

## **New project uses mobile data to understand climate impacts**

Barcelona, 26 February 2014 – *The Mobile Data, Environmental Extremes and Population (MDEEP) project was presented today at the Mobile World Congress in Barcelona, Spain. MDEEP is a first-time application of mobile call data records (CDR) to understand climate impacts by mapping population flows before and after an extreme weather event.*

MDEEP is a partnership between the United Nations University Institute for Environment and Human Security (UNU-EHS), the International Centre for Climate Change and Development (ICCCAD), Flowminder.org, Grameenphone and Telenor Group.

As extreme weather events such as hurricanes and floods increase in frequency and severity it is crucial to better understand the impacts extreme weather will have on the livelihoods, human health and migration patterns of vulnerable communities around the world.

“MDEEP is at the junction of big data, climate impact and human welfare.” says Dr. Linus Bengtsson of Flowminder.org. “Predicting displacement patterns before disaster strikes could have strong implications for capacity building in disaster preparedness and response, as well as needs assessment.”

Currently, there are insufficient timely and reliable methods for assessing population mobility of large groups. Existing measures have limited geographic coverage, or measure static snapshots rather than flows of people.

MDEEP uses aggregated and anonymised location data from mobile operators to develop large-scale population displacement models that provide precise and reliable data for understanding population movement related to natural disasters.

“This project contributes to the development of methods for longer-term applications that can fundamentally change the way we understand the effects of climate change on vulnerable human populations,” explains Dr. David Wrathall of UNU-EHS, adding “By putting together data on such a large scale, the project provides new insight on current modes of adaptation, resilience, and the implications of climate change impacts on long-term economic and social development.”

MDEEP started just after cyclone Mahasen hit Bangladesh in May of 2013 and affected over 1.3 million people. As a disaster-prone country with a population of 40 million living at sea level, regularly battered by tropical rainfall and cyclones, it is essential to have a better understanding of climate impacts on the Bangladeshi population. In collaboration with the government of Bangladesh and with anonymous mobile data for over 5 million users provided by Grameenphone, researchers from UNU-EHS and Flowminder.org are currently analyzing the initial findings.

Initial findings from cyclone Mahasen will be presented in the summer of 2014 and will serve as a template for developing long-term local capacity and processes to better understand and respond to climate impacts.

**Project partners:**

**United Nations University Institute for Environment and Human Security (UNU-EHS):** Undertakes empirical research on social vulnerability and environmentally induced migration, and engages in current academic debates and policy discussions on climate change adaptation, disaster risk reduction and insurance-related approaches to help vulnerable countries and communities.

**Flowminder.org:** Non-profit, applied research consortium that pioneered the use of anonymous cell phone data to remotely analyze and predict population movement after natural disasters in the Haiti 2010 earthquake. [Flowminder.org](http://Flowminder.org) is composed of a world-wide team of leading academics in the field of using mobile data for disaster response, and infectious disease.

**The International Centre for Climate Change and Development (ICCCAD):** based at the Independent University in Dhaka, Bangladesh, ICCCAD aims to develop a world-class institution that is closely related to local experience, knowledge and research in one of the countries that is most affected by climate change.

**Grameenphone:** With more than 46 million customers, Grameenphone is the largest mobile operator in Bangladesh. Grameenphone is part of Telenor Group.

**Telenor Group:** A Norwegian multinational telecom operator. With operations in 13 countries and more than 160 million subscribers, Telenor is one of the world's largest mobile operators.

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