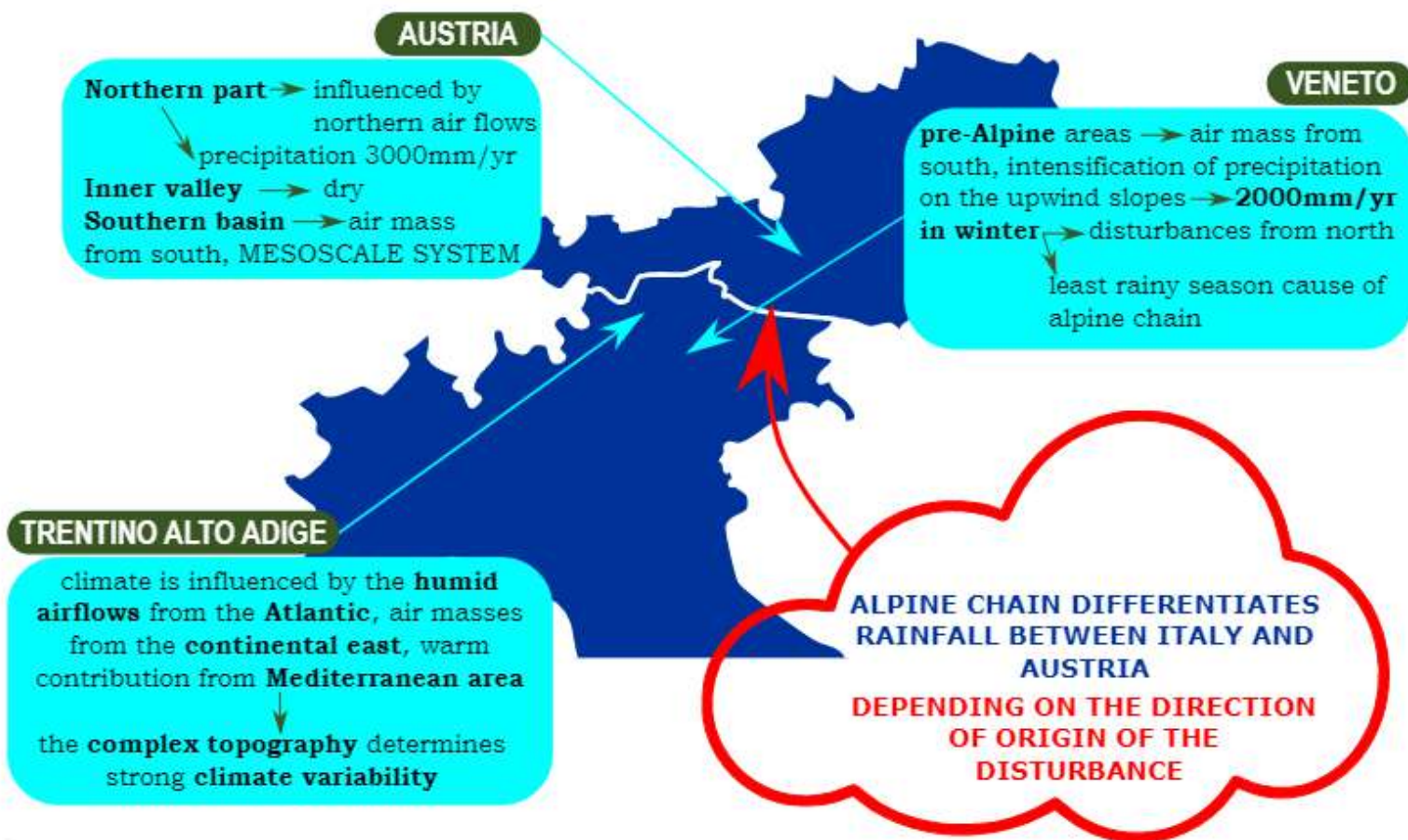# TRANS-ALP
Transboundary Storm Risk and Impact Assessment in Alpine Regions

CLIMATOLOGICAL CHARACTERISTICS AND EVENT TYPES

AUSTRIA

Northern part → influenced by northern air flows
precipitation 3000mm/yr
Inner valley → dry
Southern basin → air mass from south, MESOSCALE SYSTEM

VENETO

pre-Alpine areas → air mass from south, intensification of precipitation on the upwind slopes → **2000mm/yr**
in winter → disturbances from north
least rainy season cause of alpine chain

TRENTINO ALTO ADIGE

climate is influenced by the **humid airflows** from the **Atlantic**, air masses from the **continental east**, warm contribution from **Mediterranean area**

the **complex topography** determines strong **climate variability**

ALPINE CHAIN DIFFERENTIATES RAINFALL BETWEEN ITALY AND AUSTRIA
DEPENDING ON THE DIRECTION OF ORIGIN OF THE DISTURBANCE

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4 GOALS

2 WORKSHOP

3 TEST AREAS

2 YEARS

5 PARTNERS

3 COUNTRIES

Co-funded by
the European Union

THE TRANS–ALP NUMBERS

The Trans –Alp project developed over 2 years, in which 3 countries and 5 partners worked on data from 3 test areas, setting themselves 4 main objectives

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AGORDINO

Country: Italia
Region: Veneto
Residents: 18.593
Surface: 538 Km2
Altitude: 450-3000 m

