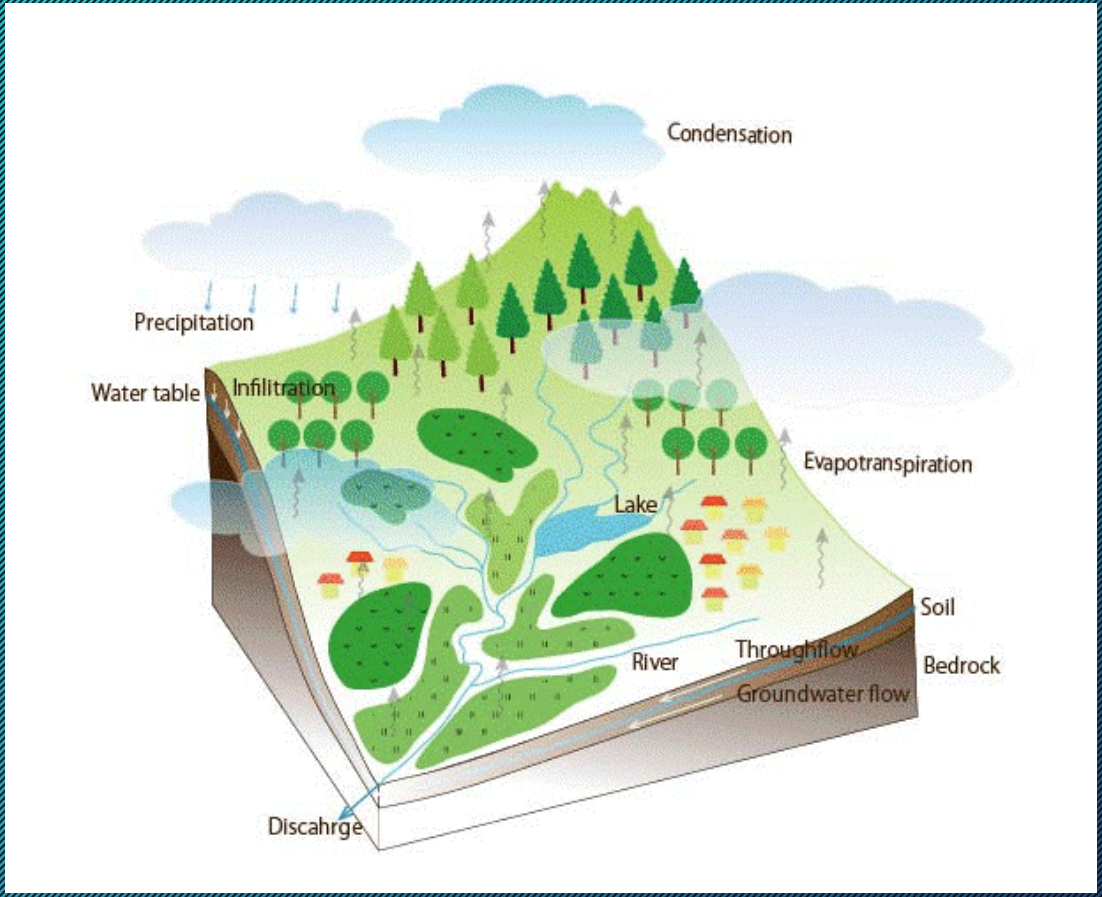
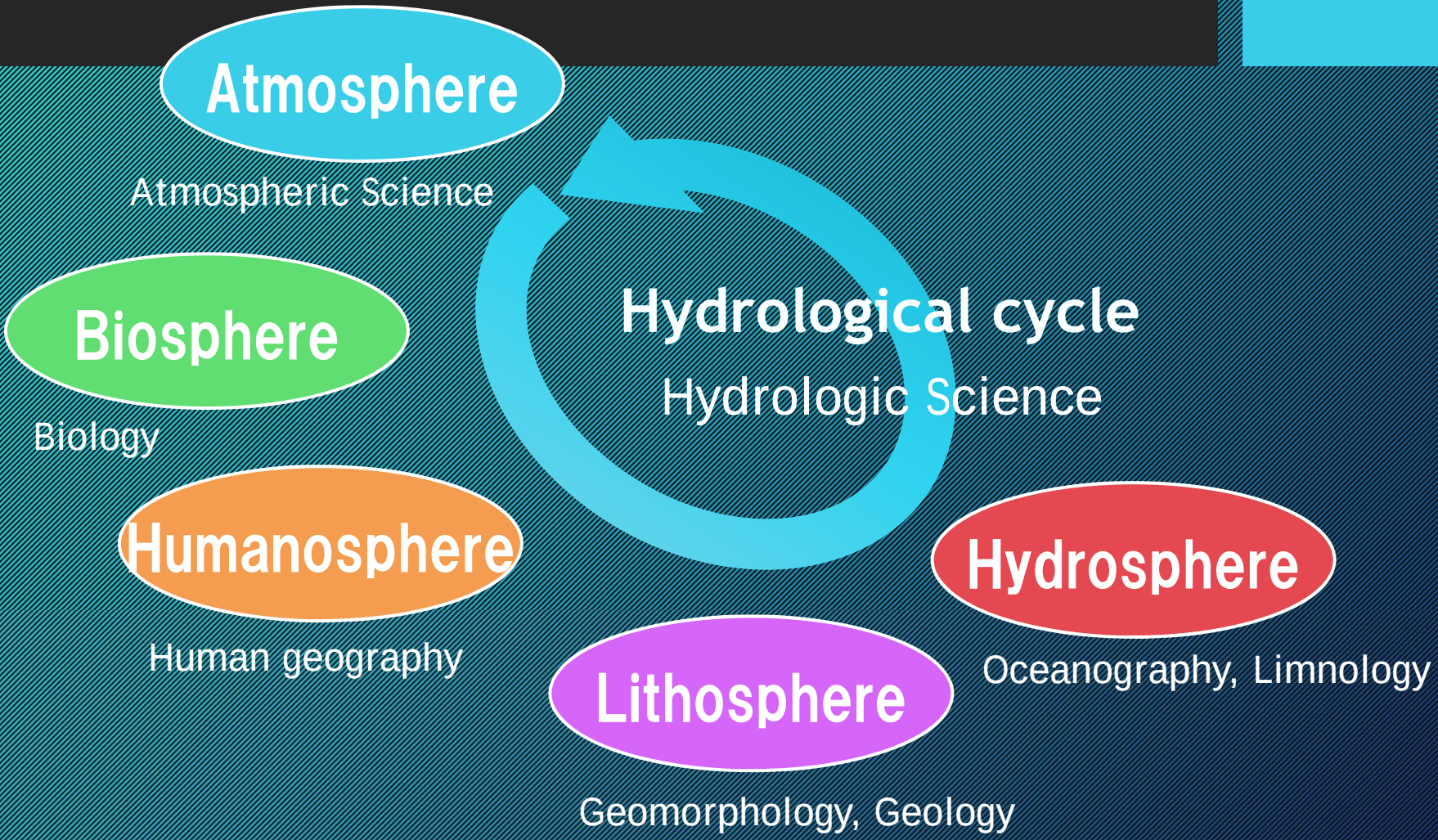
Introduction: Hydrological Science Laboratory



