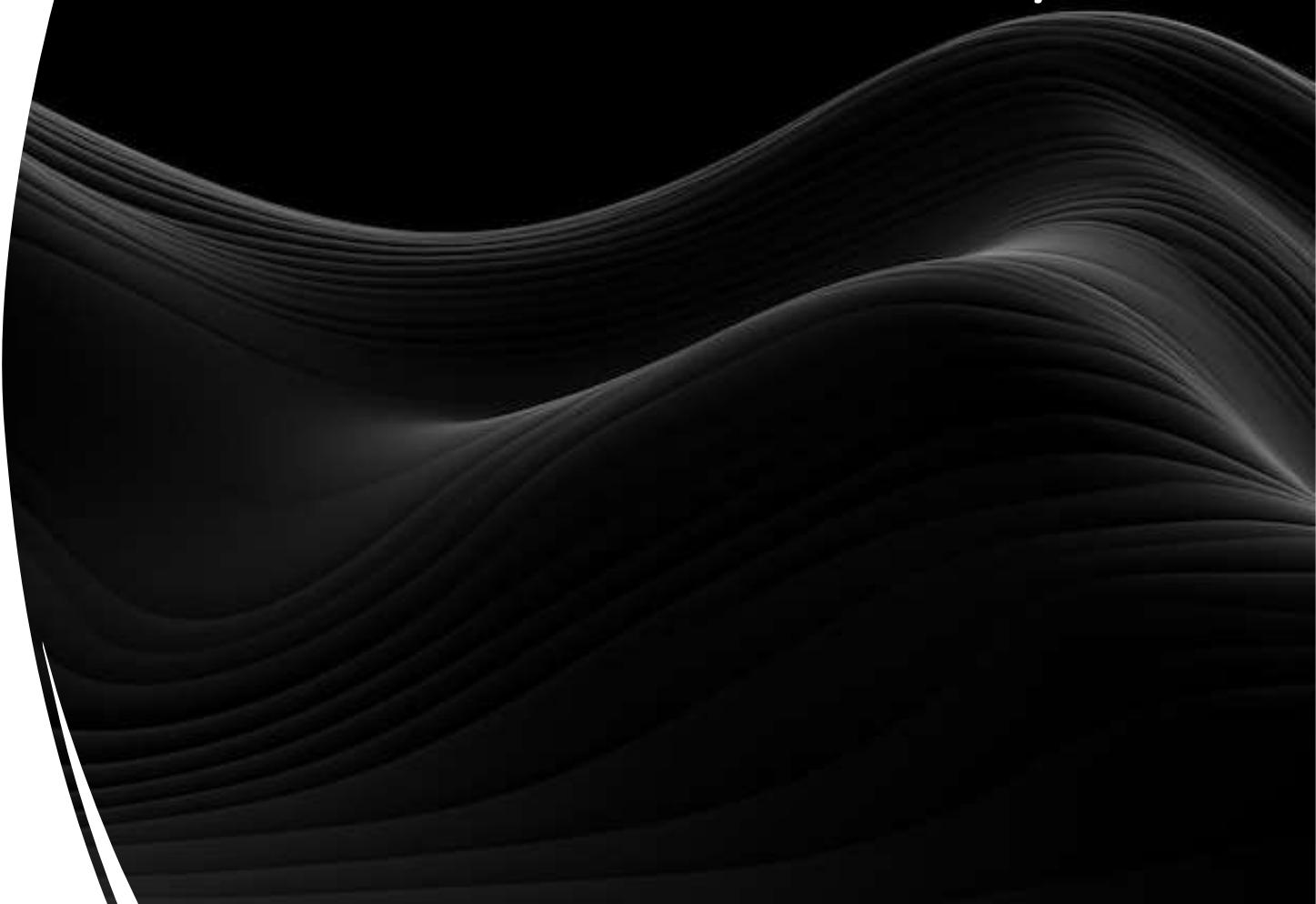




<http://doi.org/10.54499/ERA-MIN/0002/2019>
<https://mostmeg.rd.ciencias.ulisboa.pt/>

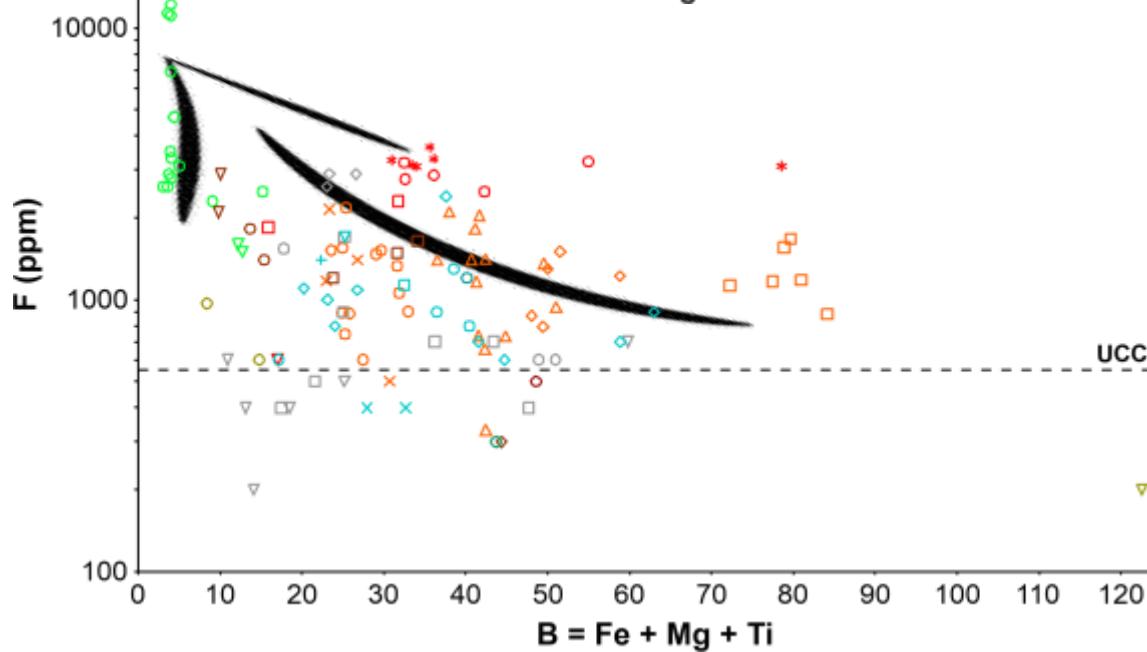
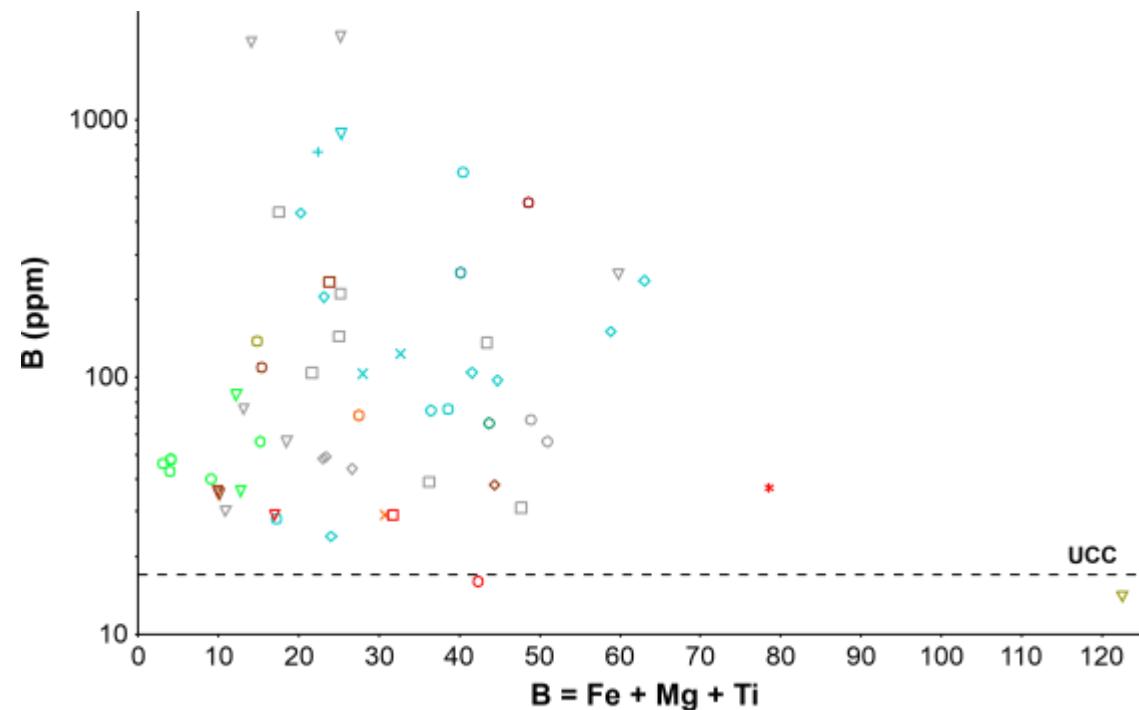
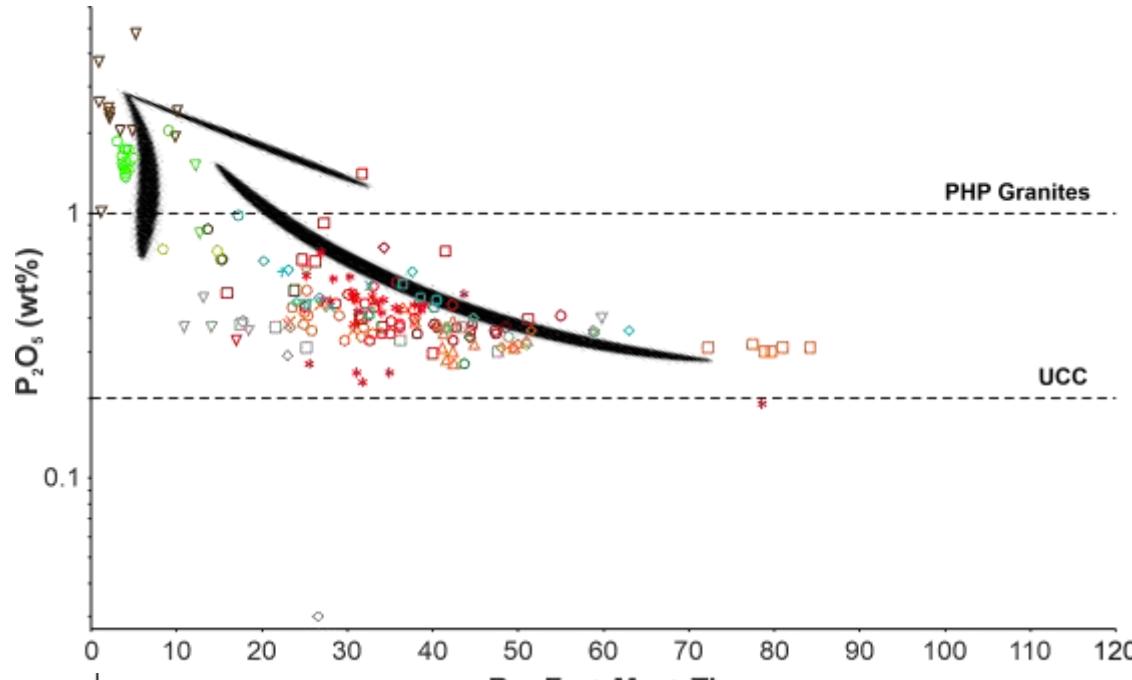


Geochemical proxies to granite-related mineral systems using multi-element whole-rock analysis

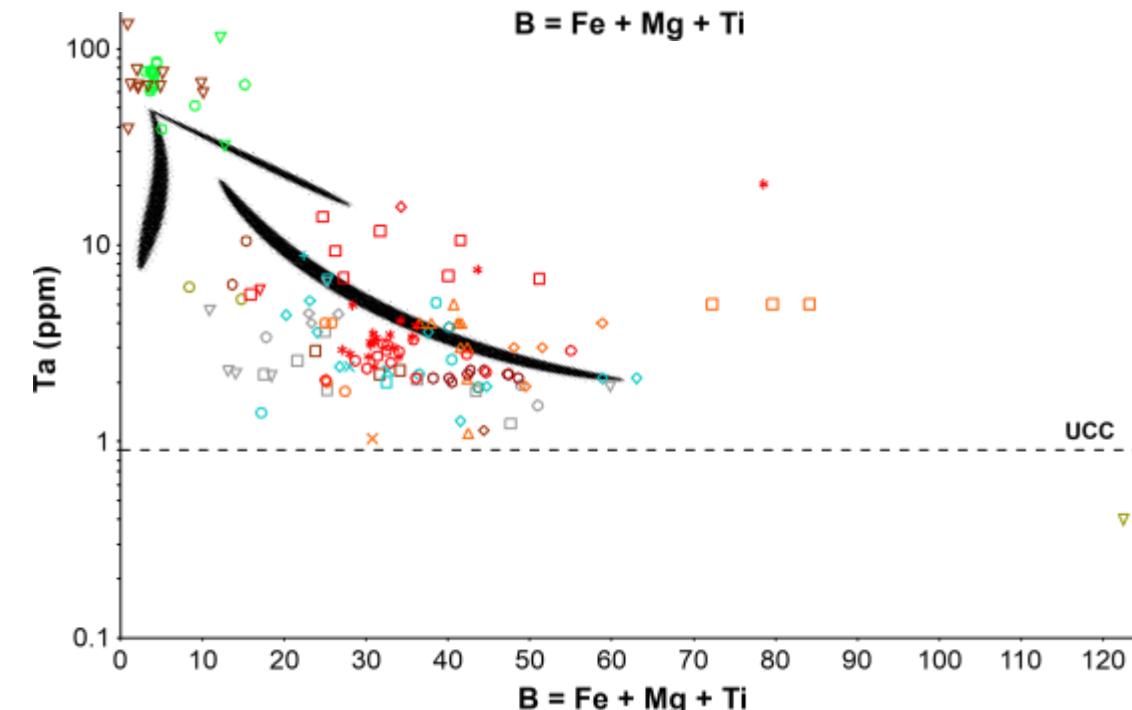
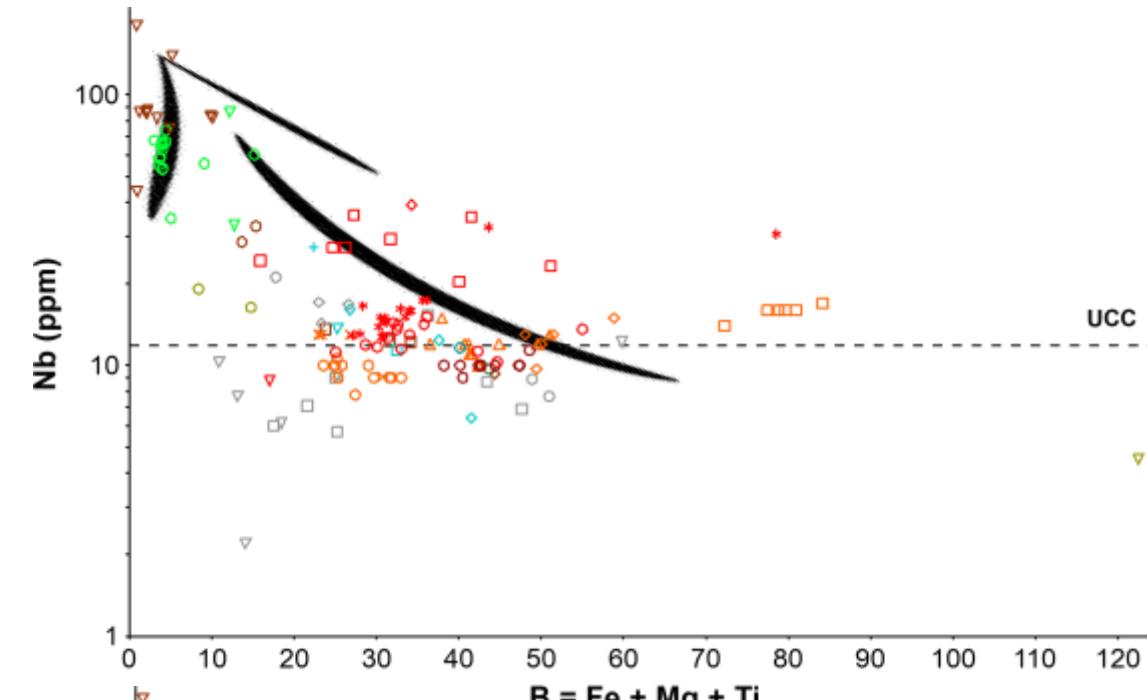
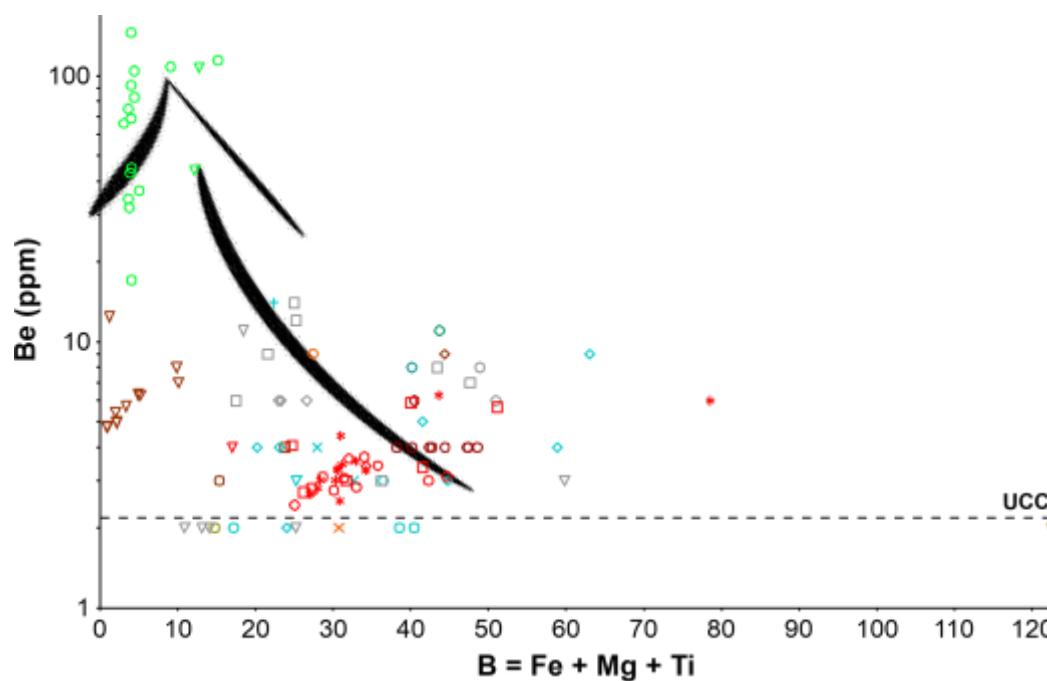
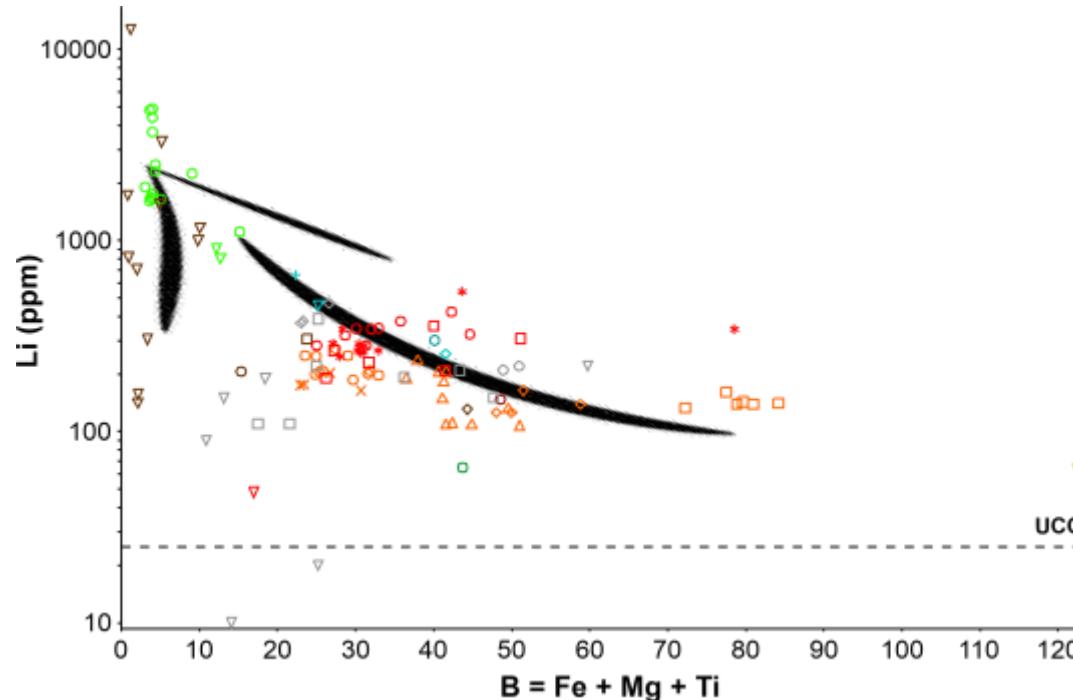


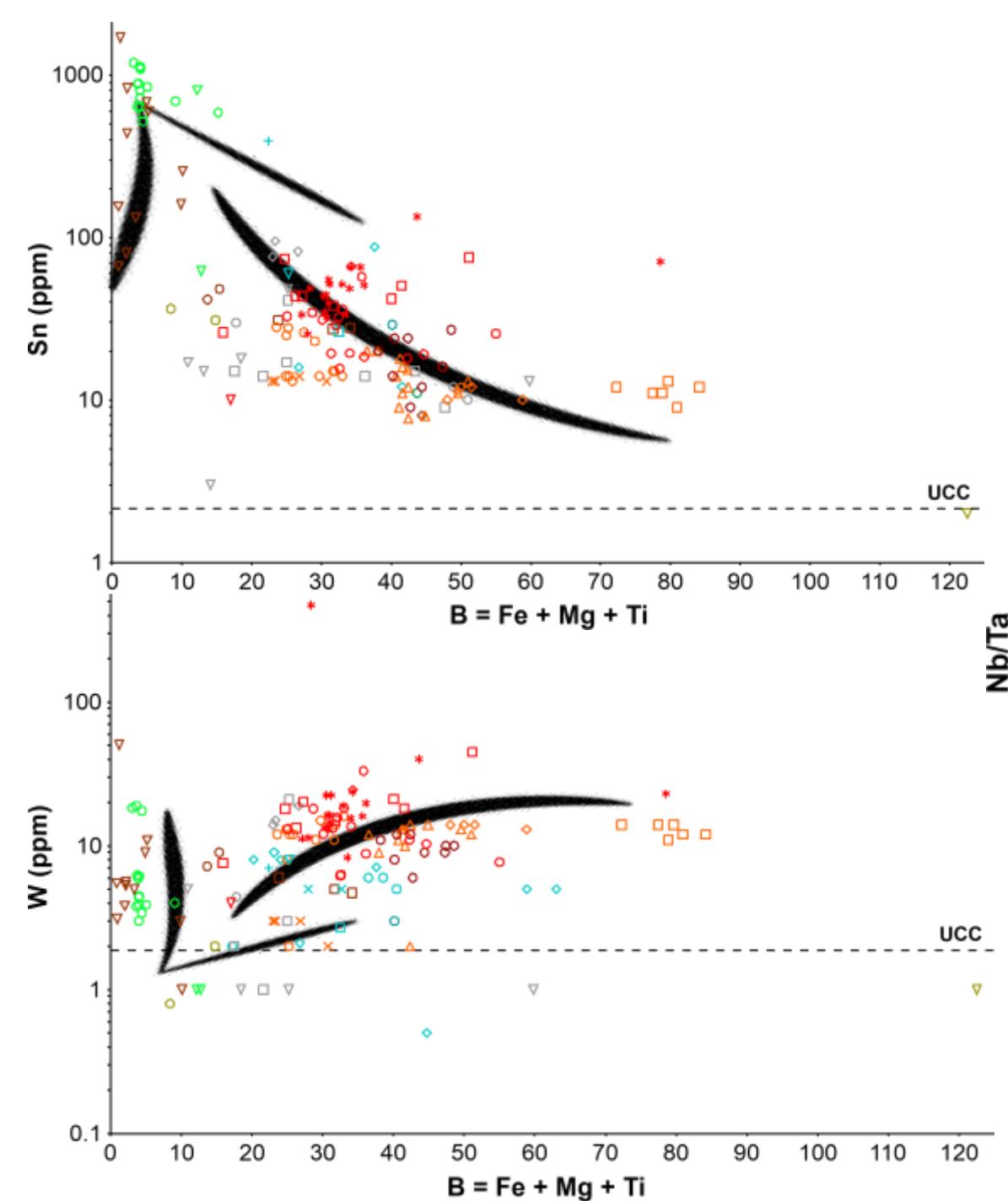
Geochemical proxies to granite-related mineral systems using multi-element whole-rock analysis

