DATA VISUALIZATION AND WEB MAP SERVER (WMS) SYSTEM FOR KAGUYA (SELENE). A. Yamamoto[1], T. Fujita[1], N. Tateno[2], and M. Hareyama[2] [1]Remote Sensing Technology Center Of Japan (RESTEC), 1-9-9, Roppongi, Minato-ku, Tokyo 106-0032, Japan. aya@restec.or.jp, [2]Japan Aerospace Exploration Agency, JAXA Space Exploration Center, 3-1-1 Yoshinodai, Chuo-ku, Sagamihara-city, Kanagawa 252-5210, Japan.

Introduction: "KAGUYA(SELENE)" was launched on September 14, 2007 from Tanegashima Space Center in Japan. After succesfully completion of nominal and extended missions, KAGUYA was impacted to the south-east of near side of the Moon on June 10, 2009 (GMT) under the control of the operation. KAGUYA has 15 instruments to observed the Moon and those obtain various scientific data of the moon. The processed observation data (called Level-2 data) are archived in the Level-2 Data Archive and Distribution system (L2DB) located at JAXA Sagamihara Campus in Japan. Level-2 data were open to the public from Nov. 2009 [1].

In addition to data archive system, SELENE project prepared two web-based data visualization system. One is "KAGUYA image gallery" and the other is "KAGUYA 3D GIS" [2,3]. Many scientific results are explained by visualized image data with plain writing for public through "KAGUYA image gallery" website [4]. "KAGUYA 3D GIS" is a kind of web-based GIS system for the purpose of promotion for both research and EPO (Education and Public Outreach). The visualized observation data is stored in the KAGUYA Web Map Server (WMS) and released using GIS browsers "KAGUYA 3D GIS". This is an effective way to promote the observation data to the public. Also it is useful for the scientific research derived from the integrataed data of various instruments because it allows scientists to map, overlay and share the data of multiple instruments easily.

KAGUYA Image Gallery: As of January 1st 2011, there are 285 posted contents for "KAGUYA Image Gallery" since 2007 December. The breakdown is; 187 Japanese contents, and 98 English contents. This image gallery web site is build up with Contents Management System (CMS), and we can easy to search, classify and sort the all contents. There are following categories for search the contents; observation mission, observation areas, land features, observation target, special contents.

KAGUYA 3D GIS: To construct a web-based GIS, we are developing the KAGUYA Web Map Server (WMS) which adheres to OGC (Open GIS Consortium) standard, and "KAGUYA 3D GIS" which is a client application for WMS (3D image viewer). "KAGUYA 3D GIS" was developed as the 3D viewer for KAGUYA image contents based on the NASA World Wind application. English and Japanese version are able to downloaded from the website [5]. This application is written in JAVA programming language, and is able to be run on multi-platform (Windows, MacOS, Linux).

As of Jan. 2011, the data listed in Table.1 are ingested to WMS and already opened to public. There are 13 types of global maps and 13 local mosaic images. On December 1st, 2010, new basemap and elevation data are registered to this WMS. New basemap image data is created from Terrain Camera (TC) ortho mosaic data (about 230m/pixel around the equator). New elevation data is prepared as DTED format from LALT topographic shape file data. And new 1-degree grid elements maps (K, Th, U) are plan to register to WMS in near future.

Table 1. Registered data in the KAGUYA WMS

	mission
1. Basemap	TC
2. global topographic map (color)	LALT
3. global topographic map (glay scale 1)	LALT
4. global topographic map (glay scale 2)	LALT
5. global gamma ray count rate map (K, U, Th)	GRS
6. global free air gravity anomaly map	RSAT
7. global bouguer gravity anomaly map	RSAT
8. global magnetic anomaly map (4 directions)	LMAG
9. local mosaic map (5 maps)	TC, MI
10. strip mosaic map (8 maps)	HDTV
11. HDTV coverage map	HDTV

References: [1] https://www.soac.selene.isas.jaxa.jp/archive/index.html.en [2] Okumura H. et al. (2008), Proc. AGU 2008 Fall Meeting, IN41A-1135, [3] Okumura H. et al. (2009) LPSC *XL*, Abstract #1518, [4] http://wms.selene.jaxa.jp/selene_viewer/index_e.html, [5] http://wms.selene.jaxa.jp/3dmoon_e/index_e.html