

CROP CONDITION ASSESMENT USING NOAA-AVHRR SATELLITE DATA A CASE STUDY – ARGENTINA

Carlos Di Bella*, Cesar Rebella*

*Instituto de Clima y Agua – INTA – Castelar
Los Reseros y Las Cabanas S/N
1712 – Castelar (Argentina)
e-mail: cdibella@inta.gov.ar

ISPRS Commission VI - Working Group 3

ABSTRACT:

During the growing season of the most important harvest crops, a lot of private and public organism are interested in assessing their condition. In this way, they consult for meteorological data or the opinion of qualified analysts in each one of the different regions. In most of the cases, this information is incomplete; bearing in mind that 35 meteorological stations characterize the agro - meteorological situation of 60.000.000 has.

The “vegetation indexes” (e.g. NDVI), calculated from the information registered by the channel 1 (red) and 2 (near infrared) of the NOAA-AVHRR satellite, demonstrated a narrow correlation with vegetation condition and productivity. In this way, it is possible to monitor all the region with 49 Km² spatial resolution. If this information is related to a multi - temporal database, it would be possible to asses the relative crop condition at a regional scale.

The authors related actual monthly NDVI images of Argentina with the same information from 1981 – 1991. For example, NDVI values of June 1997 were compared with several parameters (media, sd, min, max) obtained with 10 June NDVI values (1981-1991). The results obtained with this data allowed to estimate crop condition at the county level which was very useful to determine government emergency decisions.