



UNISPACE III - ISPRS Workshop on
"Resource Mapping from Space"

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MONITORING FROM SPACE OF GLOBAL VEGETATION AND LAND USE CHANGE - RECENT ADVANCES AND
IMMINENT POSSIBILITIES

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ABSTRACT

Global monitoring of vegetation and other climate related changes have undergone a tremendous development since the previous UNISPACE conference in 1982. Particularly the advent of global data sets of comparatively high spatial and temporal resolution have enabled us to improve our understanding of the global ecosystem.

The paper focus on the possibilities of studying vegetation and land use changes of significance at the global but also continental to regional scale. There are particularly two important aspects of vegetation change that we need to concentrate on:

- vegetation and land use changes with impact on the global carbon budget
- vegetation and land use changes with impact on the global and regional food production capability

The global carbon cycle has been subject to intensive research the last years, partly due the large imbalance in the carbon budget as it is currently understood, the so called "missing carbon sink". Remote sensing from space has the potential of contributing to a solution to the enigmatic missing carbon sink.

Agricultural statistics clearly show that the world food balance is becoming more and more fragile. Since the mid 1980s the per capita food production at the global level decreases steadily. Our ability to monitor vegetation and land use changes in the major production regions of the world is important, and remote sensing is the only technique offering such a capability.

Examples on the use of global remote sensing data sets for studies of the global carbon budget will be demonstrated as well as examples from food production issues. A review of current capabilities with the data sets already available will be presented as well as a projection on what we can expect from the new sensing systems in the near future.