The 12th ICERD Special Session

Web-GIS based Easy Handling Environment & Sustainability Integrated Modelling

ARIES ARtificial Intelligence for Environment & Sustainability

Date : March 6th, 2021 **PM** : ～ :

Organizer : Nagoya University Hayashi laboratory, Tokyo University of Agriculture
Laboratory of Hydro-structure Engineering, K.LAB Japan, BC3

NOTE: This side event is carried out by the joint research program of IMaSS, Nagoya University.

Schedule

Presentation1: *Prof. Ferdinando Villa* （BC3, Spain）
<Introduction by SHORT-VIDEO presentation>

Presentation2: *Prof. K.Hayashi* (Nagoya University, Japan)
<k.LAB demonstration>

Presentation3: *Dr. Y. Yamazaki* (Tokyo University of Agriculture, Japan)
<Water and mini-hydro power analysis>

Presentation4: *Prof. H. Okazawa* (Tokyo University of Agriculture, Japan)
<Future perspective>

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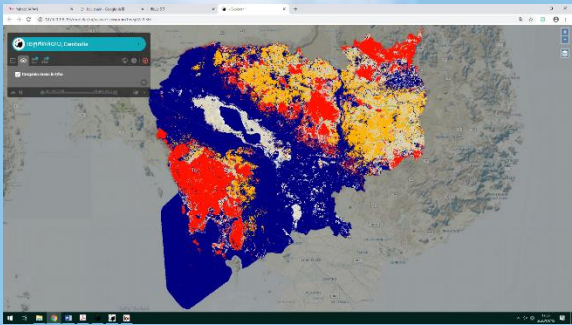
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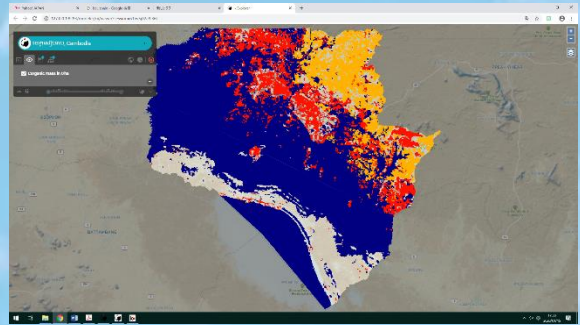
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Cambodia

Siem Reap, Cambodia

Overview

Recently, we always use mapping information through smart phone and/or PC. We can easily check nature location and/ or land cover information by the maps where you are interested in. We also enjoy the nature such as, scenic beauty sightseeing, recreational activity, etc. In this way nature provides a variety of welfare to human society, we call it, **ecosystem services, including, carbon sequestration, biomass supply, air regulation, water regulation, cultural services**. However, it is difficult to understand benefits as spatial distribution provided from the nature. For example, what kinds of benefits are provided from where is a difficult question for the general public. The distribution information is limited to academic papers and scientific books. And it is difficult to use the information to daily life, local governmental work, etc.

In this side event, we introduce **k.LAB system** which can be used **for everybody to easily evaluate ecosystem services in their own region** through web browser. This system has been developing under ARIES project which is leaded by Basque Centre for Climate Change (BC3) in Spain in collaboration with international specialists.

The system can evaluate ecosystem services in any region in the world, for example, Japan, Europe, USA, South East Asia, a part of the city, etc. The characteristic of this system is that a computer can **evaluate ecosystem services autonomously by semantic and ontology to support non-technical users through simple web operation**.