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Indonesian Peat Prize Announces Winner of $1 million: International Peat Mapping Team (IPMT): Remote Sensing Solutions GmbH (RSS), the Agency for the Assessment and Application of Technology (BPPT) and Sriwijaya University

New method to measure peat will help government protect and cultivate carbon-rich areas and limit fires

JAKARTA (February 2, 2018) – Today, on the World's Wetlands Day, Indonesia's Geospatial Information Agency (BIG) announced that the International Peat Mapping Team, which is comprised of scientists from Remote Sensing Solutions GmbH (RSS), the Agency for the Assessment and Application of Technology (BPPT) and Sriwijaya University, is the winner of the USD $1 million Indonesian Peat Prize. The two-year contest to find the best methodology to measure the extent and depth of peat in Indonesia drew 44 teams which included some of the biggest names in peat research and mapping. The Prize's Scientific Advisory Board (SAB), a group of scientists and experts who reviewed the finalists' submissions, reached a unanimous decision that the International Peat Mapping team produced the most accurate, timely and cost-effective methodology for mapping peatlands. The Indonesian government will use this new method to protect and manage peatland areas, accelerate peatland restoration and support Indonesia's development goals.

The International Peat Mapping Team deployed satellite-based technologies and airborne LiDAR, combined with established on-the-ground measurements, making them the lead in mapping peatlands that combine accuracy, speed and affordability. The team deployed a product called WorldDEM that uses satellite imagery to model terrain at a 10-meter resolution, as well as imagery from the Sentinel satellites. The team combined these satellite-based technologies with terrain models derived from airborne LiDAR (a technology that uses laser light to create 3-D terrain maps). The methodology also included well-established on-the-ground measurements in order to create a model that could accurately estimate peat thickness. Finally, the team verified the peat data resulting from the combination of all these technologies with on-the-ground measurements. The team included mapping and peatland experts from Indonesia, Germany and the Netherlands: Prof. Dr. Florian Siegert, Dr. Uwe Ballhorn, Peter Navratil, Prof. Dr. Hans Joosten, Dr. Muh. Bambang Prayitno, Dr. Bambang Setiadi, Felicitas von Poncet, Suroso and Dr. Solichin Manuri.

"BIG is pleased and excited that the Prize has produced the best method for mapping peatland that combines accuracy, affordability and timeliness to support BIG's work in mapping and providing geospatial data and information. BIG will lead the process of using

the winning method to improve the current standard for mapping peatland in a scale of 1:50,000, and will start the process by issuing a BIG regulation on peatland mapping. By standardizing the method, we can protect our peatland in an effective and efficient way," said **Prof. Dr. Hasanuddin Z. Abidin,** Head of BIG.

The Indonesian Peat Prize was created by BIG in response to the lack of accurate and up-to-date information around peatlands in Indonesia. Peat – dense, wet layers of vegetation and soil built up over thousands of years – can be found in many tropical ecosystems but Indonesia is home to the largest peat swamp forests in the world. Peatlands are rich in carbon and biological diversity, but are often drained for agriculture and plantations, or worse burned.

Peat is a major source of emissions when it burns or decomposes. In 2015, peatlands were responsible for 42% of Indonesia's total emissions. In the devastating 2015 fire season, forests and peat fires caused 100,000 premature deaths, cost the Indonesian economy $16 billion, and released 1.62 billion metric tons of greenhouse gas emissions, equivalent to the emissions produced by nearly 350,000 cars.

The depth, or thickness, of peat soils is an essential measurement; the deeper the peat is, the more ecological damage, including carbon emissions, results from disturbance. Uncertainty around data and information concerning peatland, particularly the depth of peat, has delayed protection and restoration measures for Indonesia's peatlands, allowing irresponsible parties to continue business as usual, often resulting in drained peat and fires.

"We are thrilled to hear that our team won the Indonesian Peat Prize. Our team has been doing cutting edge research on tropical peatlands since the early 1990s, and we have a long track record supporting peatland conservation and restoration projects since then. We are ready to support research and scientific cooperation between universities in Indonesia and Germany and the government to apply and further develop our methods to manage, protect and restore peatlands in Indonesia and worldwide," said Dr. Florian Siegert, a representative of the International Peat Mapping team.

