



Deriving building stock characteristics using remote sensing for post-disaster damage assessment

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There are various reasons for carrying out damage assessments after natural disasters. One of these is if the insurance industry is interested in having the ability to estimate the physical and economical loss to properties. During the past decade many studies have proposed the use of remote sensing techniques to quantify the damage to properties. Their approaches vary, from the data sources that are used to the methods applied in order to assess the damage. In this paper the strengths and limitations of a semi-automated damage assessment method for earthquakes that utilises the texture characteristics of the rubble from collapsed buildings seen in high-resolution optical satellite images will be described.

To be able to derive the economical loss due to the physical loss to properties, it is important to have information on the type of buildings that are present in the target area. One of the research topics pursued within the Willis Research Network is to look into the possibilities of deriving useful information on buildings using various data sources that will allow the physical loss to be converted into economical loss. One such means of deriving building characteristics is the use of remotely sensed data. A brief overview of the ongoing research will be presented, including a review of various remote sensing techniques to derive building information. These techniques be divided into 2 classes: 3D building reconstruction techniques and area-based building stock classification. Some preliminary work on the standardisation of building classes will also be presented.