



FLASH FLOODS  
AND PLUVIAL  
FLOODING



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REGIONE AUTONOMA  
DELLA SARDEGNA



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE

Working Group F Thematic Workshop

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

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26<sup>th</sup>-28<sup>th</sup> May 2010, Cagliari, Italy



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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.



GIAMPILIERI CATCHMENT





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## Summary

- **Event description**
- **Event analysis (storm severity)**
- **Soil moisture conditions**
- **Hydrological analysis (flood hydrograph)**
- **Debris flow volume evaluation**
- **Ground effects**

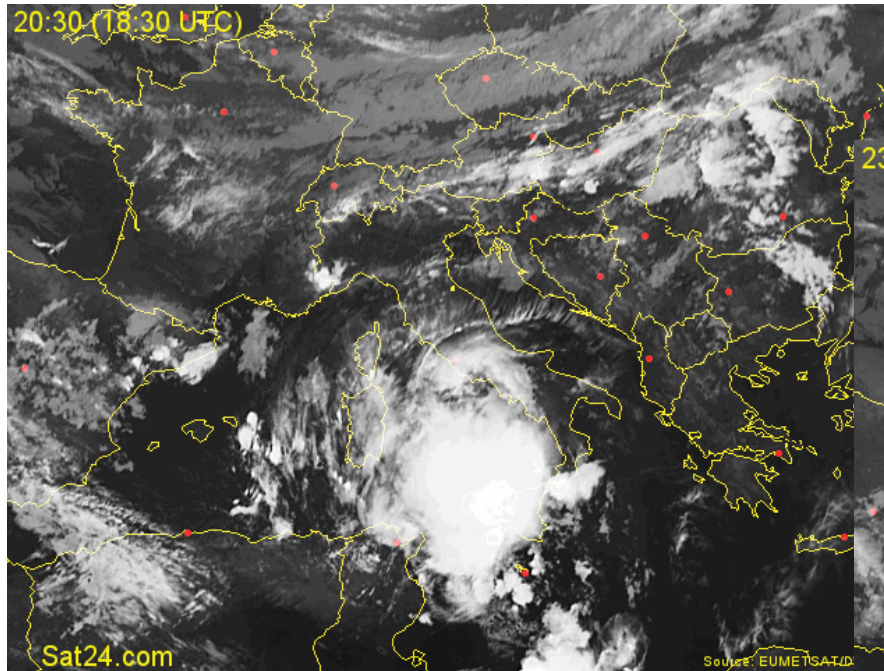


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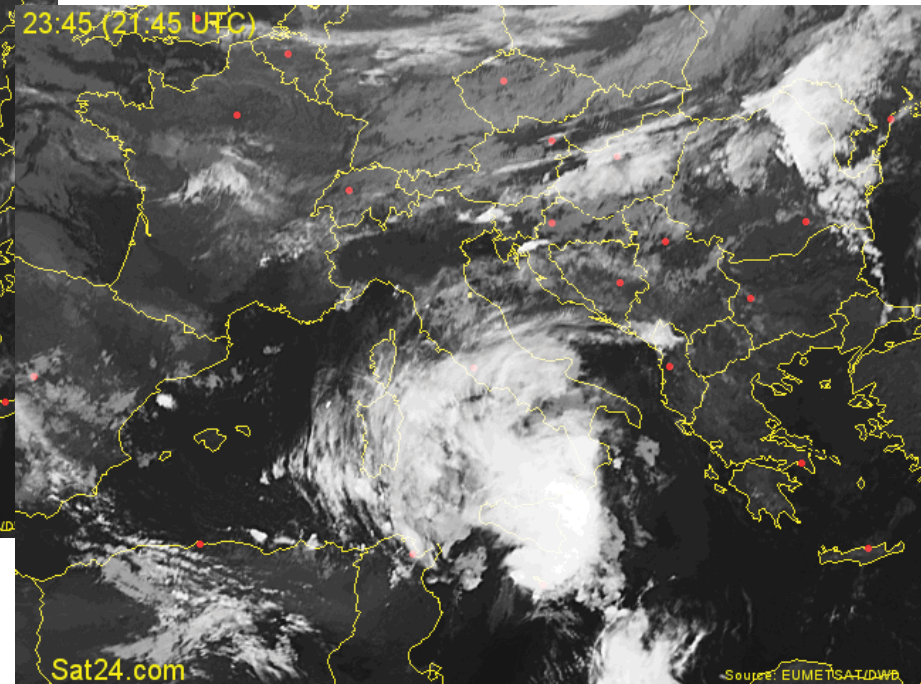


# The event

**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**





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# Ground effects



**before**



**after**





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# Ground effects

