

## GMPV Seminar:

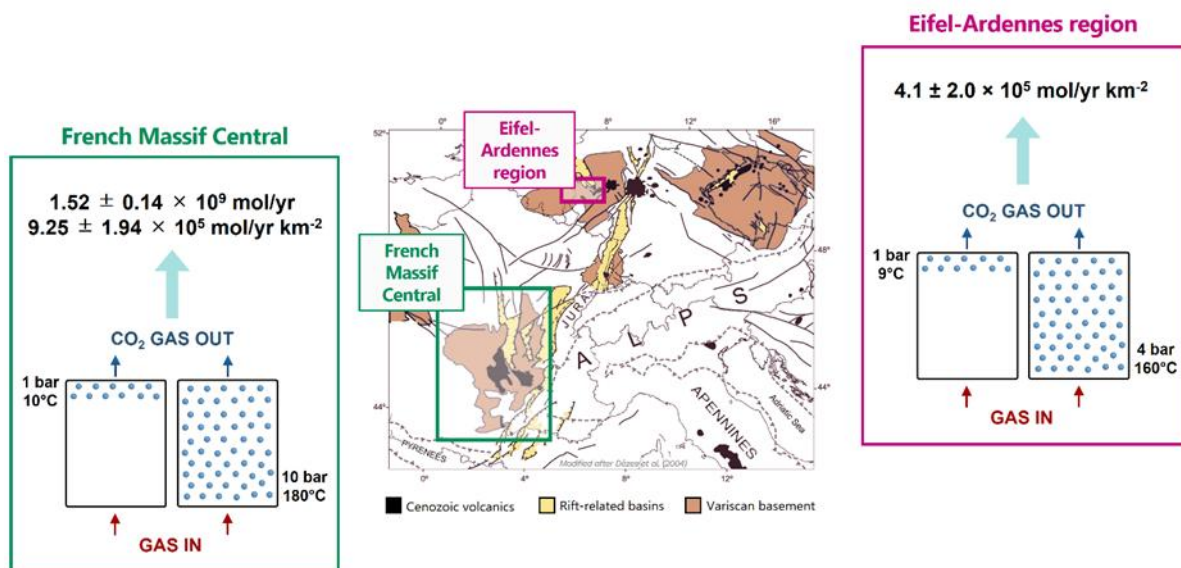
**Monday 17 February 2025 at 4.30 pm, online seminar/room U1-07  
Marchetti**

## Earth degassing from extensional areas: the case studies of French Massif Central and Eifel-Ardenne regions

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Areas of extensional tectonics are affected by a huge CO<sub>2</sub> degassing. Continental rifts are extensional regions where Earth degassing has been poorly constrained (i.e. the total output is known for a few systems). The European Cenozoic Rift System (ECRIS) is a passive rift where the CO<sub>2</sub> discharge mainly occurs through hundreds of mineral and thermal springs, bubbling pools and mofettes. At French Massif Central and Eifel-Ardenne, two sectors of the ECRIS, water-gas-rock interaction models performed with the PHREEQC code reveal that the degassing process occurs in a P-T range between 10 bar, 180°C and 1 bar-10°C at French Massif Central and between 4 bar, 160°C and 1 bar, 9°C at the Eifel-Ardenne. The deeply-derived CO<sub>2</sub> flux affecting the two areas shows that CO<sub>2</sub> degassing from passive rifts is about one order of magnitude lower with respect to active rifts and brings to light huge differences in the dynamic of the degassing process characterizing passive and active rifting.



From Ricci (2024) in 2nd Congress of Società Geochimica Italiana,  
<https://doi.org/10.13127/misc/812024>