



Modeling of spatio-temporal dynamics of land use land cover - a review and assessment

M. Surabuddin Mondal¹, Nayan Sharma², Martin Kappas¹ and P. K. Garg³

¹Dept. of Cartography, GIS & Remote Sensing, Institute of Geography, Georg-August University of Göttingen, Germany

²Dept. of W R D & M, Indian Institute of Technology, Roorkee - 247667, India

³Dept. of Civil (Geomatics) Engineering, Indian Institute of Technology, Roorkee - 247667, India

Email: msk.iit@gmail.com ; smondal@gwdg.de

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Abstract: An attempt is made in this paper to identify and review remote sensing and GIS based LUCC (land use land cover change) models. Attempts are also made for critical assessment and comparative analysis of the identified reviewed models. Background of remote sensing and GIS based LUCC modeling is described in this study. Literature and web searches as well as consultations with experts were undertaken for listing / identifying the models. About 29 models were short listed on the basis of their importance (i.e. worldwide mostly used). We could not find the presence of one single model which will fulfill all the needs of LULC (land use land cover) change analyst's community. Each and every model has its own merits and demerits, some technical limitations, considered limited human decision making, socio-economic or biophysical factors. We found that one single model cannot be acceptable worldwide for LUCC analysis, due to large regional variation in the dynamics across physical and social settings. We also found that LUCC are poorly understood. Much work remains to be done to understand and model LUCC. LUCC modeling should be continued for specific regions with consideration of different specific regional factors.

Key words: LULC, LUCC, Remote Sensing, GIS, Modeling, Review, Assessment.