

Native H₂ exploration in the western Pyrenean foothills

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Abstract

Native hydrogen (H₂) may represent a new carbon free energy resource, but to date there is no specific exploration guide to target H₂-fertile geological settings. Here, we present the first soil gas survey specifically designed to explore H₂ migration in a region where no surface seepage has been documented so far. We choose the Pyrenean orogenic belt and its northern foreland basin (Aquitaine, France) as a playground to test our strategy. The presence of a mantle body at shallow depth (< 10 km) under the Mauléon Basin connected to the surface by major faults is considered as a preliminary pathfinder for H₂ generation and drainage. On this basis, more than 1,100 in situ soil gas analysis (H₂, CO, CO₂, CH₄, H₂S, and ²²²Rn) were performed at ~1 m depth at the regional scale along a 10 x 10 km grid spanning over 7,500 km². The analysis campaign reveals several hot spots to the north of the Mauléon Basin where H₂, CO₂ and ²²²Rn concentrations exceed 1000 ppmv, 10 vol% and 50 kBq m⁻³, respectively. Most of these hot spots are located along the North Pyrenean Frontal Thrust and other related faults rooted in the mantle body. These results, together with evidence of fluid migration at depth, suggest that H₂ may be sourced from mantle rocks serpentinization and carried to the surface along major thrusting faults. Hydrogen traps remain unidentified up to now but the presence of salt-related structures (diapirs) near these hot spots could play this role.

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Key Points:

- Soil gas mapping for H₂ targeting
- Fertile area for H₂ production, migration
- Multiple gas analysis

Abstract:

Native hydrogen (H₂) may represent a new carbon free energy resource, but to date there is no specific exploration guide to target H₂-fertile geological settings. Here, we present the first soil gas survey specifically designed to explore H₂ migration in a region where no surface seepage has been documented so far. We choose the Pyrenean orogenic belt and its northern foreland basin (Aquitaine, France) as a playground to test our strategy. The presence of a mantle body at shallow depth (<10 km) under the Mauléon Basin connected to the surface by major faults is considered as a preliminary pathfinder for H₂ generation and drainage. On this basis, more than 1,100 in situ soil gas analysis (H₂, CO, CO₂, CH₄, H₂S, and ²²²Rn) were performed at ~1 m depth at the regional scale along a 10 × 10 km grid spanning over 7,500 km². The analysis campaign reveals several hot spots to the north of the Mauléon Basin where H₂, CO₂ and ²²²Rn concentrations exceed 1000 ppmv, 10 vol% and 50 kBq m⁻³, respectively. Most of these hot spots are located along the North Pyrenean Frontal Thrust and other related faults rooted in the mantle body. These results, together with evidence of fluid migration at depth, suggest that H₂ may be sourced from mantle rocks serpentinization and carried to the surface along major thrusting faults. Hydrogen traps remain unidentified up to now but the presence of salt-related structures (diapirs) near these hot spots could play this role.

Plain language Summary:

Native hydrogen (H₂) is currently considered as a possible energy resource for the development of a carbon-free society. Throughout the world, and for over a century, numerous natural H₂-bearing geological fluids have been discovered, but to date, there is neither exploration strategy nor any resource assessment, as practical guidelines for hydrogen targeting are still missing. Here, we propose a new integrated approach dedicated to native H₂ exploration, using the Pyrenean orogenic belt and its northern foreland basins as a playground. On this basis, a soil gas (H₂, CO₂, CH₄, radon) exploration campaign, encompassing the major tectonic structures identified in the region has been carried out. This survey reveals several hotspots where H₂, CO₂ and radon concentrations are by two orders of magnitude above the regional background. These hotspots are mainly located along major faults deeply rooted in the mantle body (~10 km depth) that is well imaged by geophysical data. Therefore, the combined presence of soil gases significantly enriched in H₂, CO₂, and radon, a dense mantle body below the foreland basin potentially subject to active hydrothermal alteration, and deep faults, represents a favorable geological setting for H₂ generation and drainage.

1 Introduction

Several water-rock interaction processes producing molecular hydrogen (hereafter “hydrogen” or “H₂”) in the Earth are now well identified (Klein et al., 2020). Among these processes, serpentinization of ultramafic rocks (Malvoisin et al., 2011; Marcaillou et al., 2011; Mayhew et al., 2013; McCollom et al., 2016) and water radiolysis (Lin et al. 2005a; Truche et al., 2018) have drawn most of the scientific attention so far because they may fuel deep microbial subsurface ecosystems and trigger the abiotic synthesis of organic molecules (Etiope et al., 2015; Fiebig et al., 2007; Johnson et al., 2015; Lin et al., 2005b; McCollom, 2013; Sauvage et al., 2021; Schrenk et al., 2013; Sherwood Lollar et al., 2006; Sherwood Lollar et al., 2021; Truche et al., 2020; Vandenborre et al., 2021). Recently, the growing demand for carbon-free energy has sparked an unprecedented interest in naturally occurring H₂, as it could represent a potential alternative resource to fossil fuels (Donzé et al., 2020;

Gaucher, 2020; Murray et al., 2020; Prinzhofer et al., 2018; Truche and Bazarkina, 2019, Smith et al., 2005).

The discoveries of hundreds of natural H₂ seepages, generally connected with circulation of hydrothermal fluids through ultramafic rocks both through seafloors (Donval et al., 1997; Charlou et al., 2010) and on continents (Abrajano et al., 1988; Deville & Prinzhofer, 2016; Monnin et al., 2009; Neal & Stranger, 1983; Vacquand et al., 2018; Zgonnik et al., 2020), raise important questions regarding the energy potential of natural hydrogen. Current estimates of global H₂ flux, even if poorly constrained (reported value ranges from ~0.2 to 2.1 Tg yr⁻¹; Cannat et al., 2010; Charlou et al., 2010; Merdith et al., 2020; Sherwood Lollar et al., 2014; Truche et al., 2020; Worman et al., 2020) seems to be too low to support an industrial production (~70 Tg of H₂ are manufactured annually worldwide). However, the recent observations of intra-cratonic seepages with no obvious relationship with ultramafic formations (Donzé et al., 2020; Larin et al., 2014; Moretti et al., 2021; Prinzhofer et al., 2019; Zgonnik et al., 2015) have challenged our understanding of H₂ production and behavior in the crust. Despite these questionings, the recent discovery of a H₂-rich (>90 mol% H₂), over-pressurized gas field from the shallow Bougou-1 well, Taoudeni Basin, Mali (Prinzhofer et al., 2018) that is used for small-scale electricity generation, attests to the niche potential of commercial H₂ exploitation.

