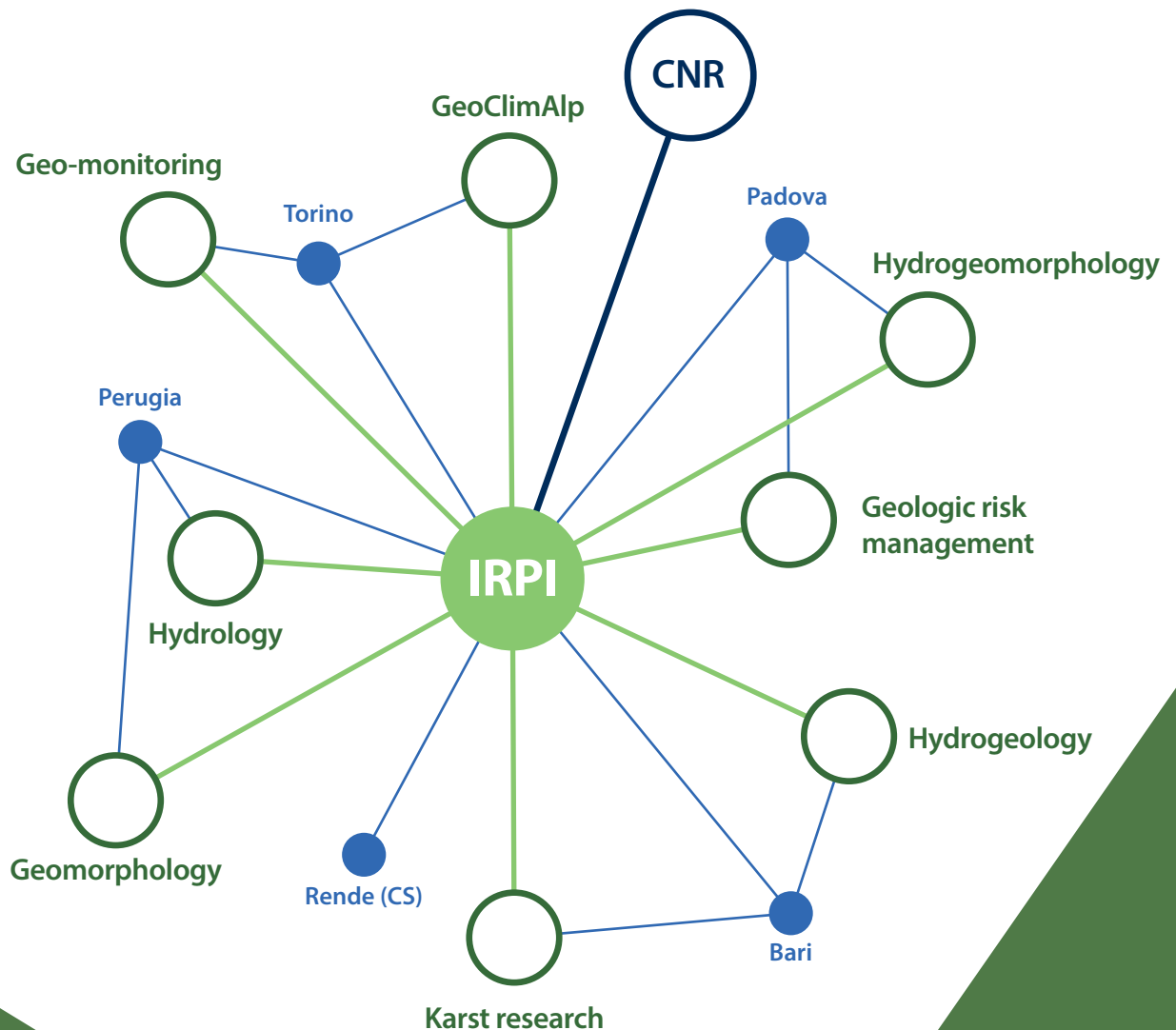




Consiglio Nazionale delle Ricerche

Research Institute for Geo-Hydrological Protection

in the Department of Earth System Sciences and Environmental Technology
an Institute of the Italian National Research Council (CNR)



www.irpi.cnr.it



aims

Advance knowledge, and develop technologies, products and services for the prevention, mitigation and management of natural hazards.

