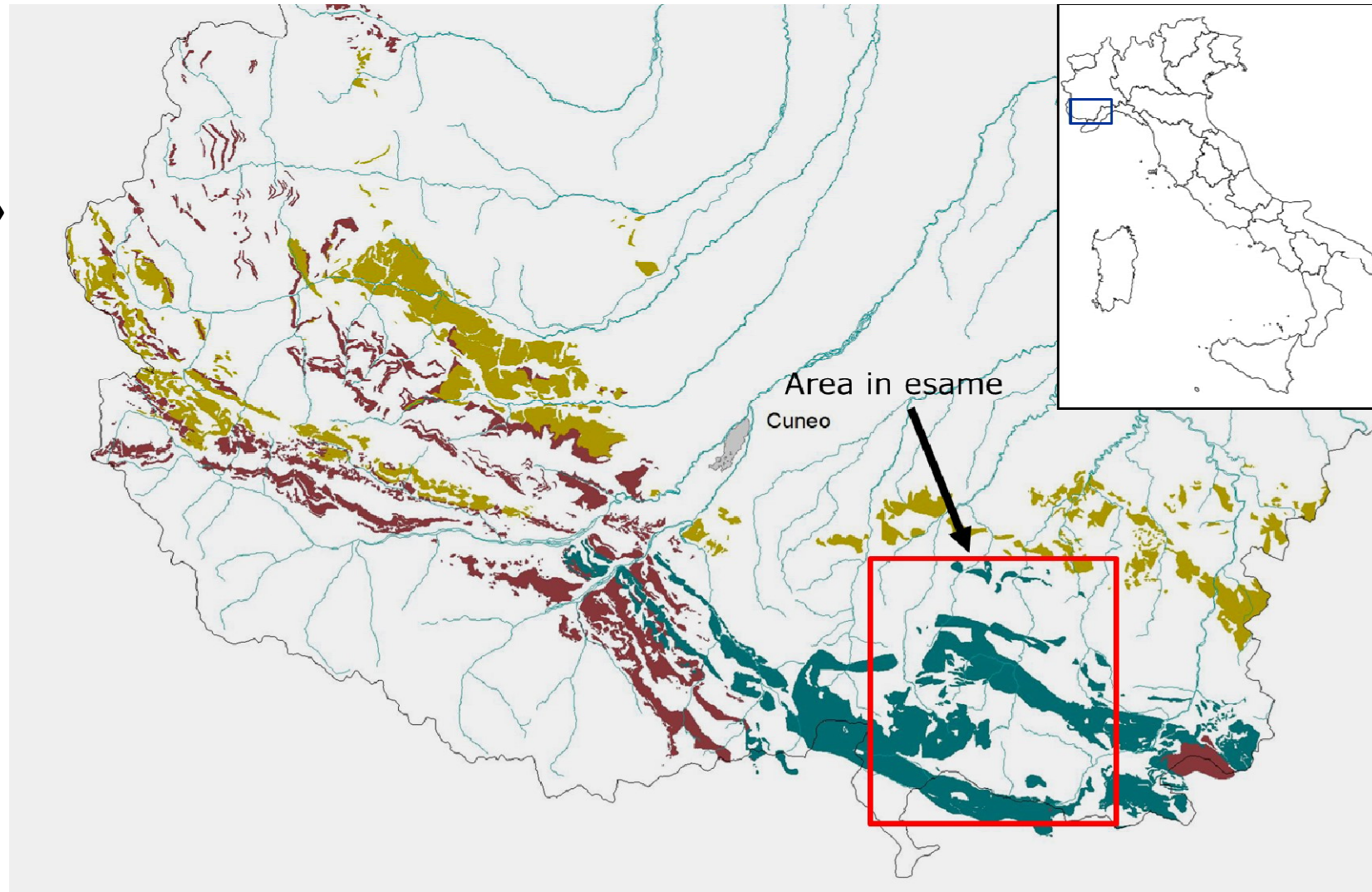


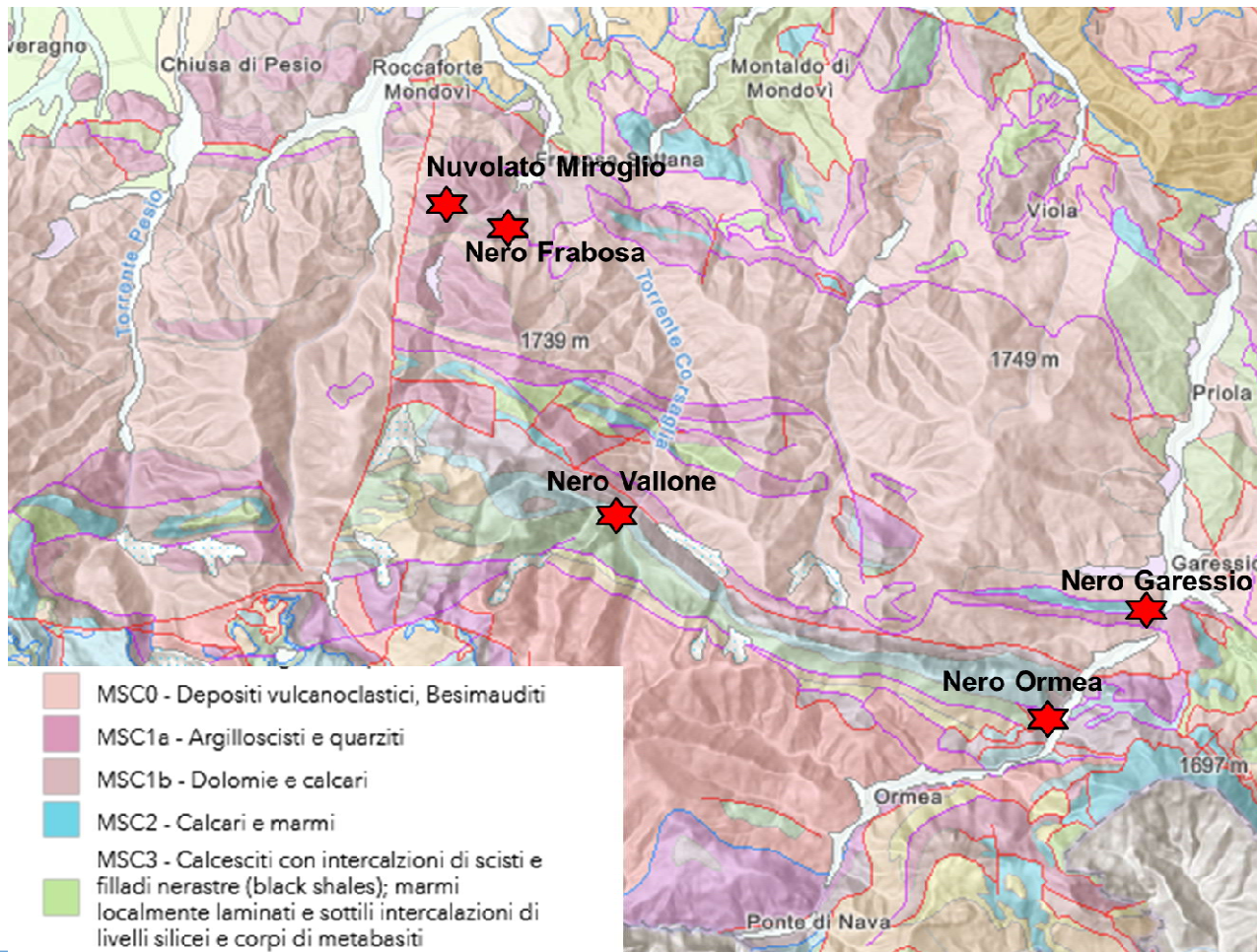
Different varieties of black marble from “Monregalese” district in Piedmont (Italy)