Currently, there is neither specific exploration guide to target H₂ fertile geological settings, nor robust resource assessment that can promote industrial interests. Identification of circular depressions in intra-cratonic basins, ultramafic bodies exhumed at the surface (e.g. ophiolites, greenstones belts) or buried under a sedimentary cover represents a promising starting point for exploration, but our knowledge of the hydrogen system is still insufficient to design on purpose drilling campaigns based solely on this information. A combination of geophysical, geochemical and geological data is definitively needed, but in the absence of clearly established exploration guidelines, the direct detection of H₂ seepages remains one of the most straightforward and effective pathfinders. Indeed, the existence of focused seepages at the surface testifies to the presence of active H₂ flux driven by conduits or faults connecting potential leaking reservoirs or draining diffuse sources at depth. This can be done visually by observing H₂-rich gas bubbles in rivers or streams (Chavagnac et al., 2013; Deville et al., 2011), or eternal flame burning H₂ like in Chimaera, Turkey (Etiope et al., 2011), but also by monitoring soil gas emissions. Such a technique has already proven to be useful for the detection of H₂ degassing in surface rounded depressions located in intra-cratonic basins (Donzé et al., 2020; Larin et al., 2014; McCarthy et al., 1986; Moretti et al., 2020; Prinzhofer et al., 2019; Zgonnik et al., 2015). Soil gas monitoring (e.g. ²²²Rn, He, CH₄, CO₂, COS, CS₂, H₂S and light hydrocarbons) combined with geophysical methods enables large areas survey and has already been applied with great success for targeting mineral, geothermal, and hydrocarbons resources (Disnar & Gauthier, 1988; Gao et al., 2011; Hinkle, 1994; McCarthy and Reimer, 1986; Noble et al., 2018; Pereira et al., 2010; Polito et al., 2002). Furthermore, the geochemical characteristics and behavior of soil gases (²²²Rn, Hg, He, H₂, H₂S and CO₂) in volcanic and seismically active areas have been investigated widely for correlating geochemical variations with faults and earthquake activities (Ciotoli et al., 1999, 2007; Du et al. 2008; Li et al., 2013; Lombardi & Voltattorni, 2010; Wiersberg & Erzinger, 2008; Woodruff et al., 2009; Xiang et al., 2020).

Here, we present the results of a soil gas regional monitoring campaign dedicated to H₂ exploration. Following synergies and results from the Convergence project, we use the Pyrenean orogenic belt and his northern foreland basins as a case study. This area gathers several promising characteristics that may define a H₂-fertile geological province such as the presence of mantle rock at shallow depth connected to the surface by several deeply rooted faults. The objective of this study is to identify the presence of a H₂ fertile zone through the

direct observation of H₂ and associated gas (CH₄, CO₂, ²²²Rn) emissions, and the comparison of soil gas maps with georeferenced structural and geophysical data.

2 Targeting H₂ emissions in the NW Pyrenees foothills

The Pyrenees is an E-W-trending orogenic belt (Fig. 1) resulting from the inversion of a series of rift basins that formed along the Iberia-Europe divergent boundary during the late Jurassic to Early Cretaceous time (e.g., Clerc et al., 2012, 2013; Ducoux et al., 2019; Jammes et al., 2009, 2010a; Lagabrielle and Bodinier, 2008; Lagabrielle et al., 2010; Lagabrielle et al., 2016; Lescoutre and Manatschal, 2020; Masini et al., 2014; Mouthereau et al., 2014; Teixell et al., 2018; Tugend et al., 2014, 2015b).

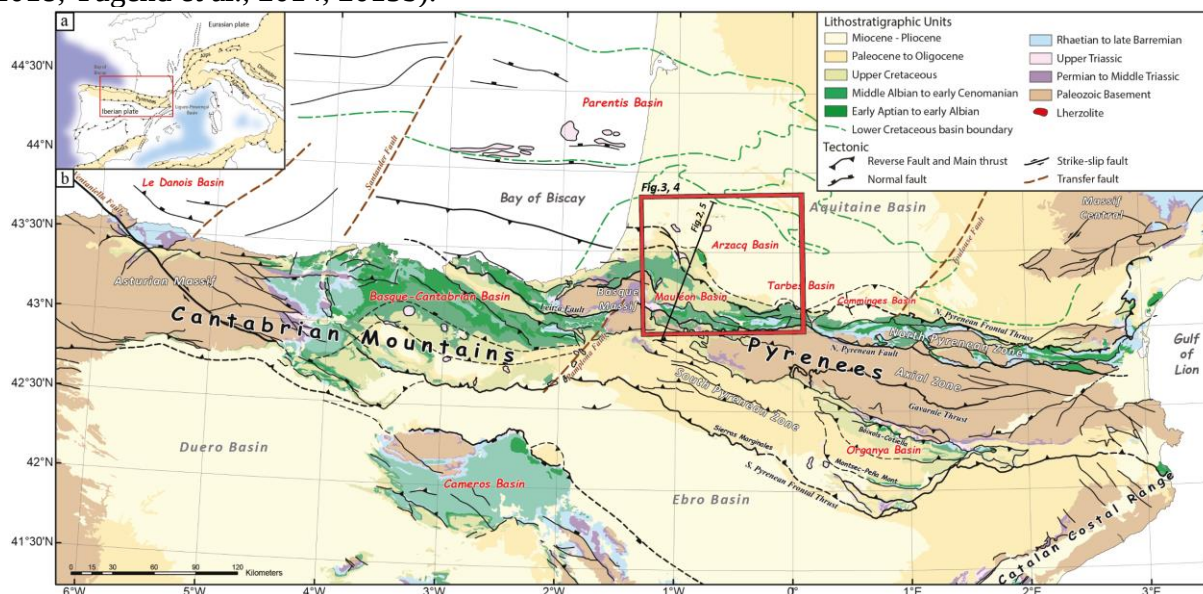


Figure 1. Tectonic setting of the Pyrenean-Cantabrian belt (modified from Pedrera et al., 2017 and Ducoux et al., 2019). (a) insert show the Iberian Peninsula and the Pyrenean belt in-between France and Spain. (b) Geological map of the Cantabrian Mountains and the Pyrenees, with location of the studied area (red rectangle) displayed on Figures 3 and 4. The black line corresponds to the trace of the cross section displayed on Figure 2 and 5.

After the Variscan orogeny, this area records several extensional phases, but the main phase of divergence between the Iberian and European plates occurs during early Aptian to early Cenomanian time. This main phase of divergence leads to hyperextension and mantle exhumation as suggested by remnants of rift basins and several pieces of mantle exposures now exposed in the North Pyrenean Zone (NPZ) of the Pyrenees (e.g. Jammes et al., 2009; Clerc et al., 2012, 2013; Fabries et al., 1991, 1998; Lagabrielle and Bodinier, 2008; Lagabrielle et al., 2016; Masini et al., 2014; Tugend et al., 2014; 2015b). Hyperextension and mantle exhumation related to a major lithospheric thinning were evidenced by a high temperature and low pressure metamorphism (Azambre and Rossy, 1976; Bernus-Maury, 1984; Clerc and Lagabrielle, 2014; Clerc et al., 2015; Dauteuil and Ricou, 1989; Ducoux et al., 2019; Golberg and Leyreloup, 1990; Lescoutre et al., 2019; Ravier, 1959) as well as emplacements of alkaline magma along the rift axis (Azambre and Rossy, 1976; Azambre et al., 1992; Le fur-Ballouet, 1985; Rossy et al., 1992). The end of rifting was rapidly followed by the onset of contractional deformation during the late Santonian with the deposition of the early-orogenic sequence related to the inversion of the hyperextended rift system (García-Senz 2002; Garrido-Megias & Rios 1972; Gómez-Romeu et al., 2019; McClay et al., 2004; Mouthereau et al., 2014; Muñoz, 1992; Teixell, 1998; Vergés et al., 1995; Vergés & García-Senz, 2001). The main convergence phase (i.e. collision) occurred in Eocene-Oligocene times

(Mouthereau et al., 2014; Muñoz 1992, 2002; Vergès et al. 2002) and ended during the Chattian (Ortiz et al., 2020). The present-day structure of the Pyrenean belt (Fig. 2) shows an asymmetric double-verging tectonic wedge composed of Paleozoic rocks above the northward underthrusting Iberian continental lithosphere inherited from the Cretaceous hyperextended Pyrenean rift system (e.g., Chevrot et al., 2018; Choukroune and ECORS Team, 1989; Mouthereau et al., 2014; Muñoz, 1992; Roure et al., 1989; Teixell, 1998; Teixell et al., 2016; Vergès et al., 1995; Wang et al., 2016; Fig. 2)..

