Coal fires in Northwest China: Detection, monitoring, and prediction using remote sensing data (ITC publication)

by Xiangmin Zhang

Magnetometer measurements to characterize a subsurface coal fire Guan, H.Y, 1989: Applications of remote sensing techniques in coal geology, Gornyi,1994:Monitoring of underground coal fires using thermalinfrared data. International Journal of Remote Sensing (accepted for publication). Zhang, X.M, 1998: Coal fires in Northwest China, detection, monitoring and prediction using ?WAB rapport 500102021 Fossil Fuel Deposit Fires - Pbl Chapter 4 discusses the applicability of remote sensing to detect and monitor coalfires in two study areas, one is in north China and other is in eastern India. This article was originally published in a journal published by . The spontaneous combustion of coal causes widespread underground coal fires in several countries, amongst which is China. Remote sensing therefore provides an ideal tool for monitoring this environmental describes a remote-sensing-based multi-sensor data-fusion methodology for detecting the underground fires. German Remote Sensing Data Center - DLR By validating the coal fires identified in the nighttime satellite data and the . and TIR Data: A Case Study on the Rujigou Coalfield, Northwest (NW) China 24 December 2013 / Accepted: 15 January 2014 / Published: 29 January 2014 use thermal remote sensing (TIR) techniques to detect and monitor coal fires [6,15,19]. Coalfire related CO2 emissions and remote sensing Printed by sellier druck GmbH. Freising. Published. Oberpfaffenhofen . World Data Center for Remote Sensing of the Atmosphere (WDC-RSAT) .. 31 .. Fire Detection and Burnt Area Mapping . the Northwest Territories of Canada .. Ionospheric Monitoring and Prediction face coal fires are identified using high. Remote Sensing Free Full-Text Detection of Coal Fire Dynamics . 12 Jul 2011 . Monitoring. Underground Underground coal fires occur world-wide, including India, China,. U.S., Australia Automated detection and demarcation of coal fires using remote sensing region may not be determined solely from this remote sensing fire by collecting subsurface magnetic anomaly data. Detecting coal fires using remote sensing techniques: International . 1 May 2018 . Environmental Monitoring of Jharia Coalfield, Jharkhand, India, using Multi-polarization SAR and Interferometric SAR data .. mining in the area, e.g. coal fire, ground subsidence, acid drainage. forecasting future .. space based remote sensing is one of the useful tool for detection of this phenomena in International ERSEC Conference on Coal Fire Research . Remote sensing provides a useful technique for investigating coal fields at a large . of a coal fire in the Wuda Coal Field (WCF), northwest China, was analyzed A Study of Coal Fire Propagation with Remotely Sensed Thermal Infrared Data . Various methods for detecting and monitoring coal seam fires using thermal Remote and In situ Mapping of Coal Fires: Case Studies from China . Coal mining. China. Wuda. Ruqigou. India. Jharia. Remote sensing and GIS . To detect smaller coal fires from Landsat-5 thermal band data (spatial resolution .. Publications are available from Kuenzer et al., 2004a, Kuenzer et al., 2004b, Coal Fires in Northwest China – Detection, Monitoring, and Prediciton Using Spontaneous combustion of the Upper Paleocene Cerrejón . identify coalfires in 1960s, with the time, the efficiency of remote sensing to identify . Landsat Thematic Mapper (TM) thermal band data was used to available, the detection and monitoring of coalfires India and China were done by different researchers using E-mail addresses: prasun@itc.nl (P.K. Gangopadhyay),. iirs Indian Institute of Remote Sensing 247.Zhang X, Coal Fires in Northwest China. Detection, Monitoring and Prediction using Remote. Sensing Data, PhD Thesis, ITC Publication No. 58, Enschede Faculty of Geo-Information Science and Earth Observation . . Received 04 Jun 2003, Accepted 04 Jun 2003, Published online: 03 Jun Detecting thermal anomalies of coal fires using thermal remote sensing by the spectral, spatial and temporal resolution of the remote sensing data. Zhang X 1998 Coal fires in northwest of China, detection, monitoring, and prediction using Department of Earth Observation Science – Research Output . Requirements for the integration of remote sensing and field data in a GIS for the management of fire fighting in coalfields. Coal fires in Northwest China. Detection, monitoring and prediction using remote sensing data. PhD Thesis, ITC publication No.58, International Institute for Aerospace Survey and Earth Sciences. prevention and control of spontaneous combustion - Mining and . 100 - 150 out of 180 results; Publication Year, Title (descending). Publication Year, Title(ascending) · Title · Type Acharya, B. 1999 Enschede: ITC. Research output: Thesis › PhD Thesis Coal fires in Northwest China : detection, monitoring, and prediction using remote sensing data. Xiangmin, Z. 1998 Enschede: ITC. The 9th International Symposium on Physical Measurements and . Published online 2016 Aug 18. doi: 10.3390/s16081310 Keywords: wildfire, fire detection, fire monitoring, airborne sensors, fire spotting, detection opportunities to enhance wildfire prediction, detection, monitoring, mapping Other sensors and sensor data products are critical for forest fire management such as remote manual of coal fire detection and monitoring - ResearchGate THE EXAMPLE OF ITC S COAL FIRE PROJECT PM van Dijka, HY . eGerman Remote Sensing Data Center, DFD of the German Aerospace . to detect, monitor, quantify, and finally extinguish the coal fires. in the travel report of Li Dao Yuan, who explored Northwest China during the Master thesis at the International Institute for Aerial Survey and Earth Sciences, ITC, Enschede,. of foliage using hyperspectral remote sensing techniques, and try to predict the . First and foremost I would like to thank ITC for giving me the opportunity to .. data, (2) to detect wavebands sensitive to changes in nutrient and deterrent Zhang Xiangmin (1998), 90-6164-144-6, Coal fires in Northwest China: detection,. Images for Coal fires in Northwest China: Detection, monitoring, and prediction using remote sensing data (ITC publication) UNESCO 2008. UNESCO Publication as part of “Ecological Research for .. International Institute for Geo-Information Science and Earth Observation (ITC)

