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The Emerging Role of Citizen Science and Geospatial Big Data in Supporting the SDGs

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In September 2015, the United Nations ratified the 17 Sustainable Development Goals (SDGs), which are comprised of a further 169 targets and 232 indicators for monitoring progress on poverty, well-being and major environmental and socio-economic problems, both nationally and globally. Much of the data used for SDG monitoring comes from censuses, surveys and other administrative data provided by national statistical offices, government agencies and international organizations. However, traditional data collection can be costly and infrequent, and the information can become outdated very quickly. Moreover, reporting is generally at the national level, so spatial variations of indicators within a country are not often available, yet this information is critical for effective spatial planning. Without knowing where issues are occurring in space, we cannot implement targeted solutions. Hence, there is currently a lack of data needed for effective monitoring and implementation of the SDGs.

Non-traditional data sources such as those arising from citizen science and geospatial big data, e.g., satellite imagery, mobile phone data, social media, etc. are part of the current 'data revolution', all of which have potential use in SDG monitoring and implementation. This lecture will provide an overview of these new and emerging non-traditional data sources in monitoring the SDGs, providing a range of examples from citizen science, Earth Observation (including the work of the Group on Earth Observations) and mobile phone data, among others. Where relevant, we will touch upon disaster risk reduction. Finally, actions will be presented that are currently happening to promote the data revolution for sustainable development and what is still needed to make tangible progress on SDG implementation using these new data sources as well as how the engagement of citizens in data collection can trigger transformative and behavioral change.