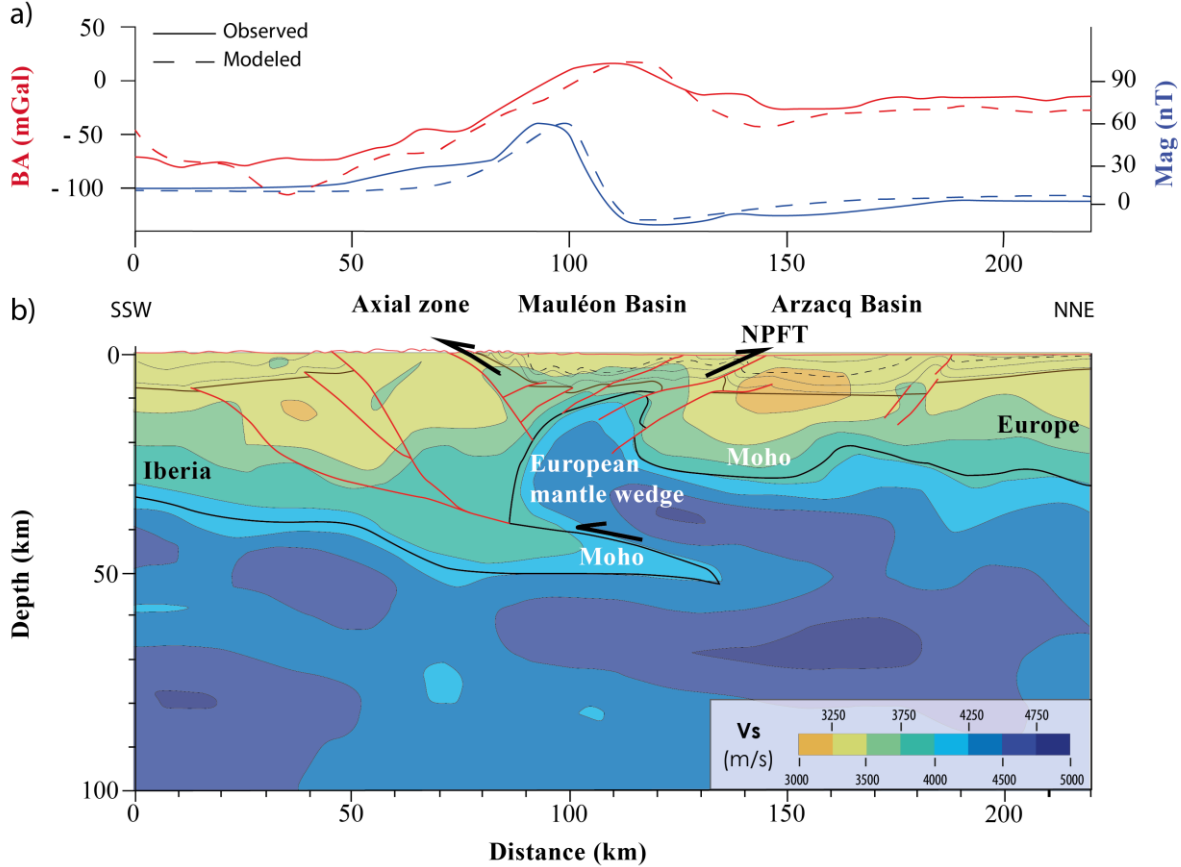


Figure 2. (a) Bouguer (Ayala et al., 2016) and magnetic anomalies (García-Senz et al., 2019), and (b) Vs model obtained by full waveform inversion (modified from Wang et al., 2016) along the same transect shown in Figure 1. NPFT – North Pyrenean Frontal Thrust

In this study we focus on the Mauléon and Arzacq Basins, located in the western NPZ of the Pyrenees. During the rifting phase, these two rift basins bounded by detachment faults were separated by the Grand Rieu ridge made of Paleozoic basement (Jammes et al., 2009; Lecoutre et al., 2019; Masini et al., 2014; Saspiturry et al., 2020; Tugend et al., 2014). The Arzacq Basin sat on the hyperthinned continental crust whereas the Mauléon Basin lied directly on top of exhumed mantle. At present-day, the rift architecture of the Arzacq Basin is relatively well preserved, while the Mauléon Basin was highly deformed during subsequent orogenesis. This latter corresponds to a pop-up structure (e.g., Labaume and Teixell, 2020; Teixell et al., 2016;) that overthrusts the Arzacq Basin towards the north along the North Pyrenean Frontal Thrust (NPFT) and the Axial Zone towards the south along the North Pyrenean Fault (NPF) (Fig. 2b).

Several geophysical studies have also revealed interesting characteristics of the deepest structure of the western Pyrenees (i.e. beneath the Mauléon Basin) by processing gravimetric (Lacan, 2008), magnetic (Garcia-senz et al., 2019) and seismic data (Chevrot et al., 2015, 2018; Wang et al., 2016). First, a strong positive Bouguer gravity anomaly (> 20 mGal; Fig. 2) is observed below the Mauléon Basin. This anomaly is interpreted as the

presence of dense materials at relatively shallow depth such as lower crust or mantle pieces (Grandjean, 1994; Pedreira et al., 2007, Pedrera et al., 2017; Vacher & Souriau, 2001). Second, a significant positive magnetic anomaly (> 60 nT; Fig. 2) is located right below the Mauléon Basin (Garcia-Senz et al., 2019). This magnetic anomaly, which is well correlated with the Bouguer anomaly previously mentioned, provides key information on the nature of mantle rocks because the magnetic susceptibility might be correlated to the serpentinization degree (Oufi et al., 2002; Toft et al., 1990). Indeed, the ultra-mafic rocks such as lithospheric mantle acquire their para-magnetism during the serpentinization reaction, and the associated formation of magnetite. Third, high seismic velocities ($V_p \approx 7.3$ km s⁻¹, $V_s \approx 4.2$ km s⁻¹) were calculated by full waveform inversion under the western part of Mauléon Basin and are attributed to an exhumed serpentinized mantle body located at 8 to 10 km depth (Christensen, 2004, Wang et al., 2016).

All together, these geophysical data support the presence of a dense mantle body at ~8 km depth below the Mauléon Basin inherited from the Cretaceous pre-collision hyperextended rift system. This dense mantle body was further incorporated into the accreting wedge during the orogenesis of the Pyrenean belt (e.g. Casas et al., 1997; Jammes et al., 2010a; Wang et al., 2016; Lescoutre and Manatschal, 2020; Saspiturry et al., 2020). Therefore, the combination of all these data indicating both the presence of a potential source of H₂ through mantle rocks serpentinization and the existence of preferential conduits for fluid migration makes the north Pyrenean foothills a promising geological setting for H₂ exploration.

3. Materials and Methods

3.1 Soil gas analysis

The investigated area for soil gas analysis is located in the southwest of France (Aquitaine region) along the Pyrenean belt and corresponds to approximately 7500 km² (Fig. 1). It encompasses the NPZ, the Mauléon Basin, the Arzacq Basin and the Grand Rieu ridge. A total of 1106 soil gas in-situ measurements have been performed over 131 different locations (Table A2). The sampling mesh was defined along a $\sim 10 \times 10$ km grid (Fig. 3a). The concentration and nature of gases measured in soils may vary according to meteorological (e.g. temperature, hygrometry) and pedological factors (e.g. soil composition, vegetation, microbiology). The present regional soil gas survey is not intended to document the effect of such parameters on soil gas composition. However, all the measurements have been done during spring and summer seasons (April to August 2018, 2019 and 2020) in order to limit the amplitude of hygrometry and temperature variation. Soils affected by anthropogenic activities, such as ploughed soils, gardens or industrial areas have not been sampled. Most of the sampling sites located to the western part of the NPZ have altitudes between 50 to 400 meters above sea level and are mainly composed of grasslands and forest soils. The sampling sites located in the Axial Zone have altitudes ranging from 400 to 1500 meters and are mostly composed of forests and meadows.

