***Burned Areas in Latin America in 2004 (AQL04) Workshop***

***1-2 December 2005, Mexico City, Mexico***

**Venue:** CONABIO

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## Workshop report

The second workshop of the project “Burned Areas in Latin America in 2004” took place in Mexico City on 1-2 December 2005. The meeting was opened by the executive director of CONABIO. Following the opening remarks and acknowledgments of the sponsoring agencies (CONABIO and NASA) the agenda for the two days was discussed.

After and overview of the current status of RedLaTIF (Latin American Remote Sensing and Forest Fires Network) and the review of the development and current status of the project by RedLaTIF coordinator Dr. Emilio Chuvieco, presentations on the applied methodologies in each working window of the project were given by the persons in charge of each window.

The first presentation was given by Dr. Hector del Valle (Argentina – CENPAT/CONICET), who presented the methodology applied for Window 9. After presenting the details of the algorithms and the stages of the work, an analysis of the official fire statistics of this region of Argentina was given, with the conclusion that there is a significant overestimation. The methodology used also allowed for the detection of fires that were not reported in the official statistics.

The second presentation was given by Walter Sione (Argentina – UNLu). Four proposed methods were presented, among those the one that provided the best results. The importance of image correction for shadows during preprocessing was emphasized, because in areas of pronounced terrain there were commission errors caused by shadows. It was also demonstrated that there is a need for taking into account the fact that many fires are detected in the products up to 4 months after their occurrence, suggesting that fires occurring in previous months should be removed from the monthly products.

The next presentation was given by Nicolas Mari (Argentina – INTA). It was emphasized that the proposed standard algorithm had problems in that it overestimated the burned pixels in semiarid areas, particularly pastures. In areas of intensive agriculture, bare soil (prior to sowing) was confused with burned areas. It was also determined that the change of the NBR (Normalized Burn Ratio) threshold and the value of convergence for SWIR (Shortwave Infrared) in the BAI_MODIS (Burned Area Index from MODIS) had better results for forested areas than for pastures. From the validation results and increase of omission error was observed over pastures, as well as a decrease of commission errors for forests and shrublands.

Larissa Rejalaga (Paraguay – National University of Asuncion) presented the methodologies used for the windows processed at the University of Alcala, covering parts of Bolivia, Brazil, Peru, Paraguay and the northern parts of Argentina and Chile.

Dr. Alberto Setzer (Brazil – INPE) presented the progress made at INPE regarding hotspot detection and the importance of working with pairs of images to be able to determine the dates of fire occurrence.

The next presentation was given by Dr. Emilio Chuvieco (Spain – University of Alcala). After listing some problems found in the MODIS products he presented the methodology and some preliminary results.

Gerardo Lopez (Mexico – CONABIO) and Lilia Manzo (Mexico – UNAM) presented the results for the working window corresponding to Mexico. For this window a method different from the rest of the windows was used. The preliminary results were compared with the official statistics, but the validation with higher resolution imagery had not been done.

The next presentation was given by Ligmar Lopez (Venezuela – ULA). She also used the proposed methodology developed by Gerardo Lopez, although the results for the processed window had to be validated and compared with the methodology proposed for AQL04.

On the second working day Dr. Ivan Csiszar (USA – University of Maryland) presented some algorithms for MODIS burned area mapping and also some regional applications of the product. He also presented progress in the validation in Australia and the validation protocol used by the South African network (SAFNet). Some points of discussion were:

a. What spatial distribution of the high resolution validation data? Here it was suggested that they need to be representative of the regional conditions, determined also by the geographical interest of the network participants.
b. What temporal resolution of the high resolution validation data? In the beginning the emphasis is on the burning season.
c. What high resolution data? It was stated that Landsat ETM+ can be used before 2003, ASTER or TM after 2003 (the ETM+ problem occurred in May 2003) or CBERS among other sensors.

Federico Gonzalez Alonso (Spain – INIA) presented a proposed methodology to evaluate the results of the use of the AQL04 method. Pixel size effects and statistical aspects were discussed to achieve a robust validation methodology of the results.

At the conclusion of the meeting the following outstanding issues of RedLaTIF were identified:

- Outreach activities: publications, courses, attendance at meetings, according to the three main pieces of information (objectives, approach, project outcomes)
- Comparison of data obtained within AQL04 with official statistics and global products.
- Detailed methodology for the development of the AQL04 product and for the end users

The following timeline was agreed upon for the next months:

1. Send adjusted reflectivities: December 31
2. Revise methodology: February 15
3. Preliminary validation: February 15
4. Send new methodology: February 20
5. Apply new methodology: March 30
6. Final validation: April 30
7. Send results and project report: May 15
8. Implement the Map Server: May 30
9. Analysis of the results and technical report: June 30.

The following future activities of RedLaTIF were identified:

1. Continue with the same project for other years
2. Improve the AQL product with higher temporal resolution imagery.
3. Develop severity analysis: test burns, better resolution.
4. Develop risk analysis: humidity estimates.
5. Participate in the SELPER symposium in Cartagena (September 24-29 2006) and maybe organize a workshop within this event.
6. Elect a new coordinator once the AQL04 project is finished.