

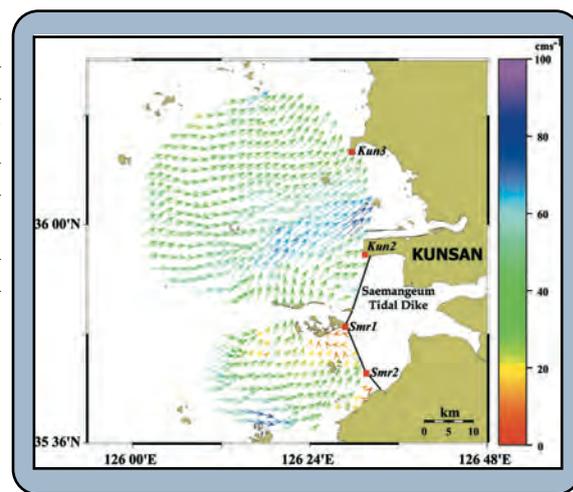
# On The Radar: South Korea

Those who regularly read our newsletter know that we like to devote some space to showcasing the unique activities or research interests of SeaSonde users. This time, it occurred to us to showcase the activities of not just one particular customer, but those of an entire country. South Korea is nearly surrounded by water with the Yellow Sea (West Sea) to the West, the Sea of Japan (East Sea) to the East and the East China Sea and Korea Strait to the South. These bodies of water are shared with North Korea, China, Japan and Russia with the economies of each heavily reliant on them for shipping, aquaculture and tourism, among others. It makes sense, then, that South Korea has emerged as one of the most active countries in the world in building a national surface current monitoring program. By the end of 2011, South Korea will have more SeaSondes than any country outside of the U.S. and will lead the world in HF radars per length of coastline. South Korea's introduction to HF radar current mapping came in 1992 when some of the first SeaSonde production units were used in a short term demonstration near Kunsan for the Korean Ocean Research and Development Institute (KORDI). Several years later, the first units were purchased by Dr. Jae-Chul Lee of Pukyong University in Busan. Since then, SeaSondes have been providing real-time current maps and wave parameters for a variety of customers and purposes all around this country.



## SeaSonde Networks in Korea Today

Dr. Sang Ho Lee of Kunsan National University owns and operates a SeaSonde network that is mapping surface currents outside of the Saemangeum Sea Wall, the longest seawall in the world, located on South Korea's west coast. The sea wall was built between the Yellow Sea and the Saemangeum estuary as one of the largest land reclamation projects in history at 410 km<sup>2</sup>. Dr. Lee's research has shed light on the effect the new seawall has on the circulation outside of the estuary. Since 2007, Dr. Kyung Tae Jung of KORDI and his team have studied the structure of changed flow after Saemangeum Sea Wall construction with Kunsan National University. Moreover, they introduced another SeaSonde network and finished studies to observe the current structure inside the Straits of Jeju.



The Korea Hydrographic and Oceanographic Administration (KHOA) is engaged in more operational pursuits, providing real-time data to a wide variety of end-users. Since KHOA installed SeaSondes near Incheon for the first time in 2002, they have continued to add new SeaSonde sites. Presently, KHOA owns and operates 4 SeaSonde sites in Yeosu Bay and 2 sites in Busan New Port. Yeosu Port is one of the major harbors having heavy traffic and Busan New Port, recently opening big container terminals, is emerging as a main logistics hub port.

This year KHOA plans to install four additional SeaSonde sites for the purpose of monitoring Tsushima current running between Busan and Tsushima Island. In 2012, they plan to establish and manage a portal hub linking to the HF radar sites of several universities and institutes, expecting an efficient and united national radar data product display service.



## National Dialogue

While today's HF radar community in South Korea is spread across university and government entities engaged in both academic and operational pursuits, the diverse community members still effectively manage to exchange information and share experiences. Currently, Ocean Radar Forum, composed of 20 people, holds a workshop for experts every year to discuss each institution's plan and newly developed technology. Oceantech -- the long-standing local sales and service partner of CODAR -- is sharing information through this kind of regular meeting and providing technical support for many research institutes and universities allowing efficient SeaSonde operation. Furthermore, Oceantech plans to assume the O&M responsibility for 10 SeaSonde stations from KHOA later in 2011.

## International Collaboration

The South Korea HF radar community has not only been focused on their own research interests and development but have also been forming collaborative partnerships globally. This has most recently resulted in a Korean delegation participating in the April 2011 Radiowave Operators Working Group (ROWG) workshop and building relationships with other participants from the U.S., Italy and Taiwan. As part of their efforts to build out a national HF radar network, KHOA has also entered into a Joint Project Agreement with NOAA's U.S. IOOS program to exchange information on the use of HF radar data in the context of an ocean observing system.

Now, marking nearly 10 years since the first Korean SeaSonde installation, plans are now actively underway to populate the Korean coast with SeaSondes, with the firm belief that this national network will offer significant benefits to their society for coastal monitoring in Korea.



CODAR engineer, Hardik Parikh talking with members of South Korea delegation at 2011 ROWG workshop