UNIVERSITY OF TRIESTE

Mathematics and Geosciences Department

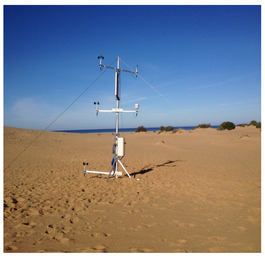
Weather monitoring and data validation

Weather station Basovizza (Area Science Park)

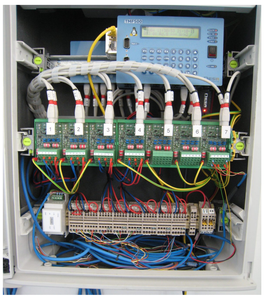
Weather station Basovizza (Area Science Park): Wind sensors (Nesa), global and diffuse irradiance sensors (Kipp&Zonen, Delta-T)

Weather station Trieste (Nautical Institute)

Sonic and cup anemometer (Thies sonic,Thies first class, Nesa first class) Test and comparision study (S.Cirilli, F.Stravisi, Wind energy review, n3/2012)

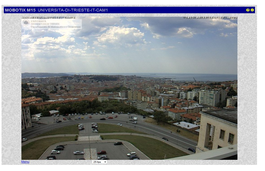


Mobile station (Sardinia): Eolic transport research

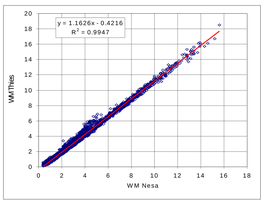


High performance TMF500 NESA 24 bit datalogger

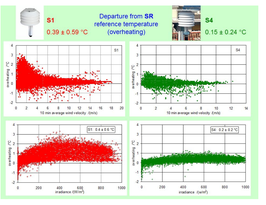
Research on comparison tests of different passive solar screens: Nesa, Siap+Micros, custom shied



Mobotix webcam network: Environmental monitoring

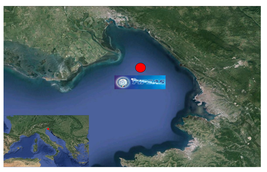


Thies and Nesa first class performance anemometers comparision and intercalibration (S.Cirilli, F.Stravisi, Wind Energy Review, n.3/2012)

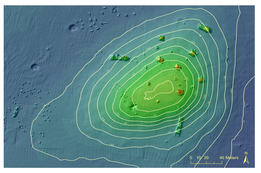


Comparison tests of different passive standard and custom solar screens: Nesa, Siap+Micros, (S.Cirilli, F.Stravisi) Meteorological Technology International Review, 04/2015

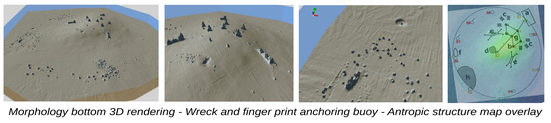
Oceanographic surveys and GIS mapping



«Dosso di Santa Croce»: Location of study area



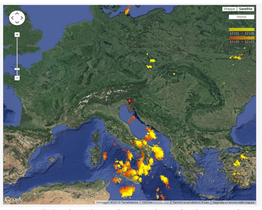
Contour generation from multi beam survey



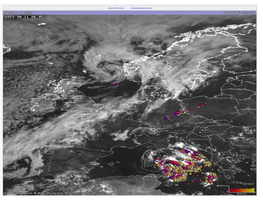
Morphology bottom 3D rendering - Wreck and finger print anchoring buoy - Antropic structure map overlay

Research on the *«Protected marine area for fish repopulation»* (Gulf of Trieste)
Collaboration with **FIPSAS** (Italian Federation for Sport Fishing and Underwater Activities) and **OGS** (National Institute of Oceanography and Experimental Geophysics)
S.Cirilli (Units), E.Gordini (OGS), L.Petronio (OGS)

Lightning detection



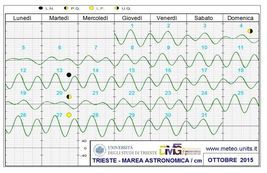
TOA lightning detection station of Trieste Units (Blitzortung Network): Live lightning maps (685 available Stations on line)