DR.Bambang Setiadi, Indonesian member of the International Peat Mapping team said : "Experience was proved the clear relationship between the lowest groundwater level in a tropical peat swamp forest during dry season and the total damaged area of forest by fire in Indonesia. This methodology will support to acquire topographic elevation data for all peatlands, as many peatlands in Indonesia are dome shaped. Peat dome topography data is required for hydrological assessments e.g. restoration planning (rewetting). And restoration is very important issue for this country, that is why we have special Agency for Restoration of Tropical Peatland"

The Indonesian Peat Prize not only represents a breakthrough solution for Indonesia, but is also paving the way for communities around the world to improve peatland governance and conservation. Led by the Indonesian government, the Prize is supported by the David and Lucile Packard Foundation, by the peatland and mapping experts within the SAB who serve

as judges, and by a technical team that consists of the BIG, the Ministry of Agriculture and the Ministry of Environment and Forestry (MoEF). WRI Indonesia is the implementing partner for the Prize.

"The winning method shows breakthrough technology and a transparent way to map peatlands in the most accurate, affordable and timely way. The Prize also represents international collaboration and attention to meet the global challenge to limit global temperature rise to less than 2 degrees Celsius," said **Dr. David Schimel,** the SAB co-chair and Senior Research Scientist at NASA Jet Propulsion Laboratory.

The Peat Prize complements the Indonesian government's initiatives to protect peatland and maintain communities' welfare. President Joko "Jokowi" Widodo has made peatland management a priority in order to achieve the country's climate commitment under the Paris Agreement. The Prize also supports the government's One Map Policy that seeks to consolidate spatial information on a common platform.

Prof. Dr. Supiandi Sabiham, the SAB co-chair and the Head of the Indonesia's Peatlands Association said, "The Scientific Advisory Board appreciates the efforts of all finalists to develop the method to map and protect peatlands, which are important for meeting Indonesia's climate commitments. Managing peatland sustainably and responsibly is thus critical, and that's where the Indonesian Peat Prize can play a huge role."

The methods proposed by the finalists included a combination of established and innovative technologies, including airborne remote sensing techniques such as laser altimetry, electromagnetic imaging and radar interferometry as well as the ground measurement. There were strong commonalities amongst methodologies proposed by the finalists, and the SAB made the winner decision based on detailed differences in implementation and the Prize's criteria of accuracy, cost and speed. For more information, visit http://www.indonesianpeatprize.net/.

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About the Indonesian Peat Prize

The Indonesian Peat Prize is hosted by the Indonesian Geospatial Information Agency (Badan Informasi Geospasial, BIG), supported by the David and Lucile Packard Foundation, WRI Indonesia and Context Partners.

Launched on February 2, 2016 for better peatland management and to fight against global climate change, the Prize received applications from 44 teams from 10 countries. The teams include research institutes, universities, government agencies, private sector companies and consultants, paired with Indonesian partners as required by the prize. In the first phase, the Solution Development Phase, 10 selected teams were tasked to test their methodologies in Bengkalis, Riau, Indonesia. In the final phase, the selected five finalists were again tasked to test their methodology In Kubu Raya, West Kalimantan, Indonesia.

About Information Geospatial Agency (BIG)

The Geospatial Information Agency (BIG) was established as a transformation of the National Survey and Mapping Coordinating Agency (BAKOSURTANAL) based on a Presidential Decree no. 63 years 1969 dated October 17, 1969. BIG is the the mandate of Article 22 of Law No. 4 of 2011 on Geospatial Information (IG). This law was approved by the House of Representatives of the Republic of Indonesia on April 15, 2011 and ratified by the President of the Republic of Indonesia, Susilo Bambang Yudhoyono, on April 21, 2011. BIG's establishment was marked by the signing of Presidential Regulation No. 94 of 2011 on December 27, 2011.

BIG is a non-ministerial government agency in charge of managing geospatial information in Indonesia, as mandated by the Geospatial Information Act Chapter XI Article 69. BIG leads integral efforts such as the One Map Initiative aimed at creating an integrated map containing Indonesia's geospatial information. The two main objectives of BIG are (1) becoming the center of Indonesia's geospatial data which includes integration, synchronization and cooperation activities and (2) leading Indonesia in using geospatial information in new optimal ways for the needs of Indonesia. Visit http://www.bakosurtanal.go.id