

**Ken. T. Murata, Ph.D.**

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Ken T. Murata is a member of the Department of Computer Science, Faculty of Engineering. At the department he has several classes for both undergraduate and graduate students. He also works for other two institutes in Japan as invited associate professor. At the PLAIN center (the CENTER for PLanning and INformation Systems) of ISAS/JAXA (Japan Aerospace Exploration Agency) he is in charge of spacecraft observation database. At the other one, the Applied Electromagnetic Research Center at NICT (National Institute of Information and Communications Technology), he is constructing data management systems for earth observing satellites and ground-based observatories. He graduated from Graduate School of Engineering, Kyoto University in 1995. He received doctoral degree for his thesis on the “Study of Magnetotail Dynamics via Computer Experiments and Spacecraft Observations” from Kyoto University in 1995. He has written 29 papers in a variety of science fields: space physics, computer science and technology, Earth science and human science.

**. Development of Earth Environment System via Information Technologies**

Ken T. Murata was working in the field of space physics for his doctoral course. After employment at Ehime University, he has been studying IT (Information Technology) techniques for space physics and earth sciences. His recent works are mainly focused on development of new methodologies to achieve global understanding of the Earth environment via Information and Communication Technologies (ICT). He has developed a variety of systems to help the scientists for understandings physical, chemical and other phenomena taking place on the Earth.

One of the projects he was mainly devoted is a MEXT project from 2002 to 2007, which was named RR2002 (Research Revolution 2002). The RR2002 project in Ehime University and other collaborative research institutes has focused mainly on researches on water resources development, food and environmental impacts, climate and basin changes and water hazards management ecosystem, biodiversity and toxicology basin management, future opportunities, and trans-boundary collaborations. Seven sub-groups (SGs) took care of the RR2002 project of Ehime Univ. The first six SGs (S1 – S6) did scientific researches, and SG7 was in charge of the development and

management of the database collected by the six sub-groups. Some data by the sub-groups (SG1, SG2 and SG3) are stored in our database and available at the Internet (<http://cyber-ms.cite.ehime-u.ac.jp/rr2002/default.aspx>).

One of the solicitudes in the construction of the present database system is that, it provides user-friendly environments to preview of the data. Easy and interactive data preview services are provided on the web page which is designed with Google Maps and Google Earth. It helps easy understanding of the RR2002 project data of not only one sub-group but two or more sub-groups at the same time. It should be noted that the cross-over data comparison is one of the important targets in the present RR2002 project by Ehime Univ.

The Google Maps, which is shown in the Figure, is a free web map application provided by Google. The Google Maps powers many map-based services included in the Google Maps. It offers street maps, a route planner and an urban business locator for Australia, Canada, Japan, New Zealand, the United States, many western European countries, the city of Moscow, the Canary Islands, Brazil and many other areas world-wide. The satellite images for the whole world are also available in the Google Maps. Using the Google Earth, one can move about the Earth in 3D, moving and manipulating the Google Earth data in real time. This provides additional information that would be difficult to represent using 2D web-based interfaces, such as the Google Maps. For example, using the Google Earth, we can tilt the Earth so that one can see the relative height of different areas of lands and seas.

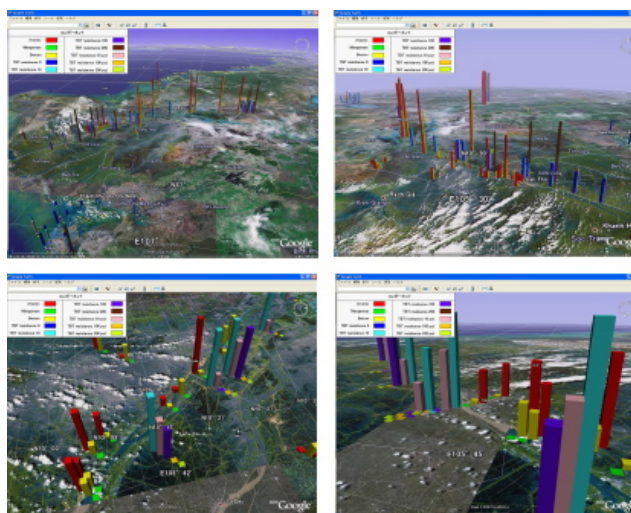


Figure: Google Earth plot for RR2002 project (Indochina peninsula)