What's Hydrologic Science?



Faculty

Prof.
M. Sugita

Prof.
J. Asanuma

Prof.
M. Tsujimura

Assoc. Prof.
T. Yamanaka

Prof.
R. Misumi

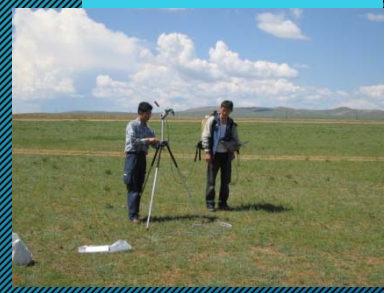
Prof.
S. Shimokawa

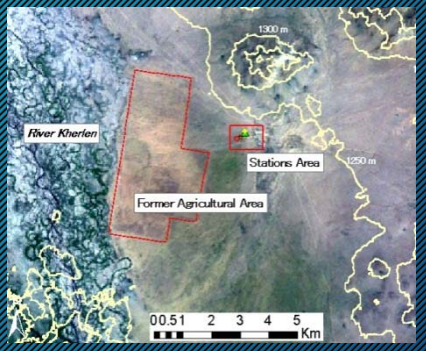
Assoc.Prof
Y.Syusse

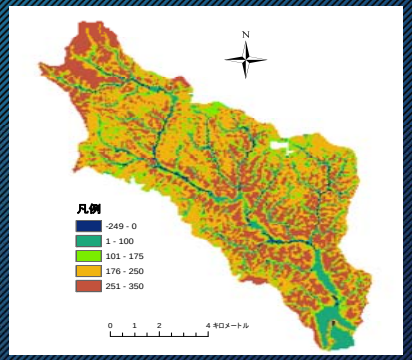
Collaborative Graduate School with National Research Institute for Earth Science and Disaster Resilience

