Characteristics of the extreme rainfall event and consequent flash floods in North-East part of Sicily, Italy in October 2009

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Introduction

The catastrophic events that occurred in 1st October 2009 in the area of Messina, Sicily highlight the destructive potential of debris flows. **42 people dead** and severe property damages (around 500 Million Euro) took place when debris flows triggered by heavy rainfall inundated various towns and villages located along the coast.
Summary

• Event description
• Event analysis (storm severity)
• Soil moisture conditions
• Hydrological analysis (flood hydrograph)
• Debris flow volume evaluation
• Ground effects
The event

A deep cyclone developed in the Southern part of the Mediterranean basin producing an intense rainstorm over North-Eastern part of Sicily, Italy.

The storm was concentrated on the Ionic sea coast.
Ground effects
Ground effects

before

after