Rossana Bellopede, Paola Marini, Claudia Chiappino , Bartolomeo Vigna

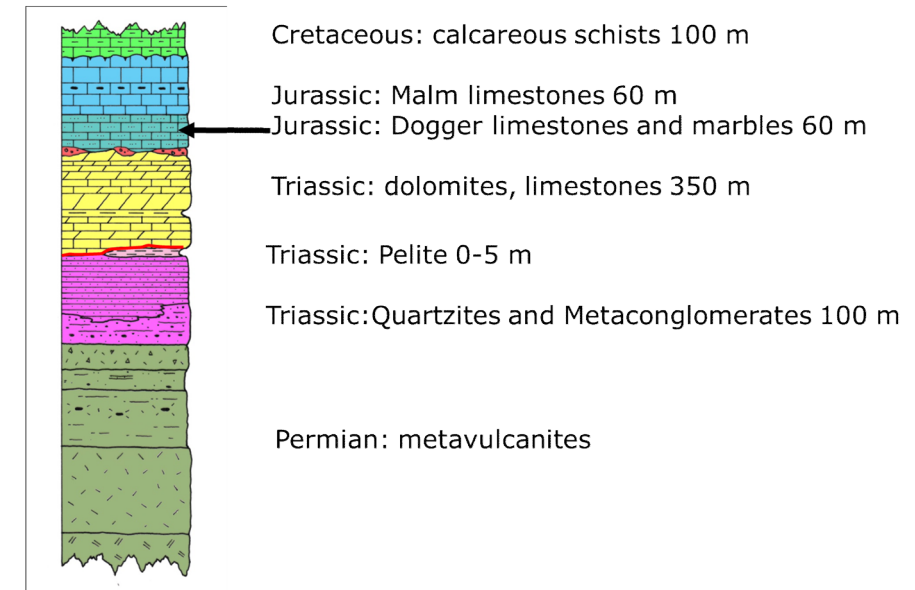
«Monregalese» district



GEOLOGICAL OVERVIEW

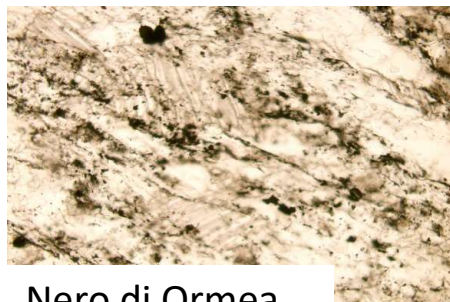


Stratigraphy of the Ligurian Brianzone Succession

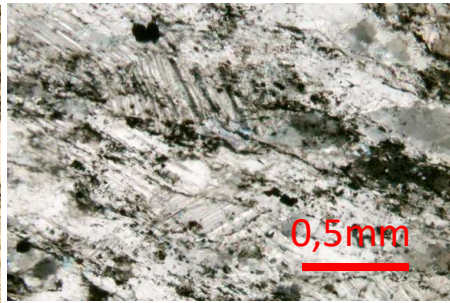


THE DIFFERENT KIND OF BLACK MARBLE

Among the several varieties of “Monregalese” marble exploited in the past, Nero di Frabosa, Nero Nuvolato di Miroglio, Nero Vallone, Nero di Ormea and Nero di Garessio are black marble known and identified in Piedmont Cultural Heritage.



Nero di Ormea



Nero di Garessio



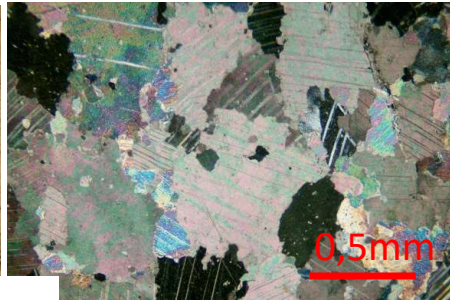
Nero di Frabosa



0,5mm

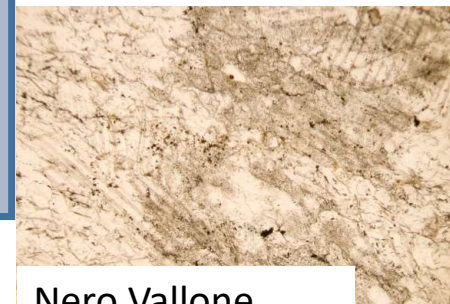


Nero Nuvolato di Miroglio



0,5mm

Petrographic and physical mechanical features are not available.



Nero Vallone



0,5mm

*Some known uses of
Moregalese black
marble in the 1600-
1700' Churches :
Montaldo Church ,
Vicoforte Sanctuary*

Chiesa Montaldo: Nero Garessio



Santuario di Vicoforte: Nero Ormea



Chiesa Montaldo: Nero Garessio



Santuario di Vicoforte: Nero Frabosa



Different varieties of black m

It

NERO DI ORMEA AND NERO DI GARESSIO QUARRIES



Ormea

black marble from “Monregalese” district i



Garesio

– Vienna, 26th may 2022  General Assembly 2022

NERO DI ORMEA : TECHNICAL DETERMINATIONS



Recent coring : 20-25m depth

PREVIOUS DATA : 1994

NEW DATA : 2022

	Mean value	St. dev.	Mean value	St. dev.
Water absorption (%) – EN13755	0,04	0,01	0,1	0,03
Apparent density (kg/m3) – EN 1926	2710	0,0	2710	0,0
Flexural Strength (MPa) – EN 12372	28,0	7,9	22,8	4,1
Compressive Strength (MPa) – EN 1926	95	12	105	13

Different varieties of black marble fr

NERO DI ORMEA DURABILITY AND ITS RECENT USES

According to the european test method on Natural Stone, Nero Ormea is a durable marble, resistant to freeze and thaw and thermal shock cycles .

Variation of flexural strength after 56 freeze and thaw cycles (EN 12371 – EN 12372)

-9%

Variation of flexural strength after 20 thermal shock cycles (EN14066- EN 12372)

-1%

Variation of compressive strength after 56 freeze thaw cycles (EN 12371 – EN1926)

+2,5%

Recent uses of Nero Ormea marble in Ormea town



CONCLUSIONS

HERITAGE STONE IN MONREGALESE DISTRICT: NERO DI ORMEA OR NERO DI GARESSIO?

The black marble are appreciate in the world for their aspect and elegance.

The Heritage buildings in Monregalese district are the evidence of their use and variety.

For some of these black marble further research are need to relate their employ to their origin as for Nero di Garessio and Nero di Ormea.

CONCLUSIONS

All the black marble presented were used inside therefore their resistance to weathering is not well known.

Only for Nero di Ormea, there are data on ageing tests in order to assess their suitability to be used outside and not only for inner and aesthetical purpose.

The aestetical value together their durability make these marble a **NEW HERITAGE RESOURCE**.

Thanks for the attention

contact: rossana.bellopede@polito.it, paola.marini@polito.it,
bartolomeo.vigna@polito.it