- **Highly differentiated granitic rocks**
 - Whole-rock enrichments in P, F, Be, Li, Ta, Sn, Nb (up to 25×, 15×, 70×, 500×, 150×, 800×, and 20×UCC, respectively).
 - K/Rb < 150; Nb/Ta < 5; Y/Ho ≠ 28; Sr/Eu > 200; Eu/Eu* < 0.1; Zr/Hf < 15, as in many other Sn-W(±Li) provinces worldwide.
- **TE1,3 increasing and co-varying with magmatic differentiation and metal-enrichment**
 - TE1,3 < 1.1 ⇒ peraluminous-high-phosphorus Li-Sn granite systems
 - TE1,3 > 1.1 ⇒ peraluminous-high-phosphorus granite suites Sn-W-Li (lepidolite) (up to 1.4) and peraluminous-low-phosphorus Sn-Ta-Nb granite systems (up to 2.1)

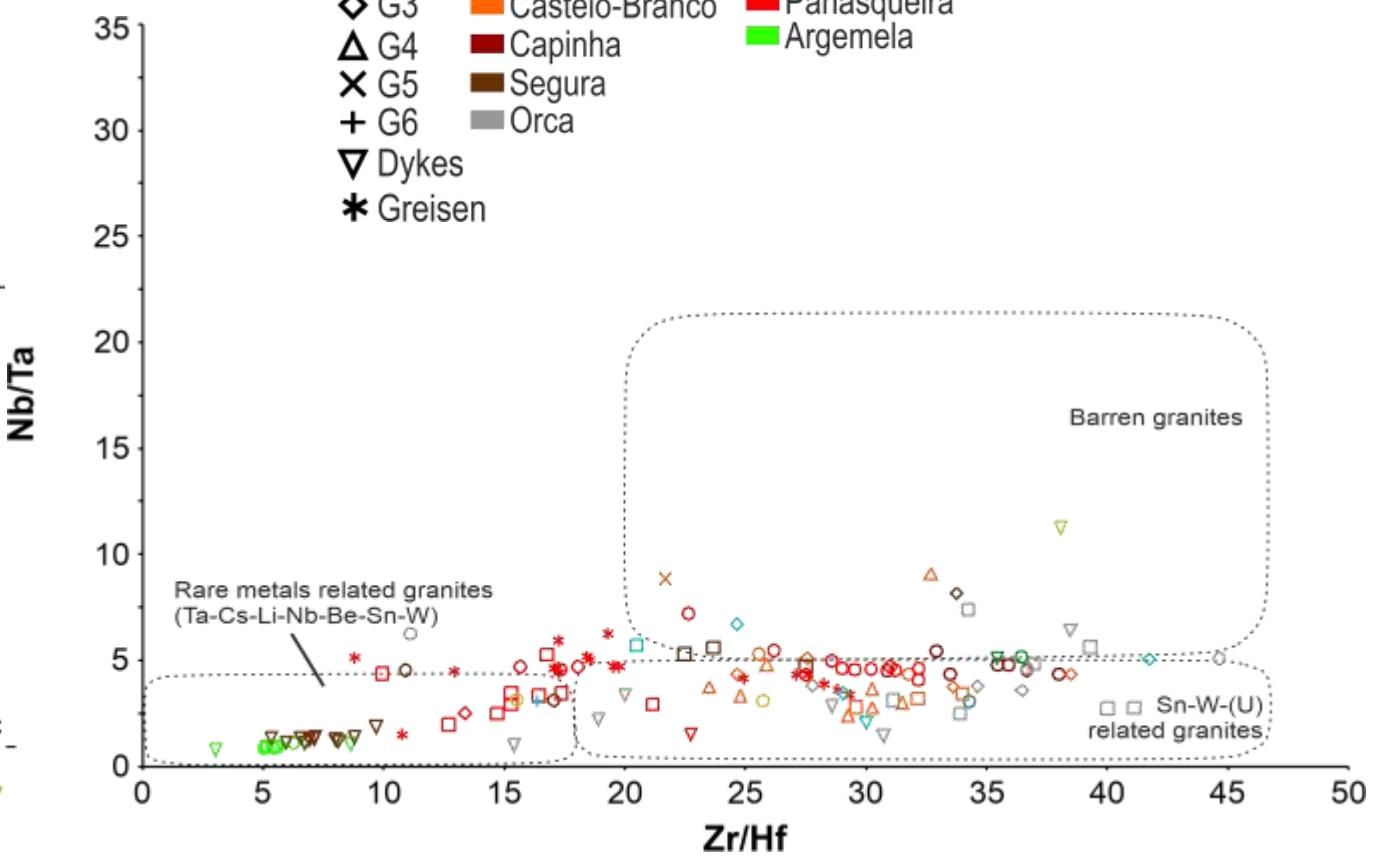


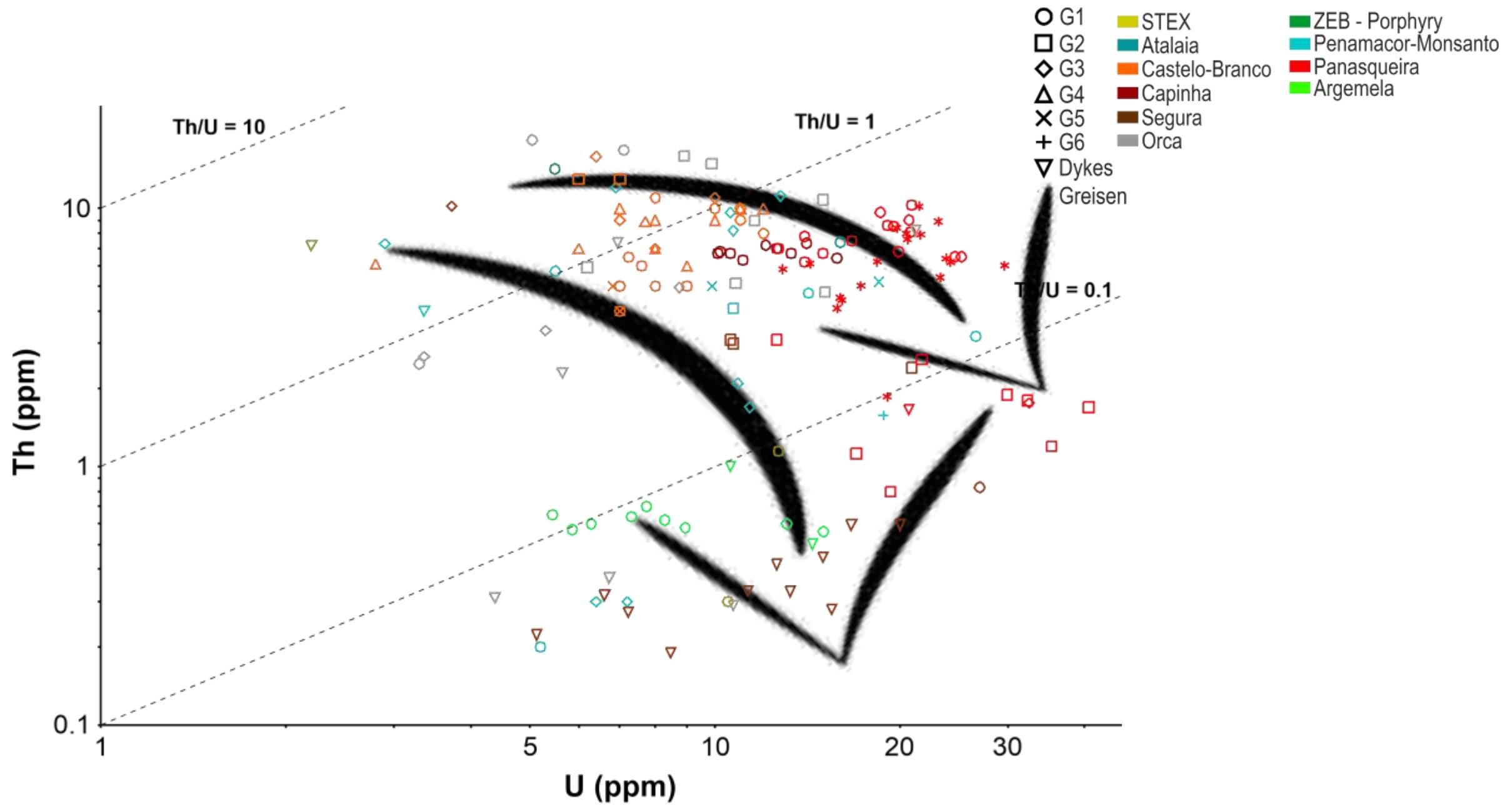
- G1 ■ STEX ■ ZEB - Porphyry
- G2 ■ Atalaia ■ Penamacor-Monsanto
- ◆ G3 ■ Castelo-Branco ■ Panasqueira
- △ G4 ■ Capinha ■ Segura
- × G5 ■ Orca
- + G6
- ▽ Dykes
- * Greisen

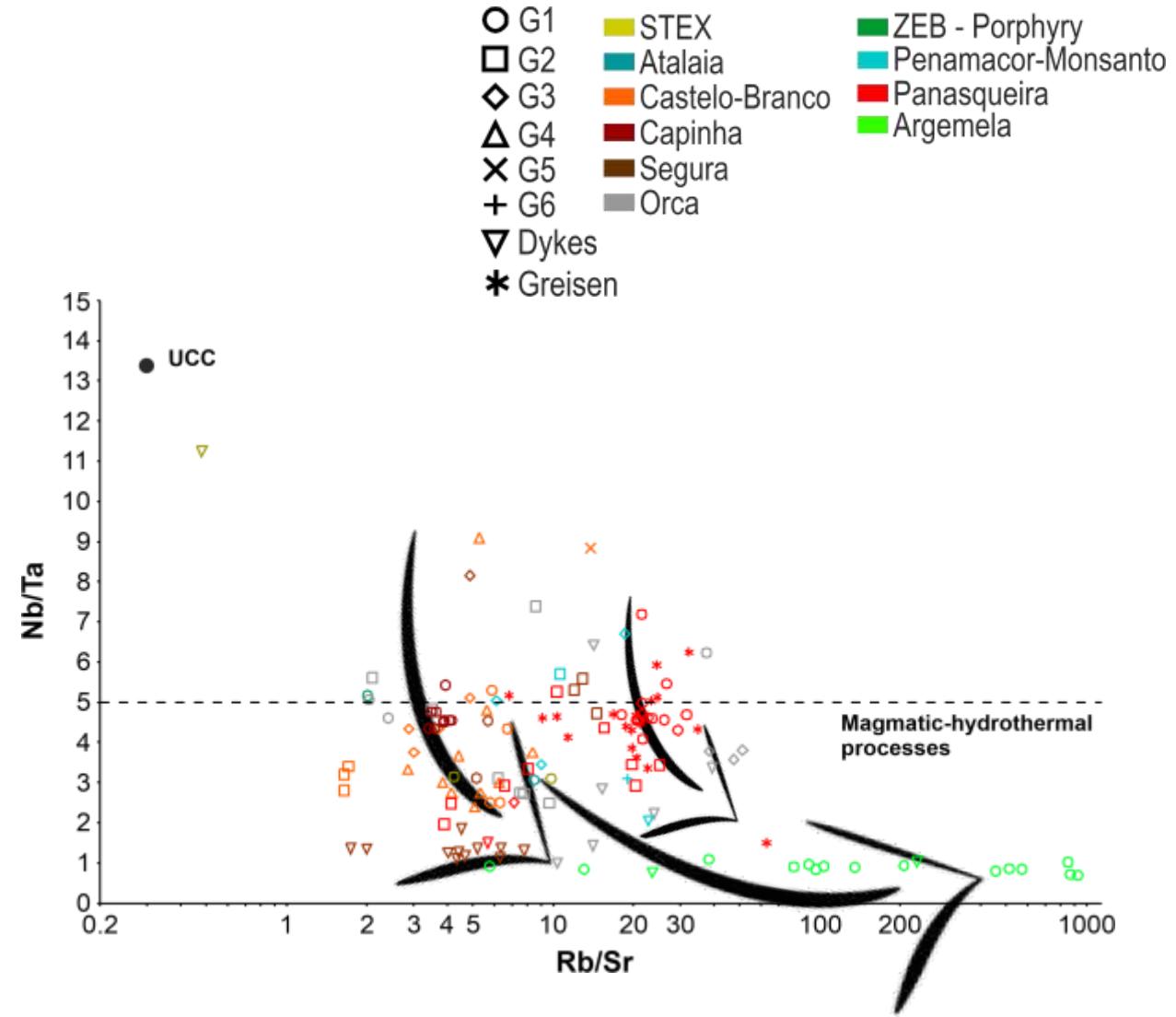
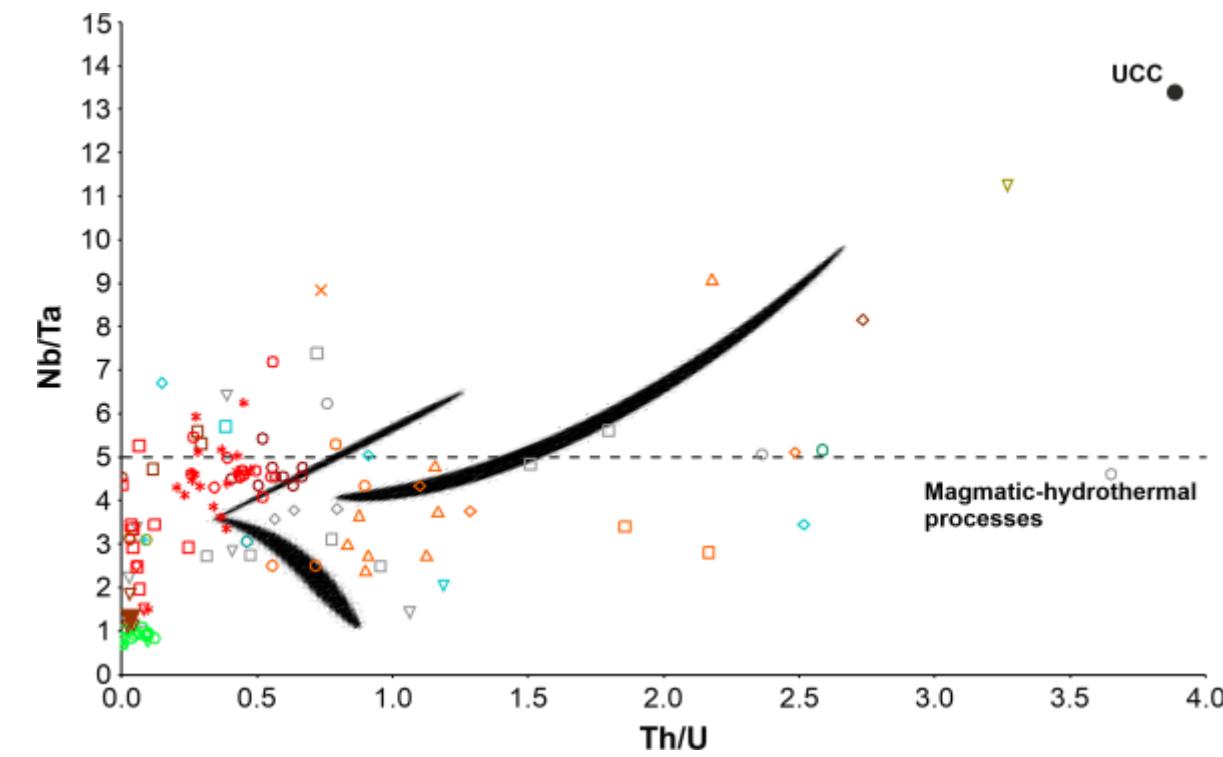


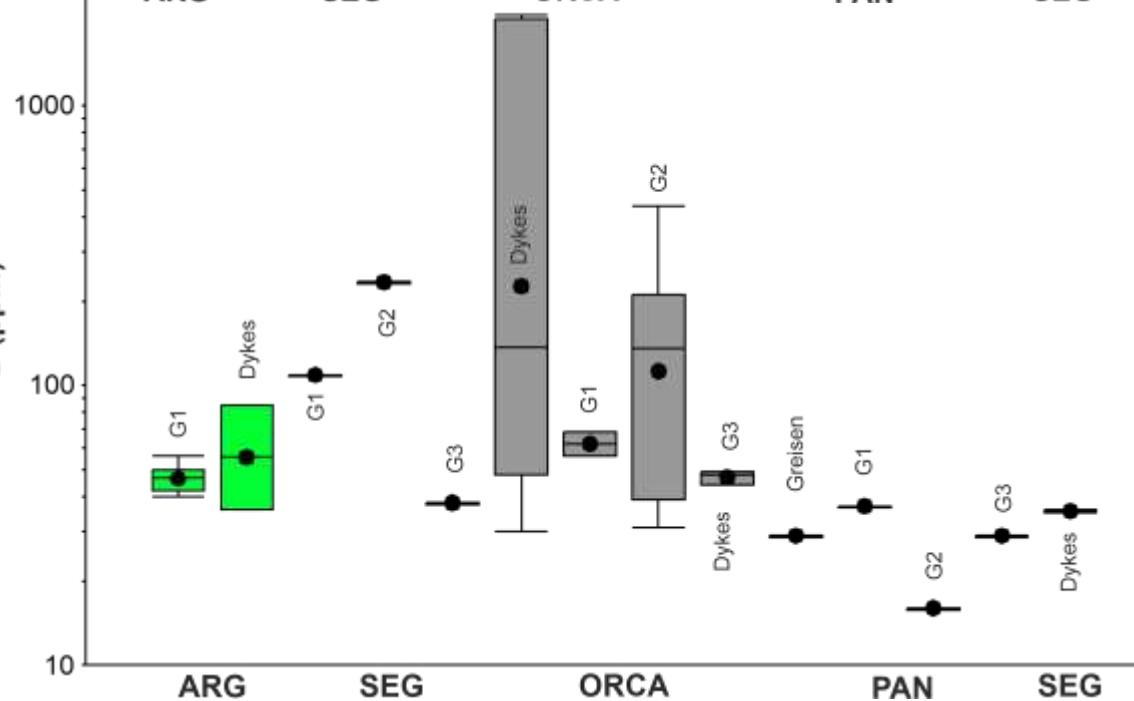
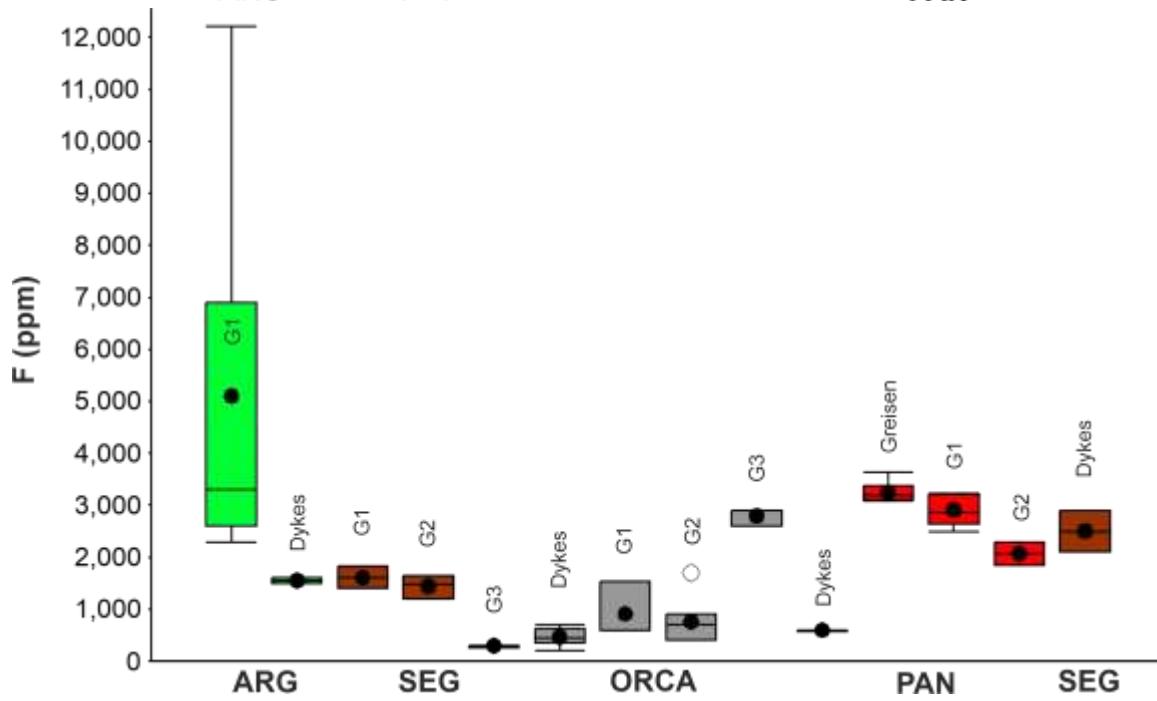
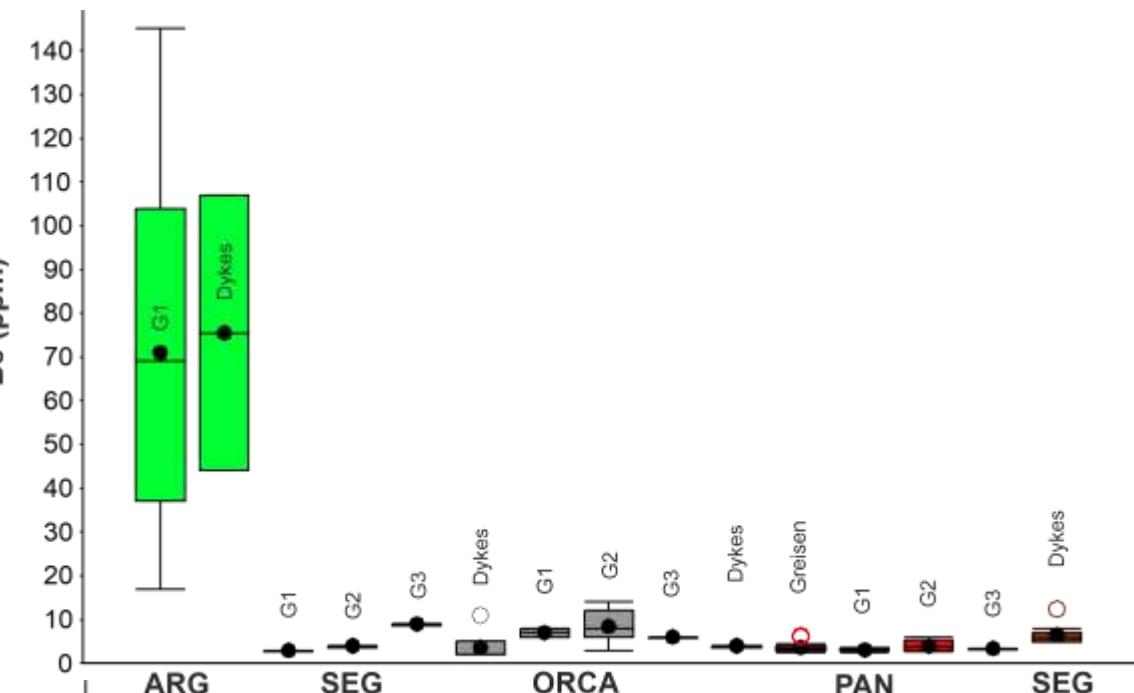
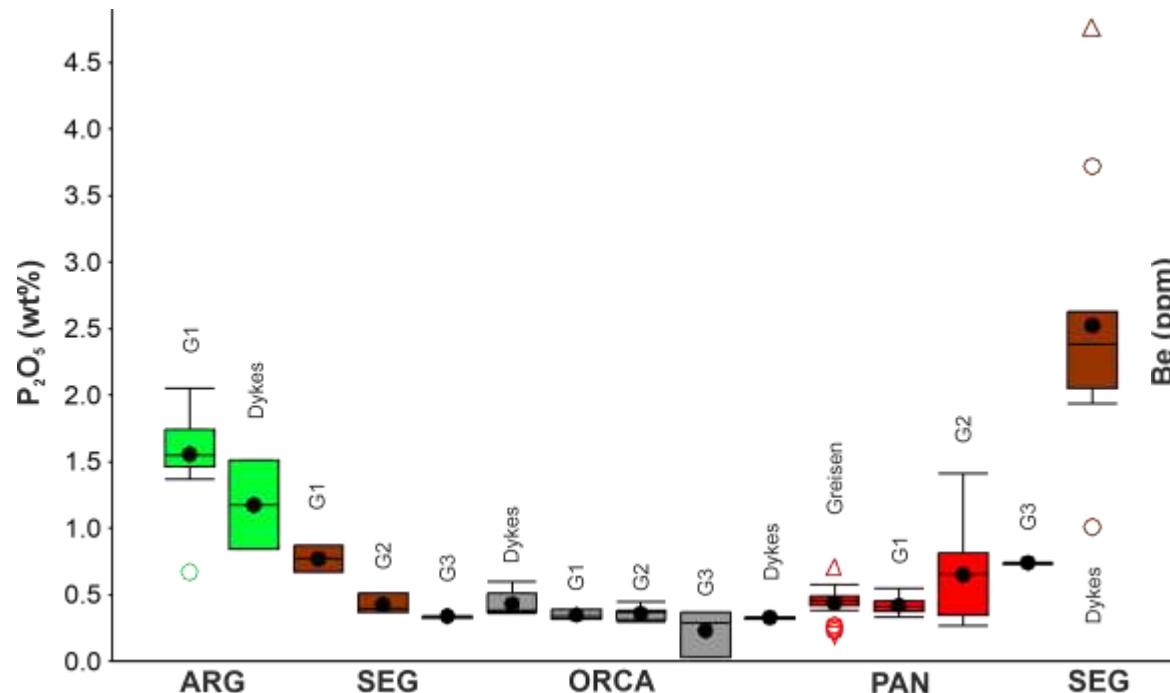


