



United Nations
International Strategy for Disaster Reduction

Wildland Fire Side Event – 5 June 2007

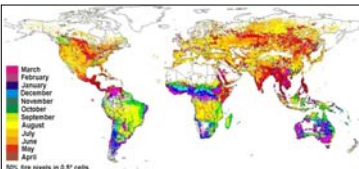
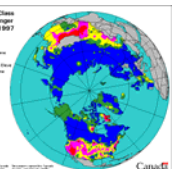
Towards the Development of a Global Wildland Fire Early Warning, Monitoring and Decision Support System

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and

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Wildland Fire: A Global Source of Multiple Hazards

- Significant Ecosystem damage**
 - Degradation in forest/grassland health due to uncontrolled burning
 - Agriculture and land degradation with losses in production
 - Hydrological changes resulting in desertification and flooding
- Significant loss of life, including negative societal impact and economic losses**
 - Losses and vulnerability at urban-rural interface increasing
 - Global health impact due to smoke and emissions
 - Disruption of transport due to changes in visibility
 - Costly fire suppression programs
- Potential impact on climate change**
 - Global carbon cycle impact

Global Partnership

- Global Fire Monitoring Center (GFMC), Max Planck Institute for Chemistry, c/o Freiburg University / United Nations University, Germany on behalf of the **UNISDR Wildland Fire Advisory Group / Global Wildland Fire Network**
- Canadian Forest Service (CFS), Edmonton, Canada
- Bushfire CRC, Australia
- Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD) Secretariat, Edmonton, Canada
- University of Maryland (UMD), USA
- World Meteorological Organization (WMO)
 - World Weather Research Programme (WWRP)
- Bureau of Meteorology Research Centre (BMRC), Melbourne, Australia
- European Centre for Medium Range Weather Forecasting (ECMWF)
 - Instituto Nacional de Meteorología, Spain
 - Finnish Meteorological Institute, Finland
 - MetOffice, UK




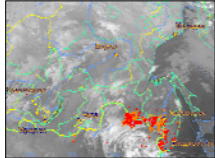
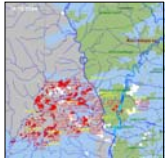


Proposal Objectives


- To develop a global early warning system for wildland fire based on existing and demonstrated science and technologies
- To develop an information network to disseminate early warning of wildland fire danger that reaches global to local communities
- To develop an information network to quickly detect & report fires
- To develop an historical record of global fire danger information for early warning product enhancement, validation and strategic planning purposes
- To design and implement a technology transfer program to provide training for global, regional, national, and local community applications in:
 - rapid fire detection
 - early warning system operation
 - methods for local to global calibration of the System, and
 - using the System for prevention, preparedness, detection, and fire response decision-making

Integration and Coordination of Existing Monitoring Systems

- To enhance rapid fire detection and classification capabilities at national and regional levels
- To create systems for rapid information dissemination

