi, Y. 2006. Recent trend and regional differences of nursery service provision in Japan from the viewpoint of lowering fertility rate. Japanese Studies 25th Anniversary Symposium, National University of Singapore.
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- Wakabayashi, Y. 2007. Childcare support and residential choices for working women. Ad hoc Meeting of Urban Renaissance Agency, Hachioji-shi.
- Wakabayashi, Y. 2007. An attempt at multi-method approach in human geography. Seminar on statistics for graduate students, 21 century COE Program at Ochanomizu University, Tokyo.
- Wakabayashi, Y. 2007. Critical GIS: an alternative geographic information science. GRECO, Ochanomizu University, Tokyo.
- Takeda Y. 2006. The Background of "Parassaito-Single" in cotemporary Japan from the regional viewpoint. International Geographical Union Regional Conference, Brisbane, Australia.
- Tsubomoto, H. 2007. The strategy of a foreign owned management consulting firm in central Tokyo. The General Meeting of the Association of Japanese Geographers Autumn 2006, Shizuoka University, Hamamatsu.