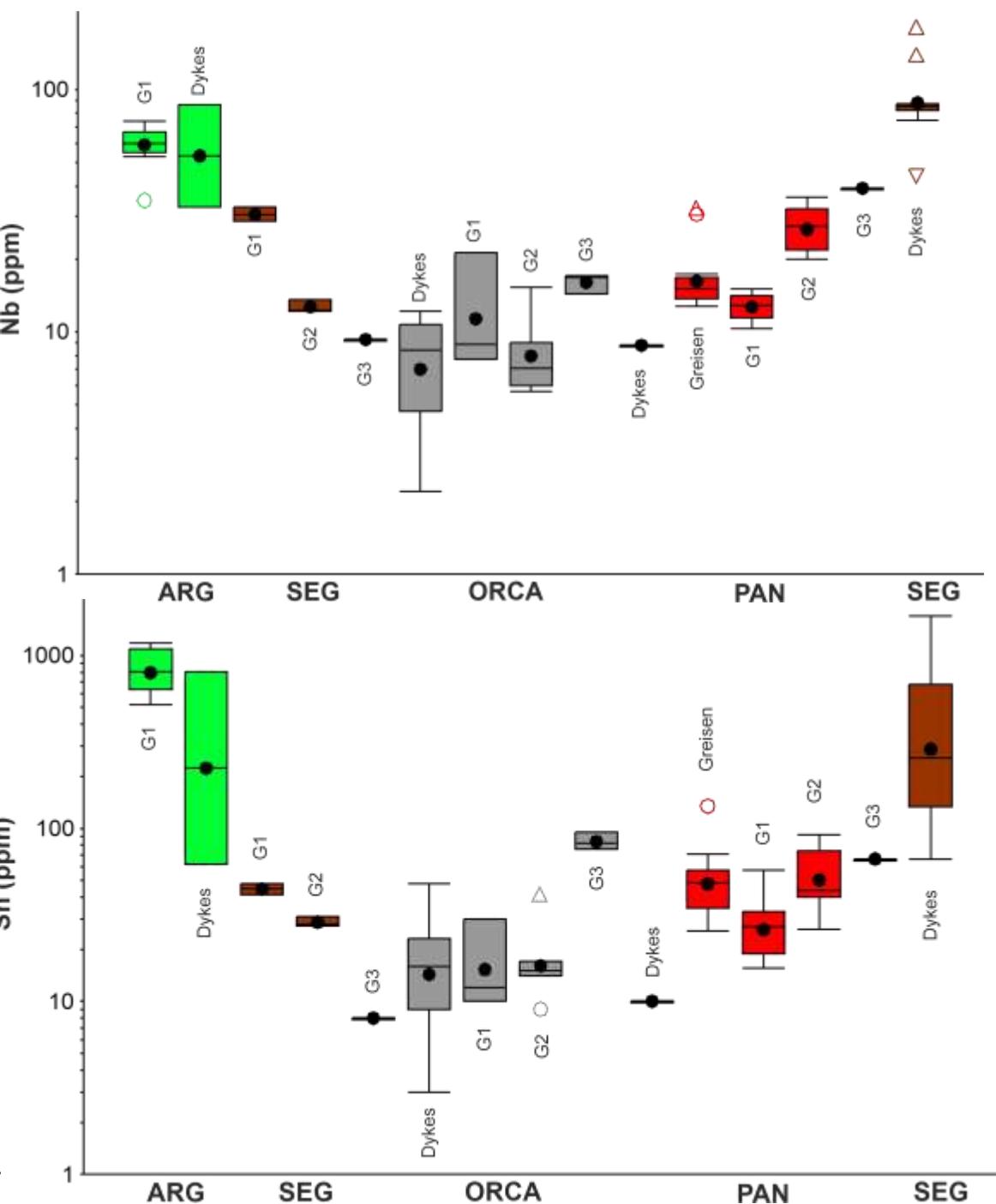
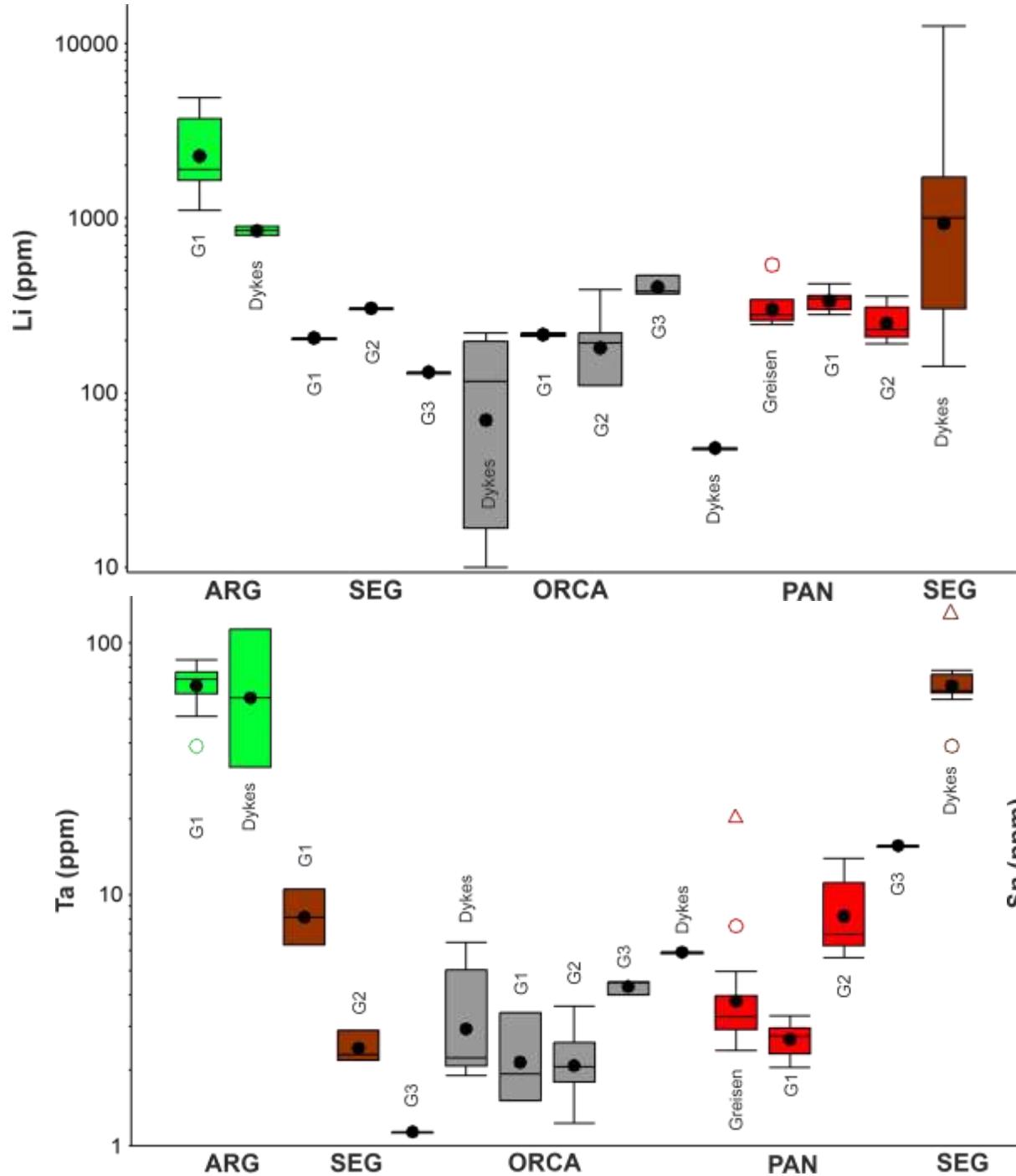
○ G1	■ STEX	■ ZEB - Porphyry
□ G2	■ Atalaia	■ Penamacor-Monsanto
◊ G3	■ Castelo-Branco	■ Panasqueira
△ G4	■ Capinha	■ Argemela
×	■ Segura	
+	■ Orca	
▽ Dykes		
*		

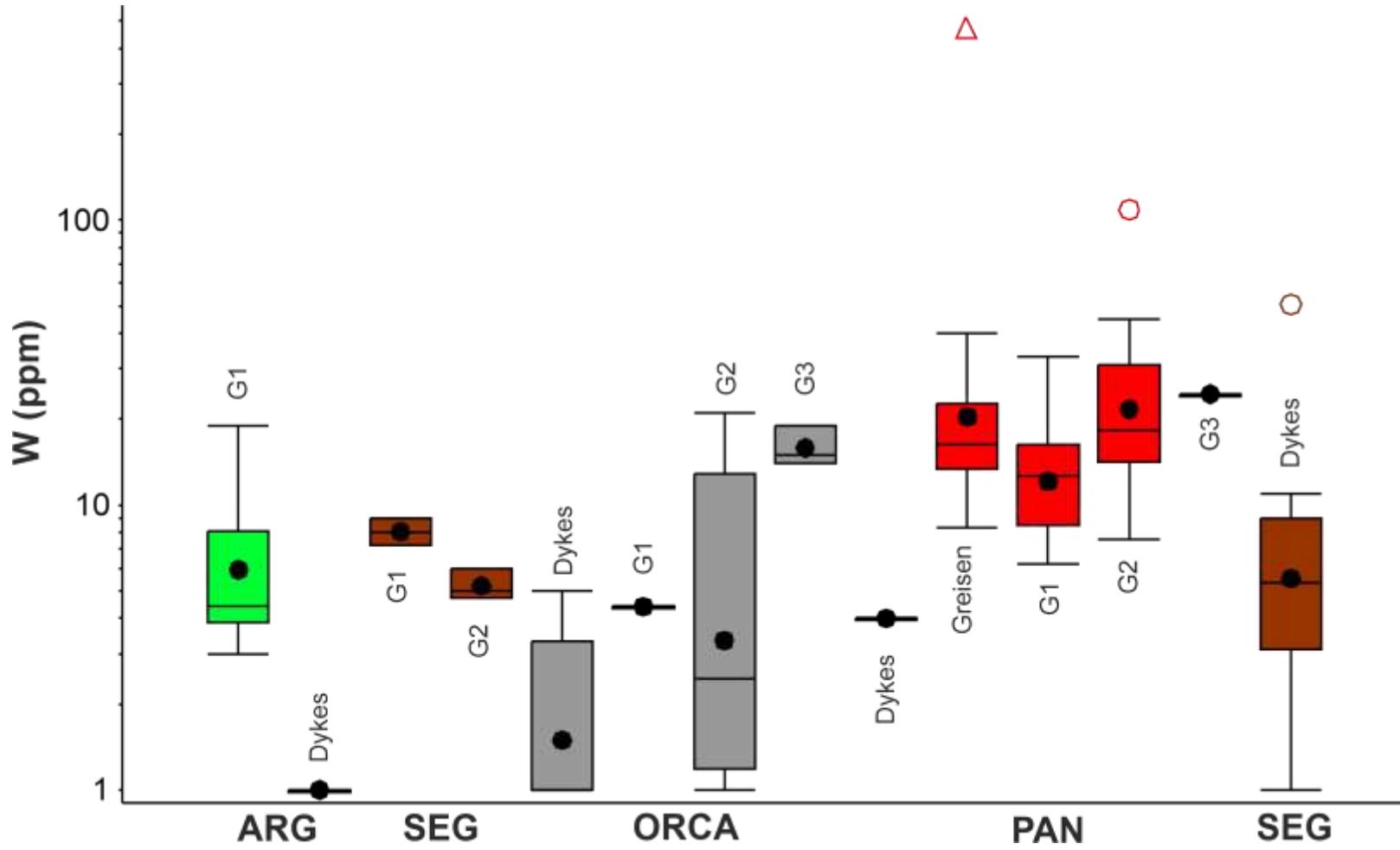


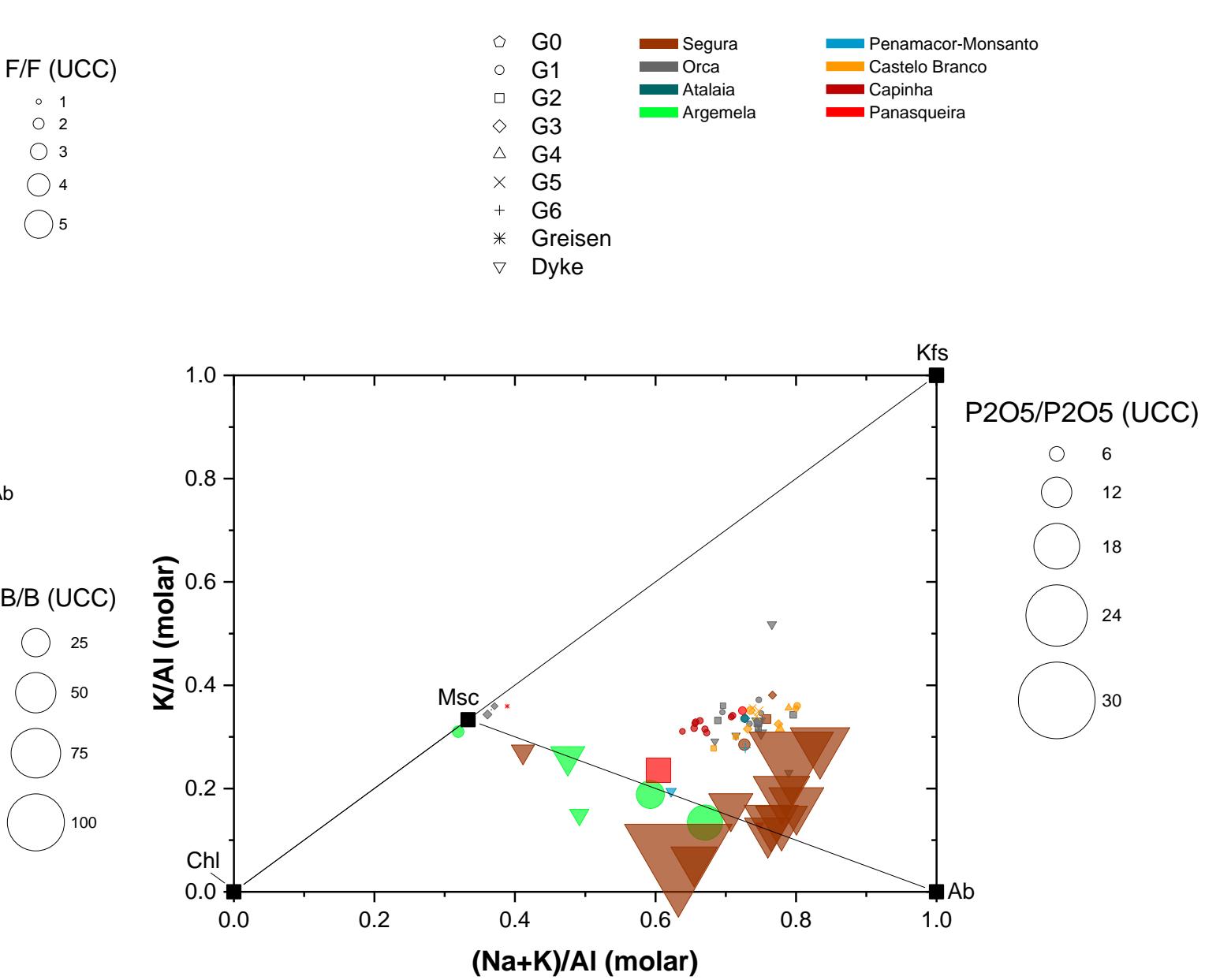
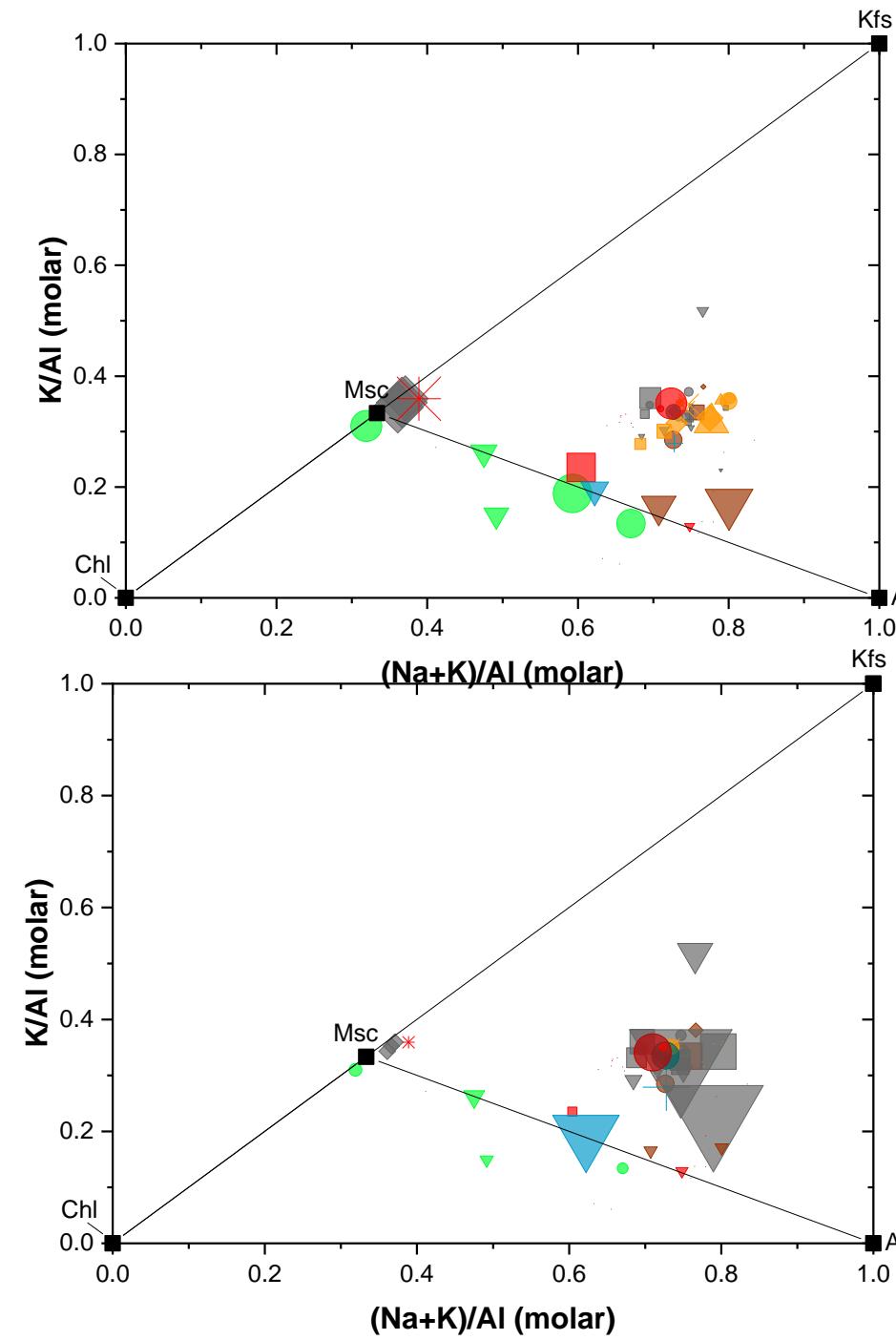


