

Learning about Disasters that Impact Our Daily Lives: Are we Getting Smarter?

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With the advent of remote sensing technologies, tremendous progress has been made in applying space-based and airborne data and products in solving real societal problems. Several of these problems, such as coastal zone erosion, air quality, severe weather, water availability and quality, public health, fires, land slides and others are intricately related; and in the long run can have serious consequences if not properly addressed by scientists, regulatory bodies and policy makers. Although it is a much involved and tangled web to unravel, nevertheless we have an excellent start in understanding some of the phenomena and hopefully can mitigate some of the severe effects by advancing our scientific knowledge. NASA's Earth Science satellite data and products derived from them using a multitude of sophisticated models have played a key role in assessing a variety of distressed situations, such as hurricanes, volcanic eruptions, flooding, dust storms, fires and smoke; thereby helping to minimize property and human losses. Despite the fact that majority of the problems we come across are regional in nature, they have inter-regional to inter-continental effects due to the atmospheric circulation or the transport of goods and people. This is becoming an acute issue especially in this era of global economy which is further connected to frequent import/export dependencies of many nations to meet their consumer needs. Therefore, it is to our benefit to apply what we learn via science to further understand this Planet's behavior and future. This paper briefly discusses the applications of remote sensing data from Terra, Aqua, and other NASA satellites to several phenomena linked to natural and anthropogenic disasters, but it primarily focuses on two important subjects: fires and public health.