Prof. Sugita

- **Major interest**
  - Surface Hydrology, Boundary Layer Meteorology, Ecohydrology
  - Dynamics of water, heat and CO_2 around land surfaces and its relation to environment
- **Fields**
  - Past: North America, Tsukuba, Sweden, Thailand, Mongolia, Egypt,
  - Current: Lake Kasumigaura, Lake Yamanakako
- **Approach**
  - Field observation, data analysis, numerical modeling
  - Synergy of new equipment and technology with continuing observation efforts







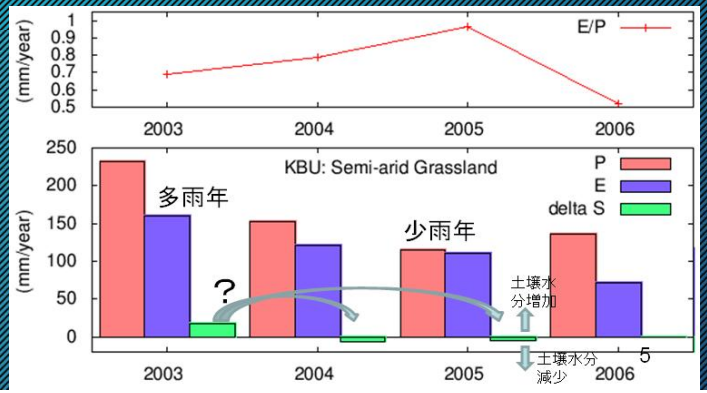
Prof. Asanuma

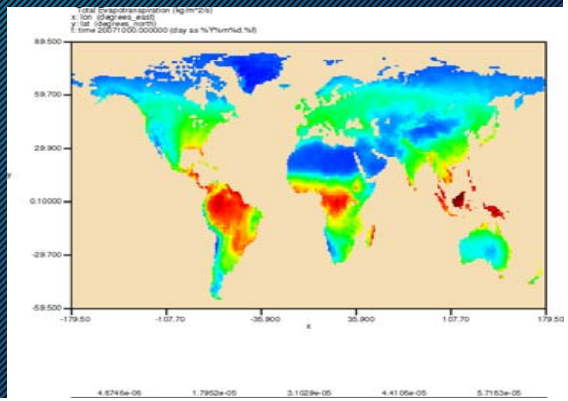
Major interest

- Exchange of water, heat and CO_2 between land surface and atmosphere
- Water vapor transport in lower atmosphere
- Global warming and water cycle
- Water resources use and disaster prevention in arid lands

Projects:

- Hydro-meteorological study in East Eurasia
- AsiaFlux(Land surface carbon cycle in Asia)
- Inter-comparison among land surface models in Asian arid lands





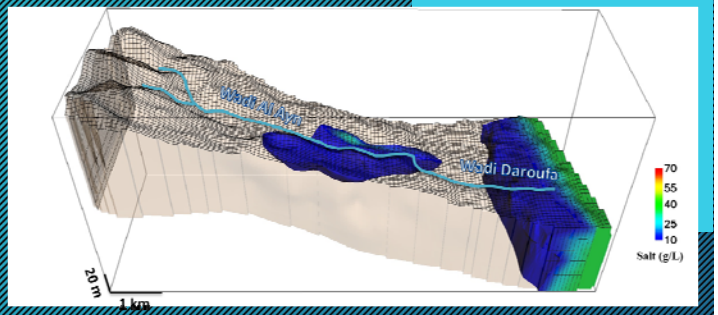
Prof. Tsujimura

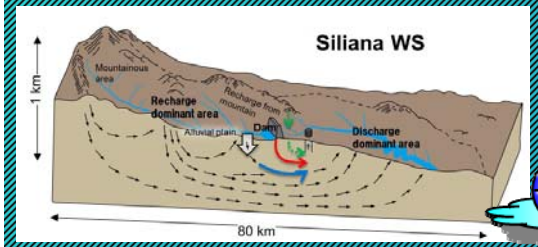
mktsuji@geoenv.tsukuba.ac.jp
https://sites.google.com/site/tsujimuralabtkb/

Major interest (using gas, isotopes, microbe ...)