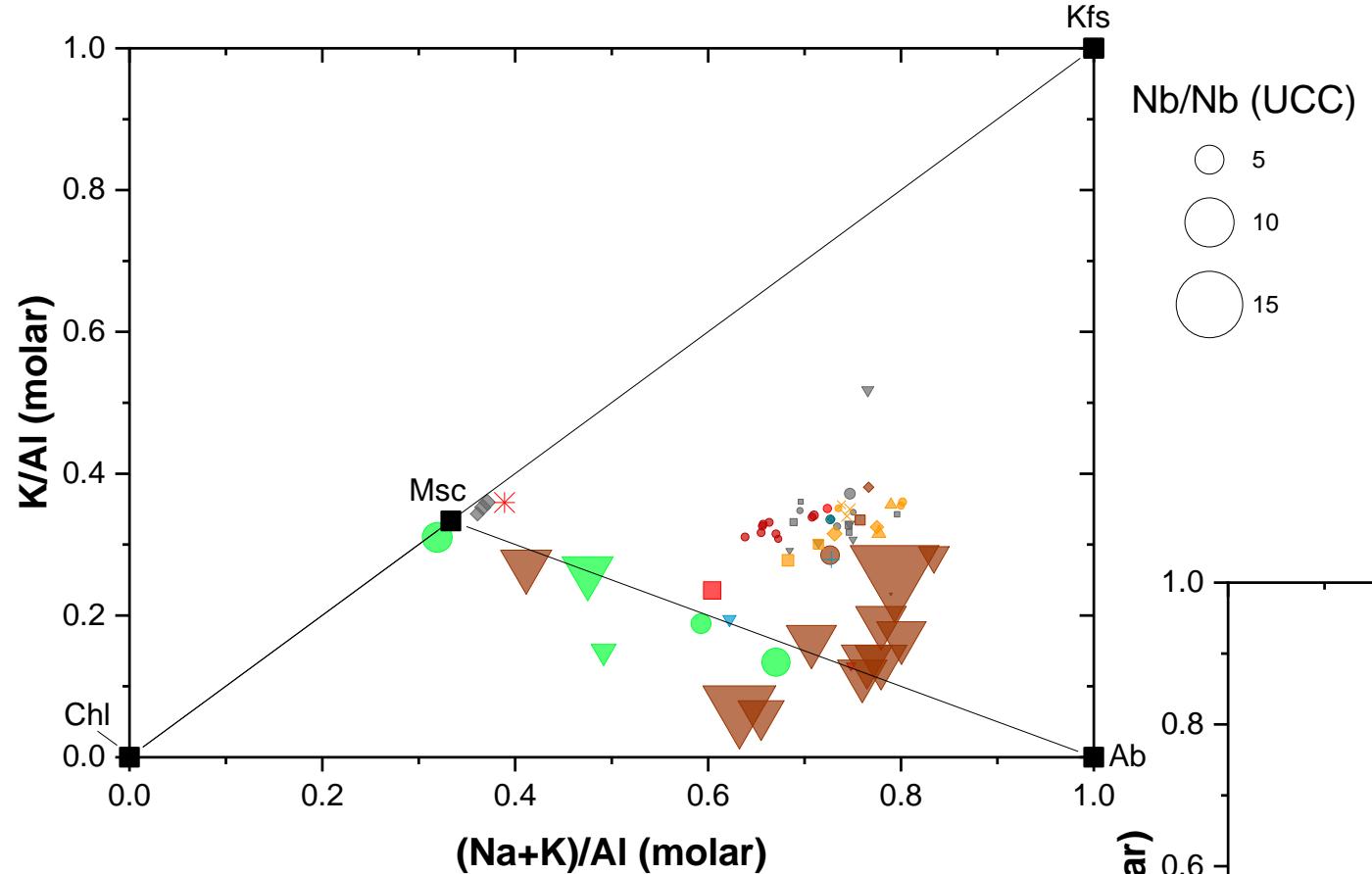




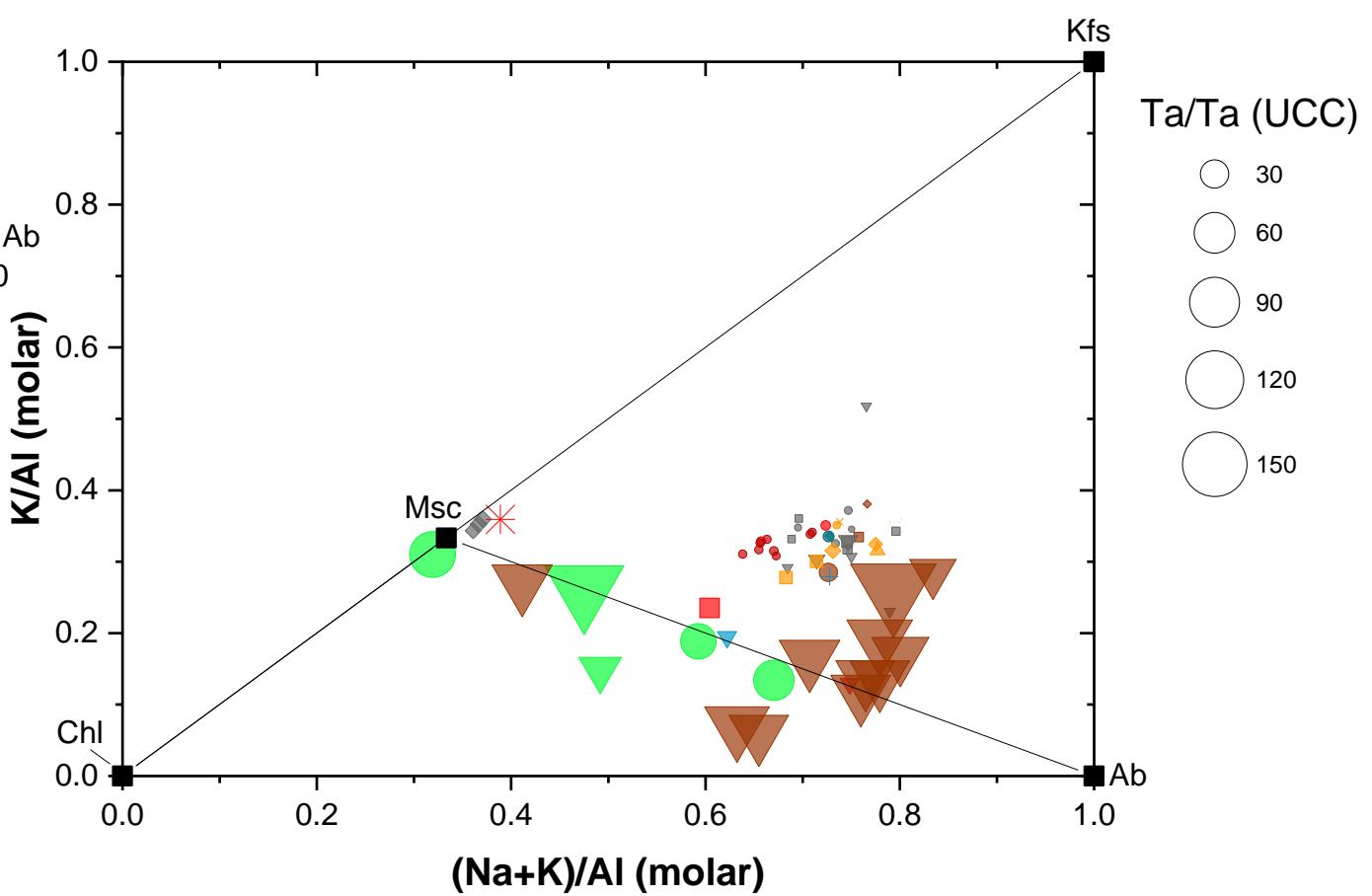


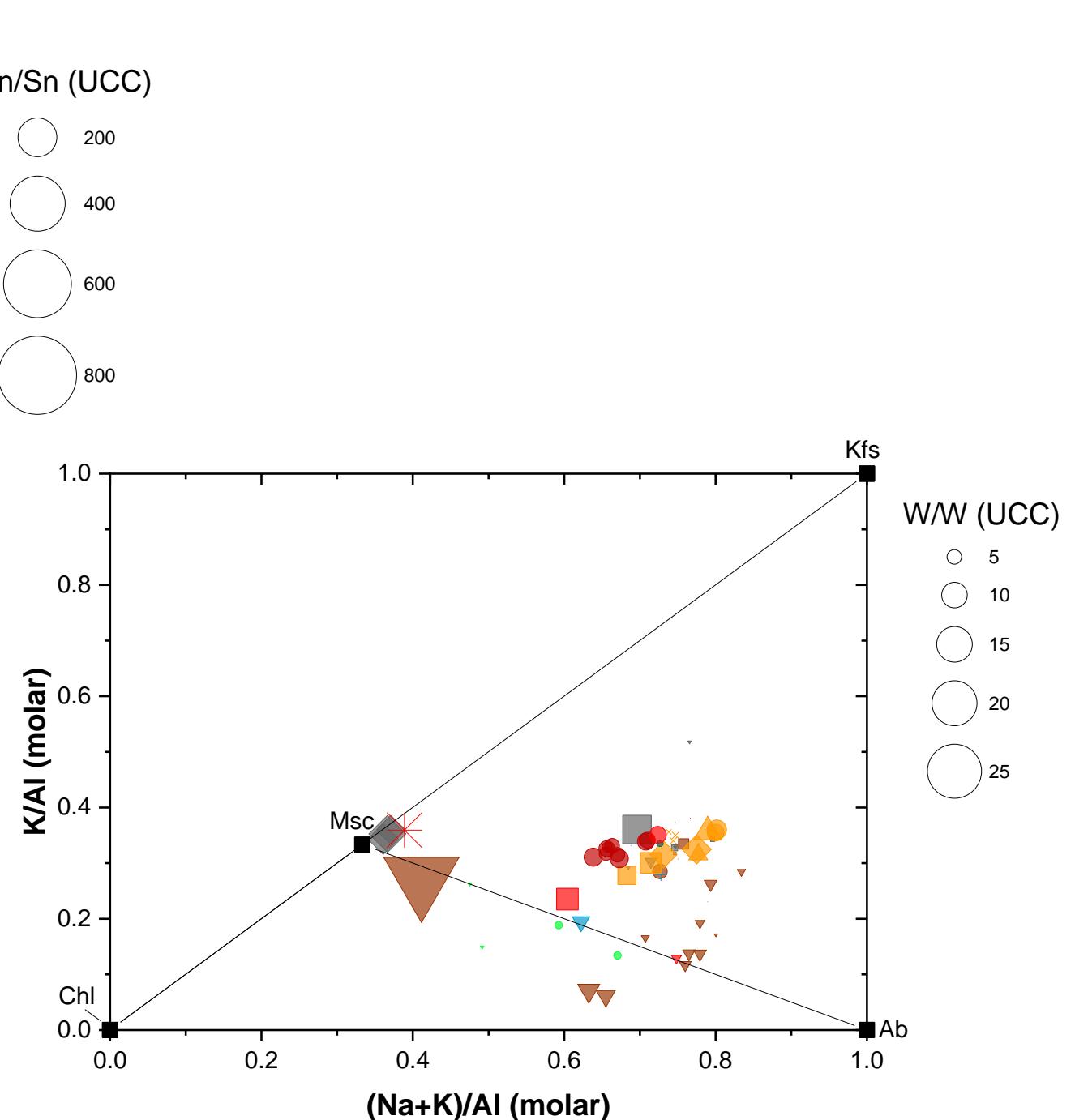
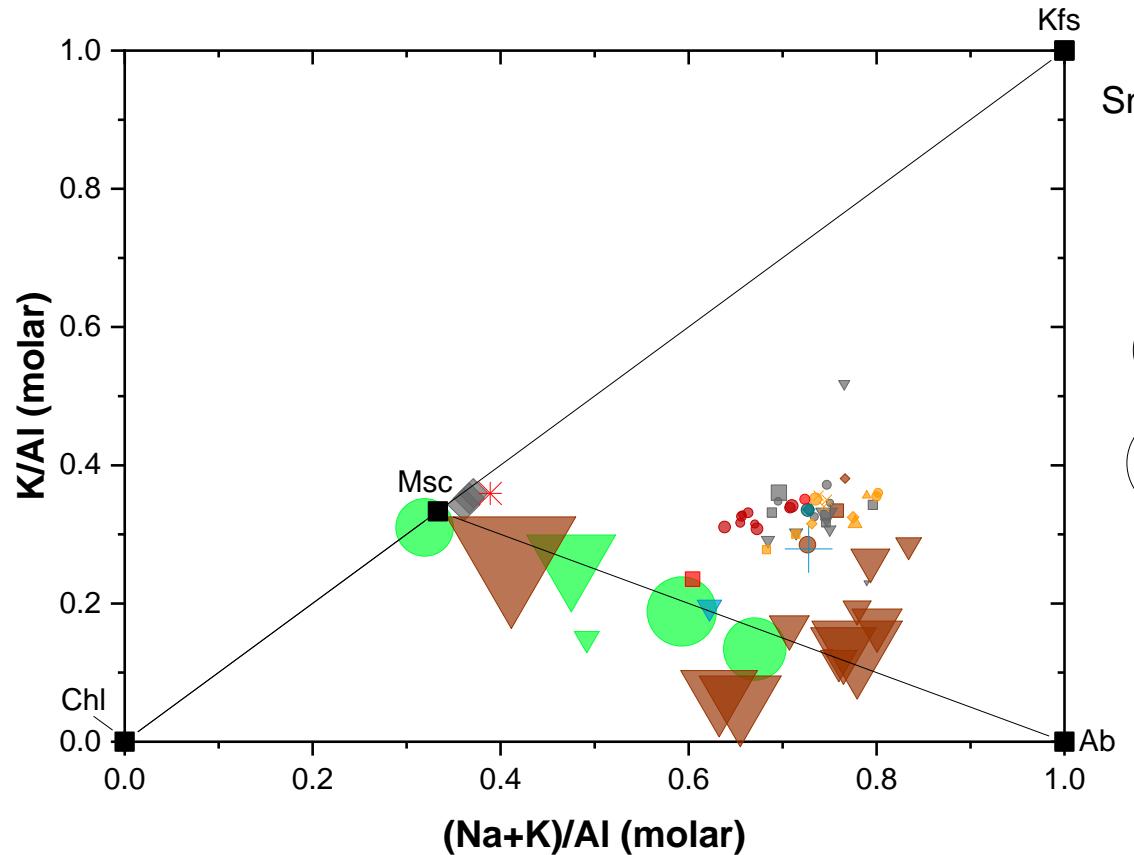


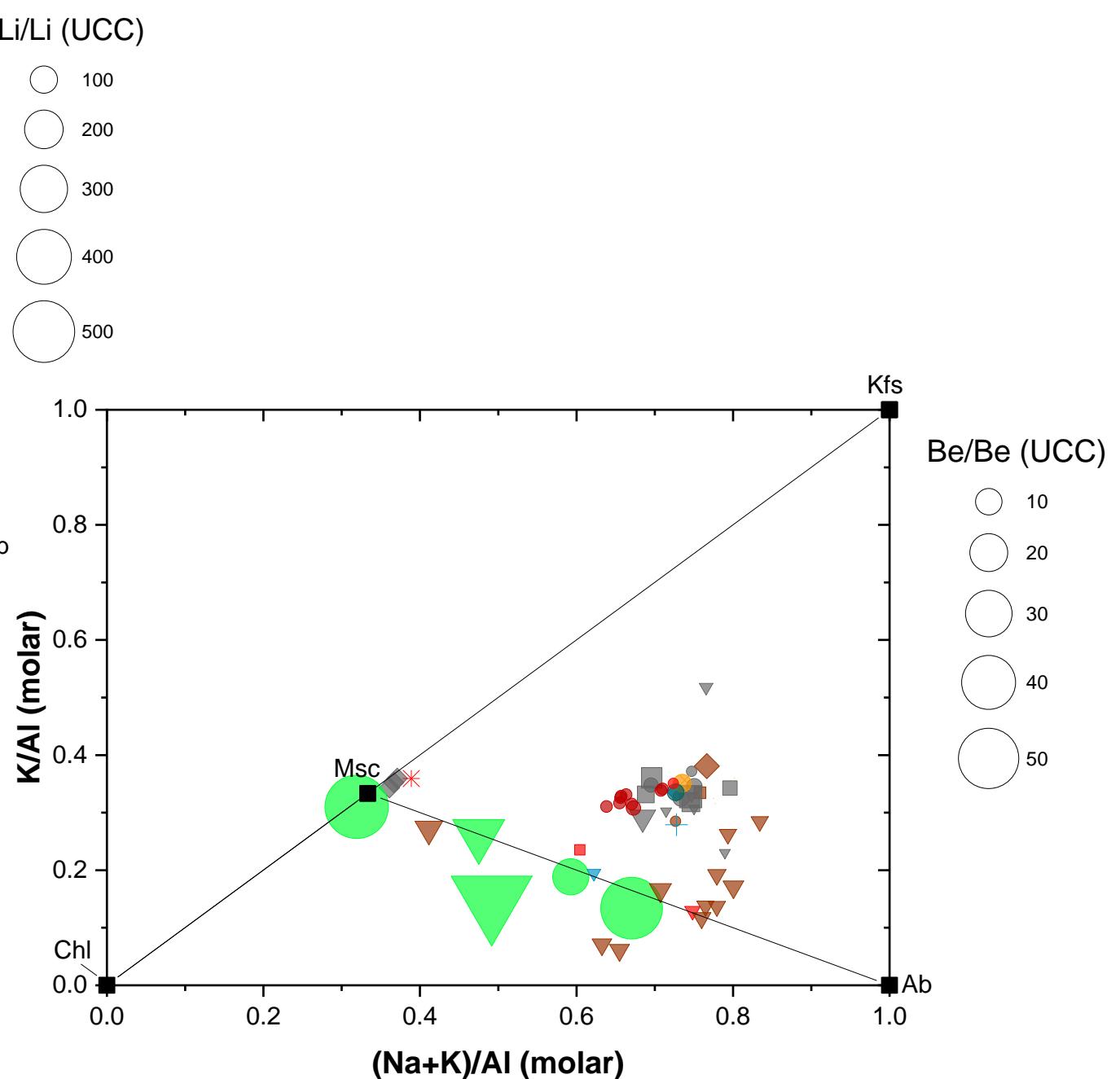
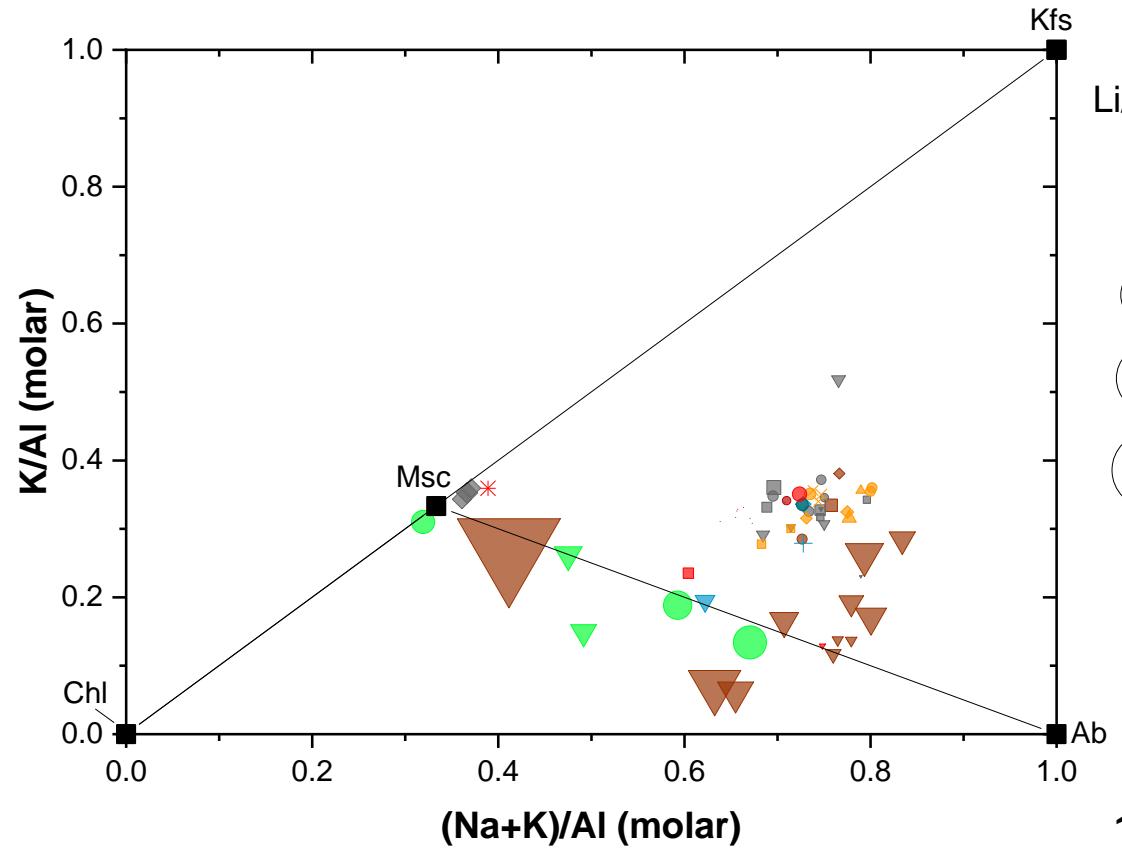


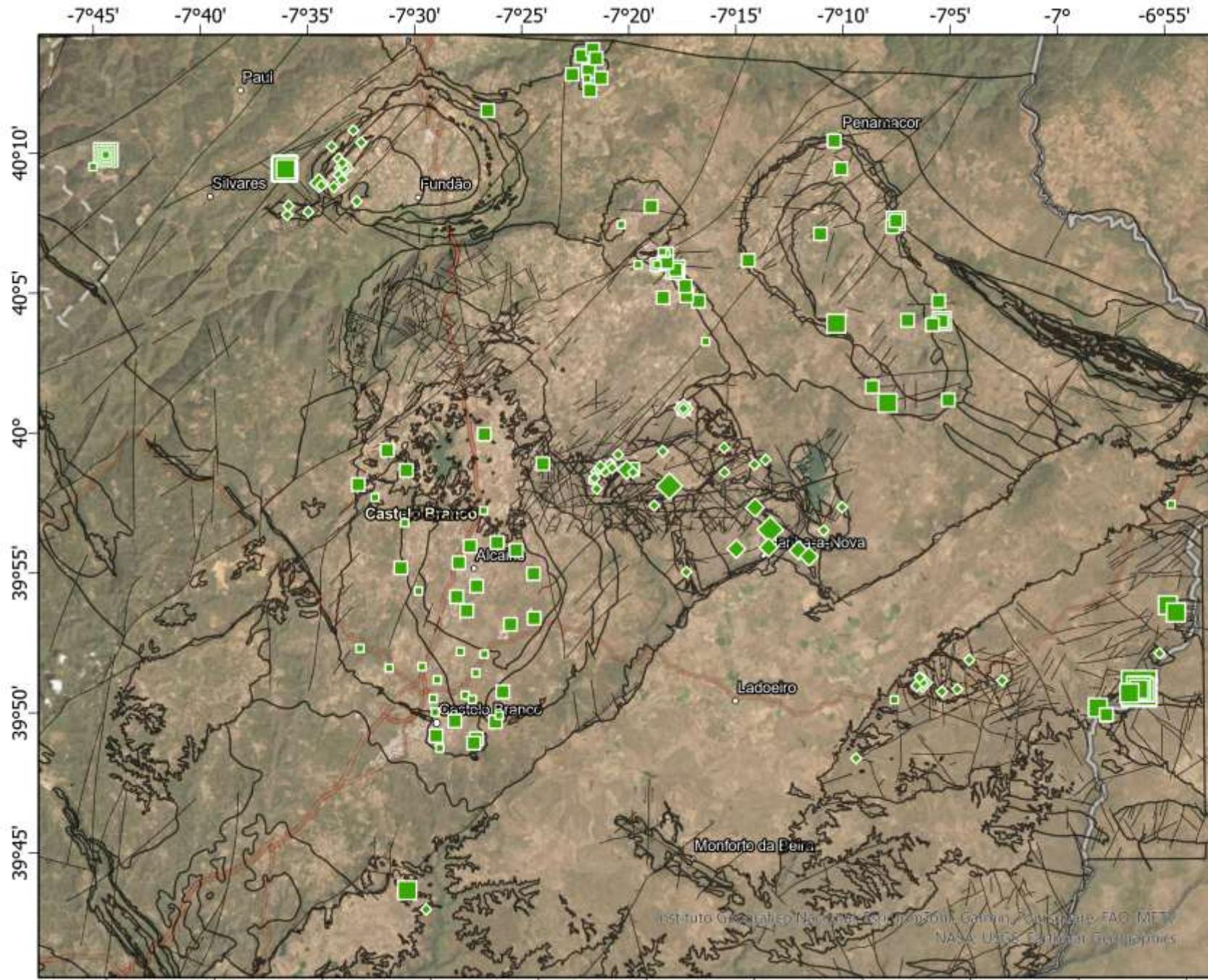


◇ G0	Segura	Penamacor-Monsanto
○ G1	Orca	Castelo Branco
□ G2	Atalaia	Capinha
◇ G3	Argemela	Panasqueira
△ G4		
×		
+		
*		
▽ Greisen		
▽ Dyke		









Carboniferous-Permian Granite Suites

P_2O_5/P_{2O_5} (UCC)