EST TIROLO

Country: Austria
Region: Stato del Tirolo
Surface: 2020 Km2
Altitude: 1235 m.s.l.m
Residents: 50.000

ALTO ADIGE

Country: Italia
Region: Trentino Alto Adige
Residents: 53.000
Surface: 7400 Km2
Altitude: 200-3900 m.s.l.m

TEST AREAS

Three test sites in areas between Italy and Austria were considered for the exemplification and testing of an innovative risk mapping and communication of emerging weather threats in the Alps
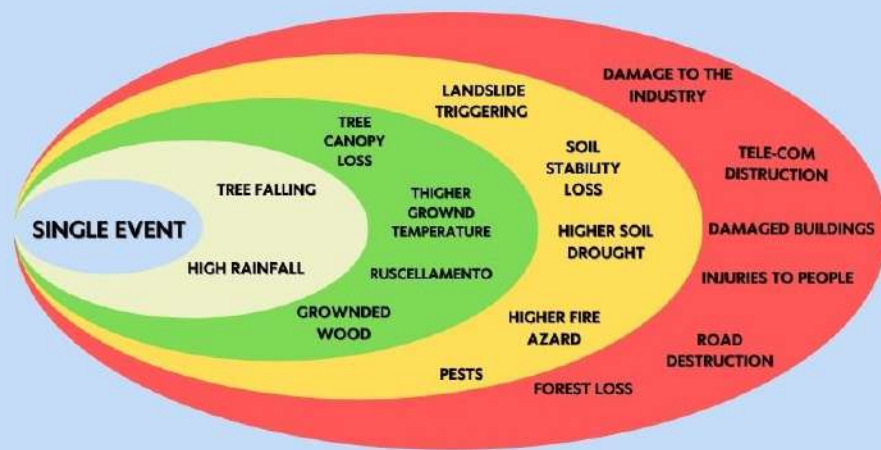
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CASCADE EFFECTS of Extreme Events

A SINGLE EVENT can give rise to a complex series of DIRECT and INDIRECT EFFECTS, in themselves already present in nature, which can be accentuated to the point of generating DANGER and RISK situations for buildings, people, and infrastructure.

Diagram labels

SINGLE EVENT

- TREE FALLING
- HIGH RAINFALL
- TREE CANOPY LOSS
- THIGHER GROWND TEMPERATURE
- RUSCELLAMENTO
- GROWNDED WOOD
- LANDSLIDE TRIGGERING
- SOIL STABILITY LOSS
- HIGHER SOIL DROUGHT
- HIGHER FIRE AZARD
- PESTS
- FOREST LOSS
- DAMAGE TO THE INDUSTRY
- TELE-COM DISTRUCTION
- DAMAGED BUILDINGS
- INJURIES TO PEOPLE
- ROAD DESTRUCTION

Legend

| Trigger Event | Direct natural effects | Indirect natural effects | Derived danger factors | Derived risks |

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IMPACT FORECAST

RISK ASSESMENT

DAMAGE MANAGEMENT

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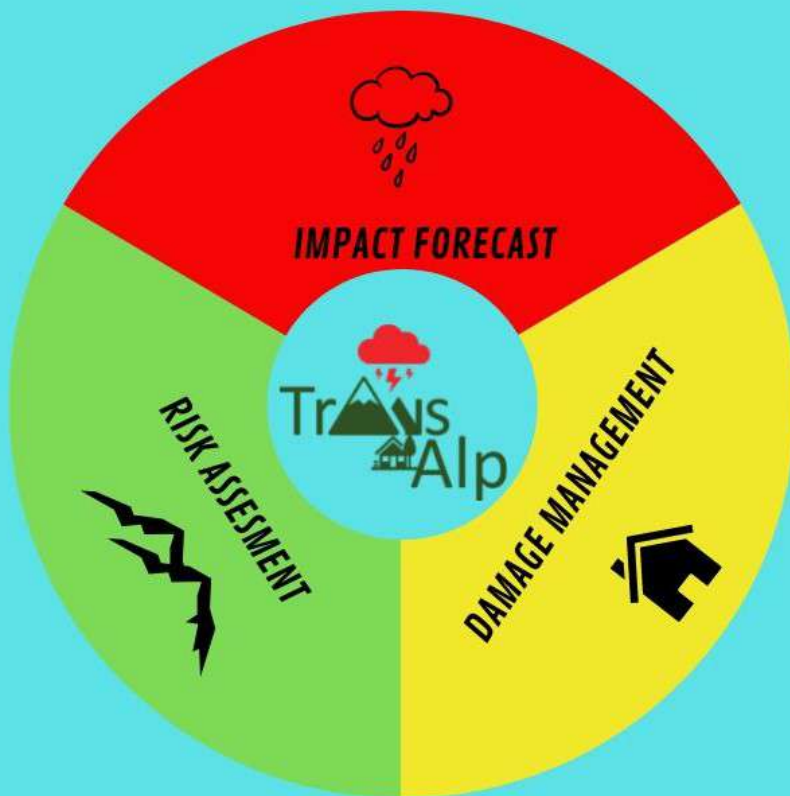
The overall goal of the TRANS-ALP project is to develop an impact prediction methodology for mountainous regions to be able to make risk and damage management more efficient in populated areas

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