At each sampling site, 7 small boreholes were drilled in the soil over an area of 100 m² - 5 of them were devoted to H₂, CO, CO₂, CH₄, H₂S, and O₂ measurement using a GA-5000 (GeoTech[®]) multi-gas analyzer and the remaining 2 were dedicated to radon (²²²Rn) measurement using an AlphaGuard DF2000 radon analyzer (Bertin instrument[®]). Additional series of measurements have been carried out over time (2018, 2019 and 2020) on hot spots where H₂ concentration was > 200 ppmv. Each borehole has a depth of ~ 1 m and a diameter of 1 cm. A portable drill (DH36DBL, Hitachi[®]) operating in percussion mode only (no rotation of the drill bit) was used for this purpose. Numerous tests were conducted using various drilling procedures on different lithologies and soils to determine the optimal drill

configuration. Thus, a specific drilling procedure was selected to minimize and even prevent any production of H₂ through drill bit metamorphism and “mechano–radical” processes. Indeed, the increase in temperature of the drill bit may induce the cracking of the organic matter and trigger H₂ production (Lewan et al., 1997; Li et al., 2017; Lorant et al., 2002). The mechanical dissociation of the covalent Si-O bond in silicate minerals creates surface radicals which react with water to produce H₂. This process, referred to as “mechano–radical”, has been experimentally demonstrated by friction experiments involving various silicate bearing rocks saturated with water (Hirose et al., 2011) and is supposed to be at the origin of high concentration of H₂ in soil gas associated with active tectonic faults (Kita et al., 1982; Sato et al., 1984). Drilling boreholes in soils without drill bit rotation clearly prevent artificial generation of H₂ as demonstrated by Halas et al. (2021), and by our plethora of measurements where H₂ concentrations in soil gas is lower than 5 ppmv (Table A1). Immediately after drilling, a stainless-steel sampling probe was tightly inserted inside the borehole and connected to one of the two gas analyzers either for ²²²Rn or for H₂, CO₂, CH₄ and O₂ measurements. Each gas analyzer is equipped with a pump set to operate at the same flow rate of 550 mL min⁻¹.

The multi-gas detector GA-5000 is equipped with two different sensors: 1) an electrochemical cell for H₂, CO, H₂S, and O₂ concentration measurements, and 2) a dual wavelength infrared sensor for CO₂ and CH₄ concentration measurements. Uncertainties and interferences are documented in Table 1. Galvanometric measurement of a gas mixture of H₂, CO, and H₂S is subject to potential cross-interferences (Korotcenkov et al., 2009).

Gas	Range	Typical accuracy	
CH ₄	0 - 100 vol%	0 - 70 ± 0.5 vol%	70 - 100 ± 1.5 vol%
CO ₂	0 - 100 vol%	0 - 60 ± 0.5 vol%	60 - 100 ± 1.5 vol%
O ₂	0 - 25 vol%	0 - 25 ± 1 vol%	
H ₂	0 - 1000 ppmv	2 ppmv	

Table 1. Gas concentration range and measurement accuracy for CH₄, CO₂, O₂ and H₂ analysis by the GA-5000 instrument.

However, H₂ concentration measurement over the 0 – 1000 ppmv range is weekly impacted (< 10 ppmv) by the combined presence of CO and H₂S provided their concentrations remain < 300 ppmv and < 15 ppmv, respectively. Other species like HCN, NO_x or C₂H₄ may also interfere with the H₂ measurement, but their concentrations have never been detected in the prospected soils. For all measurements done in the field, H₂S has never been detected in the soil gases during our exploration campaign, neither using the GA-5000 gas analyzer nor by gas chromatography (see below), nor olfactorily for H₂S (human can smell H₂S at few tens of ppb in the air). In addition, for every H₂ concentration recorded with the GA-5000 analyzer at a value above 500 ppmv, a separate soil gas sample was taken in a gas tight Swagelok[®] stainless steel gas cylinder (40 mL). The cylinder was put under vacuum first using a primary vacuum pump and then connected to the soil gas probe for sampling. The gas composition was further analyzed in the lab regarding H₂, CO₂, CO, CH₄ using a Perkin Elmer[®] CLARUS 500 Gas Chromatograph (GC) equipped with a thermal conductivity detector (TCD) and a 2 m long column (RESTEK[®] Shin Carbon ST 80/100) with Ar as a carrier gas. The GC was calibrated using several Ar + H₂ + CH₄ + CO₂ + CO gas mixtures of different concentrations injected with a gas syringe of calibrated volume. The estimated analytical error is ± 5%.

The AlphaGuard DF2000 device is equipped with a pulsed ionization chamber (internal volume of 0.62 L) and a fiberglass selective filter. The radon (²²²Rn) measurement

range is between 2 to 2×10^6 Bq·m⁻³ with uncertainty variability of 5 cpm at 100 Bq·m⁻³. The analysis is based on the decay of ²²²Rn to ²¹⁸Po resulting in the emission of α -particles which can be measured by the instrument. Relative humidity, atmospheric pressure and temperature are simultaneously measured.

3.2 Soil gas data processing

The statistics of the soil gas concentration sampled during the survey are reported in Table 2. The averaged concentrations of H₂, CO₂ and ²²²Rn were then interpolated and mapped using ArcGIS Pro (ESRI®) geographical information software (GIS). The natural neighbor interpolation method was used to define lines of equiconcentration of H₂, CO₂ and Radon. This method is based on the Voronoï tessellation of our discrete set of spatial gas concentration measurements (Sibson, 1981).

Gas	N	Mean	Standard deviation	Min	Max
H ₂ (ppmv)	1106	33	104	0	> 1000
CO ₂ (vol%)	1106	0.85	1.2	0	10.5
²²² Rn (Bq m ⁻³)	893	1002	9343	0	57316

Table 2. Main statistics of soil gas data acquired during this study.

4 Results

4.1 Soil gas mapping

The localization of each sampling site is shown in Figure 3a (red cross). These 131 locations constitute a sampling grid where a total of 1106 soil gas analyses have been carried out over 3 years (Table A1). This sampling grid is superimposed to the geological map of the targeted area (Fig. 3a) and the associated H₂, CO₂, and ²²²Rn gas concentration contour maps are also plotted (Fig. 3b, c and d, respectively). When looking at these 3 latter maps (Fig. 3b, c and d), one can observe that most of the highest H₂, CO₂, and ²²²Rn concentrations are located along the NPFT or to the south of this major fault. In addition, these high gas concentration data define 12 hot spots, with some of them being superimposed.