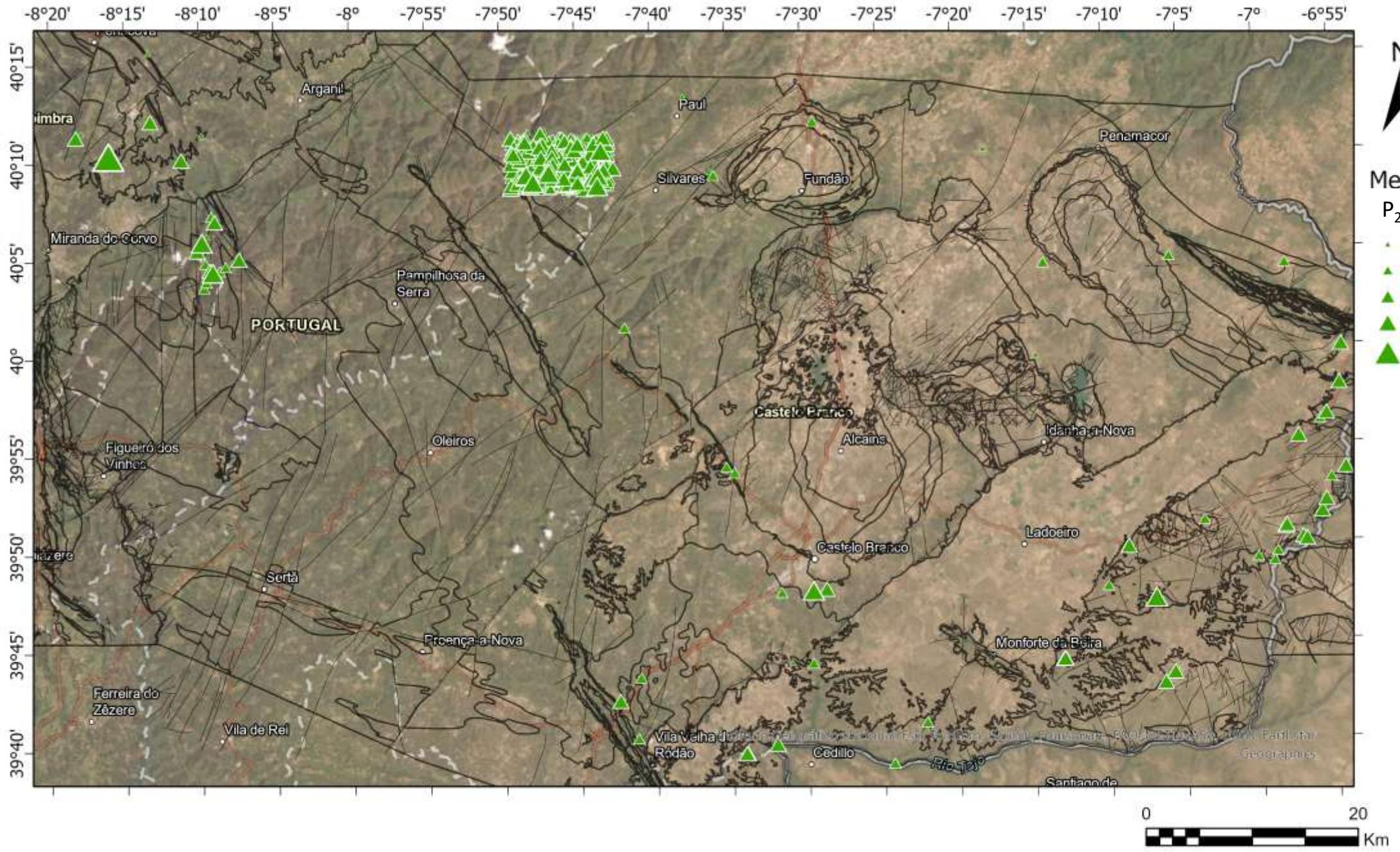
- < 2
- 2 – 4
- 4 – 7
- 7 – 18
- 18 – 32

Cambrian-Ordovician Granitoid Suites

P_2O_5/P_{2O_5} (UCC)

- < 2
- 2 – 4
- 4 – 7
- 7 – 18
- 18 – 32

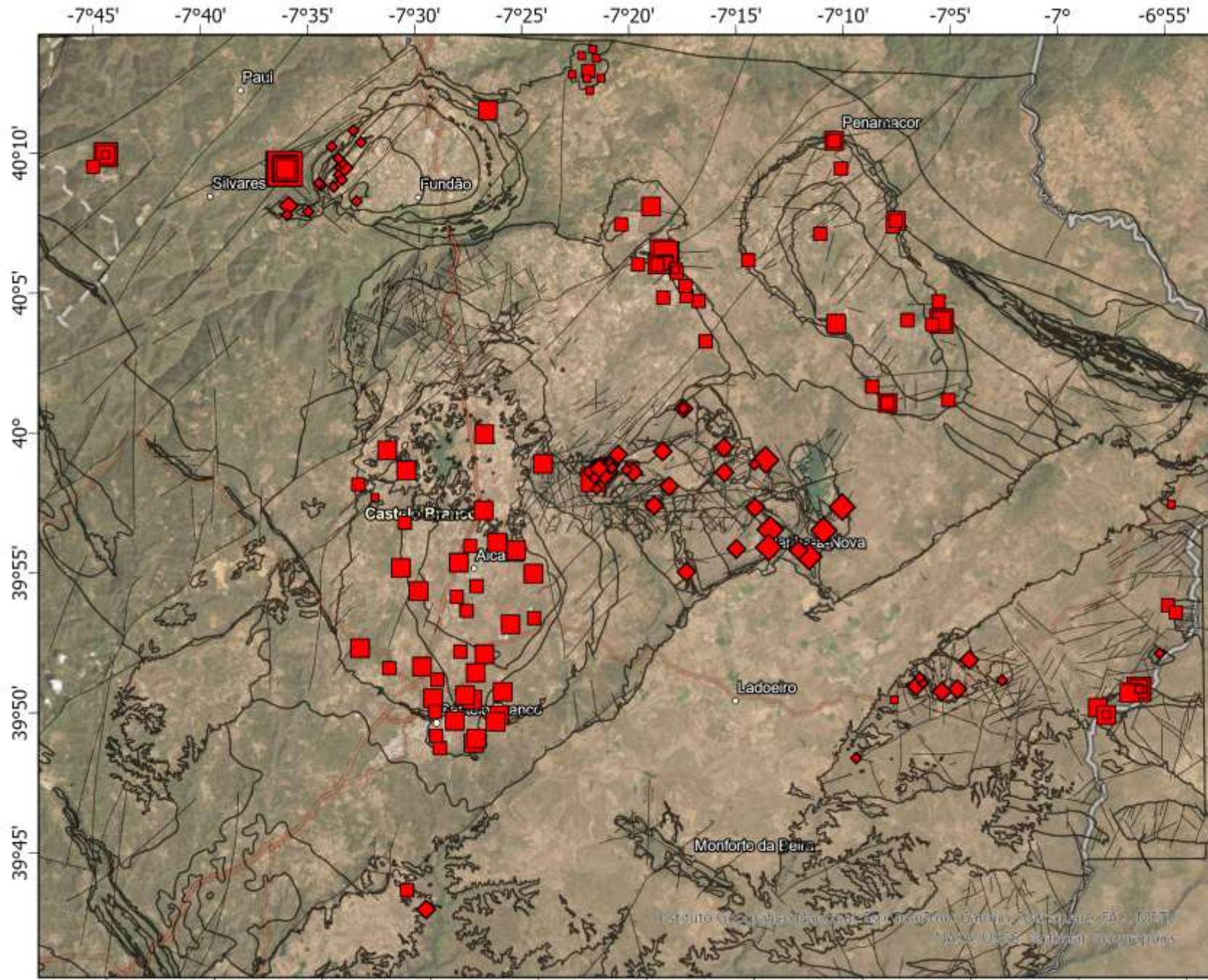




Metasediments
 P_2O_5/P_2O_5 (UCC)

- < 0.5
- 0.5 – 1
- 1 – 1.7
- 1.7 – 3.5
- 3.5 – 12





Carboniferous-Permian
Granite Suites

F/F (UCC)

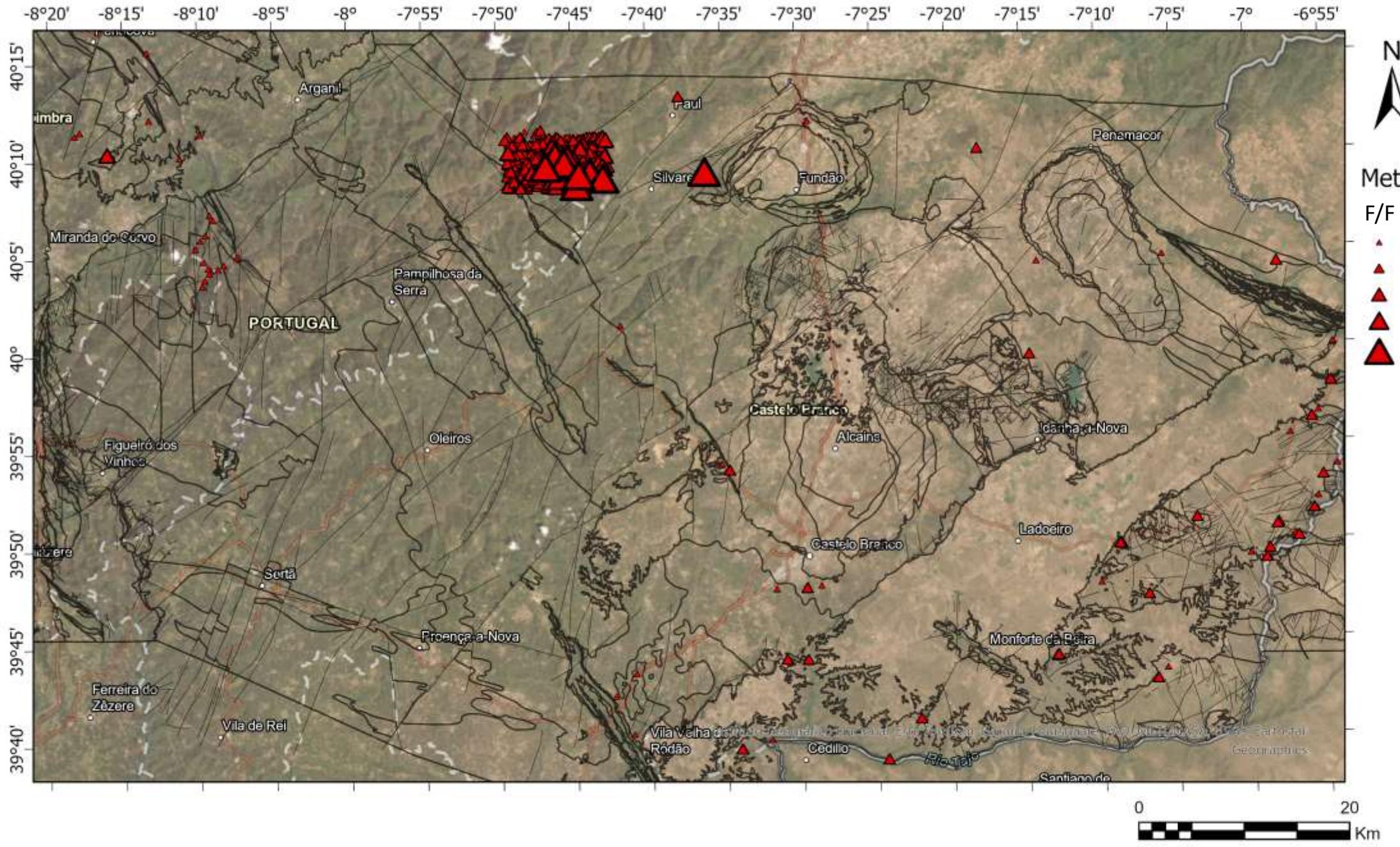
- < 0.6
- 0.6 – 2
- 2 – 4
- 4 – 12
- 12 – 22

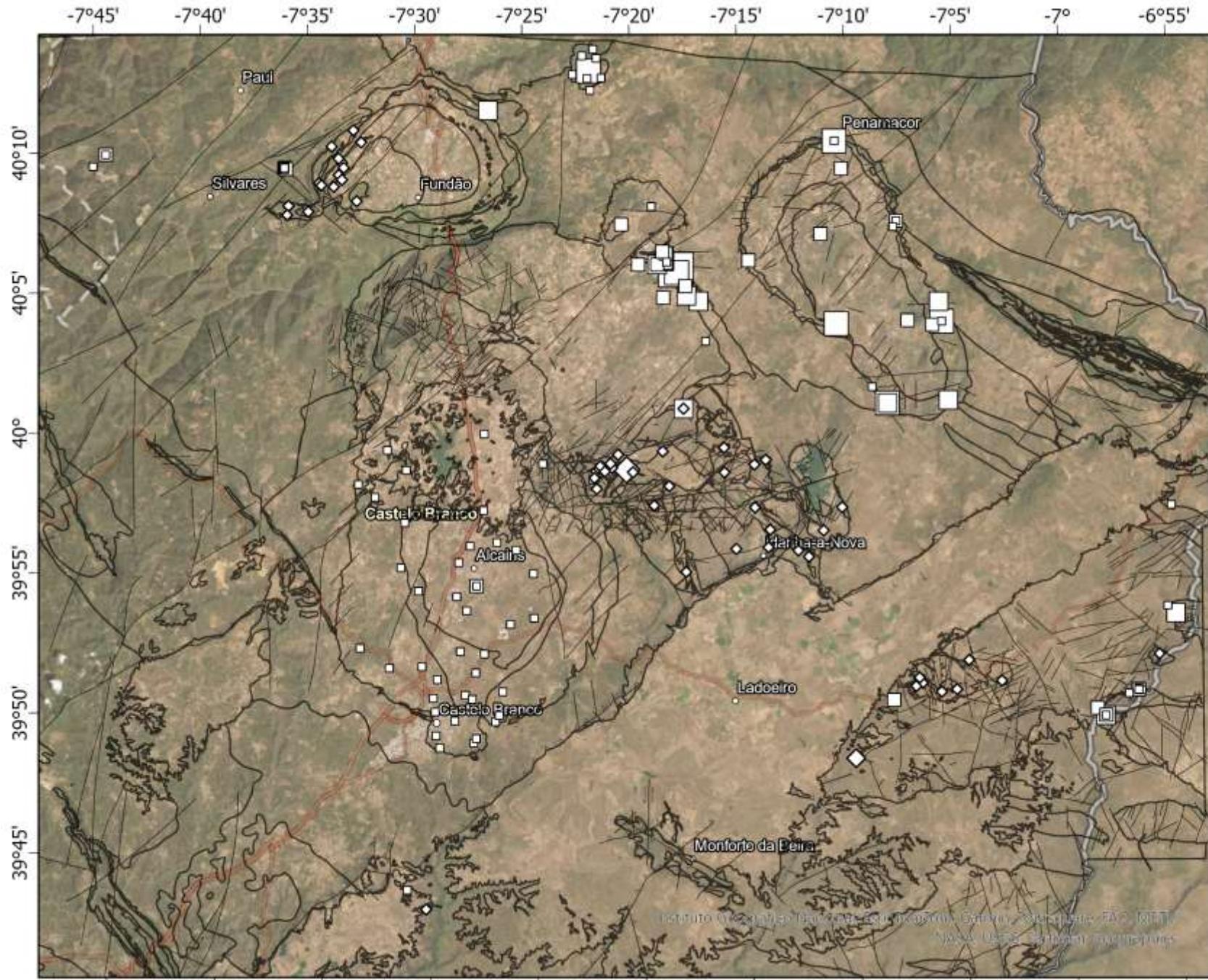
Cambrian-Ordovician
Granitoid Suites

F/F (UCC)

- < 0.6
- 0.6 – 2
- 2 – 4
- 4 – 12
- 12 – 22

0 20 Km





Carboniferous-Permian Granite Suites

B/B (UCC)

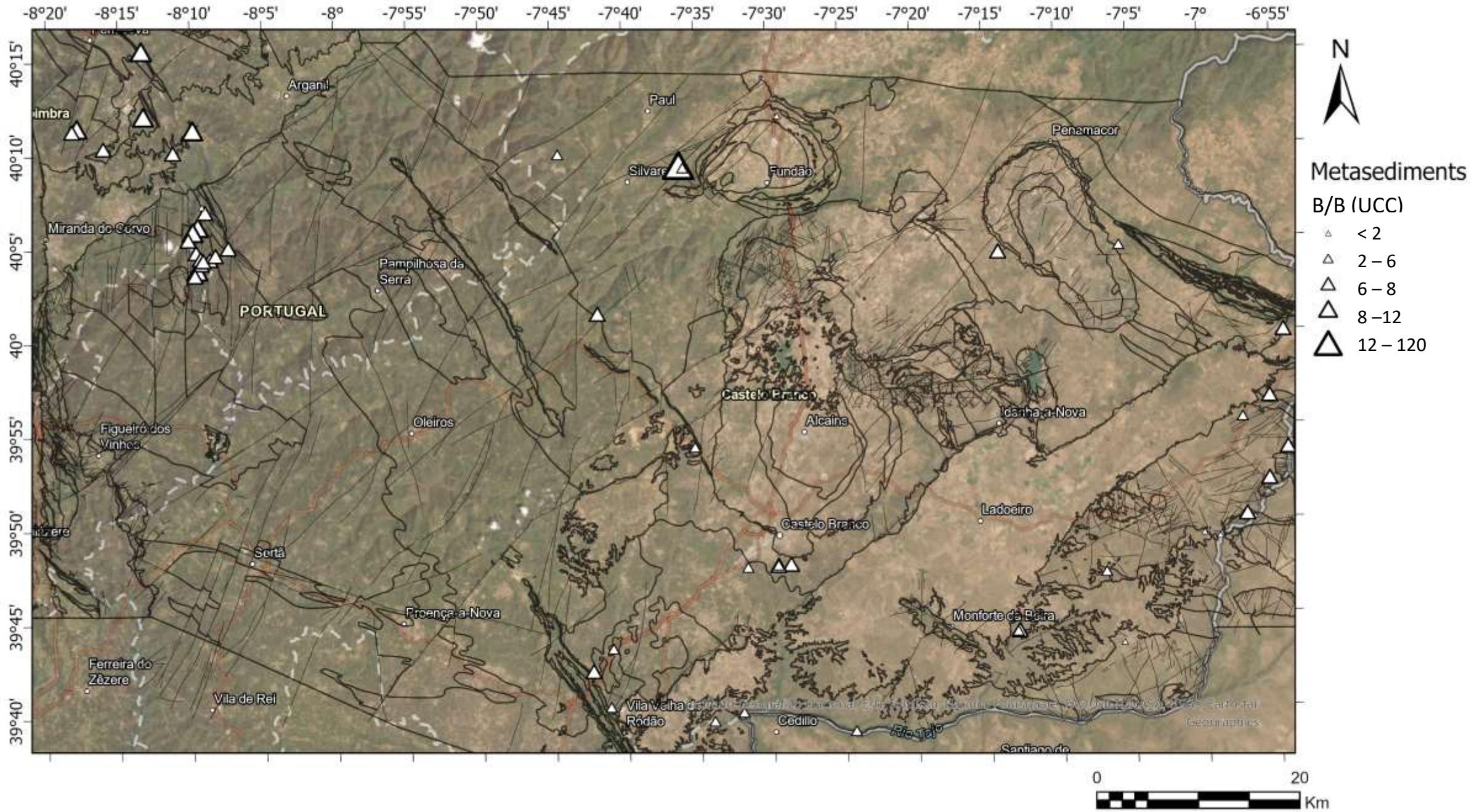
- ◻ < 2
- ◻ 2 – 7
- ◻ 7 – 15
- ◻ 15 – 52
- ◻ 52 – 124

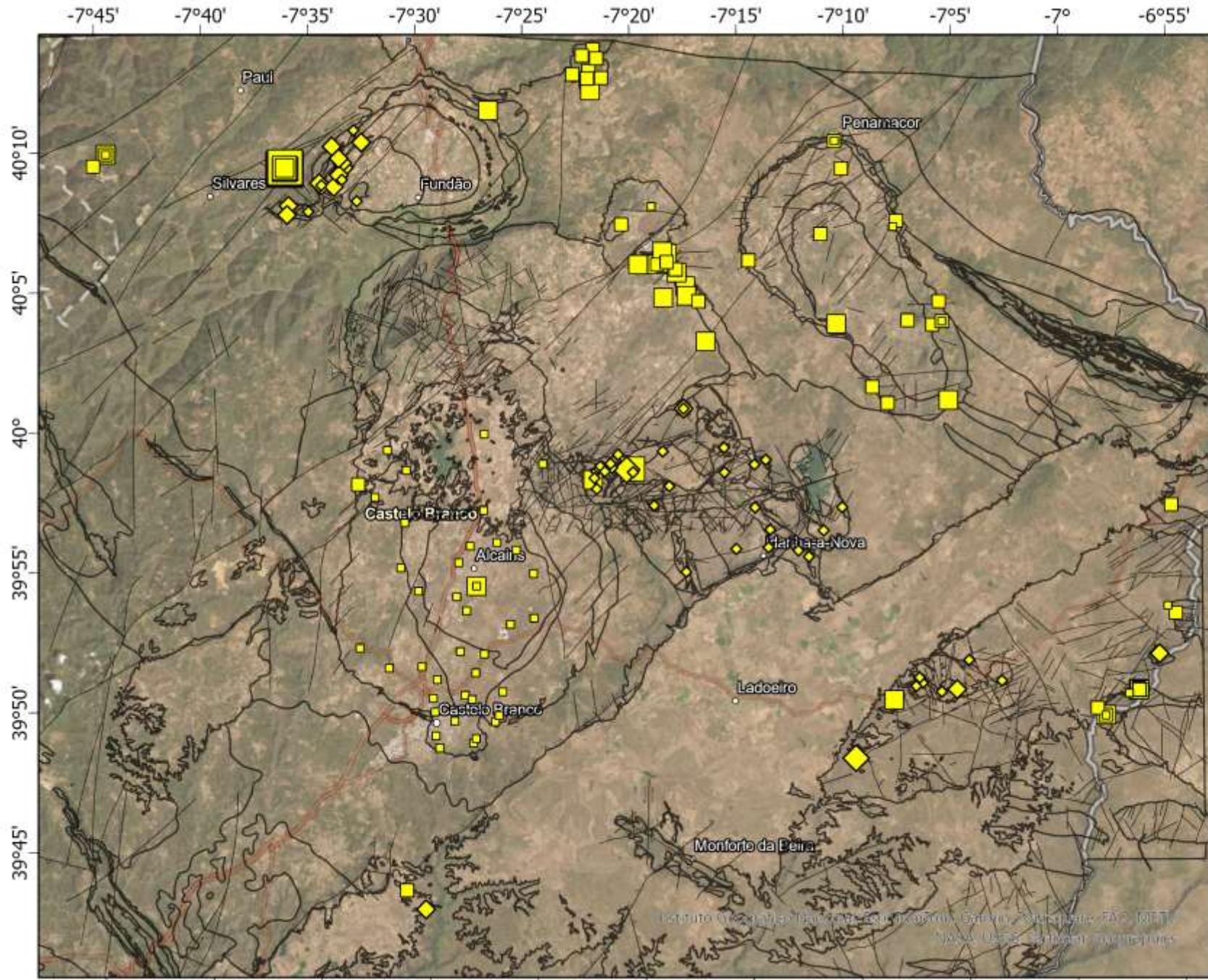
Cambrian-Ordovician Granitoid Suites

B/B (UCC)

- ◊ < 2
- ◊ 2 – 7
- ◊ 7 – 15
- ◊ 15 – 52
- ◊ 52 – 124

0 20 Km





Carboniferous-Permian Granite Suites

Be/Be (UCC)