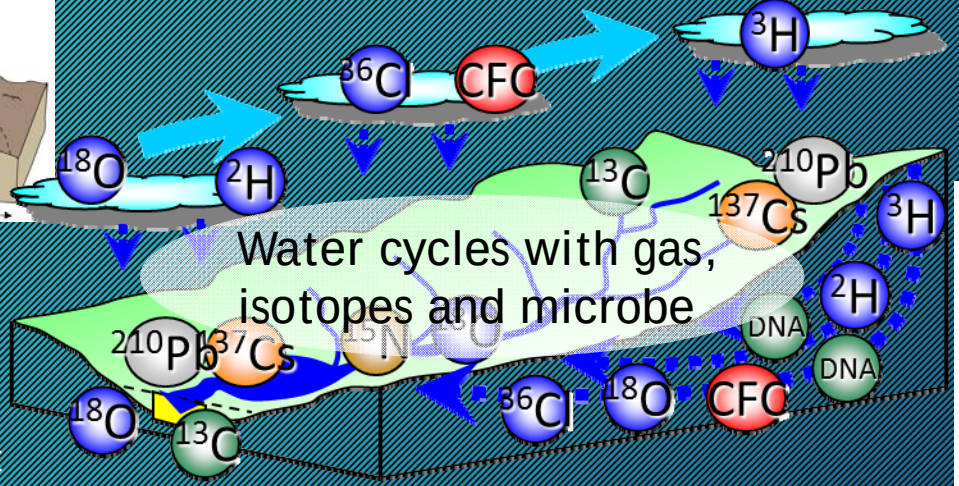
- Groundwater dating using CFCs and SF_6
- Groundwater-surface water interaction
- Behavior of radioisotopes produced by Fukushima nuclear power plant

Remediation of groundwater contaminants by artificial recharge in Tunisia



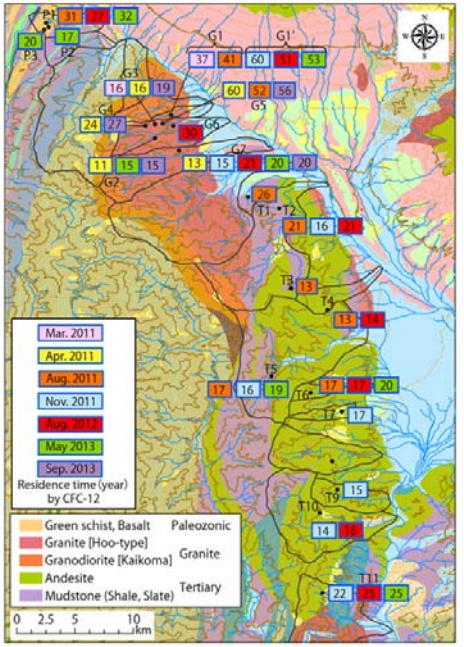


Dynamic groundwater flow in Tunisia

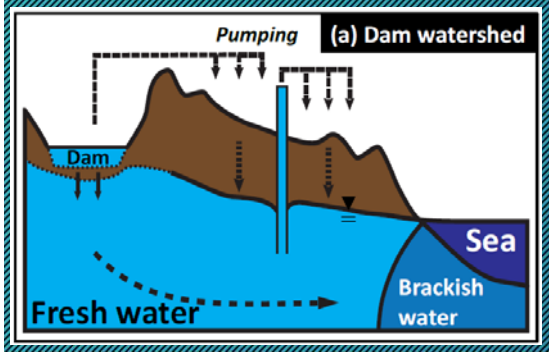


Water cycles with gas, isotopes and microbe

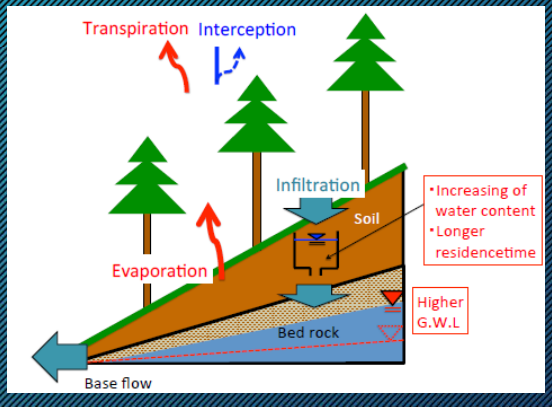
Mapping of groundwater age in spring water in headwaters