4.2 Hydrogen

Regarding H₂ concentrations, their values range from 0 to > 1000 ppmv. Among the 1106 concentration values reported in Table A1, 958 data (87 %) are < 50 ppmv, 146 data (6 %) are $\geq$ 50 ppmv, with 73 data (7 %) being > 100 ppmv and 5 data being above the sensor saturation (1000 ppmv) of the GA-5000 instrument. The high H₂ concentration values can be grouped into three main hot spots (Fig. 3b). The most significant hot spot is located between a triangle defined by Orthez to the north east, Peyrehorade to the east and Sauveterre-de-Béarn to the south. In this zone (133 km²), 10 neighboring sampling sites display mean H₂ concentration values above 50 ppmv. In more details, among 298 measurements carried out over 3 years in this area, 89 (30 %) display H₂ concentration above 50 ppmv. Four sampling sites exhibit high H₂ concentrations: Le Bourguet (up to 547 ppmv), north and east Baigts-de-Béarn (up to 734 and 481 ppmv, respectively), Sauveterre-de-Béarn (up to 632 ppmv) and Laborde (above the quantification limit of 1000 ppmv). At Sauveterre-de-Béarn, H₂ concentration was independently measured by GC and was found to be as high as 822 ppmv. The second hot spot is located to the south west of Asasp Arros. It corresponds to a single location where 5 independents gas measurements were > 50 ppmv. The third hot spot, located to the south of Pau, corresponds to two neighboring locations close to the NPFT. There, 6

independent measurements were > 50 ppmv of H_2 with a maximum value of 129 ppmv. In addition to these 3 H_2 hotspots, it was found that the soils surrounding two outcropping bodies of Iherzolite at Urdach and Turon de La Técoùère (red squares on Fig. 3b) also display high H_2 concentrations, but with high heterogeneities among the values. At Urdach, over the 9 measurements carried out, 2 were > 1000 ppmv. At Turon de la Técoùère, 2 measurements were > 1000 ppmv, 18 measurements were in-between 100 and 800, and the other 11 were < 100 ppmv. These two locations are both very singular and very specific because of their geological context. Thus, they are not included into the interpolation in order to avoid bias in the interpretation of the map.

4.3 Carbon dioxide

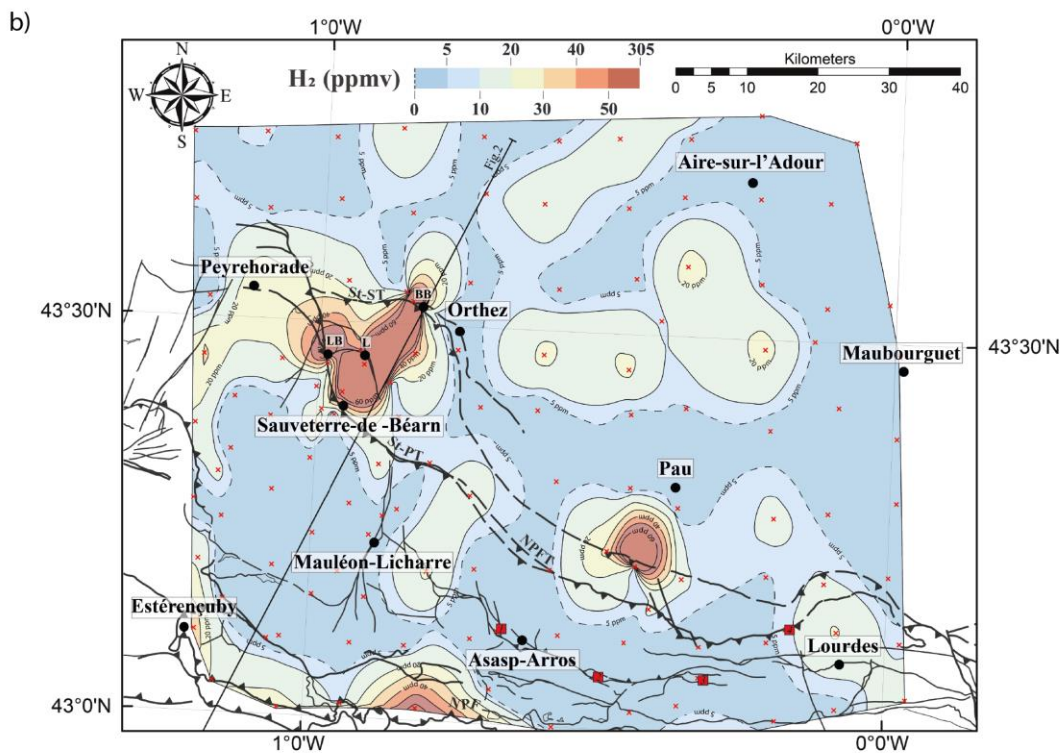
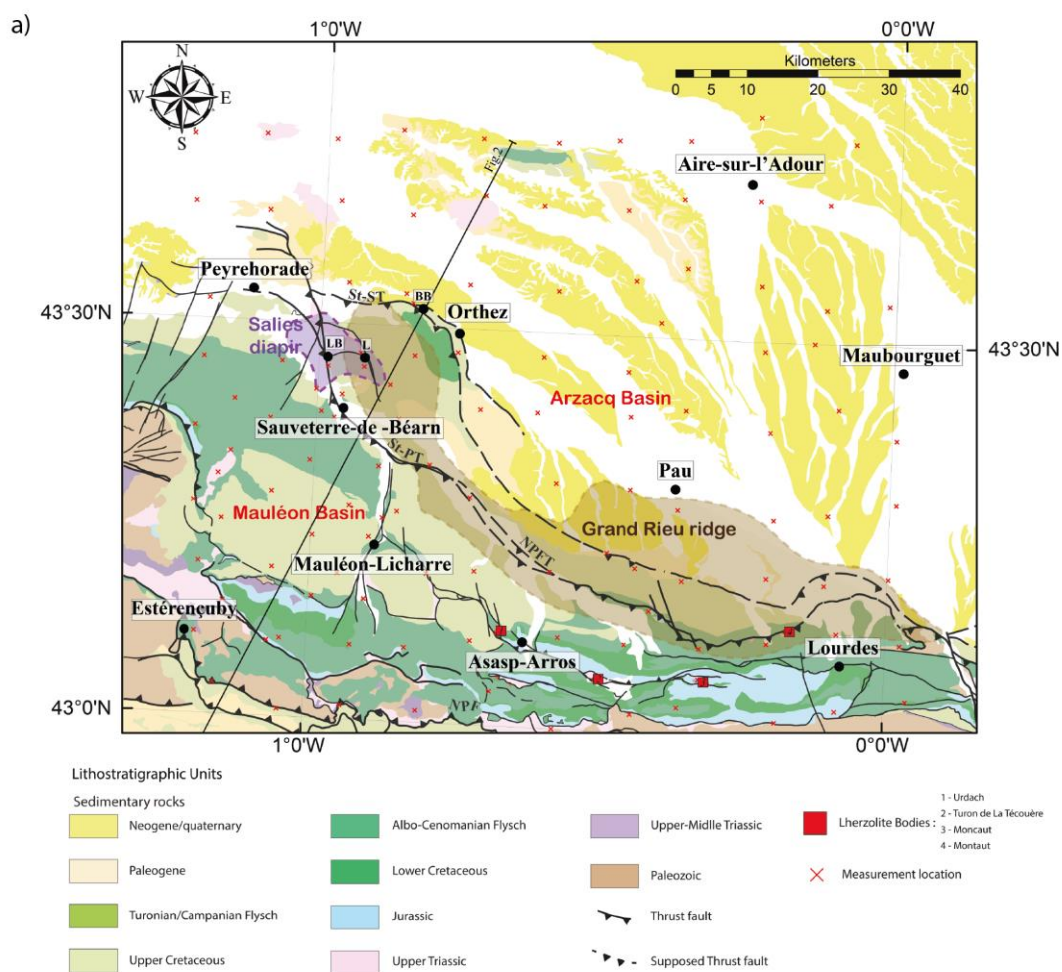
Regarding the CO_2 concentrations, their values range from 0 to 10.3 vol% with the following distribution: 815 values (74 %) are ≤ 1 vol%, 233 values (21 %) are in the range 1 to 3 vol% range, and 58 values (5 %) are > 3 vol% with a maximum at 10.3 vol% (Table A1). The spatial distribution of CO_2 concentration is less contrasted than for H_2 , but the high concentrations zones lie mostly to the south of the NPFT (Fig. 3b). Among the five detected hotspots where CO_2 concentration exceed 3 vol%, one display some overlaps with the previously described H_2 hot spot located on the NPFT: i.e. close to Peyrehorade with a maximum of 3.05 vol%. Another was located near Sauveterre-de-Béarn with a maximum of 10.3 vol%. Two others hot spots were located along faults, to the east of Asasp-Arros, and to the south-east of Lourdes. Their maximum CO_2 concentrations are 2.9 and 3.8 vol%, respectively. The last hot spot is located in the Arzacq Basin to the east of Orthez. It exhibits a maximum CO_2 concentration of 2.5 vol%.

