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Montpellier, France
CORUM CONFERENCE CENTER

Early Career Hydrogeologists' Network

Montpellier, 25-29 September 2016

Abstract n°2330 – ***Pasteur Auditorium room***

Stable isotope composition of rainwater as a proxy to delineate recharge processes to Mediterranean coastal aquifers

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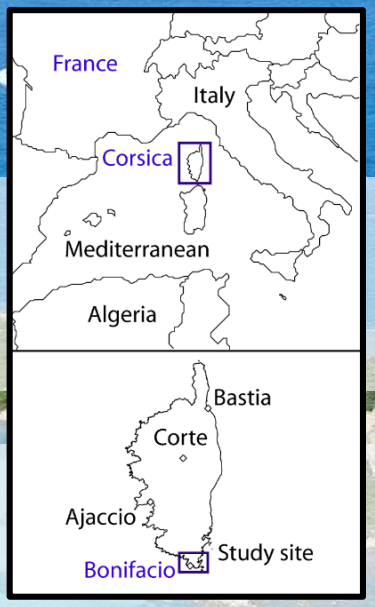
MAIN PROBLEMATIC



Mediterranean coastal areas :

- Intense touristic, industrial and agricultural activities
- **Low seasonal recharge conditions**

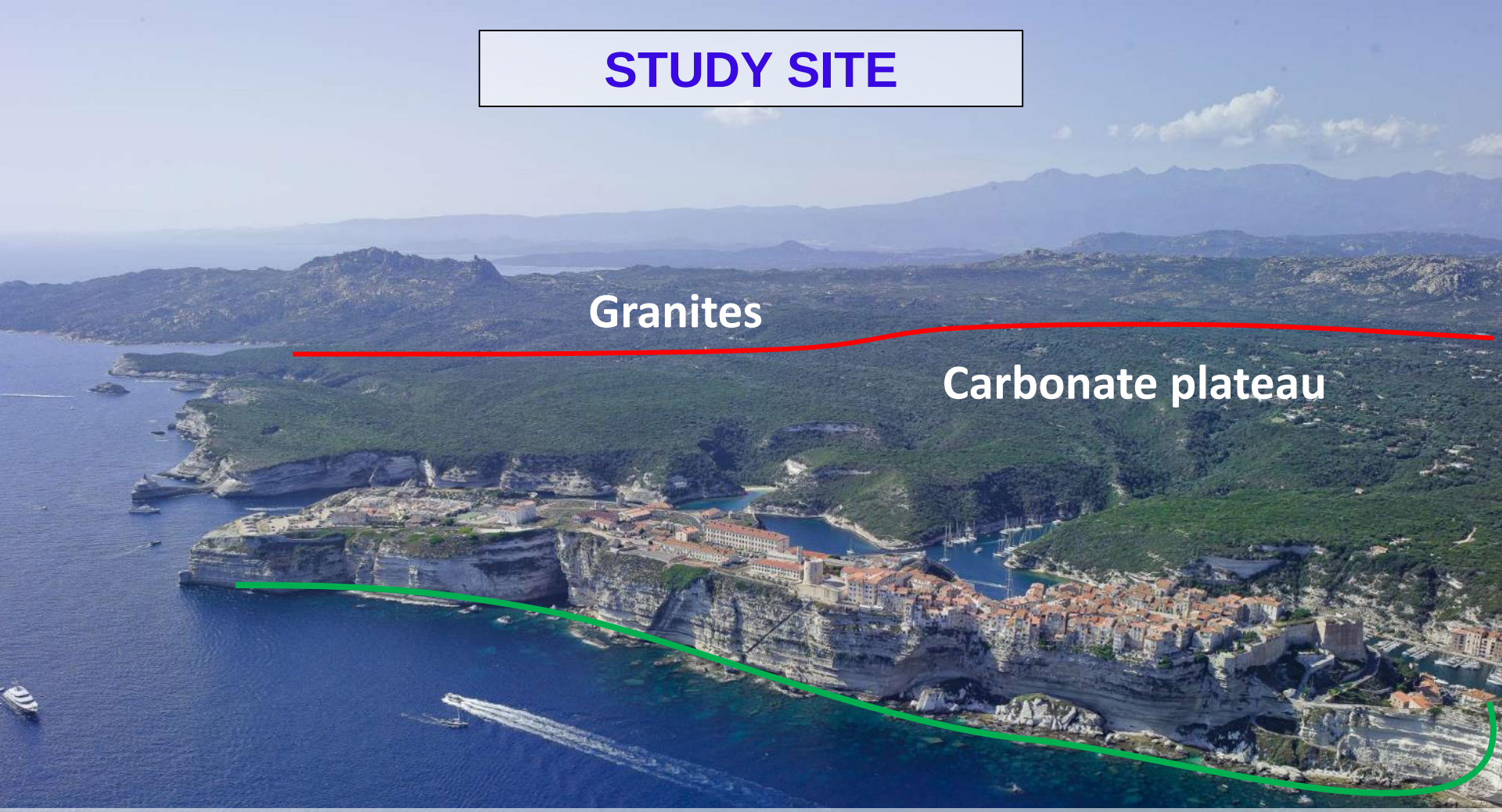
Case study = **Bonifacio aquifer (Corsica island, France)** :

- Unique available water resource
- Faces a large crowd in summer
- Complementary surface water resources needed during the summer

Insofar as no seawater intrusion is yet detected in the Bonifacio aquifer, the isotope composition of groundwater is expected to reflect the signal of rainwater

Is the stable isotope composition of rainwater a relevant proxy to delineate recharge processes to Mediterranean coastal aquifers?

STUDY SITE



Bonifacio aquifer

- Miocene **carbonate plateau**
  → mean elevation : **80 m *asl***

- Bounded by **granites** at the East and the West
  → max elevation : **243 m asl**

METHOD

Upland : GRAN-RG3 (243 m *asl)*

Inland : CAM-RG1 (70 m *asl*)

Shores : SEM-RG2 (107 m *asl*)

Monthly **Oxygene-18** and **deuterium** analysis in :

→ **Groundwater** samples: 15 boreholes up to 270 m deep, 5 wells and 4 springs

→ **Rainwater** samples (3 rain gauges)

DEVELOPED RESULTS

1. Aquifer quantitative recharge

2. Rainwater isotopic composition in time and space

3. Groundwater origins and aquifer recharge periods

4. Input signal effects on aquifer hydrodynamics

Session 6.03 – Recharge

4:40 – 5:00 pm

E-poster **Spot 3**