Natural disasters and their mitigation - a remote sensing and GIS perspective.

Indian Institute of Remote Sensing, National Remote Sensing Agency, Dept. of Space, Govt. of India - Geoscience, Remote Sensing and GIS: Geographic Information Systems (GIS) for Disaster Management

Application Of GIS And Remote Sensing Technologies In Disasters Management In Algeria

Youcef Smara, Aichouche Belhadj-Aissa & Mostefa Belhadj-Aissa

Key words: Disasters management, oil spill pollution, forests fires, seisms, differential interferometry, SAR imagery.

SUMMARY

Algeria is affected by fourteen major risks (earthquakes, landslides, floods, forest fires, oil spill, etc) and the means for the management of these disasters are limited and often inadequate. In recent years, Remote Sensing and Geographical Information System (GIS) technologies have been the object of considerable interest to all bodies concerned with space and in particular emergency services and disaster management in Algeria, in collaboration with all other bodies responsible for prevention and management of all major risks in Algeria.

The use of remote sensing and GIS has become an integrated, well developed and successful tool in disaster management. For our part, we are interested in this communication to present our research work concerning the management of risks and we hope to contribute directly or indirectly to putting these new technologies in place in Algeria. This has been done in collaboration with bodies such as the forestry services for the management of the forest fires, the centre for astronomical, astrophysical and geophysical research for the monitoring of earthquakes and so on.

For the first risk of oil pollution, we present, in this communication, a methodology developed for the oil spill identification. The potential for the detection and characterisation of oil spills using ERS-SAR imagery has been studied in this communication. The methodology is easy to apply and is able to determine the identification probability in an automated way. We expect this to be a useful tool for the monitoring services.

For the second risk, a large earthquake ($M_s > 6.8$) occurred in May 2003 in the Algiers-Boumerdes area (Algeria). Synthetic Aperture Radar Interferometry (InSAR) has been shown to be a valuable tool for monitoring relative surface displacement due to various crustal movements and for creating accurate DEM's using pairs of SAR images. This research is under study in our laboratory and first results as interferograms are obtained and the work is go on.

For the third risk of forests fires, every year, about 30 000 hectares of forests are destroyed by fires in Algeria. Our major preoccupation is to reduce forests fires in the country, thanks to inventory, prevention and management and follow-up. The goal of our work is to set up of a GIS integrating remote sensing data for the prevention and management of the fires.
In this communication, we present through these three examples, our contribution of the Algerian experience in the use of Space technologies for disaster management.

1

Description: Contributed papers presented at a workshop organized by Indian Institute of Remote Sensing at Dehra Dun, India, Oct. 1999.
-
Governors -- Puerto Rico -- Biography.
Muñoz Marín, Luis, 1898-
Labor unions -- Law and legislation -- Turkey.
Constitutional law -- Denmark.
Administrative procedure -- Denmark.
Geographic information systems -- Congresses.
Remote sensing -- Congresses.
Emergency management -- Planning -- Congresses.
Natural disasters -- Congresses.Natural disasters and their mitigation - a remote sensing and GIS perspective.
-Natural disasters and their mitigation - a remote sensing and GIS perspective.
Notes: Includes bibliographical references.
This edition was published in 2000

Tags: #How #GIS #Can #Help #with #Emergency #Management

Flood Hazards Mitigation Analysis Using Remote Sensing and GIS: Correspondence with Town Planning Scheme

Further, the visualization of this data helps in analyzing a situation and taking quick decisions. Furthermore, although the adoption of GIS into disaster management practice continues, there is still much more that can be done with integrating GIS and disaster management. It opens up avenues towards understanding the strain distribution pattern in highly seismic prone area zone-V like North East India.

Flood Hazards Mitigation Analysis Using Remote Sensing and GIS: Correspondence with Town Planning Scheme

Hence, it is relevant to carry out a detail study to address the issues related to concentration of heavy metals and its subsequent impact in coal mining area. Initial storm latitude position ISL is the indicator of the magnitude of Coriolis force. High relative humidity in the lower and middle troposphere is also required for cyclone development.

Natural disasters and their mitigation : a remote sensing perspective — University of Twente Research Information

Some of the factors that influence the TC are Figure 3 : Figure 3: Intensity of a Cyclone.

Remote Sensing and GIS

The heat and moisture from the warm water is ultimately the source of energy for cyclones.

Flood Hazards Mitigation Analysis Using Remote Sensing and GIS: Correspondence with Town Planning Scheme

Large values of relative humidity in the middle and lower troposphere. Since the area is falling under high potential of landslide prone region, susceptibility map was generated and used during the process of vertical alignment in addition to the pre-defined criteria 20: 1 provided by the

user.

Role of Remote Sensing and GIS in Cyclone

Appl Geomatics 4 1 :21—32. The study was carried out for Border Roads Organization BRO , 761 BRTF GREF , Arunachal Pradesh, under the Project Brahmank, to find out a best suitable route to connect two villages — Dumro and Samebasti of Upper Siang and Lower Dibang Valley of Arunachal Pradesh with the aid of Space base inputs on 1:50k scale in association with photogrammetric division of NE-SAC.

Geoscience, Remote Sensing and GIS: Geographic Information Systems (GIS) for Disaster Management

Large values of low level relative vorticity.

Related Books

- 28 Şubat postmodern darbenin öyküsü
- De nostri temporis studiorum ratione.
- Vibration monitoring and diagnosis - techniques for cost-effective plant maintenance
- Produttività nellindustria automobilistica italiana
- Blondeur, thème proustien