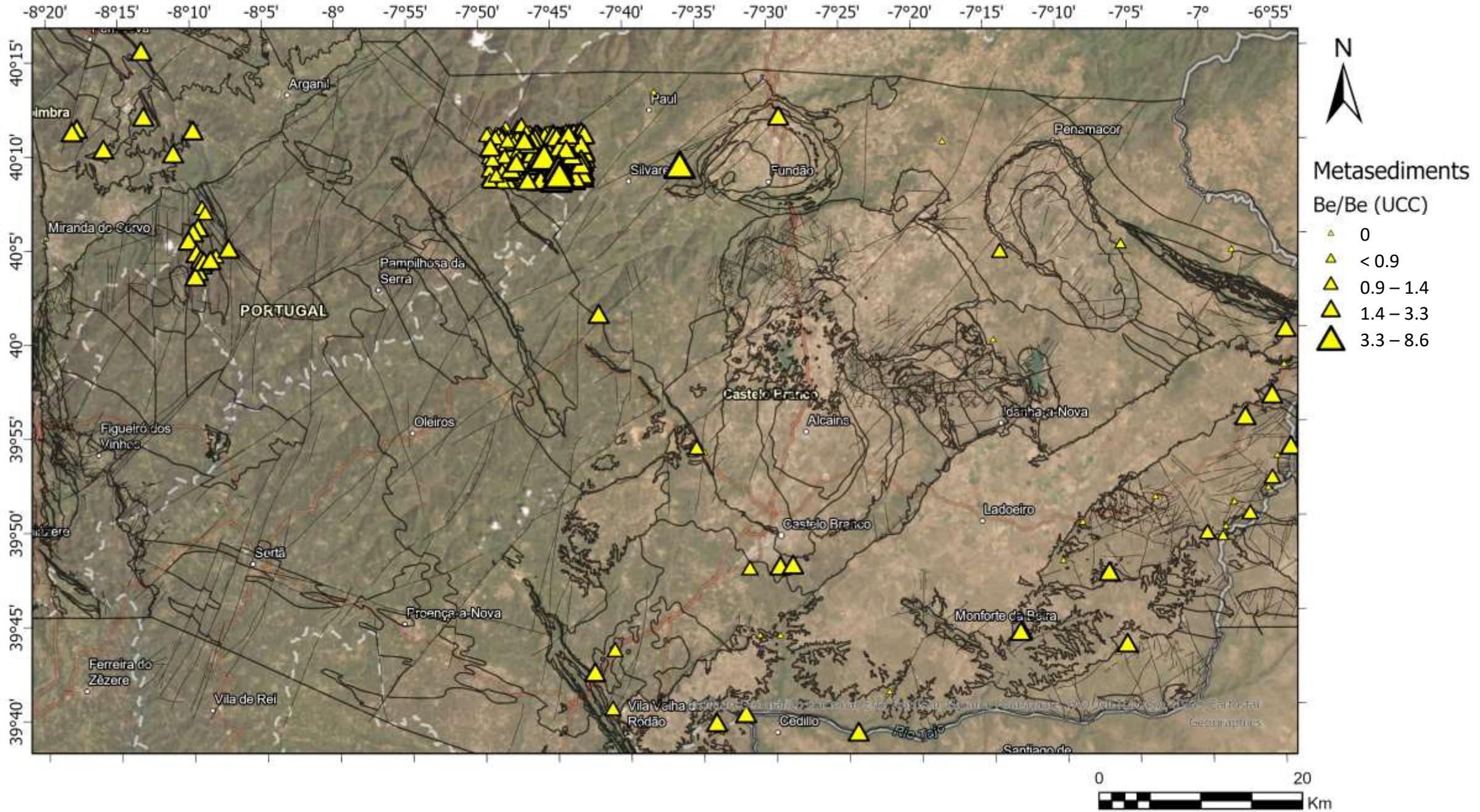
- < 0.5
- 0.5 – 2.7
- 2.7 – 8
- ▲ 8 – 36
- ◆ 36 – 69

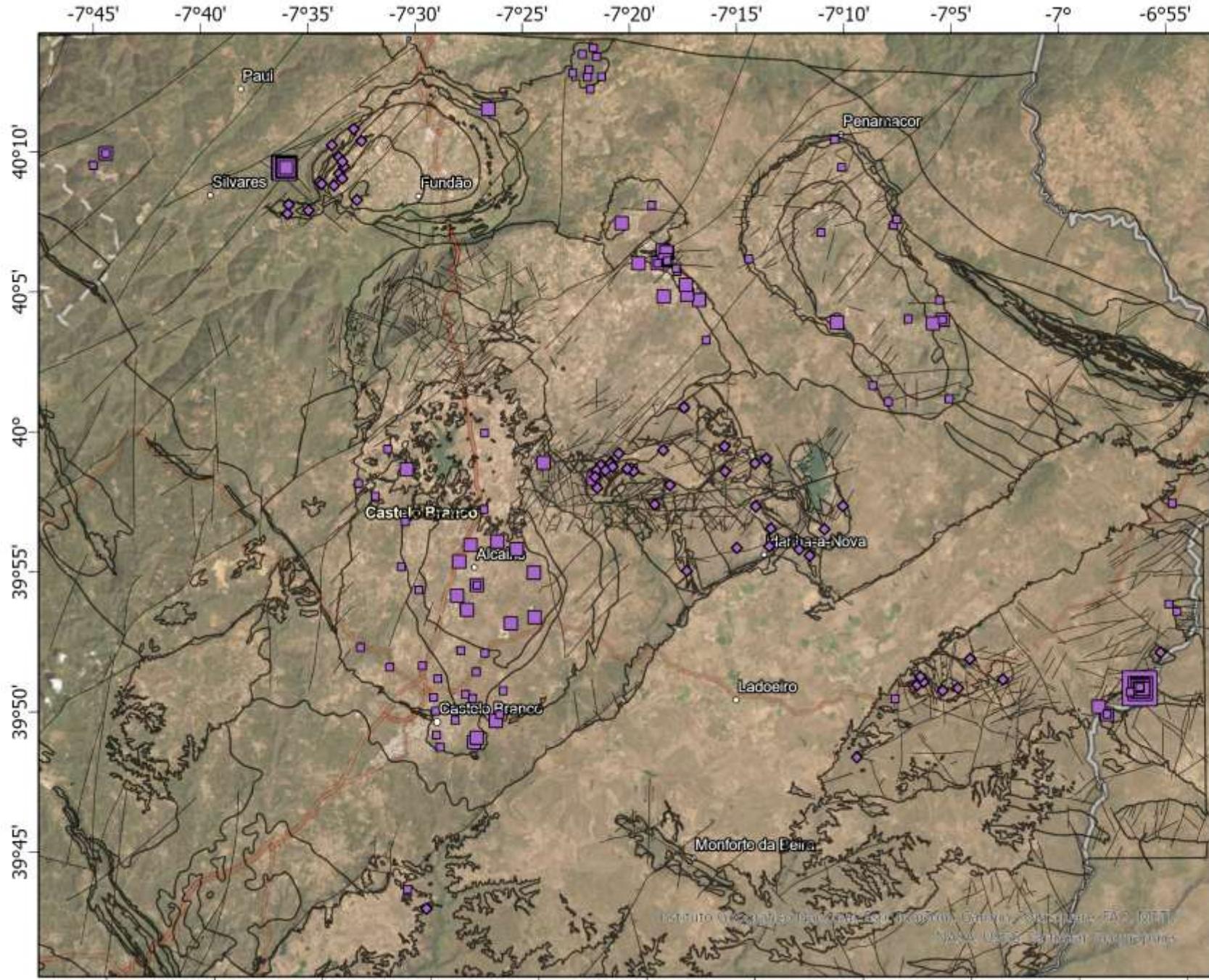
Cambrian-Ordovician Granitoid Suites

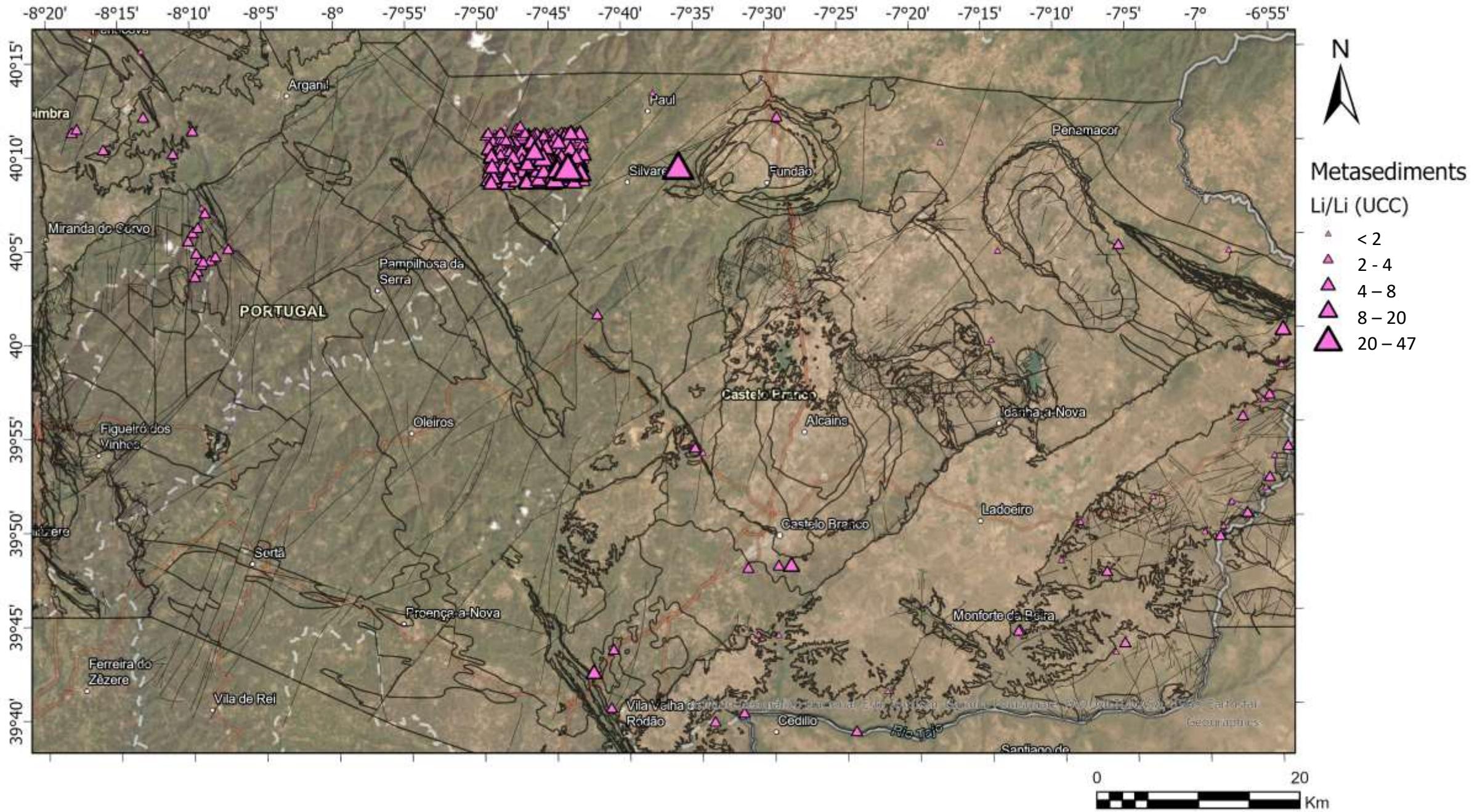
Be/Be (UCC)

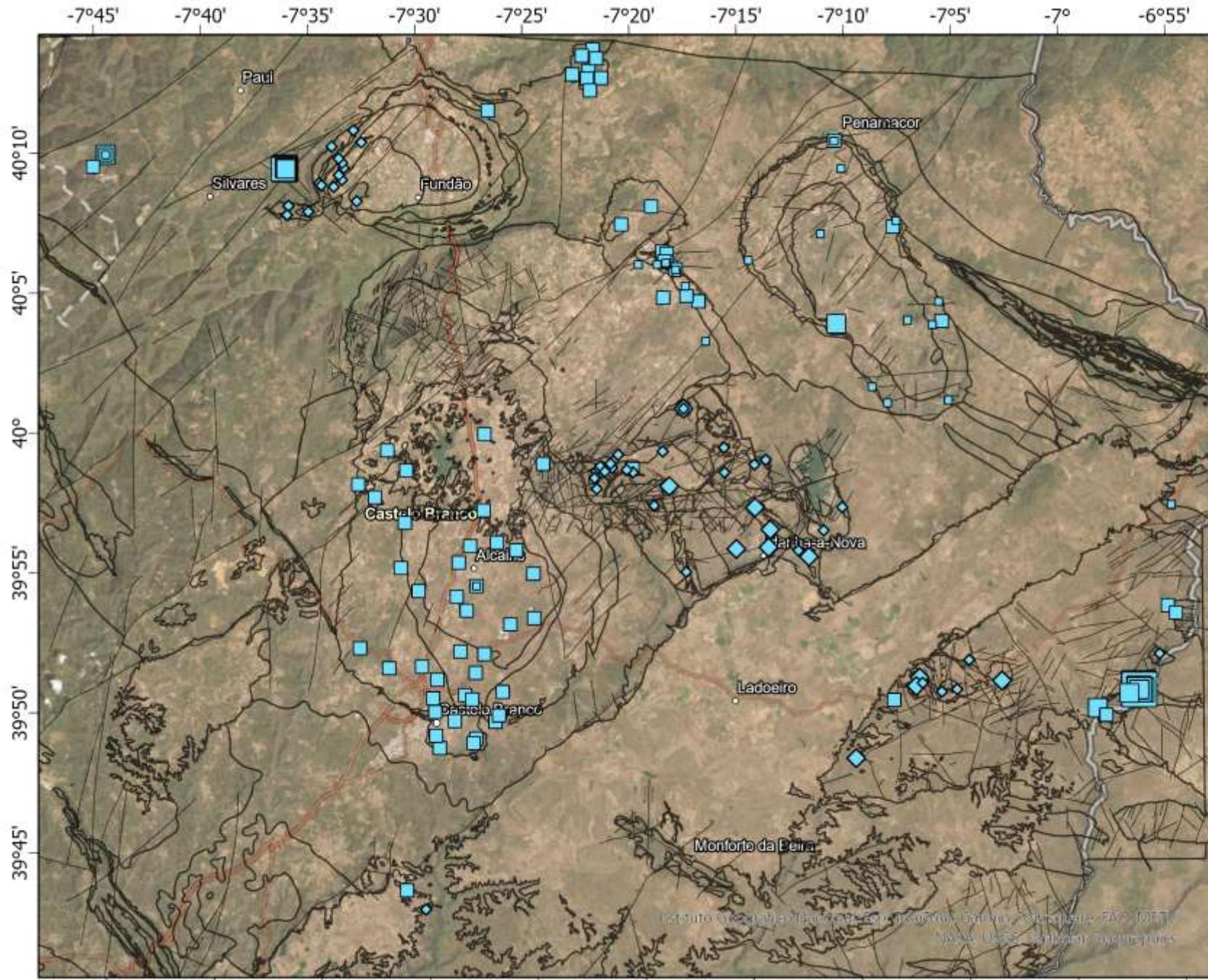
- ♦ < 0.5
- ◇ 0.5 – 2.7
- ◆ 2.7 – 8
- ▲ 8 – 36
- ◆ 36 – 69

0 20 Km









Carboniferous-Permian Granite Suites

Nb/Nb (UCC)

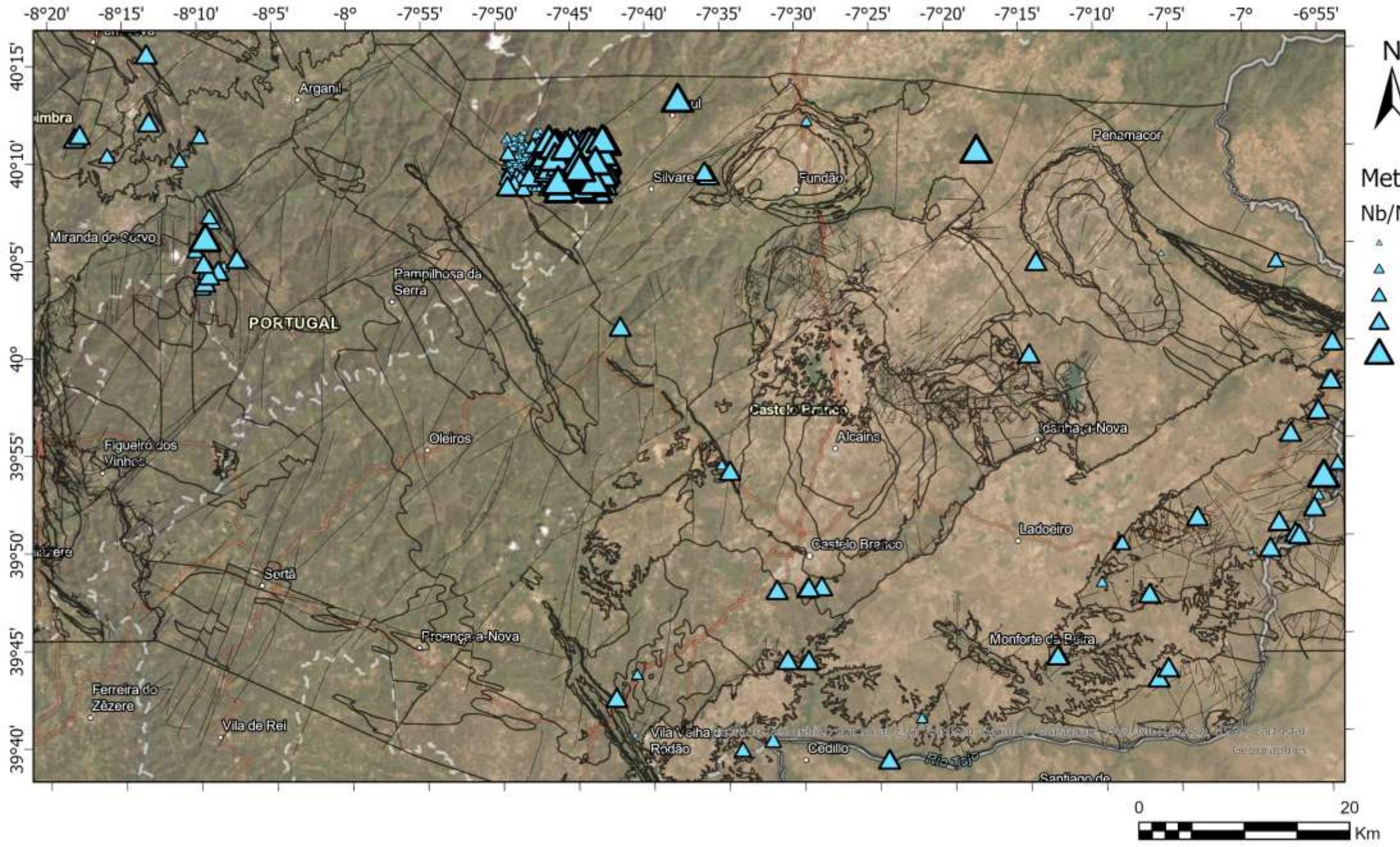
- < 0.7
- 0.7 – 1.8
- 1.8 – 3.7
- 3.7 – 7.3
- 7.3 – 15

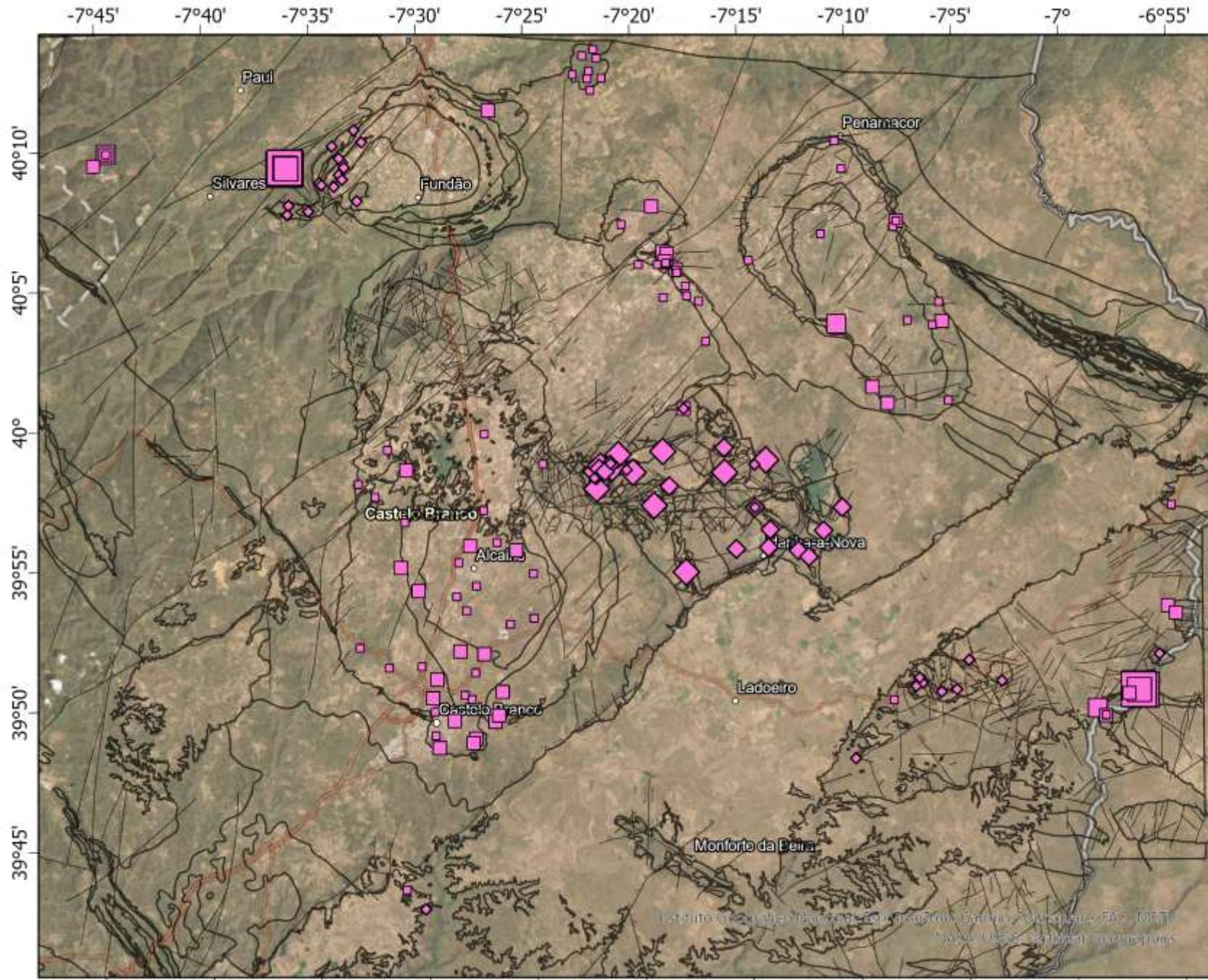
Cambrian-Ordovician Granitoid Suites

Nb/Nb (UCC)

- < 0.7
- 0.7 – 1.8
- 1.8 – 3.7
- 3.7 – 7.3
- 7.3 – 15

0 20 Km





Carboniferous-Permian Granite Suites

Ta/Ta (UCC)

