OZONE MEASUREMENTS IN AMAZONIA BY AIRCRAFT AND SATELLITE DCP's

V.W.J.H. Kirchhoff
Instituto Nacional de Pesquisas Espaciais - INPE
Divisão de Geofísica Espacial - DGE
P.O.Box 515
12201-970 - São José dos Campos, SP, Brazil

ISPRS Commission VII

ABSTRACT

Ozone measurements have been made in Amazonia on several occasions and using different observation techniques. This paper describes a set of data taken on several aircraft flights in the Brazilian Cerrado region together with observations made at three Data Collecting Platforms (DCP) which measure ozone concentrations three times daily on average. This data set is therefore a merge of space and time observations of ozone, and the objective is to show the concentration differences over the biomass burning region of central Brazil. Diurnal variations are taken into account for observations made at different times of the day, and ozone sounding are used to account for height gradients. The data is therefore "corrected" for a given height, in this present case for 1500 feet (450 m) which is normally the first flight level of the INPE Bandeirante above ground. Ozone concentrations vary from as little as 20 ppbv (parts per billion per volume) away from source areas, to as much as 140 ppbv in areas influenced by biomass burning sources. The results are shown in a three dimensional longitude-latitude-ozone concentration surface.

MONITORING THE ENVIRONMENTAL DEGRADATION CAUSED BY TIN MINING ACTIVITIES, IN BARKIN LADI AREA OF PLATEAU STATE OF NIGERIA, USING SATELLITE IMAGERIES

Nkem Ononiwu
M. Ogunjobi

National Water Resources Institute
Computer Centre
Mando Road, Pmb 2309
Kaduna, Nigeria

ISPRS Commission VII / Working Group 7

ABSTRACT

Barkin Ladi is one of the Local Government Areas on the terribly dissected Plateau of Nigeria. The sahel savannah region is endowed with tin ore mineral. The tin mining here started in 19th century. Today, due to this surface mining, much of the landscape has been destroyed with large agricultural land lost to the mining activities. In 1986 a Landsat false colour composite with resolution of 78 m at 1:250.000 scale was used to estimate area of land surface destroyed by the tin mining activities. It was found out that in zone A approximately 6303 Ha of the land area has been wasted. This represented 3.6% and i zone B 7115.5 Ha of land is wasted and this represents 20.6%. Average land wasted is 17.1%. In order to monitor the expansion of this land degradation due to the continuous mining activities n this area, a Landsat TM false colour composite was procured in 1990. Changes that have taken place since then are hereby presented and discussed in this paper. In addition, suggestions are also made on how to recover this fast diminishing agricultural land and restore the stability of the ecosystem in this environment.