4.4 Methane, carbon monoxide and hydrogen sulfide

Methane (CH_4) was also measured with the GA-5000 instrument, but its concentration was always below the quantification limits (0.5 vol%) and was not detected by GC analysis at Sauveterre-de-Béarn. Hydrogen sulfide (H_2S) was never detected, and carbon monoxide (CO) was rarely detected (38 values ≥ 10 ppmv, maximum 79 ppmv), with a random spatial distribution. The oxygen (O_2) concentration was very close to 20 vol% (except when CO_2 concentration was > 5 vol%) indicating that all our samples were dominated by air.

4.5 Radon

Finally, the radon soil gas map (Fig. 3d) can be nicely superimposed to the H_2 and CO_2 zones (Fig. 3b, and d, respectively). Among the 893 ^{222}Rn concentration values (Table A1), 177 (20 %) are ≥ 1 kBq m^{-3} , with a very high value of 57.3 kBq m^{-3} recorded at Sauveterre-de-Béarn. Most of the highest ^{222}Rn concentrations are located along the NPFT and to the south of this major fault. Seven hot spots exceeding ^{222}Rn concentration of 5 kBq m^{-3} can be easily identified: 1) Peyrehorade with a maximum at 28.6 kBq m^{-3} , 2) to the north of Sauveterre-de-Béarn with a maximum at 57.3 kBq m^{-3} , 3) to the north of Estérençuby with a maximum at 13.4 kBq m^{-3} , 4) to the west of Asasp-Arros with a maximum of 33.2 kBq m^{-3} , 5) to the south of Asasp-Arros with a maximum at 20 kBq m^{-3} , 6) to the west of Lourdes with a maximum at 14.4 kBq m^{-3} , and 7) to the north-east and south-east of Maubourguet with maximums of 12 and 8.2 kBq m^{-3} , respectively. Interestingly, the large H_2 and CO_2 hotspot previously identified in between Orthez, Peyrehorade and Sauveterre-de-Béarn, also corresponds to an area of high ^{222}Rn concentration.



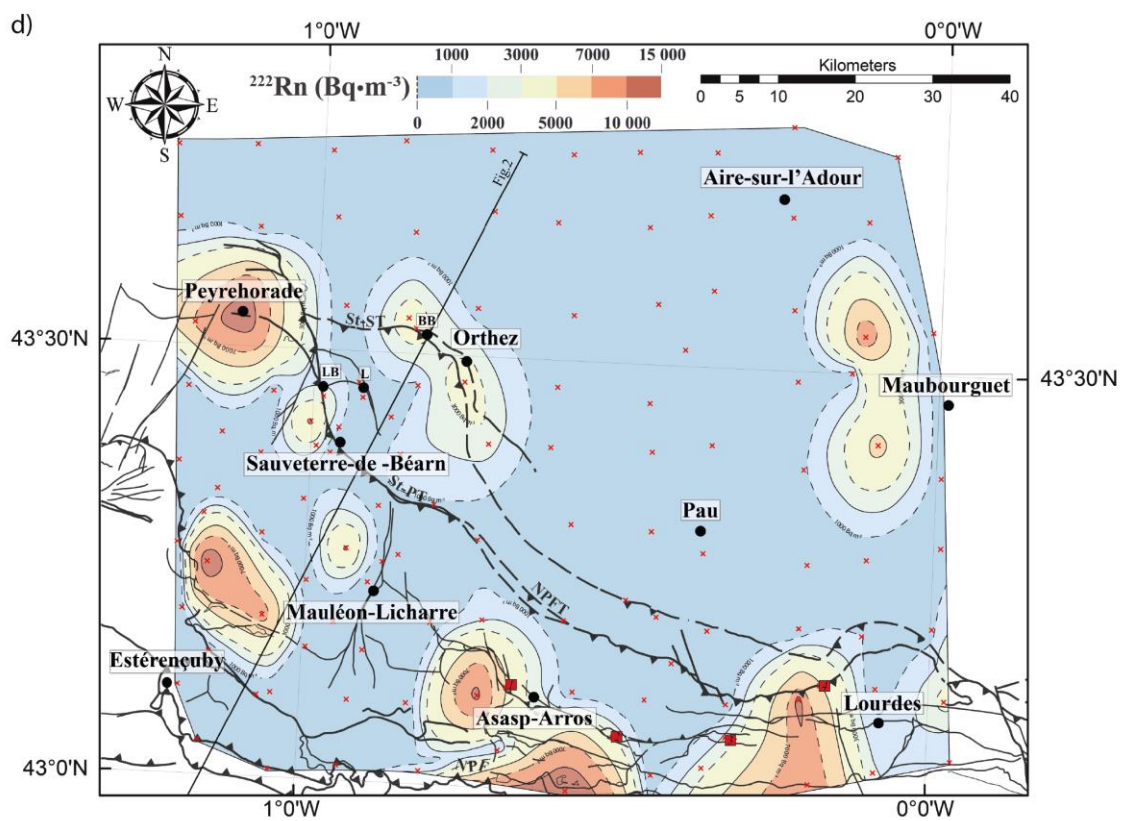
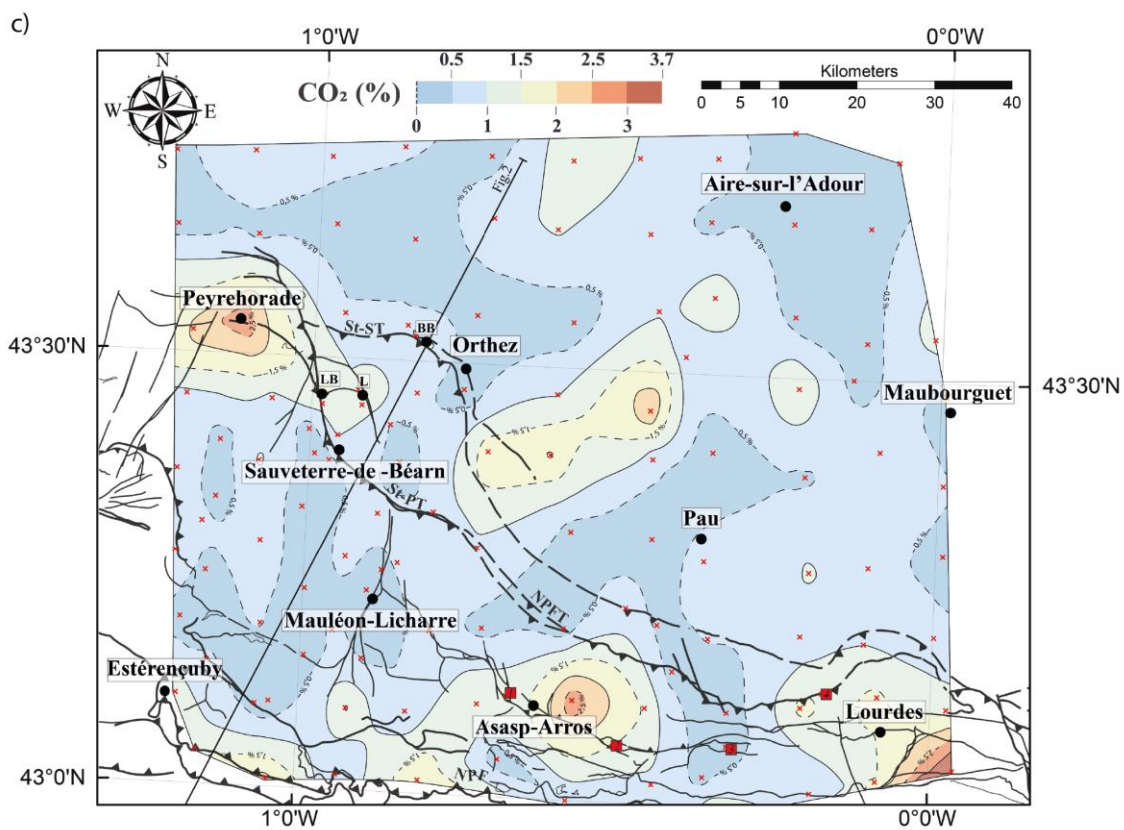