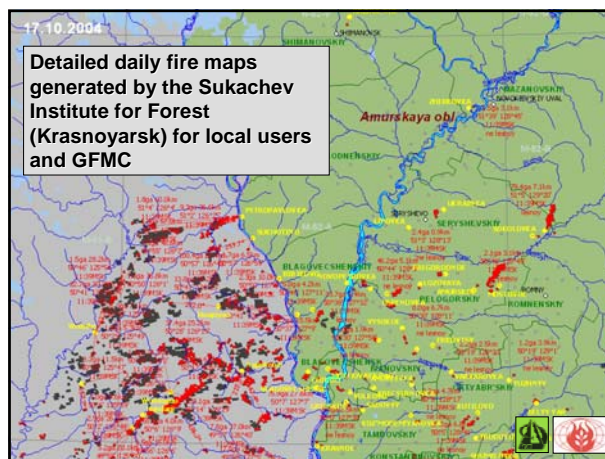
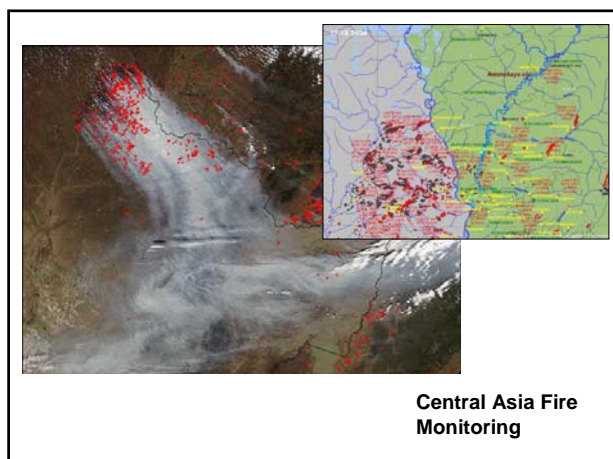
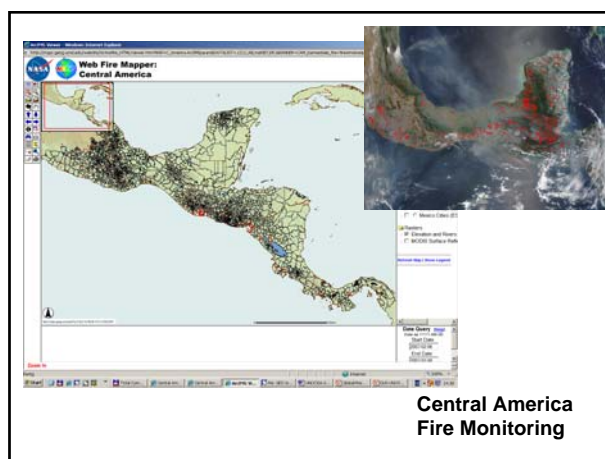
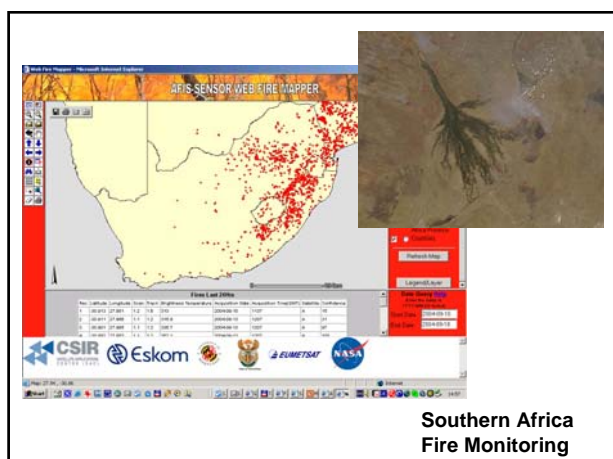




South America Fire Monitoring



| País | Selección | Número | Porcentaje |
|--------------|-----------|------------|------------|
| AC | P | 100 | 100% |
| AL | T | 0 | 0% |
| AM | P | 23 | 23% |
| AP | P | 21 | 21% |
| BA | T | 0 | 0% |
| CE | P | 0 | 0% |
| DF | T | 2 | 2% |
| ES | T | 2 | 2% |
| GO | P | 77 | 77% |
| MA | P | 45 | 45% |
| MG | T | 1 | 1% |
| MJ | P | 35 | 35% |
| MT | T | 35 | 35% |
| MS | T | 1 | 1% |
| PA | P | 12 | 12% |
| PB | P | 10 | 10% |
| PE | T | 1 | 1% |
| PI | P | 36 | 36% |
| PR | T | 0 | 0% |
| RJ | T | 70 | 70% |
| RR | P | 4 | 4% |
| RO | T | 33 | 33% |
| RS | T | 1 | 1% |
| SC | T | 1 | 1% |
| SE | T | 0 | 0% |
| SP | T | 99 | 99% |
| TO | P | 3 | 3% |
| Total | | 430 | |