Role of dam to regulate groundwater salinization at coastal area of Tunisia



Effect of thinning to increase of groundwater recharge in Japan

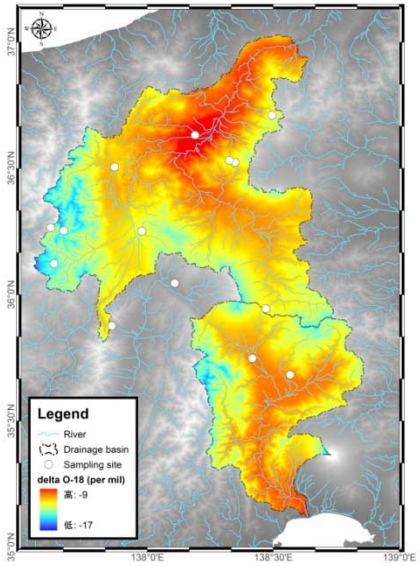


Assoc. Prof. Yamanaka

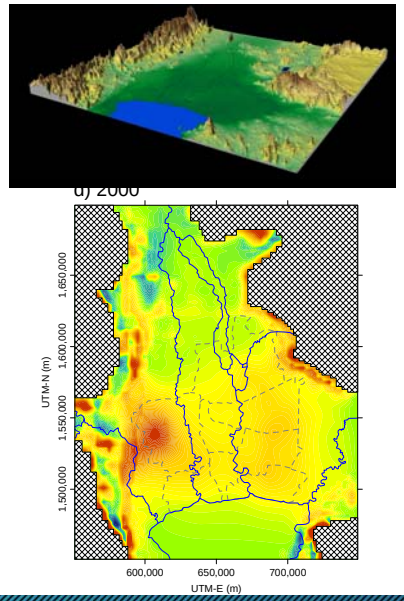
Major intersts

- Hydrological and biogeochemical cycles study with iosopic tracers
- Interaction between hydrological cycle, ecosystem and atmosphere
- Local water problem and basin management

