SPECULATIVE QUESTIONS ON THE FUTURE OF URBAN REMOTE SENSING AND HUMAN SETTLEMENT MAPPING

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The purpose of this talk is to pose a series of questions to the research community. The questions posed are certainly not exclusive, or even the most important – but all of them have broad applicability and could benefit from an open discussion within the remote sensing community. The questions range from philosophical to operational to organizational. The intention in posing these questions is to stimulate discussion. This, in turn, will hopefully lead to increasing consensus that will benefit individual researchers, organizations, stakeholders and both the research and application communities.

Thematic Classifications versus Continuous Fields – Which is more appropriate for which types of questions and applications? Strengths and weaknesses of thematic classifications are well known within the remote sensing community. Continuous fields have been less widely used but are clearly superior for some applications. Can the strengths of continuous field representations be used to improve thematic representations?

Automated Image Analysis versus Interactive Image Analysis – How best to combine approaches? Fully automated image analysis offers a number of obvious benefits but often at the expense of accuracy and coding effort. Interactive image analysis is labor intensive but benefits from human skills that are currently difficult or impossible to code effectively. Is there an optimal combination that can be codified in the form of repeatable procedure?

Standards and Protocols for Local and Global Analyses – Can protocols be developed by analogy to "Open Source" development? Standard indices (e.g. NDVI) can provide a common basis for comparison of individual analyses but often at the expense of information content. Can robust complementary analytical methodologies be developed that retain sufficient information to address site specific questions while also being sufficiently generic to allow syntheses by different researchers in different settings?

Large Scale Programs and Independent Exploratory Research – How best to combine top-down and bottom-up efforts to achieve maximum progress? Some degree of community consensus on research priorities is essential to marshal resources and put them to productive use, but overly rigid adherence to specific priorities and exclusive allocation of resources can stifle innovation and limit serendipitous discovery. What is the proper balance and how can it be achieved?