Archeological Discovery Support in Mongolia

University of California San Diego (UCSD, USA) research fellow and GeoEye Foundation grantee Albert Yu-Min Lin, PhD, has been featured on National Geographic Channel's broadcast, "Forbidden Tomb of Genghis Khan". The documentary followed Dr. Lin on his journey and unveiled recent archeological discoveries he made using GeoEye high-resolution satellite imagery and other methodologies.

In the spring of 2008, Dr. Lin initiated a research project using a newly formulated, non-invasive scientific approach to search for the tomb of legendary Mongolian leader Genghis Khan. The GeoEye Foundation awarded Dr. Lin's team a grant of high-resolution satellite imagery they used to define the landscape and create accurate maps for the expedition. Using satellite data and non-invasive, ground-based imaging, the team could identify and study dozens of archeological sites, including ancient burial mounds. With these locations accurately established, Mongolian officials can take protective measures to safeguard these international treasures, preserve the land and protect their cultural history. Dr. Lin's methodology is summarised in a paper published by the peer-reviewed IEEE journal entitled, "Combining GeoEye-1 Satellite Remote Sensing, UAV Aerial Imaging, and Geophysical Surveys in Anomaly Detection Applied to Archaeology." The main findings are expected to be published separately next year.

During the summer of 2010, GeoEye's satellite images were used in a National Geographic crowdsourcing project, "Field Expedition: Mongolia," allowing "citizen archeologists" to view images of the Forbidden Zone of Northeastern Mongolia online and plot locations visible from space where Lin's team should investigate in near real-time. This model for combining crowdsourced image analysis with on-the-ground verification is a model that can revolutionise archaeology and many other fields.

Ultra-high resolution satellite imagery has provided a perspective of our Earth that was unimaginable only a few years ago. This project is only a small example of the power of this data revolution, according to Dr. Lin.

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