- ▶ **Produce new knowledge** on potentially hazardous natural phenomena and processes, to better understand their interactions with the natural and human environment.
- ▶ **Develop technologies and innovative products & services** for the definition, prediction and mitigation of natural hazards, effective land planning, and sustainable environmental management.
- ▶ **Provide scientific and technological consultancy** in the realm of natural hazards.
- ▶ **Deliver innovative products & services** in the geo-sciences, on natural hazards, and for land and environmental protection.
- ▶ **Disseminate information and knowledge on natural hazards**, fostering the awareness of individuals and communities on natural hazards, environmental protection and sustainable environmental management.

www.irpi.cnr.it/scopes/

scientific & technological consultancy

Scientific and technological consultancy on natural hazards and risk (geological, geomorphological, hydrological, hydraulic risks).

- ▶ Rock and soil characterization and monitoring.
- ▶ Sustainability and environmental protection, and watershed management.
- ▶ Civil protection and adaptation to climate change.

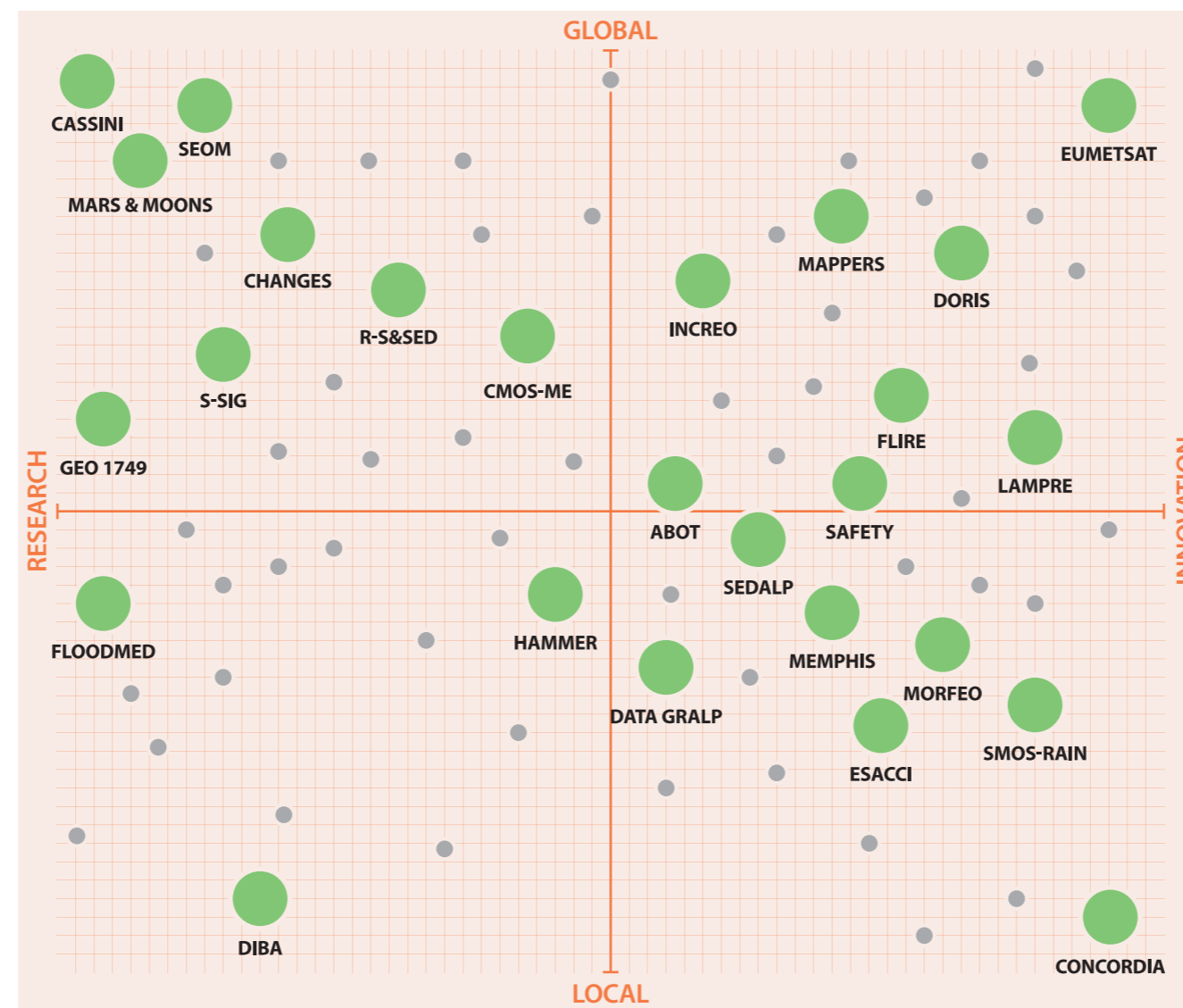
www.irpi.cnr.it/consultancy/

mission

Our mission is to design and execute **scientific research** and **technological development** in the field of **natural hazards**, with emphasis on **geo-hydrological hazards**, **land and environmental protection**, and the **sustainable use of geo-resources**. We operate on all time and geographical scales, and in different climatic, physiographic and geological regions.

projects

Over 75 research & innovation projects all over the world, in collaboration with research institutions and universities, and with large and small domestic and international enterprises.



data, models, maps, software

Products & services in the fields of natural hazards, land management and planning, and the use of geo-resources, to:

- ▶ **monitor** meteorological and climatic conditions, and surface and sub-surface waters;
- ▶ **recognize and map** landslides and inundated areas;
- ▶ **forecast** landslides in operating mode;
- ▶ **evaluate** flood and landslide hazard, vulnerability and risks;
- ▶ **assess** the availability and quality of water and renewable geo-resources;
- ▶ **define and mitigate** geo-hydrological hazards;
