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EDUCATION

- B.S. in Biology, National Taiwan Normal University, Taiwan. (1975).
- D.Phil. in Ecology and Systematics, University of Kansas, USA. (1973).

PROFESSIONAL POSITIONS

- Secretary General, Subtropical Society of Ecology (2007-present)
- Southeast Asia Coordinator, Landscape Ecology Working Group, The Global Network for Forest Science Cooperation (IUFRO) (2009-present)
- Professor, Department of Life Science, National Taiwan Normal University (2008-present)
- Professor, Department of Social Studies (2007-2008)
- Science Committee member, International Long-term Ecological Research (2006-2008)
- Coordinator, Taiwan Ecological Research Network (2006-2008)
- Professor, Department of Geography, National Changhua University of Education (2000-2007)
- Associate Professor, Department of Geography, National Changhua University of Education (1995-2000)

RESEARCH INTERESTS

- Disturbance Ecology
- Environmental Ecology

HONORS & AWARDS

- Outstanding Teaching Professor, National Changhua University of Education (from 2006).
- Outstanding Teaching Professor, Taipei Municipal University of Education (from 2007).
- Outstanding Professor, Archilife Research Foundation (from 2008).

Powerful old disturbance vs. novel silent stress: effects of typhoons and acid deposition on ecosystems

Disturbance once viewed as occasional hiccups in the development of communities and ecosystems is now recognized as a key factor that characterizes the structure of ecosystem and have profound effect on long-term ecosystem function and dynamics. Atmospheric deposition of nutrients/pollutants and typhoons are two distinctive types of disturbance commonly seen in Taiwan. Studies over the last two decades indicate that ecosystems in Taiwan are highly resistant structurally and resilient functionally to typhoon disturbance. The combination of resilience and resistance allow the natural ecosystems to sustain even the most intense typhoon disturbance. Atmospheric deposition of acidic pollutants (acid deposition) is several times higher than the levels in northeastern United States where the acid deposition is the highest in North America. No visual damages to the natural ecosystems are observed but key ecosystem processes such as nutrient cycling are greatly affected as evident from the high rate of leaching of base cations from the ecosystems that are already low in base cations. Sudden change in ecosystem health due to acid deposition has been observed in temperate region and should not be overlooked in Taiwan. Ecosystems in Taiwan developed over the last thousands of hundreds of years under the frequent typhoon disturbance such that typhoon disturbance could be considered as an old type of natural disturbance that ecosystems have adapted to regardless of the seemingly powerful destructive force. On the other hand, atmospheric deposition of nutrients is a novel disturbance that might impose un-precedent challenge to ecosystems in Taiwan although in a silent manner. However, an old disturbance—typhoon may become a novel one if the frequency or intensity is significantly changed due to global climate change and affects ecosystem structure and function in unexpected ways. A thorough and continuous scientific research might be able to provide early warnings and allows us to predict the potential changes as well as suggestions for ecosystem management.