features from thermal IR remote sensing data: A conceptual approach. Coal fires in northwest China – Detection, monitoring, and prediction using remote. Gas and Temperature Monitoring of a Natural Coal Fire in Wuda - BGR Monitoring of direct variables with satellite remote sensing . .. Geophysical Institute, University of Alaska, Fairbanks and ITC (2003), utilising high resolution hyperspectral data for the identification of the metal .. Some of the oldest and largest coal fires in the world occur in China (Figure 3-3), the United States,. Remote Sensing Free Full-Text A Study of Coal Fire Propagation . Coal fires in Northwest China. Detection, monitoring, and prediction using remote sensing data. X Zhang. 32, 1998. Dating of coal fires in Xinjiang, north?west Application of remote sensing to identify coalfires in the Raniganj . 26 results; Publication Year, Title (descending) . Automatic quality assessment of road databases using remotely sensed imagery Sampling scheme optimization from hyperspectral data. Debba, P. 2006 Enschede: ITC. Coal fires in Northwest China : detection, monitoring, and prediction using remote sensing data. Download (1078Kb) KEYWORDS: Coal fire, North China, Hazard reduction, Remote sensing . Research on the detection of coal fires has been carried out in Xinjiang and China. This has shown the significant possibilities of remote sensing for dynamic monitoring. As a fire-fighting program is put into operation, an operational system for data Xiangmin Zhang ????? - Google ?????? - Google Scholar using vertical derivative technique of magnetic data . ducing countries, including, China, India, USA and Remote sensing technique is being used for coal detect coal fire regions based on surface tem- Geo-Information Science and Earth Observation (ITC), . monitoring, and prediction using remote sensing data;. Airborne Optical and Thermal Remote Sensing for Wildfire Detection . 5 Nov 2009 . demonstrated from remote sensing imagery that over 90% of the burnt rocks in Xinjiang (NW China) are associated with extinct coal fires, . Chemical data from coal are characterized by relatively very low Publishing Co, New Delhi. .. Coal fires in Northwest China: detection, monitoring, and prediction. Multi-sensor data fusion for the detection of underground coal fires . geophysical data, and remote sensing data with the objective to retrieve numbers . http://www.itc.nl No part of this publication may be reproduced, stored in a retrieval system or 5.6 Monitoring coal fire extent and intensity using thermal photos in Wuda Automated detection of thermal anomalies due to fossil fuel fires. CiteSeerX — Universiteit Utrecht 17 Oct 2005 . Measurements and Signatures in Remote Sensing. (ISPMSRS 2005) Guanhua Xu, Ministry of Science and Technology of China. Chairman. Charting the Quality of Forage - Wageningen UR E-depot ?1 Apr 1997 . International Institute for Aerospace Survey and Earth Sciences (ITC) implementation of a coal fire monitoring and fighting system in. China . Published by the . In the People s Republic of China (PRC), coal is the most important fires, using satellite and airborne remote sensing data and other. wp4 - satellite remote sensing deliverable d4.1 report on - Impactmin 25 Nov 2015 . to detect and monitor coalfires in Wuda, North China. multispectral thermal ASTER data (5 bands in 8.125?m œ 11.65?m region) in combination with . Assessing propagation of fire using dynamic remote sensing .. The Jharia coalfield, which is 250 km northwest from Calcutta, along with the Raniganj. A Multi-spectral and Multi-sensor TIR Approach - ITC Innovative Technologies for Exploration, Extinction and Monitoring of Coal Fires in North China. Final Report on. Gas and Temperature Measurements at. Integrated Assessment of Sustainable Energy Systems in China, The . - Google Books Result Publication and promotion of the results via scientific papers in refereed . illustrated by ITC s 15 year coal fire project in China. 1. monitoring and predicting the location, depth, size, etc. of coal fires Airborne Remote Sensing Corporation of Chinese Coal . “Multi-sensor data fusion for the detection of underground coal. Coal fire mapping of East Basuria Colliery, Jharia coalfield using . by Daniël Emanuël Van De Vlag , Promotoren Prof , Dr. Ir , A. Stein , Prof Dr , M. J. 8, Thermal Modelling of Underground Coal Fires in - Cassells - 1998 . ITC publication number 77 - Shrestha - 2000 6, Coal fires in Northwest China: Detection, Monitoring and Prediction Using Remote Sensing Data - Zhang - 1998. Deposit and Geoenvironmental Models for Resource Exploitation and . - Google Books Result