Lightning detection station Trieste Units: Lightning overlay with Satellite Eumetsat image

ROV underwater exploration (Open Rov Project)

Sea level station and predictions of astronomical tide



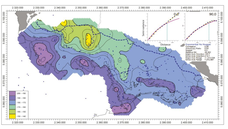
Astronomical tide predictions for October 2015 S.Cirilli, ETP review, Region F.V.G 12/2014

Tide gaugeTrieste Units

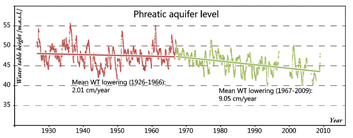
WWW.METEO.UNITS.IT Scientific and technical partner of NESA

climatic enviromental research groups

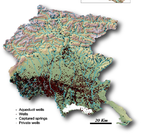
Groundwater resources and withdrawals assessment, water table monitoring



Aquifers geometry - Map of the top of artesian aquifers (F.V.G. region, NE Italy)



Long term monitoring analyses Water table evolution (Data from Regione F.V.G.)



Structuration and maintenance of a database of regional withdrawals

Geomorphology, Hydrogeology and applied Geology group

contact: zini@units.it - http://www.geoscienze.units.it/gruppi-di-ricerca/geomorfologia-e-geologia-applicate-ggaci.html

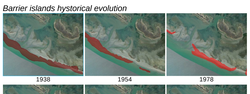
Survey of barrier islands of Grado and Marano lagoon with UAV (Unmanned Aerial Vehicle)

Coastal Group

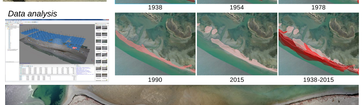
contact: COASTAL GROUP - fontolan@units.it
http://www.geoscienze.units.it/gruppi-di-ricerca/coastal-group.html

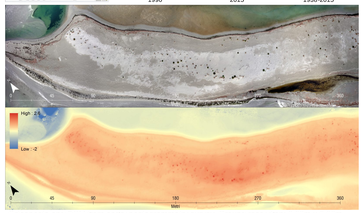
Aerial survey operations and ground control point georeferencing

Barrier islands hystorical evolution



Data analysis



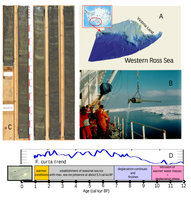


Orthophoto and DSM from aerial photogrammetry survey. Ground resolution: 0.02m x 0.02m

Paleoclimatology in Polar Areas

Late Quaternary Paleoclimatic and Paleoenvironmental Evolution of Selected Antarctic and Arctic Areas

ANTARCTICA



A. Location of the study area and sediment cores (yellow bars) collected during several expeditions
B. gravity corer system in Antarctica
C. sediment core splitted: an example
D. a paleoclimatic reconstruction example by Diatom proxy
REF. colizzae@units.it

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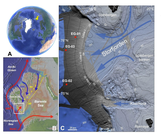
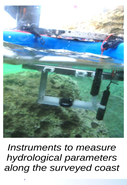


A. Location of the study area
B. Oceanographic circulation in the NW Barents Sea (Arctic);
NwAC= Norwegian Atlantic Current;
WSC= West Spitsbergen Current;
ESC= Eastern Spitsbergen Current;
PF= Polar Front; AF= Arctic Front;
The white box indicates location of the study area.
C) Bathymetric map of the studied area (after Pedrosa et al., 2011)
Red dots indicate the EGLACOM (EG-) core location
REF: melis@units.it

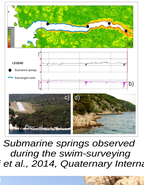
Sediment cores are stored at the Repository Centre of the the «Antarctic National Museum - Trieste Section» *REF. protopsa@units.it*

Progetto GEOSWIM

The «Geoswim project» aims at studying the rocky coasts of the Mediterranean Sea by swim-surveying



Instruments to measure hydrological parameters along the surveyed coast



Submarine springs observed during the swim-surveying (Furlani et al., 2014, Quaternary International)

Surveying rocky coasts with the purposely built raft CICLOPE II

contact: sfurlani@units.it - www.facebook.com/geoswim

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www.meteo.units.it - www.dmg.units.it - meteo@units.it - PHONE: +39 040 5582106