

The global contribution of remote sensing to civil security and humanitarian aid

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Regional conflicts can lead to extremism and state failure, creating opportunities for organised crime. Regional insecurity can fuel the development of terrorism, which augments the demand of weapons of mass destruction and which is exported at worldwide level. Extract from “A secure Europe in a better world”, proposed by Javier Solana and adopted by European Heads of State and Governments. This leads to the requirement for a global answer to enable protection of critical infrastructure, transport facilities and energy distribution; and of (green and blue) border surveillance, to counter proliferation of weapons of mass destruction and to support humanitarian aid operations. Remote sensing ensures a significant contribution to these needs through: environmental mapping, situation mapping, mission-planning contribution (eg. resources & logistics), emergency mapping and reconstruction mapping. The purpose of this paper is to show, through concrete case studies, how satellite imagery and geographic information are effective for security purposes:- Thanks to the revisit capability of satellite remote sensing, there is an ability to obtain periodic information regarding the environment surrounding critical infrastructure. The areas near airports, nuclear power plants, population centres or chemical plants are continuously evolving, creating a need to maintain up-to-date vulnerability and threat analyses and intervention plans. Remote sensing data is able to assist emergency teams with scene vision and incident simulation for training and/or threat assessment.- The protection of energy distribution networks needs a global vision to be maintained at the regional level. The contribution of remote sensing here is to enable risk assessment (vulnerability analyses determining impacts on the local population); situation assessment in case of a catastrophic event; preparedness of emergency management; energy network reconfiguration; and reconstruction mapping.- Humanitarian operations already benefit from significant application of remote sensing, which provides an often unique contribution: to assist the decision of the positioning of refugee camps and to monitor their size and state; to identify the best roads to dispatch aid relief (eg. bridge destroyed, flooded area), to track the movement of displaced people; and some crucial characteristics of environment. A concrete case study, using the Sudan/Darfur example, will be presented.