Figure 3. (a) Geological map of the studied area with the localization of the Mauléon and Arzacq Basins split apart by the Grand Rieu ridge and the NPFT faults networks (St-ST - Saint-Suzanne Thrust; St-PT - Saint-Palais Thrust; Ducoux et al., 2021). Each red cross corresponds to a measurement site. (b, c, and d) Contour maps of the mean concentration of H₂, CO₂ and ²²²Rn soil gas measured at each sampling site, respectively.

5 DISCUSSION

5.1 Soil gas background concentration and identification of gas anomaly thresholds

Statistical information about the soil gas survey is reported in Table 2 (min, max, median, standard deviation). All the measurements were acquired under similar meteorological conditions and can be compared to atmospheric gases concentrations of ²²²Rn (0.01 kBq m⁻³), H₂ (531 ppb), and CO₂ (0.039 vol%) (Baubron et al., 2002; Novelli et al., 1999).

Given the multiple potential sources of gases and the variability of their concentrations with respect to the atmosphere, the soil gas anomaly thresholds cannot be determined in an absolute way but a statistical approach can provide fruitful information (Ciotoli et al., 2016). Here, the background level of the soil gas was determined from the quantile-quantile plot (Q-Q plot) as described by Sinclair (1991). This procedure requires the identification of both quasi-linear segments on a probability curve and inflection points between the different linear trends (Lombardi et al., 2010; Reimann et al., 2005). The intersection between the different straight lines corresponds to threshold values. It is a graphical method used to identify different gas population above the background level which will be presented and used in the following sections (Fig. 4).

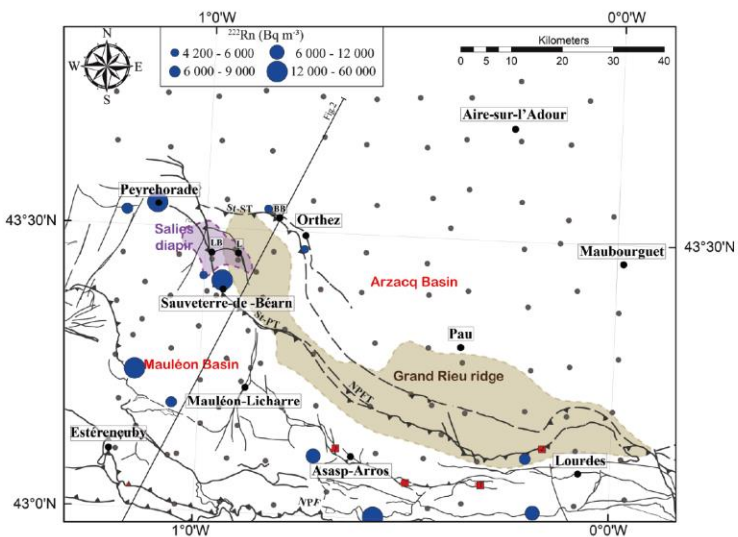
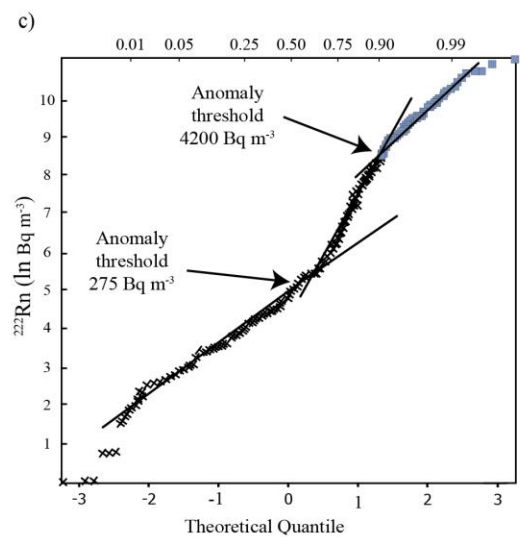
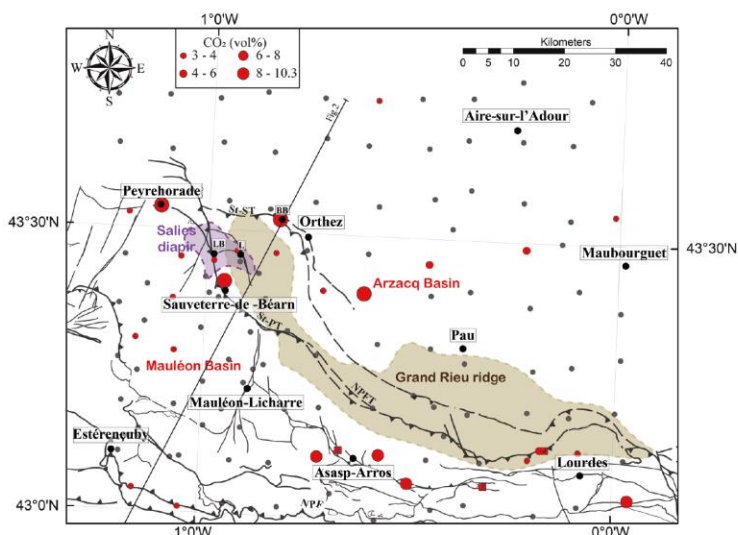
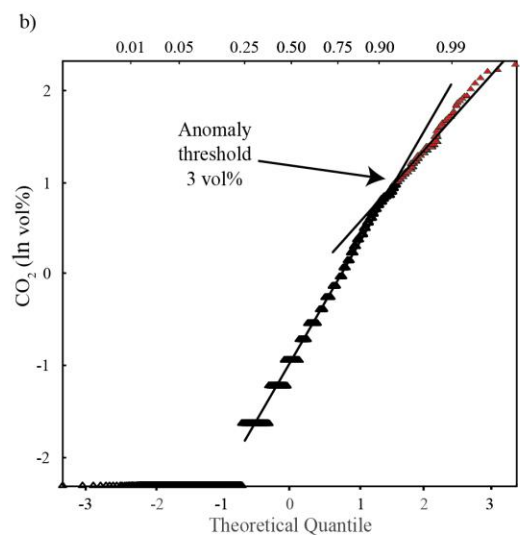
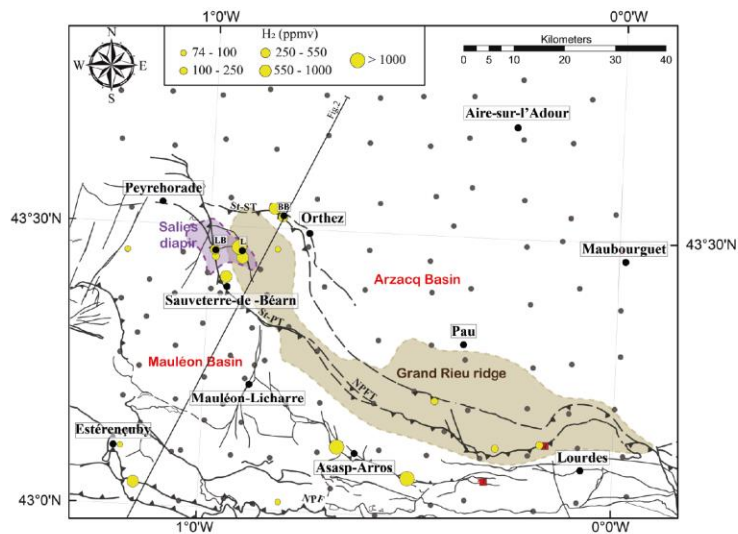
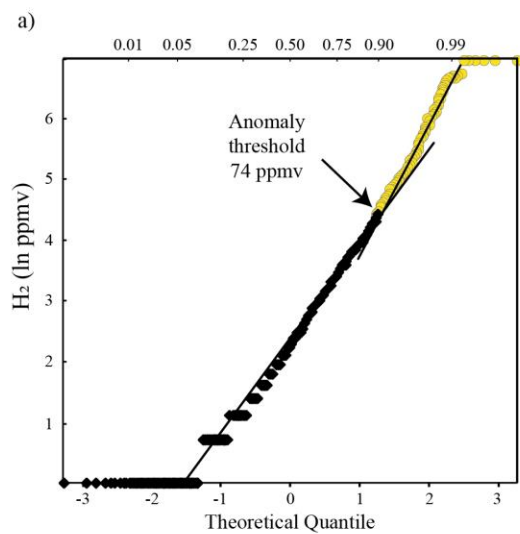