- ▶ **offer training** on natural hazards and risk (geological geomorphological, hydrological, hydraulic hazards and risk).

www.irpi.cnr.it/services/

research groups

Research scientists are organized into thematic, multidisciplinary groups, including

- ▶ Geo-monitoring
- ▶ Geomorphology
- ▶ GeoClimAlp
- ▶ Hydrology
- ▶ Hydrogeology
- ▶ Hydrogeomorphology
- ▶ Geologic risk management
- ▶ Karst research

www.irpi.cnr.it/en/groups/

Italian National Research Council - **Research Institute for Geo-Hydrological Protection**

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Rende (CS) - Via Cavour 4-6, 87036
Padova - Corso Stati Uniti 4, 35127
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branches

A network of labs and scientific and technological expertise distributed throughout the country. The headquarters are in **Perugia**, and other branches are in **Bari**, **Rende (CS)**, **Padova** and **Torino**. The geographical distribution facilitates the study of geo-hydrological phenomena where these take place, or where they are more frequent or abundant, and the collaboration with public bodies and others interested in the research activities and in the products & services offered by the Institute.



www.irpi.cnr.it/offices/



figures

5

offices
in Italy

20+

innovative
products & services

75+

projects
worldwide

140+

research scientists,
technicians, associates
and other personnel

1.000+

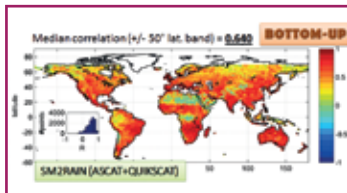
papers published
in scientific journals



products & services

to help predicting natural events, for risk assessment and management, and for the effective exploitation of geo-resources, including:

SM2RAIN



SM2RAIN is an innovative system for estimating rainfall "from the bottom up". Considering soil as a natural rain gauge, and measuring changes in the water in the soil, it estimates rainfall with a "bottom up" approach.

www.irpi.cnr.it/en/sm2rain/

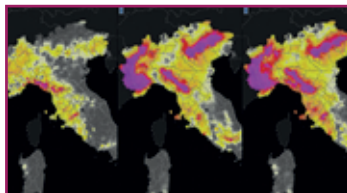
© 3DA



© 3DA, Three-dimensional Displacement Analysis is an innovative software for the production of three-dimensional deformation maps from topographic point measurements obtained by standard total stations.

www.irpi.cnr.it/en/3da/

SANF



SANF is the the Italian national landslide alert system to forecast the possible occurrence of rainfall-induced landslides. It provides forecasts at different local, regional and national levels.

www.irpi.cnr.it/en/sanf/