Italian urban transformation over the last 50 years has been localized mainly in the coastal areas, where the anthropic transformation took place with a low planning control and with a high average speed of urbanization. Nevertheless into the coastal areas important environmental and ecological values remain intact, Italian peninsular coastal systems include over 500,000 ha of protected areas concerning all coastal regions. Moreover the urban development registered, during the period investigated, has caused important consequences on ecosystems. These geographical areas are highly attractive for tourism and for permanent residence, thanks to the good conditions of mobility and transports but, in many cases, the presence of natural values is neglected. The goal of this work is to confront the phenomena of urbanization and protection through the implementation of five indicators, which were calculated on a municipal basis for a coastal belt of 1 km. In view of this, it has been possible to obtain a classification of models for the settlement and residual values.

Introduction
The research described in this poster involved the entire coastline of the Italian peninsula, excluding the two large islands of Sicily and Sarдинia. The purpose was to highlight the elements involved in the phenomenon of urban conversion of land, the presence of natural lands, and institutional policies for environmental protection. Currently, less than 10% of the peninsular area is relatively intact and free of construction. It is estimated that the transformation of the coastline through building and urbanization has occurred at a rate of 10 km per year since the end of World War II (Romano and Zullo, 2014; Zullo et al, 2015; Tagliaferri et al, 2014). Multiple studies attest to the importance of coastal environments, even if besieged by intensely constructed areas, infrastructure, and continuous threats of further degradation (Acosta et al, 2003; Carbone et al, 2009; Sargolini, 2010; Buffa et al, 2012; Ercol e et al, 2014; ISPRRA, 2015). The research carried out has highlighted the urban/environmental contradictions using five municipality-based statistical indicators.

Study Area
The study area was identified as a 1 km strip of coastal perimeter, divided by municipality, obtaining 430 statistical sections. However, the research data was processed for only 285 out of the 430 total sections, as the Basilicata and Calabria regions are not yet equipped with post-2000 digital land use cartography. Therefore, the sectors analyzed involved only 11 regions, with the following coastal lengths:

- Adriatic, all (1470 km);
- Tyrrhenian, with Ligure/Tuscania/Sicilia Campania (1460 km out of 1760 km);
- Ionic, none, as the coast is located completely within Basilicata and Calabria.

The total area analyzed is the 74% of the entire coastline (2,930 km) and, for this reason, the results can be considered statistically significant.

Data and Methodology
The study was conducted using digital land use maps from the Italian regions, available with varying updates from 2000 to 2008. The CORINE Land Cover datasets were not used, as they are known to have little dimensional reliability for Italy with respect to the measurements of urbanized areas. Five indicators were identified (Fig. 4) to measure territorial density:

- \( I_{D} \) urban density
- \( I_{DPA} \) density of protected areas
- \( I_{DF} \) density of forestation
- \( I_{DLO} \) density of other lands of ecological value

where the denominator of the expression is always the surface of the relevant municipal section (Sm). The indications in Fig. 5 and Fig. 6 show, along the two Adriatic and Tyrrhenian coastlines, the correlations and the pattern of average values for the indicators used, expressed using trend lines (polynomial order 6). The municipal statistics sections are in both cases geographically ordered from north to south.

Conclusions
The results obtained clearly show the effect that fifty years of relatively uncontrolled development have had on the landscape mosaic and coastal ecosystem, as well as the current condition of “besiegement” of natural spaces and semi-natural remnants, and areas protected for various reasons. It is true that at least 350 km of the coastline analyzed are still relatively unaltered and can constitute the base of a possible restoration under a territorial environmental retrofit policy (Onori, 2009) and adequate coastal management (Suárez de Vivero and Rodríguez Mateos, 2005; Forino et al, 2015). The considerations that emerged from analysis allow us to propose a typological classification of coastal sectors and indicators described in Fig. 8. The margins of action for territorial policies are rather restricted in A, but very broad in B and in C. The most effective actions can therefore be taken in these last zones and, in particular, the rather determined choices of protection should dominate over all the others. However, it would also be appropriate to systematically carry out environmental restoration projects using, for example, decommissioned areas. This type of action, oriented toward restoration under difficult daily conditions, appears to be the only way to improve technological/environmental conditions and hydrogeological risk to the coasts, which are now saturated with construction.

THE ITALIAN COAST BETWEEN PROTECTED AREAS AND LINEAR METROPOLIS: LINE OF ACTION FOR A DIFFICULT RECOVERY.