MONITORING GRASSLAND FIRES USING – NOAA-AVHRR IMAGES

Carlos Di Bella*, Patricio Oricchio*, Victor Deregibus**, Cesar Rebella*

*Instituto de Clima y Agua - INTA-Castelar (Argentina)
**Catedra de Forrajes – FAUBA (Argentina)

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ABSTRACT:

In Argentina, fire is an often practice tool in many grasslands and natural forests to reduce the negative effects of weeds populations or promote the growth of better quality forage. The moment and the frequency if this practice depend on the expected objectives and the vegetation type considered. In the Mesopotamic Region of Argentina (Entre Rios, Corrientes and Misiones), the fire is applied in winter and autumn to promote spring and autumn growth, respectively. The main objective of this works is to detect fired areas in the most common fire periods to relate them to its relative bio - mass situation.

The fired areas were identified by using all band information of NOAA-AVHRR daily images. Through an specific algorithm, fired pixels were classified for August-September 1996 and March-April 1997 periods. Finally this areas were compared to NDVI images, from July 1996 to June 1997.

The main results indicate that: a) the areas burned in winter presented the minimum NDVI for that period in the whole region; b) the NDVI was the greatest, during spring in the areas fired in winter; and c) the areas burned during autumn had greater NDVI values for that period than the areas fired during winter. The authors stress that satellite information is a good tool for detection and monitoring of grassland fires.