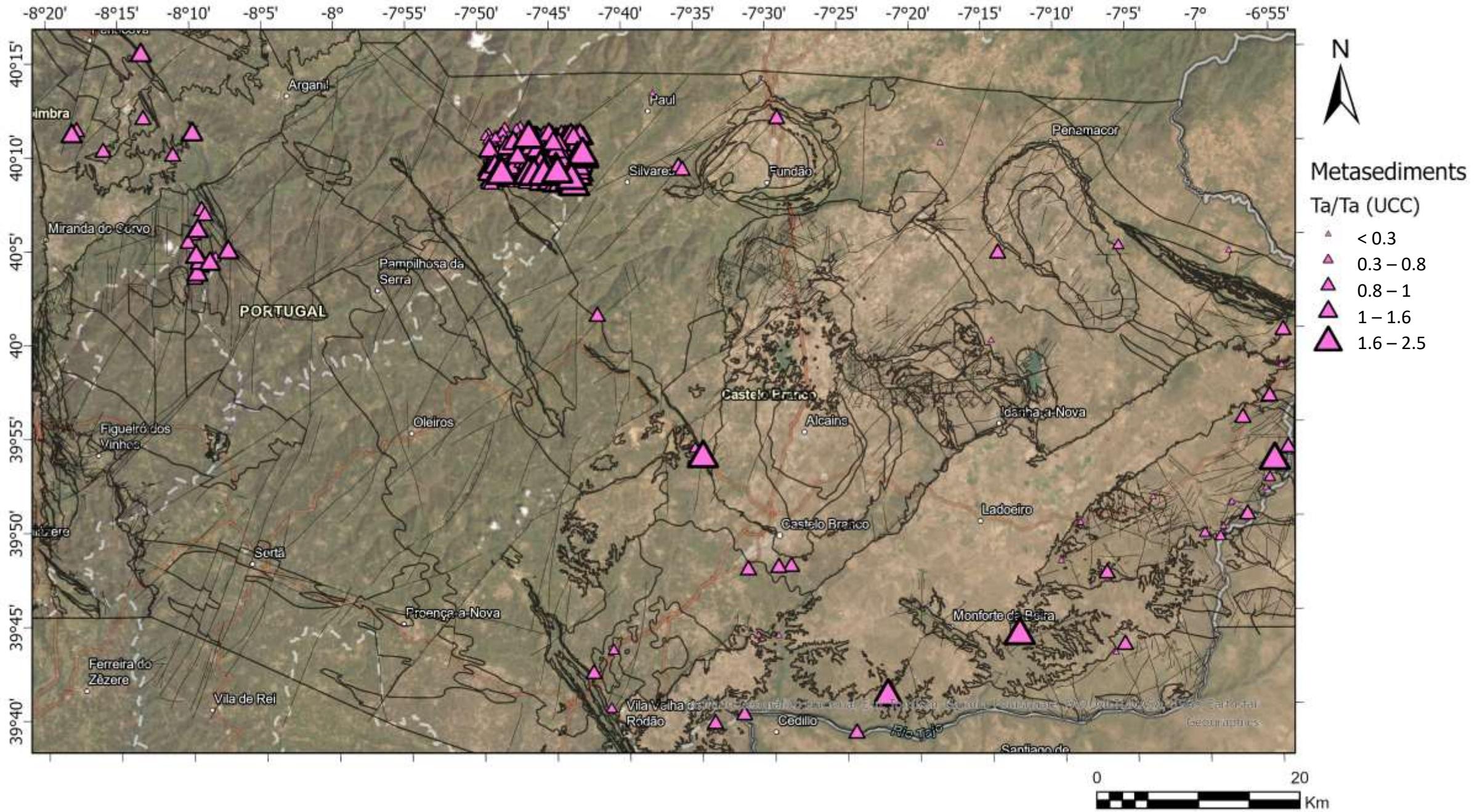
- < 3
- 3 – 8
- 8 – 23
- 23 – 57
- 57 - 148

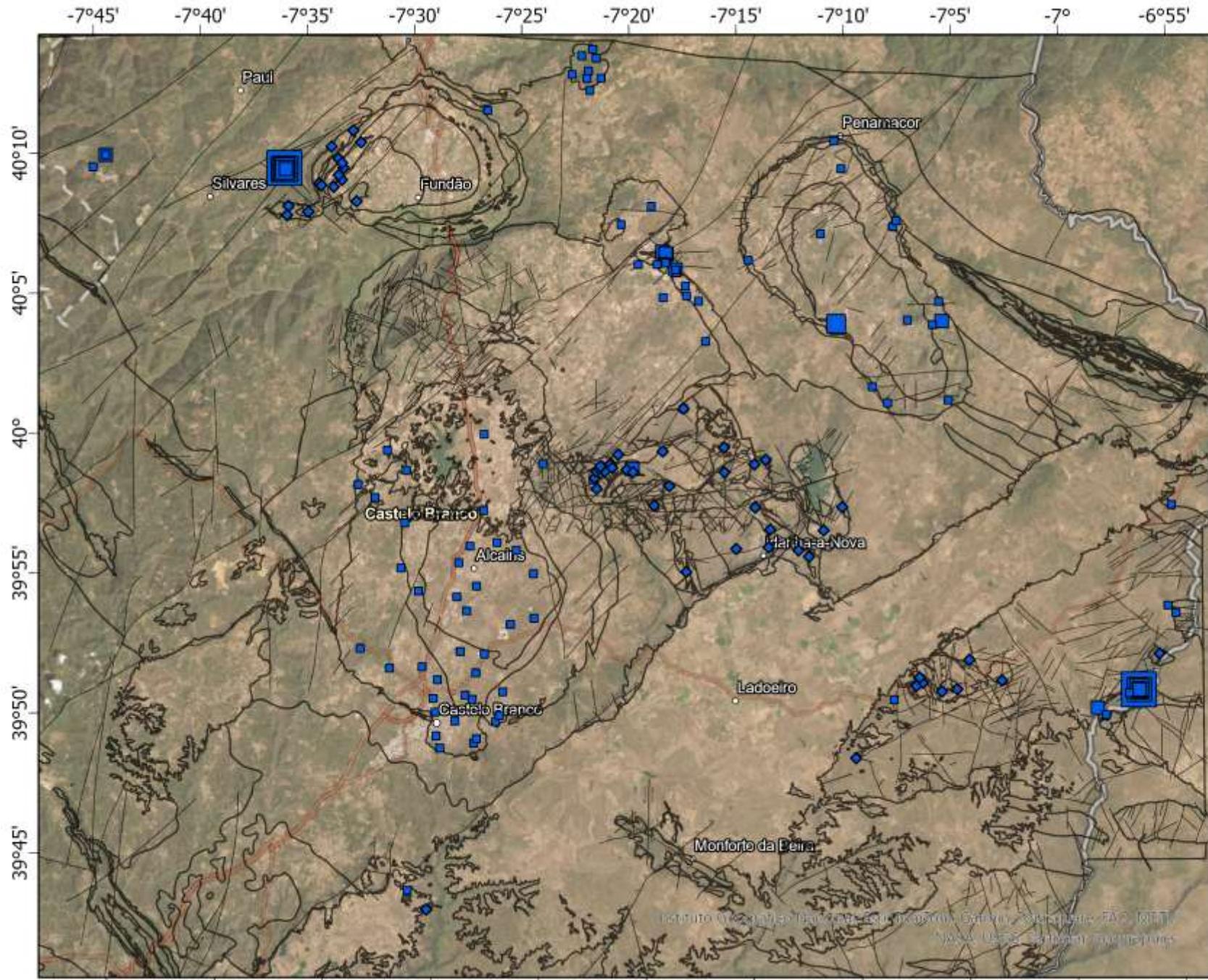
Cambrian-Ordovician Granitoid Suites

Ta/Ta (UCC)

- < 3
- 3 – 8
- 8 – 23
- 23 – 57
- 57 - 148

0 20 Km





Carboniferous-Permian
Granite Suites

Sn/Sn (UCC)

- < 21
- 21 – 122
- 122 – 302
- 302 – 420
- 420 - 800

Cambrian-Ordovician
Granitoid Suites

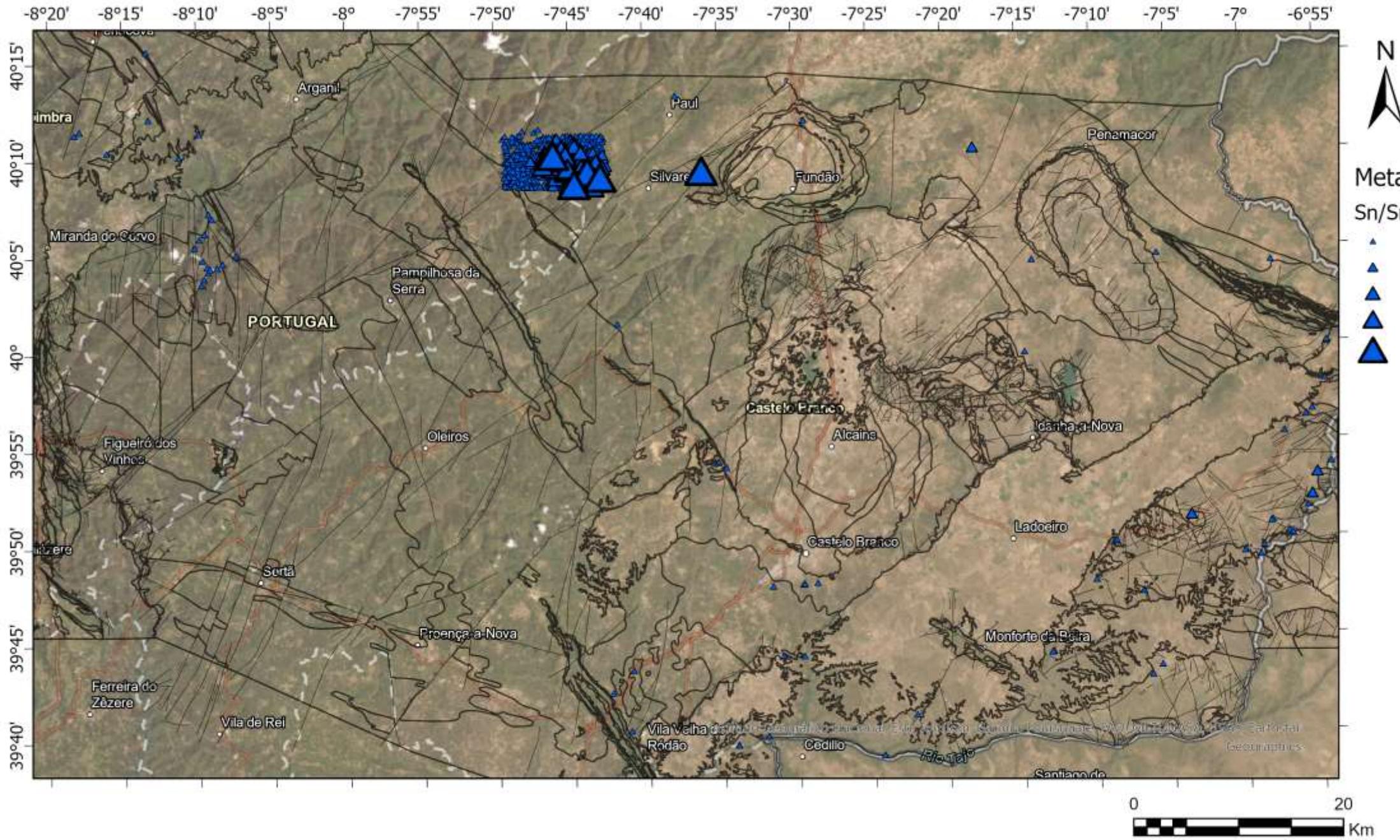
Sn/Sn (UCC)

- < 21
- 21 – 122
- 122 – 302
- 302 – 420
- 420 - 800

0

20

Km



Metasediments

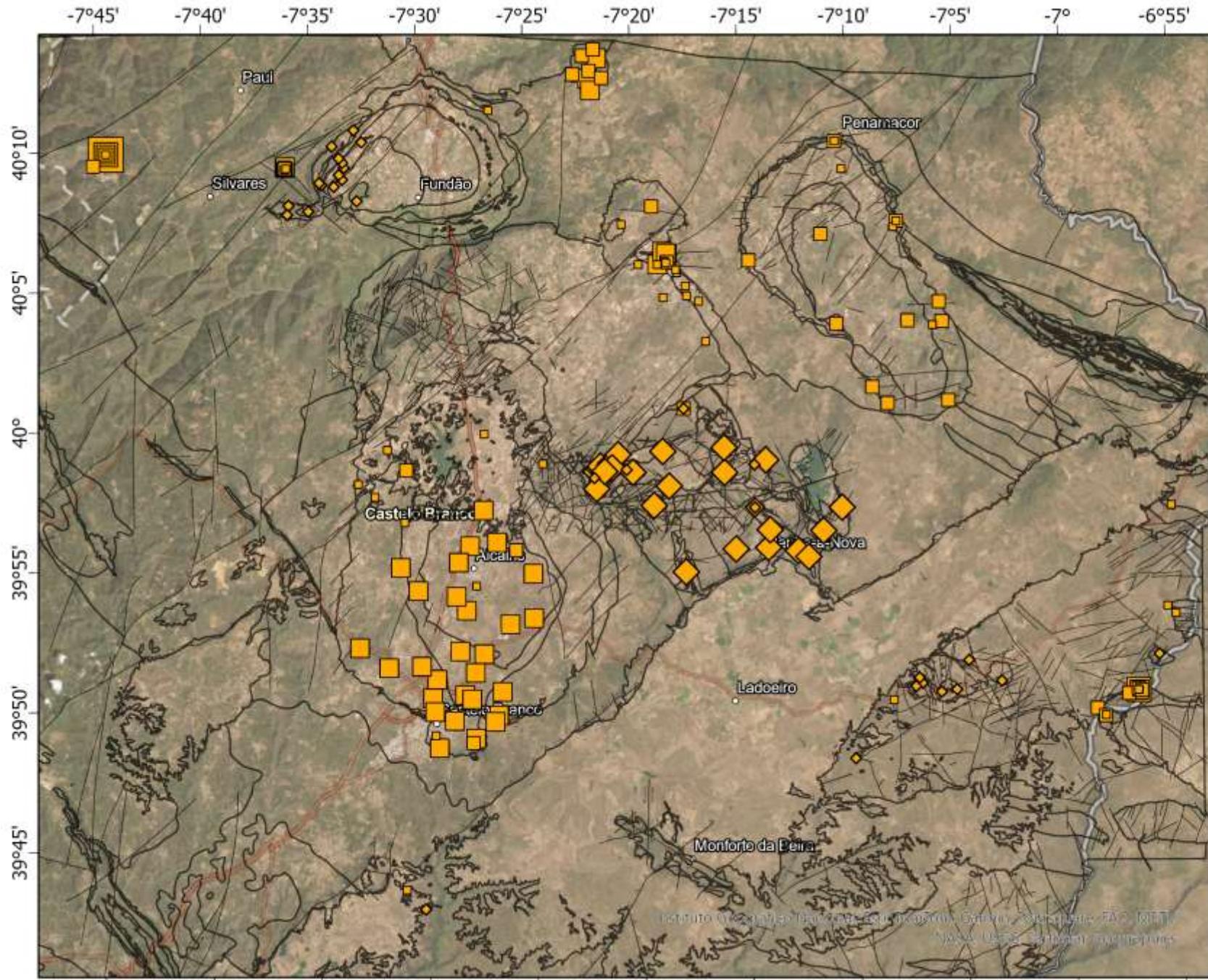
Sn/Sn (UCC)

- ▲ < 2.6
- ▲ 2.6 – 5.8
- ▲ 5.8 – 10.6
- ▲ 10.6 – 21
- ▲ 21 – 39

0

20

Km



Carboniferous-Permian
Granite Suites

W/W (UCC)

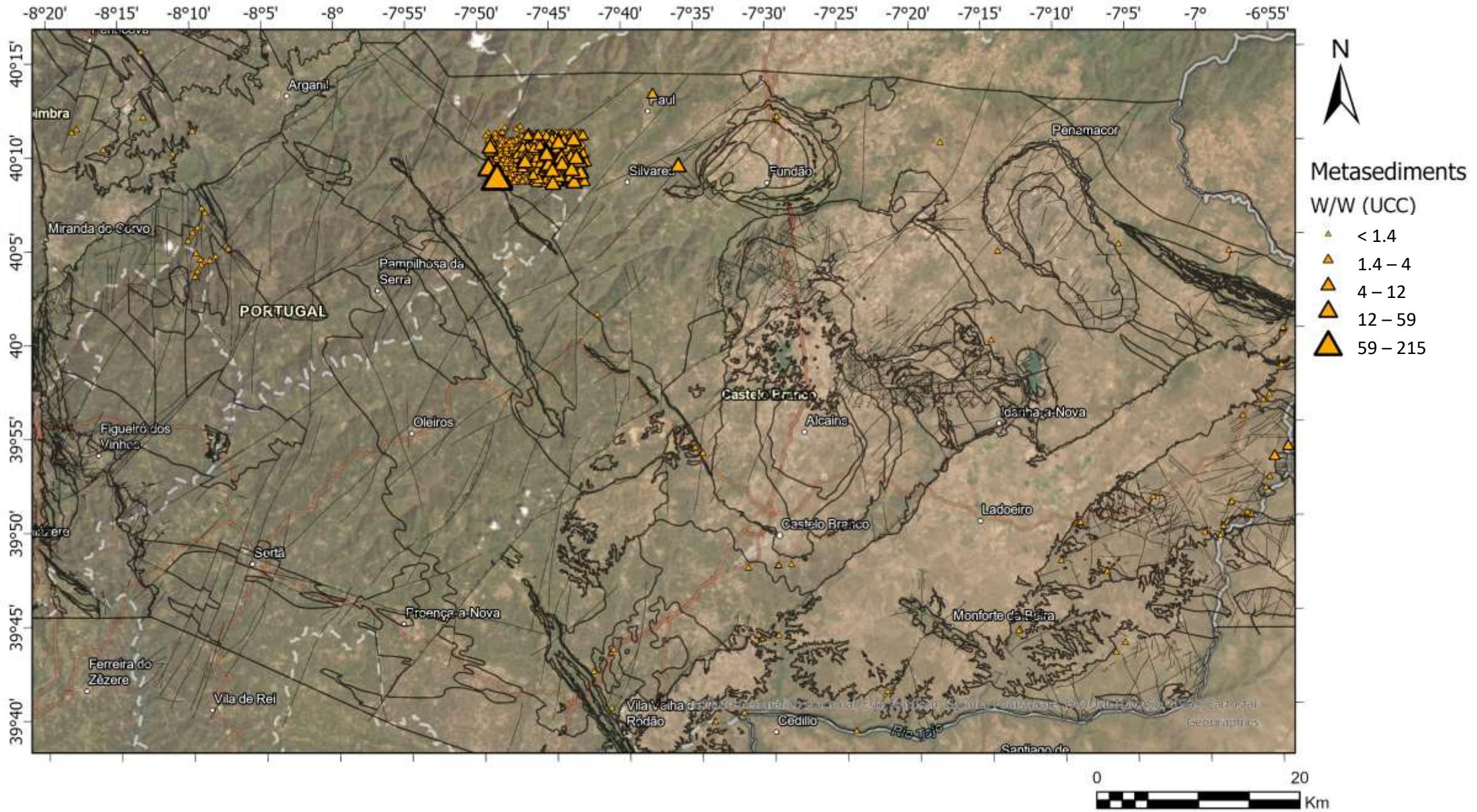
- < 1.8
- 1.8 – 5.4
- 5.4 – 17.4
- 17.4 – 57
- 57 – 250

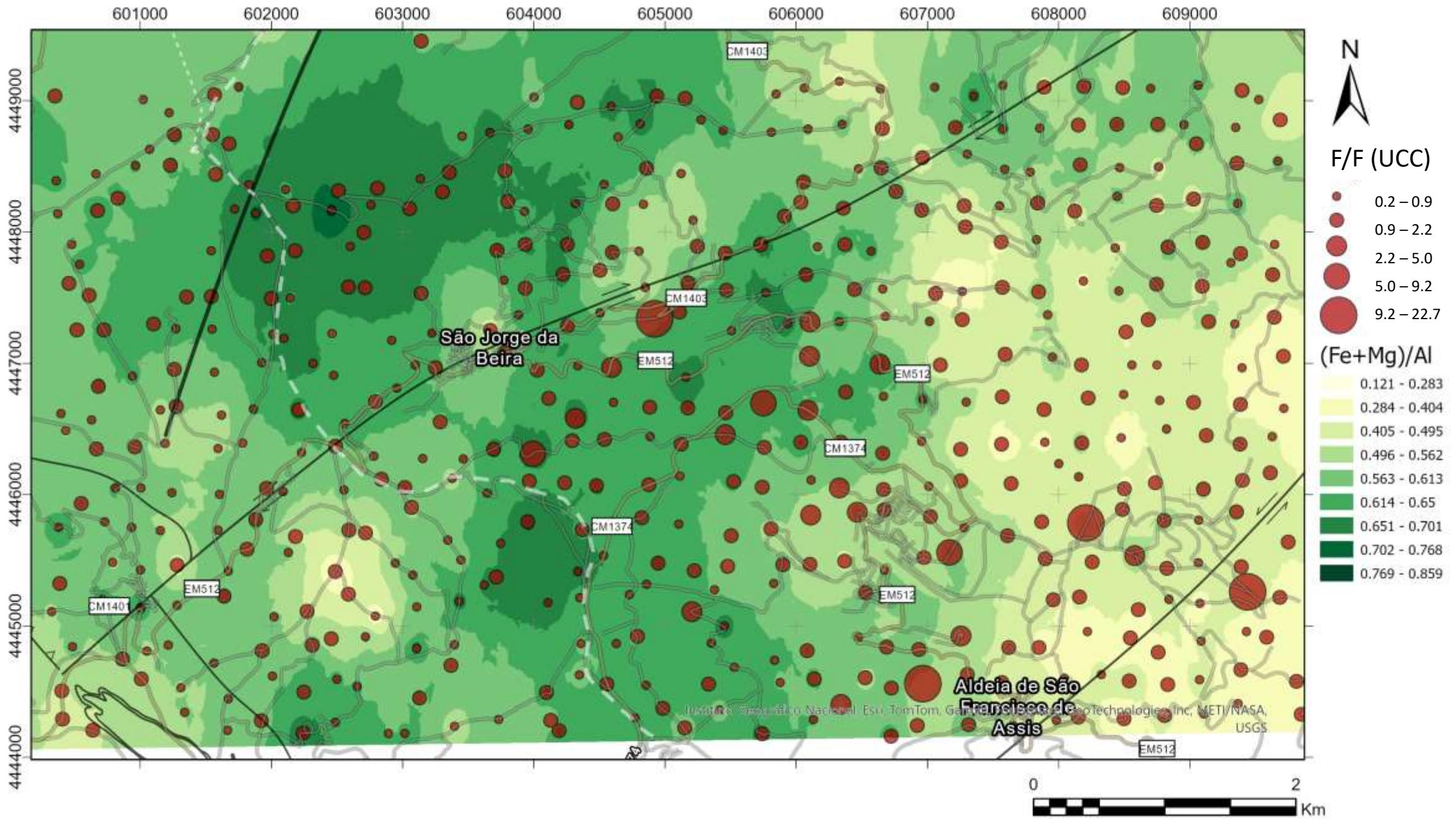
Cambrian-Ordovician
Granitoid Suites

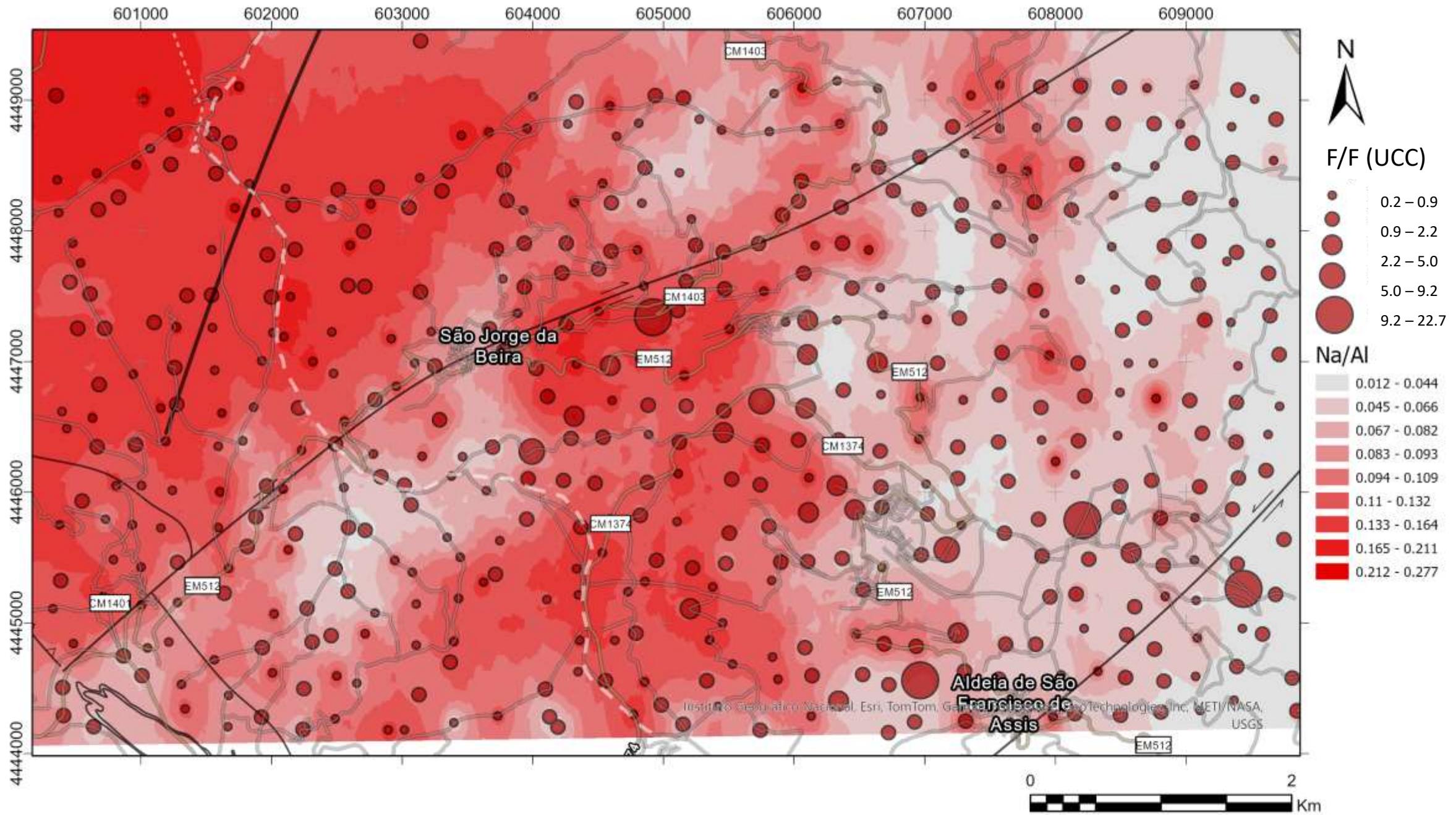
W/W (UCC)