Imagem: T = Total, P = Parcial, N = Nenhum



Activities: Early Warning System Development

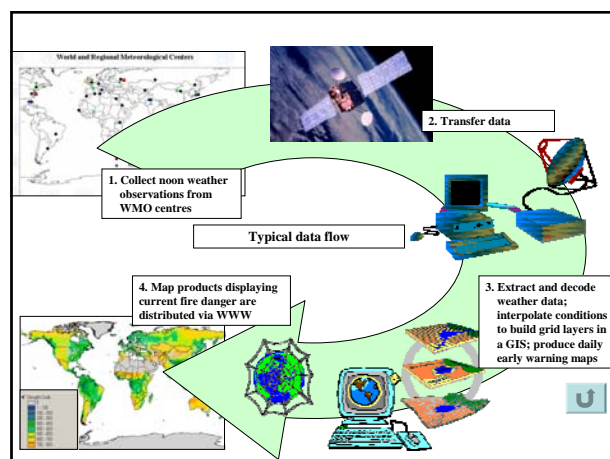
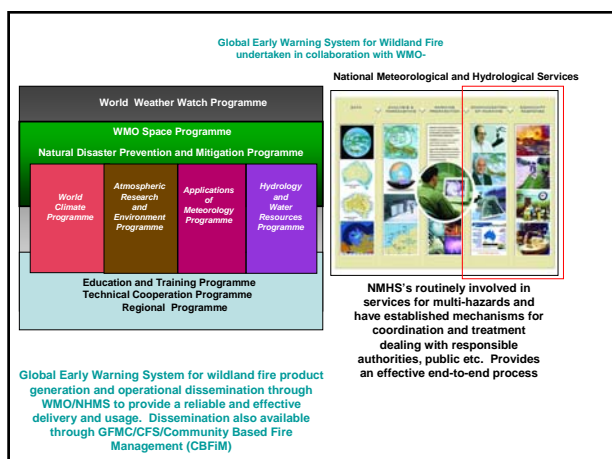
- Review and summarize literature and data on global fire activity to assess risk to global communities and areas of priority.
- Adapt current fire danger (CFS Fire Weather Index, FWI) monitoring system for global application.
- Develop protocols for utilizing current weather forecasting models for fire danger modelling
- Adapt FWI System to operate in a forecasting mode providing probability of event characteristics.
- Integrate global active fire databases with FWI data, presenting a current global fire status product (shows where current fire problems are, and provides basis to assess severity of forecasted fire danger conditions)
- Utilize historical active fire and FWI data to calibrate FWI System components for early warning purposes.
- Studies to assess form and utility of products with end users and their social and economic impact

Responsible partners: CFS, UMD, GFMC, BMRC, BCRC, ECMWF

Activities: Operational Implementation

- Develop procedures within the robust framework of the World Weather Watch (global network of operational meteorological services) to run the early warning system on a daily operational basis
- Analysis and production of current fire danger assessment
- Analysis and production of forecasted fire danger
- Dissemination of early warning information through multiple channels
- Establish procedures with operating services to maintain and update the System as new tools and products are developed

Responsible partners: BMRC, WMO, WWRP, ECMWF, BCRC, GFMC, UMD



Activities: Technology transfer:

- Through the WMO framework and the United Nations University, provide training and workshops in:
 - Early Warning System operations
 - Basic understanding of fire danger and early warning
 - Calculating FWI components
 - Provision of FWI algorithms
 - Developing and implementing decision-aids based on early warning to mitigate the impacts of fire through prevention, preparedness, detection, and fire response
 - Involvement of local communities in the application of early warning information in wildland fire management (Community-Based Fire Management – CBFIM), especially in wildfire prevention, and preparedness for coping with wildland fire disasters (including smoke pollution and public health)
- Promote the early warning system project through presentations to land and forest fire managers at conferences, professional meetings, etc.
- Publish documents on the early warning system

Responsible partners: GFMC, GOFC-GOLD, BCRC, CFS

Development of a Global Early Warning System for Wildland Fire

Training in early warning system operation and practical application to fire management.



Development of a Global Early Warning System for Wildland Fire

Technology transfer aimed at the local level is critical to community-based implementation of an early warning system.




Expected Impacts

- Early warning of wildland fire danger will, on a global basis, provide local communities with an opportunity to mitigate fire damage by assessing threat likelihood and possibility of extreme behaviour enabling implementation of appropriate fire prevention, detection, preparedness, and fire response plans before wildfire problems begin.
- A globally robust operational early warning framework with an applied system that will provide the foundation with which to build resource-sharing agreements between nations during times of extreme fire danger.
- Development of local expertise and capacity building in wildland fire management for system sustainability through technology transfer and training.

Opportunities of partners to join the Global Early Warning System for Wildland Fire

Coordinate with existing and upcoming systems of wildland fire early warning and monitoring
<http://www.fire.uni-freiburg.de/fwfwfw.htm>



The collage features a large satellite image of a wildfire as its background. Overlaid on this are several smaller, distinct images: a map of Indonesia with color-coded fire risk zones; a world map with a color scale for fire risk; a map of a forest fire; a close-up of a fire; and a map of a fire area.

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GOF-C-GOLD CO-ORAL CORRECTION OF ROSEMARY
ORAL + GUT TONES OF HYPERBOLICITY

GROUP ON
EARTH
OBSERVATIONS