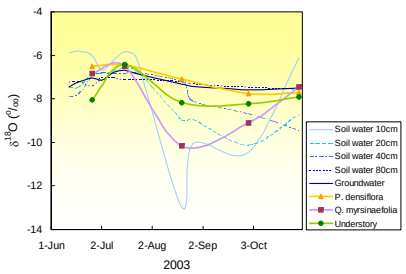
Isoscape

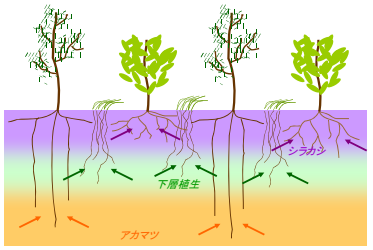


Simulation



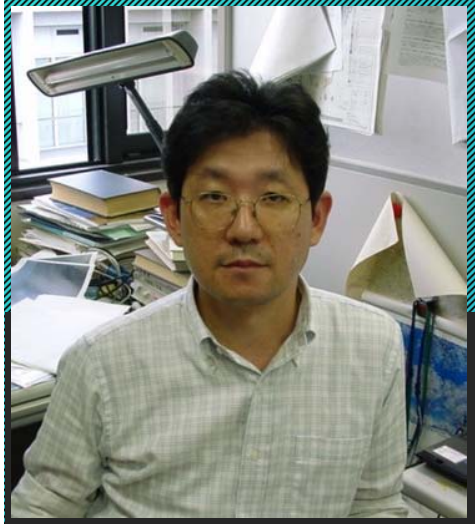
Ecohydrology





Spring water

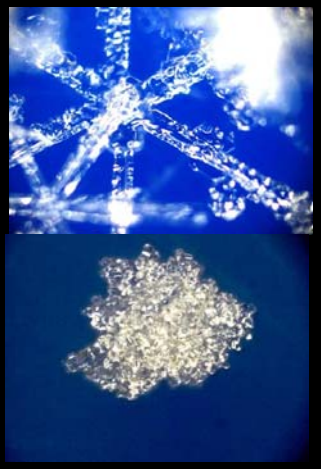
Prof. Misumi

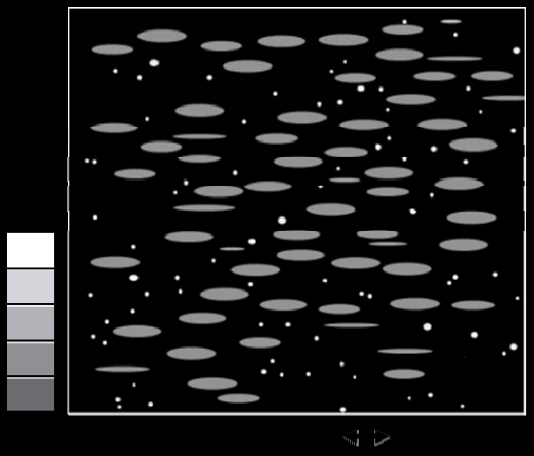


Major interest

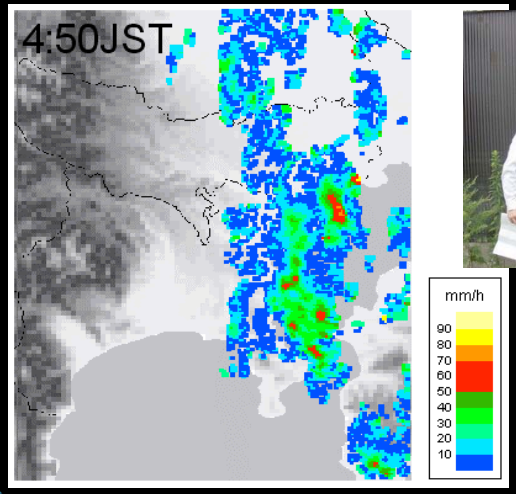
- Development of detailed cloud physics model
- Analysis of heavy rains using X-band MP radar

Cloud physics





MP radar

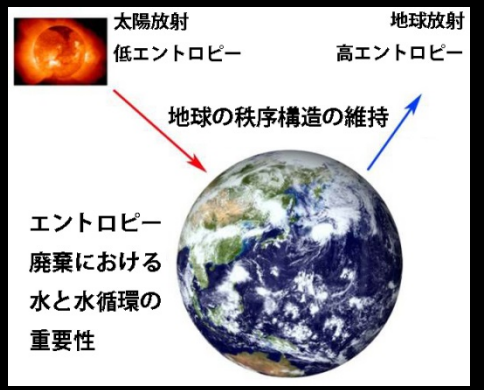


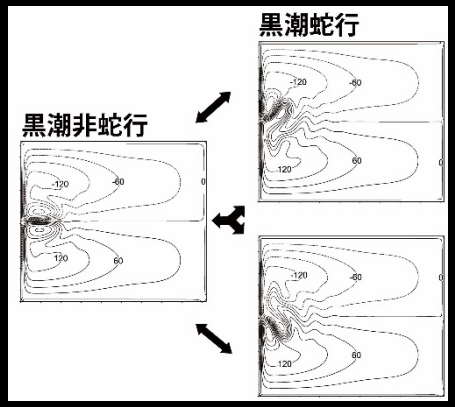
Prof. Shimokawa

Major interests

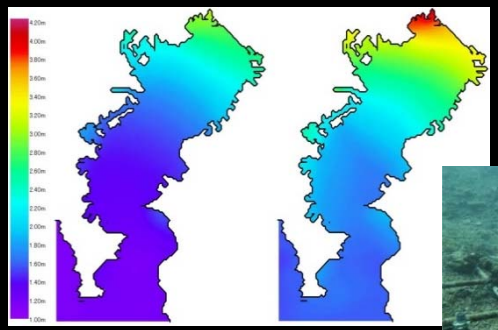
- Theoretical and numerical studies of ocean circulation
- Coastal disaster due to typhoon
- Ocean & marine ecosystem observations