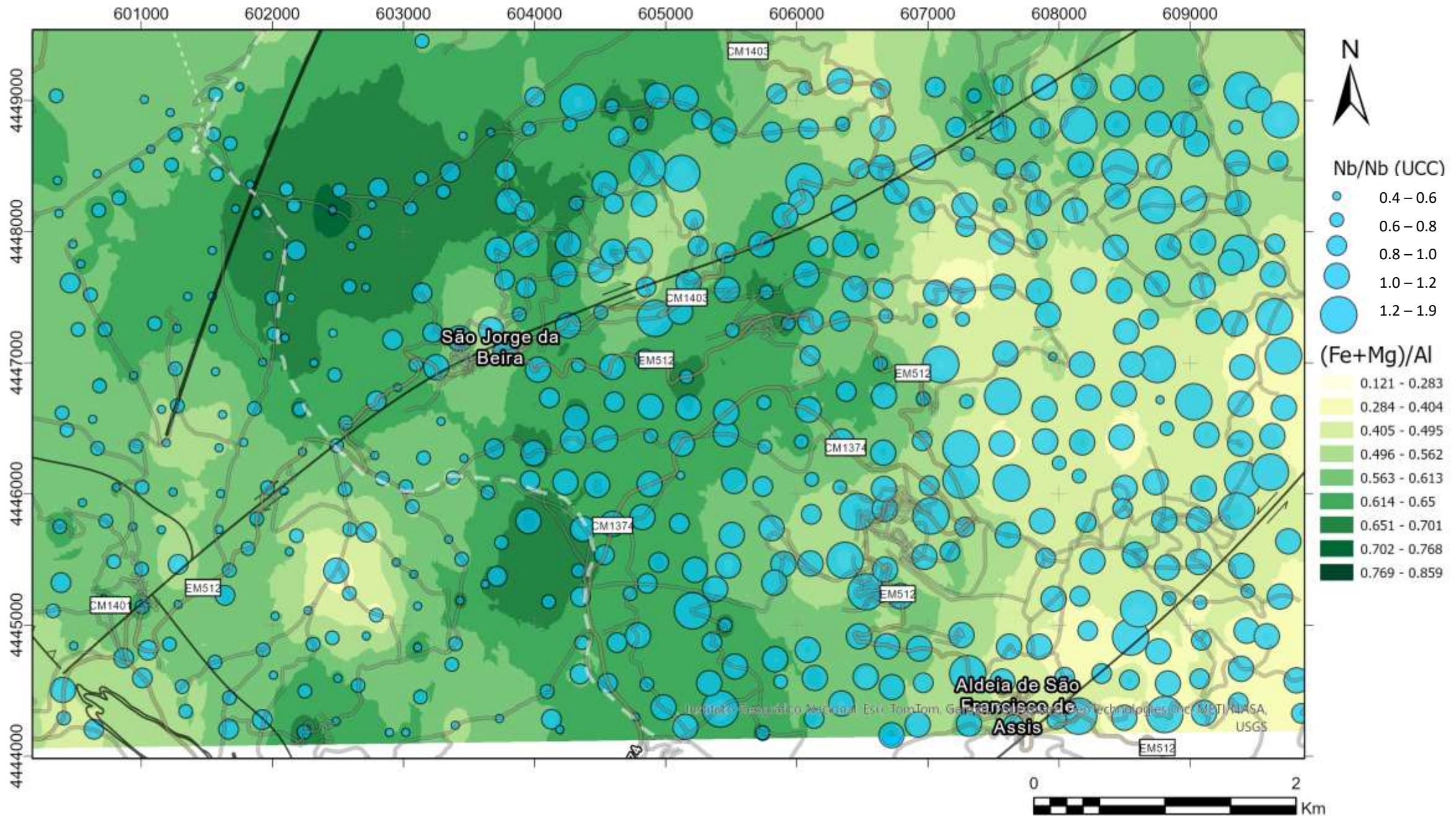
- < 1.8
- 1.8 – 5.4
- 5.4 – 17.4
- 17.4 – 57
- 57 – 250

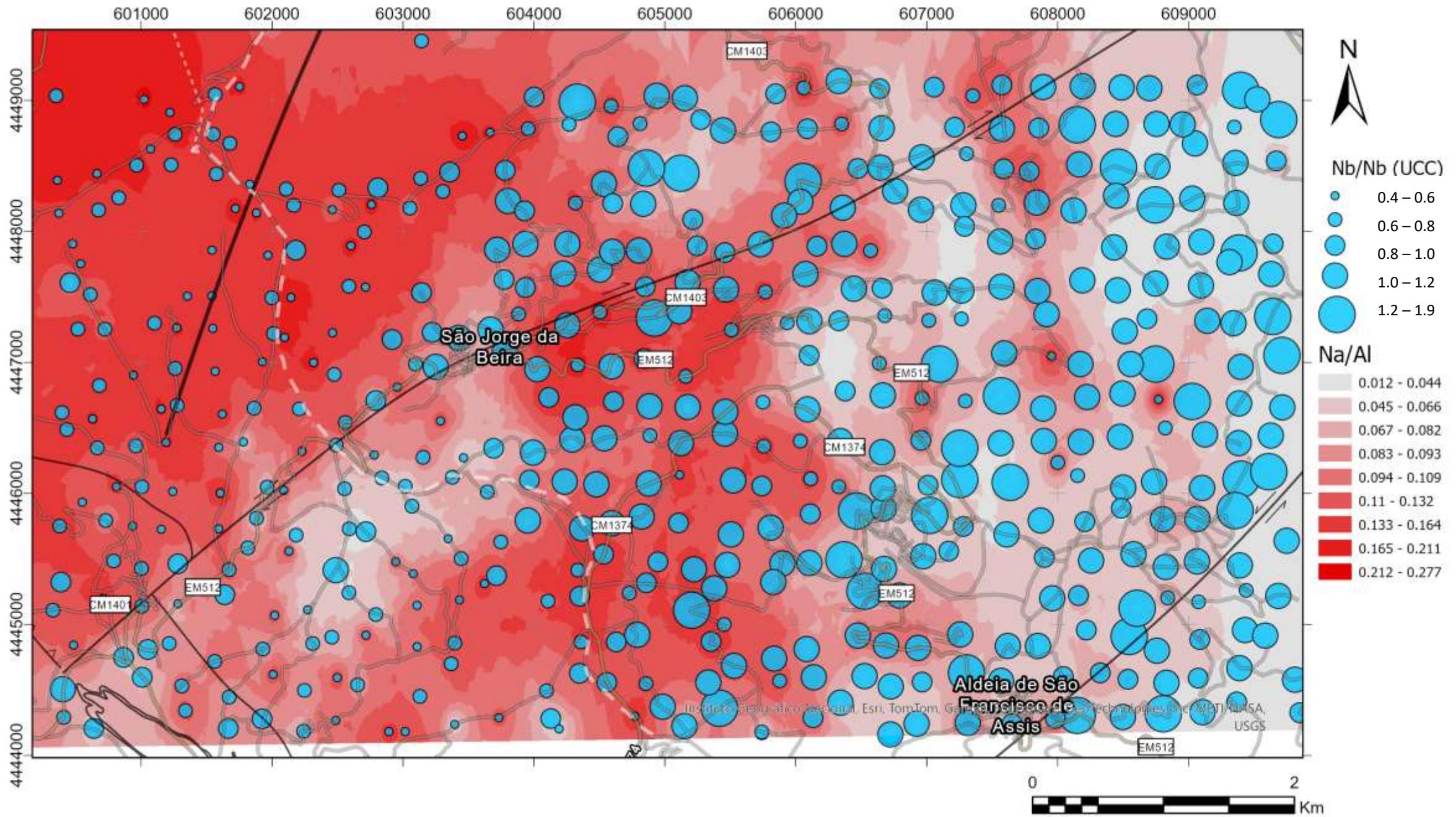


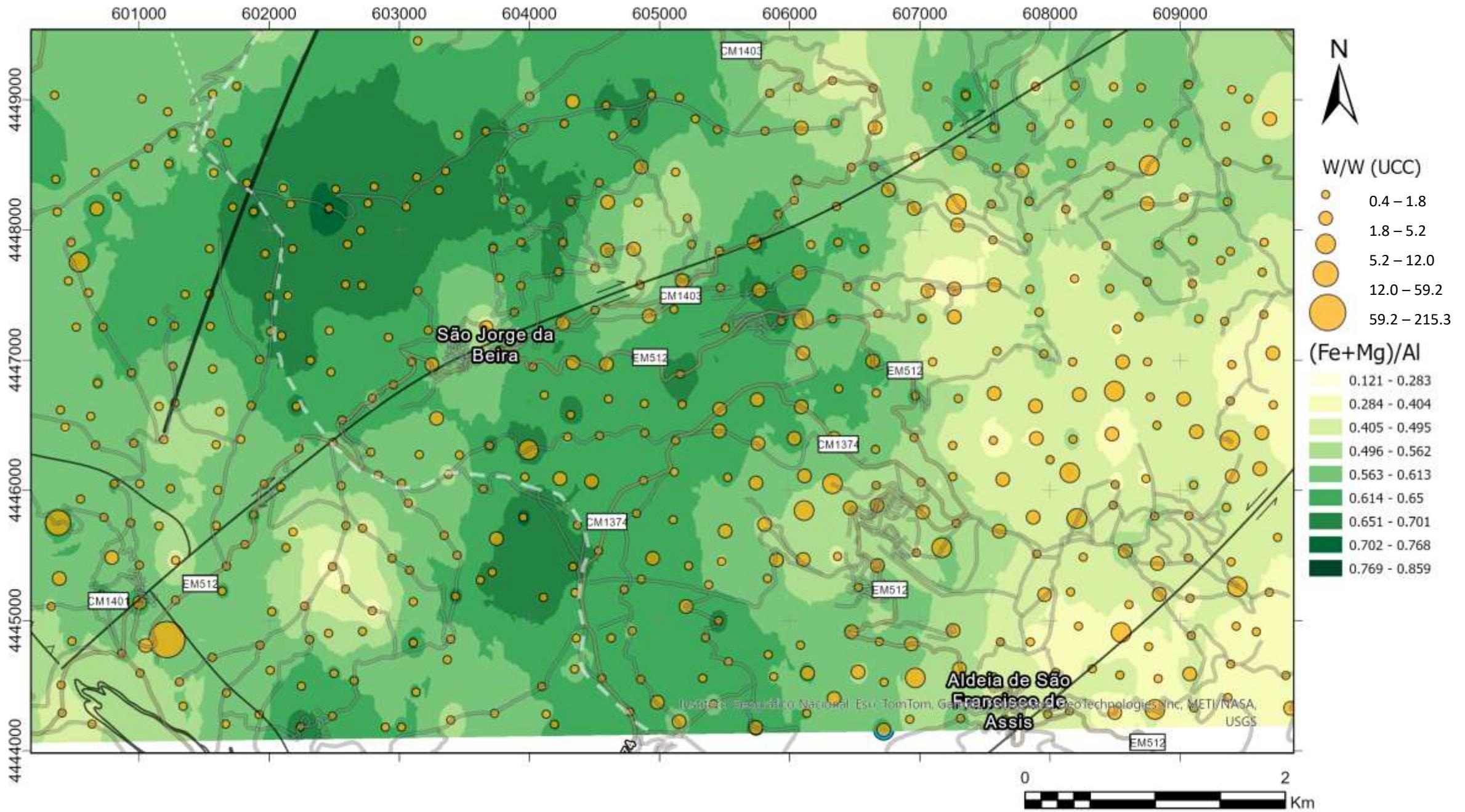


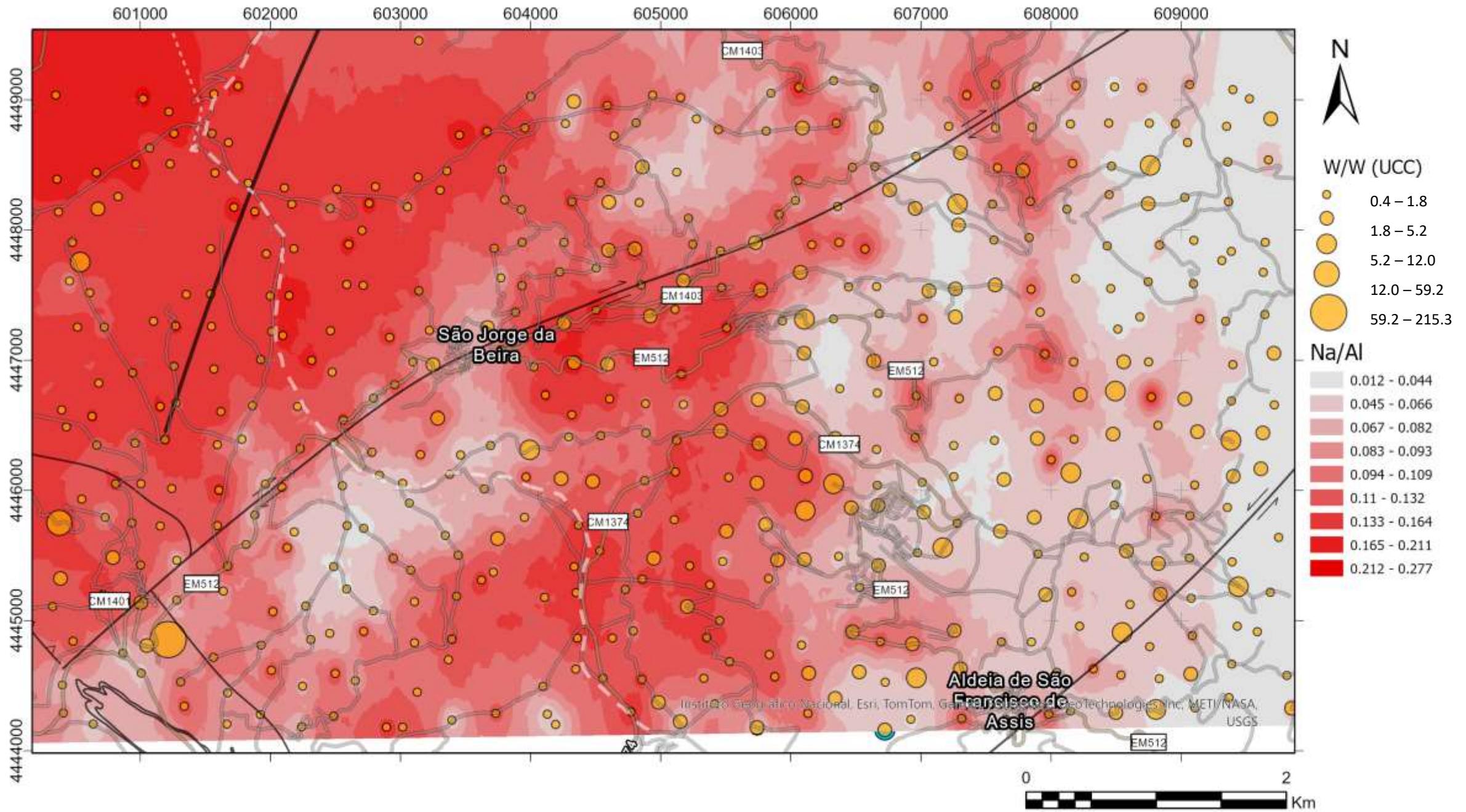


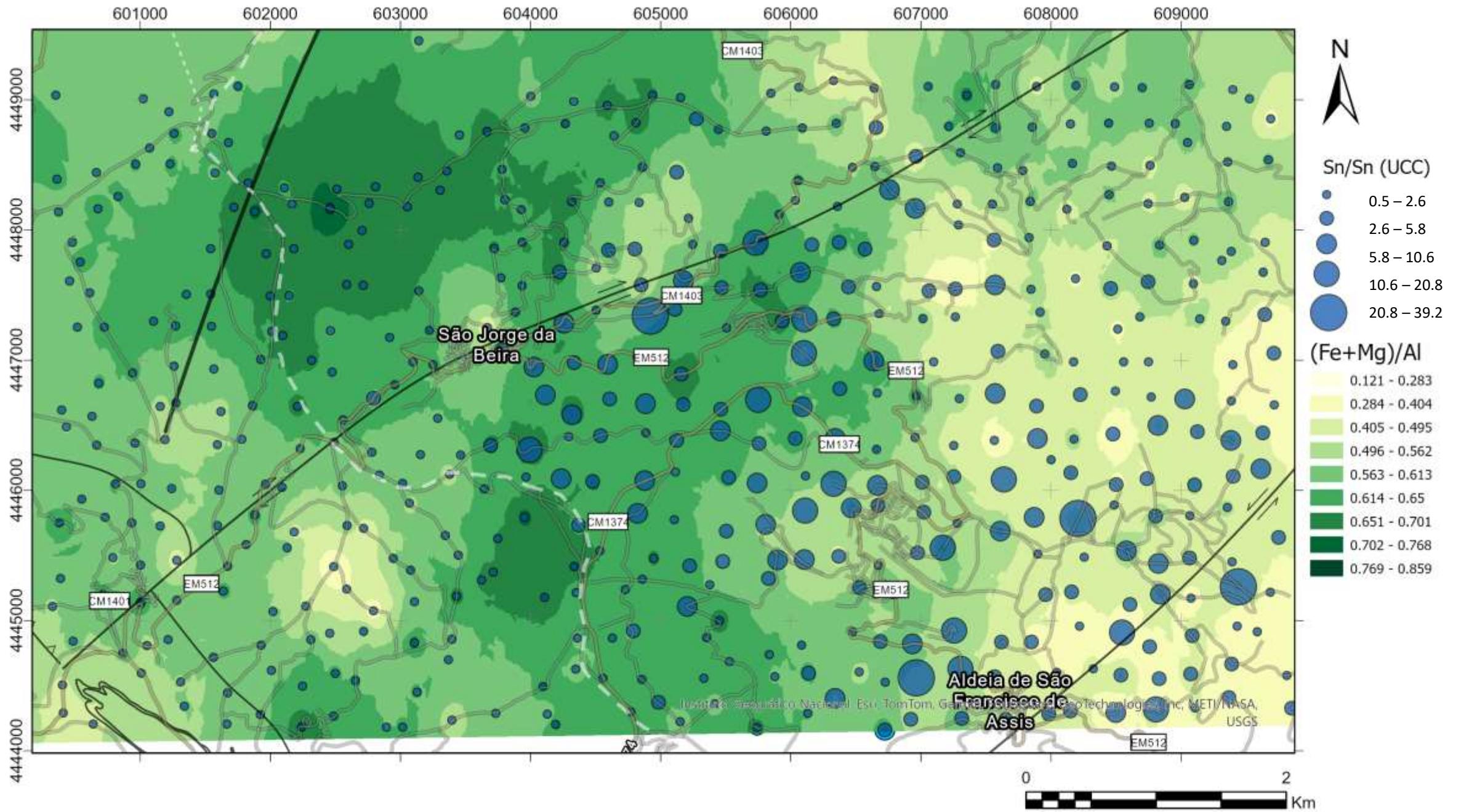


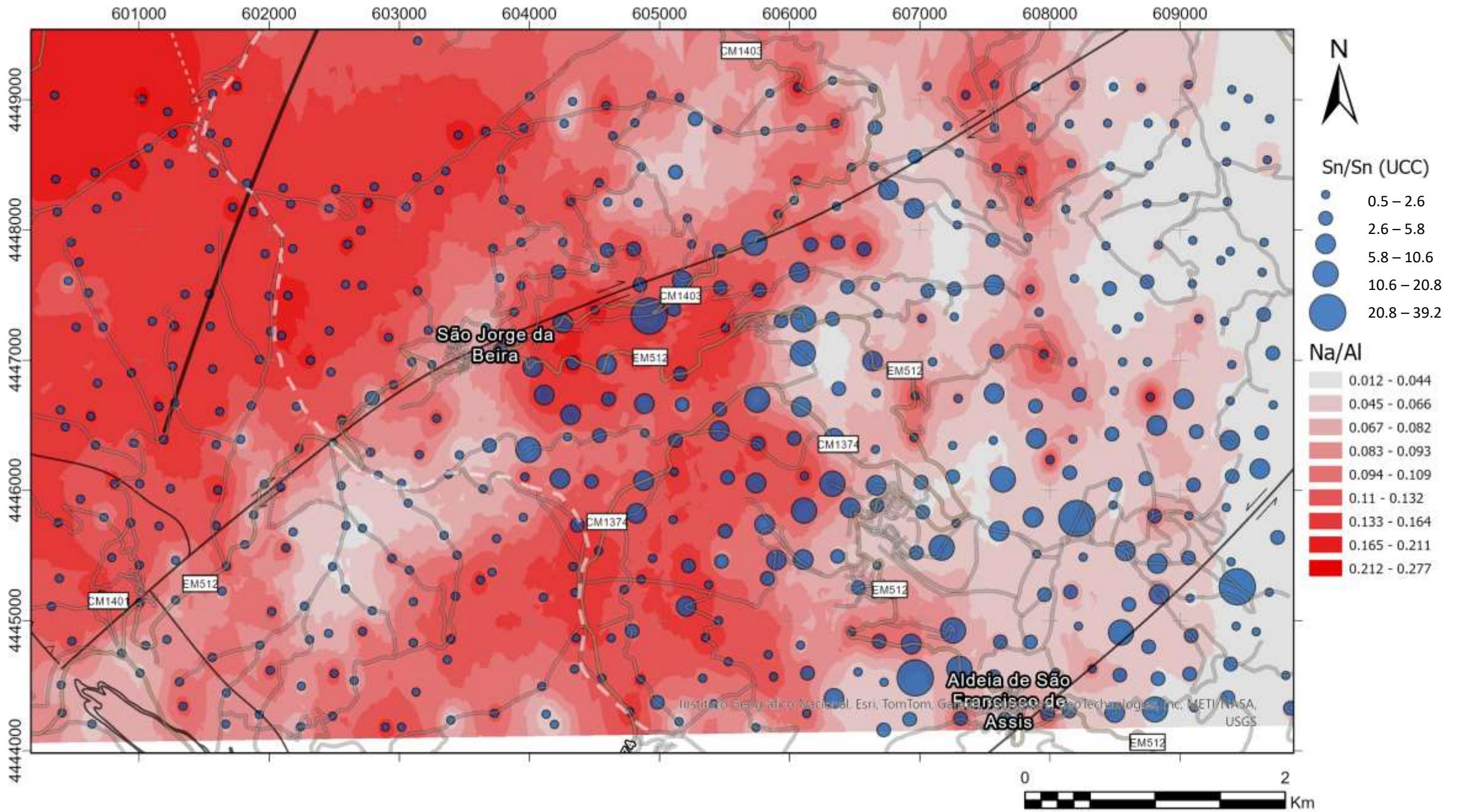












Geological map of the Góis-Panasqueira-Argemela-Segura strip

