

GUIDELINES FOR AUTHORS SUBMITTING ABSTRACTS TO THE 36th INTERNATIONAL SYMPOSIUM OF REMOTE SENSING OF ENVIRONMENT

Michael Schmid^a, Steffen Gebhardt^a, Thilo Wehrmann^b, Andrew John Rhodes^b, Jose Luis Ornelas^c, Arturo Victoria^c, Jesus Argumendo^c Raul Rodriguez^d, Enrique Serrano^d

^a National Commission for the Knowledge and Use of Biodiversity – CONABIO

^b National Commission of Protected Areas – CONANP

^c National Institute for Statistics and Geography – INEGI

^d National Forestry Commission– CONAFOR

THEME: BIOD – Special Session: Trends in operational land cover mapping

KEY WORDS: Forest Monitoring, Deforestation, Operational Processing Systems, REDD+, Degradation

ABSTRACT:

Mexico has sported national cartography featuring extremely high thematic resolution with more than 60 classes of vegetation and land use and 189 combinations with successional stages for the last 25 years. The so-called INEGI (Instituto Nacional de Estadística y Geografía) series I-V have been giving the user an excellent overview of Mexico's main vegetation types at more or less 5 years intervals. While INEGI series are each in itself highly accurate in representing the vegetation and land use of Mexico; as a series they show serious limitations due to frequent switches in production methods, class schemes and data used (from aerial photos over Landsat to SPOT5). Moreover, INEGI series, showing LU/LC at 1:250000 and a MMU of 25ha minimum are not suitable for modern planning, decision making or reporting GHG emission for that matter. The temporal resolution of 5 years on average is also not suitable to enable CONAFOR for instance to review annually the progress of its objective to reduce emissions from LUCC in forests by 50% compared to the 1990 level until 2020.

Considering the additional demand for highly accurate frequent and hi resolution maps due to the foreseen implementation of the REDD+ mechanism in Mexico, demanding operational annual LUCC reporting by 2015, Mexico's national commissions for forestry and biodiversity (CONAFOR and CONABIO) supported by INEGI have started in 2011 developing an automated method to map at high accuracies, high resolution (1:20000, MMU 0,5ha) and frequent intervals (annually) the land cover changes over the whole federal territory using a combination of COTS knitted to a highly efficient processing system called MAD-MEX (REDD+ MRV-AD-Mexico), which allows mapping by employing a suit of different optical sensors, rendering maps at 1:20000 and 1:100000 annually in full compliance with the national mapping standards established by INEGI and with a classification scheme fully compatible to INEGI's hierarchical scheme.

MAD-MEX currently processes Landsat data automatically to 35 classes and RapidEye data to 16 classes. To achieve this high thematic resolution at high spatial and temporal resolution, the Mexican government has engaged in a strategy to create highly accurate and timely training data based on a regular 5km grid over Mexico with more than 78000 nodes.

The current policy of México is to extend the reach and participation of operational land cover mapping over a region covering Mexico to Peru contiguously and thereby establishing a certain standard of operational MRV-AD components over the medium term.