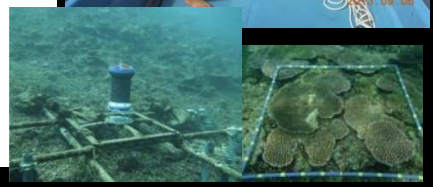
Ocean circulation





Coastal disaster



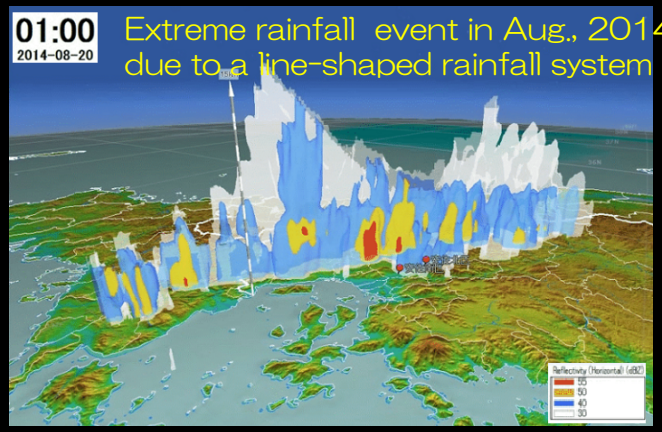


Assoc. Prof. Shusse

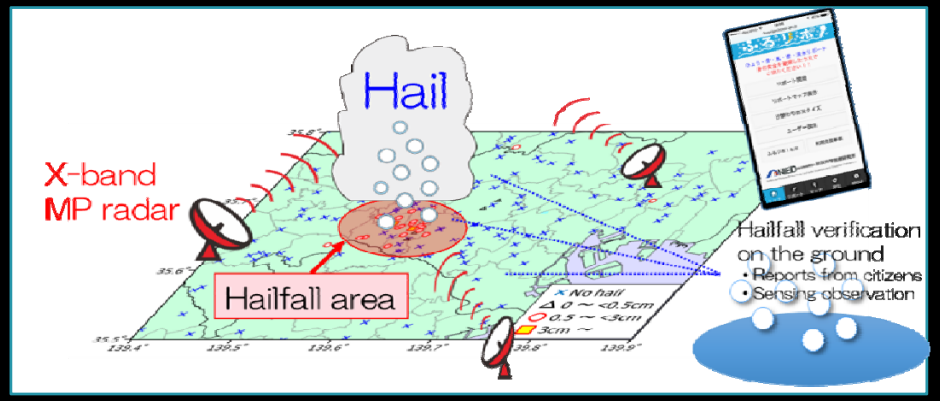
Major interests

- Analysis of cloud/preciptaion processes using MP radar
- Development of algorithms for identifying precipitation types using MP radar
  ～hail/rain/sleet/snow～

Analysis of cloud/preciptaion processes using MP radar



Development of algorithms for identifying precipitation types



After graduation

- Graduate schools
  - Univ. of Tsukuba
  - Tokyo university
- Public servant
  - Prefectural office
  - City office
  - University administration
- Private company
  - Environmental consultant
  - Water, forest, environmental industry
  - IT industry
  - Electric makers etc.

Web site

http://www.geoenv.tsukuba.ac.jp/~hydro/index-e.htm

Laboratory of Hydrological Science, University of Tsukuba

One of Japan's leading universities, University of Tsukuba is located in the center of TSUKUBA SCIENCE CITY, and widely recognized for outstanding academic quality and teaching in the fields of Hydrology and related sciences. The Laboratory of Hydrological Science covers a broad range of educational and research topics, including Groundwater Hydrology, Catchment Hydrology, Isotope Hydrology, Hillslope Hydrology, Boundary Layer Hydrometeorology, Ecohydrology, Contaminant Hydrology, Wetland Hydrology, Arid Zone Hydrology, and so on. This lab. has attracted students from around the world. We inspire students, faculty, staff, and graduates to make significant contributions to Aqua Planet Earth.

The Japanese top hydrologists work and teach at different sectors in Graduate School of Life and Environmental Sciences. Find out about our professors' research and opportunities for students to get involved.

Doctoral Program in Geoenvironmental Sciences
Master's Program in Geosciences

Professor Michiaki Sugita

Principal interests:
Evapotranspiration and related issues, Boundary layer hydrometeorology

Details & contact:
HP ; E-mail

Professor Jun Asanuma

Principal interests:
Hydrometeorology, Atmospheric boundary layer science, Applied fluid mechanics

Details & contact:
HP ; E-mail

Professor Maki Tsujimura

Principal interests:
Hillslope hydrology, Isotope hydrology

Details & contact:
HP ; E-mail

Assistant Professor Atsushi Kawachi

Principal interests:
Environmental hydraulics, Limnology

Details & contact:
HP ; E-mail

811x695

Cooperative Graduate School Program
with National Research Institute of Earth Science and Disaster Prevention

Professor Ryohei Misumi

Principal interests: