

# Geology of Portugal

Due to its location along the Eurasian and African tectonic plates, Portugal's complex geology is the undersung hero in its wine diversity.

## Sedimentary

### Non-Metamorphosed Sedimentary

- Cenozoic**
  - Q Alluvial deposits, beaches, dunes & terraces
  - P Sands, sandstones & mudstones
  - M Sandstones, mudstones & sandy limestones
  - E Mudstones, sandstones & conglomerates
- Mesozoic**
  - β Volcano-sedimentary rocks
  - K<sub>1</sub> Sandstones, mudstones & limestones
  - K<sub>2</sub> Limestones, marls & sandstones
  - J<sub>3</sub> Limestones, marls & sandstones
  - J<sub>2</sub> Limestones and marls
  - J<sub>1</sub> Limestones, dolomites & marls
  - T<sub>3-1</sub> Sandstones, pelites (mudrocks), evaporites & volcano-sedimentary rocks

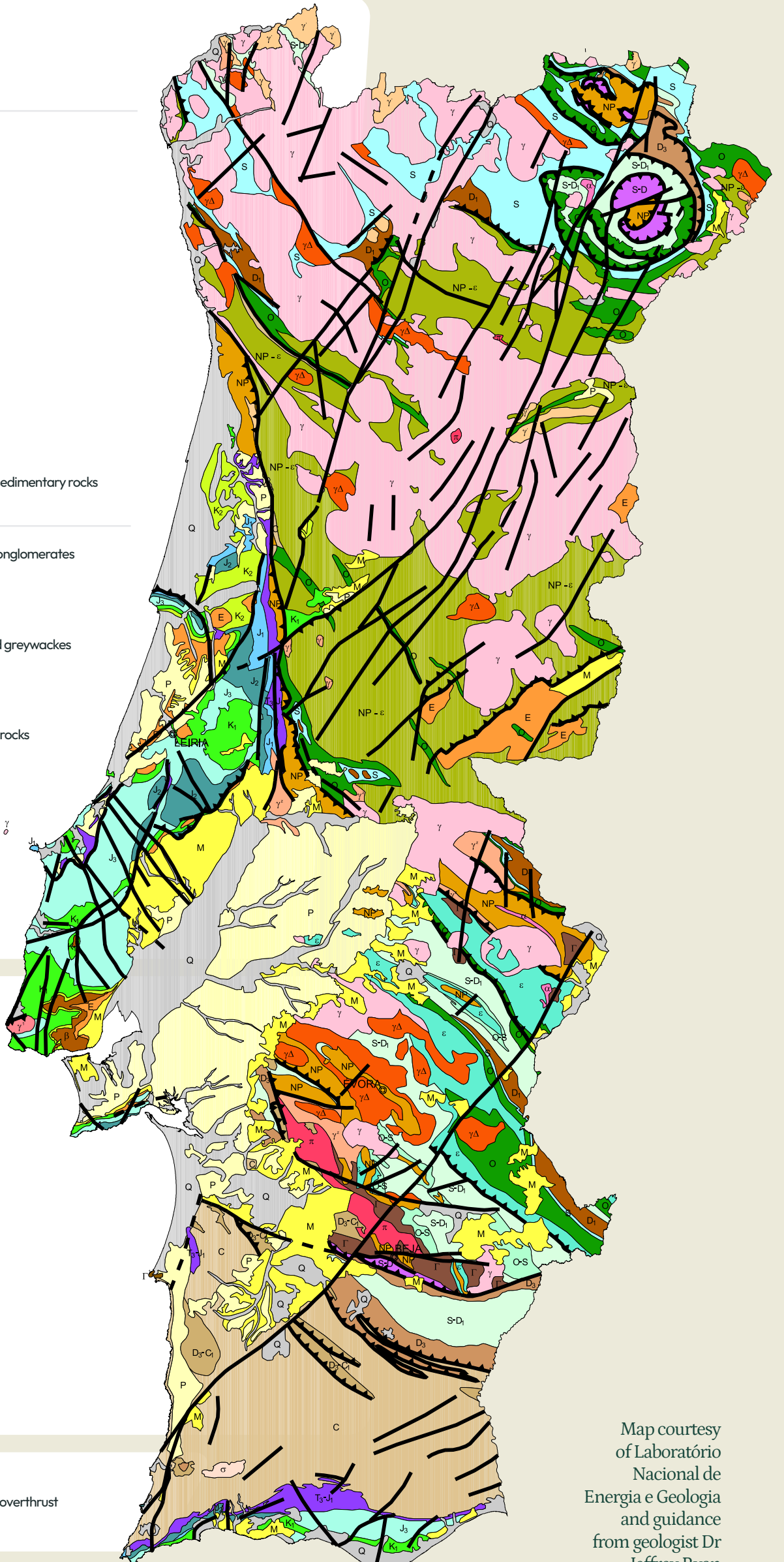
### Metamorphosed Sedimentary

- Paleozoic**
  - c Turbidites (schists and greywackes), sandstones, and conglomerates
  - D<sub>1</sub> Quartzites, schists, and turbidites
  - D<sub>2</sub> Quartzites, schists, rare limestones, and turbidites
  - s Black schists, lydites (radiolarian cherts), quartzites, and greywackes
  - O Quartzites, schists, and volcanic rocks
  - D<sub>3-C</sub> Sandstones, schists, and carbonates
  - s-d Schists, greywackes, phyllites, acidic and basic volcanic rocks
  - S-D Ophiolitic complexes
  - O-S Carbonate volcano-sedimentary complex
- Paleozoic/Precambrian**
  - NP-ε Turbidites (schists, greywackes, and quartzites)
  - ε Limestones, sandstones, schists, and acidic and basic volcanic rocks
- Precambrian**
  - NP Schists, greywackes, black cherts, acidic and basic volcanic rocks, gneisses, granulites, and migmatites

## Magmatic

- Magmatic Rocks**
  - γ<sup>1</sup> Granite, syenite, & gabbro-diorite (Sintra Massif)
  - σ Syenites & nepheline syenites (Monchique Massif)
  - Γ<sup>1</sup> Gabbro (Sines Massif)
  - π Porphyries & rhyolites
  - γ Granites
  - γΔ Granodiorites & tonalites
  - γ<sup>2</sup> Gneissic granites
  - Γ Diorites, gabbros, & rare peridotites
  - α Peralkaline rocks
  - γ<sup>2</sup> Orthogneisses & migmatites

- Fault
- - - Probable fault
- ▲ Thrust / overthrust



Map courtesy of Laboratório Nacional de Energia e Geologia and guidance from geologist Dr Jeffrey Ryan