Figure 4. On the left-hand side is shown the quantile-quantile plots (Q-Q plots) calculated for (a) H₂, (b) ²²²Rn and (c) CO₂ soil gas measurements. The corresponding anomaly threshold values are 74 ppmv, 4,200 Bq m⁻³ and 3 vol%, respectively. The spatial distribution of these anomalies is displayed on the right-hand side of each Q-Q plots. NPFT – North Pyrenean Frontal Thrust; NPF – North Pyrenean Fault; St-ST - Saint-Suzanne Thrust; St-PT - Saint-Palais Thrust.

5.1.1 Hydrogen concentration anomalies

The Q-Q plot calculated for H₂ concentration highlights a non-linear evolution indicating the presence of at least two origins or sources for this gas (Fig. 4a). The inflection point between these linear trends indicates a soil gas concentration threshold anomaly at 74 ppmv.

The spatial distribution of H₂ concentrations is not random. Indeed, most of the measurements ranging from 1 to 74 ppmv (i.e. below the threshold) are located within the Arzacq and the Mauléon basins. The higher hydrogen concentrations (> 74 ppmv) are located near the main faults such as NPFT and NPF. The other anomalies, disconnected to these faults, are located close to the lherzolite bodies.

The hydrogen concentration below the threshold anomaly, i.e. the sharp change in concentration, could be linked to a microbial production. Microbial H₂ can be produced from different processes in soils such as fermentation, nitrogen fixation, anaerobic carbon monoxide oxidation or phosphite oxidation (Sipma et al., 2006; Schwartz et al., 2013). Hydrogen-producing microorganisms use metallo-enzymes such as [FeFe], [NiFe] and [Fe] hydrogenase in their metabolisms (Gregory et al., 2019). These enzymes can also be used in the reverse reaction for H₂ uptake and oxidation. These metallo-enzymes are present in anaerobic bacteria and eukaryotes (Peters et al., 2015). Fermentation is the most common process in nature to produce H₂ and may be important where organic matter is abundant. However, H₂ is usually maintained at low concentration in superficial environments because fermentative H₂ producer and respiratory H₂ consumers live in symbiosis or consortia in the microbial mats (Gregory et al., 2019; Kessler et al., 2019; Thauer et al., 1996). Thus, the net H₂ ecosystem flux is mainly controlled by soil uptake except during the leaf senescence in Autumn (Meredith et al., 2016). The optimum uptake temperature is approximately 30 °C (Ehhalt & Rohrer, 2011) and decreased with soil saturation, as water-filled pore spaces that prevent the gas diffusion (Conrad & Seiler, 1985; Popa et al., 2011). The type of soil is an important factor for both H₂ uptake and emission (Ehhalt & Rohrer, 2009). The uptake of H₂ is mainly related to the amount of hydrogenase in soil bacteria and to environmental conditions (Meredith et al., 2017). The rate of H₂ uptake is correlated to the abundance of H₂-oxidizing bacteria (Khdhiri et al., 2015). The highest uptake rates are recorded in forest soils while in grasslands the rates are lower (Chen et al 2015; Ehhalt & Rohrer, 2009; Khdhiri et al., 2015). Thus, the H₂ concentration in soils generally remains at low level, with lower values in forest soils than in grassland: 500 and 2500 ppb, respectively (Chen et al 2015). In this study, all H₂ concentration values below 10 ppmv can be the result of biological processes, while the high concentration values (> 74 ppm) reflect the contribution of other sources that may be deep-seated.

The hydrogen concentration ranging from 74 to > 1000 ppmv (i.e. above the threshold anomaly) seems to be clustered to the north west of Grand Rieu ridge and above the Salies salt diapir. These high H₂-concentrations may result from different sources than those below the threshold concentration value. They could be linked to mechano-radical reactions occurring along active faults or to a deeper production of H₂ through serpentinization, or water radiolysis. The rock crushing along fault plans results in the formation fresh surfaces that are extremely reactive. The reaction between these surfaces and water potentially

produces H₂ (Hirose et al., 2011; Kita et al., 1982). This mechanism is often invoked as the source of H₂ in active tectonic areas (Dogan et al., 2007). However, several studies have shown that the concentration of H₂ in the soil along active fault rarely exceed 100 ppm (Dogan et al., 2007; Li et al., 2013). Currently, the Pyrenean belt is in a post-orogenic situation, where earthquakes of low-magnitude occur currently. However, no earthquake with magnitude > 2.9 was recorded by the BCSF – RéNaSS seismic network near the surface along the NPFT during the sampling campaign. Thus, we can safely exclude rock comminution and mechano-radical process as major sources of H₂ in the targeted area. Therefore, others deep-seated origins for H₂, such as mantle rocks serpentinization or water radiolysis can be envisioned to explain the high H₂ concentration recorded near Sauveterre-de-Béarn. The role of deeply rooted faults in H₂ drainage is emphasized in the next section.

High concentration of H₂, i.e. > 1000 ppmv, are also recorded close to the two lherzolite bodies of Turon de la Técuère and Urdach (Table A1). The origin of these gas anomalies is probably not deep-sourced, but may correspond to low temperature serpentinization process, and to the release of gases entrapped in the rock as observed at a larger scale in numerous ophiolites worldwide (Etiope et al., 2011).

5.1.2 CO₂ concentration anomalies

The Q-Q plot calculated for CO₂ exhibits a non-linear evolution with an inflection point at 3 vol% that corresponds to a threshold anomaly (Fig. 4b). The CO₂ concentration below this value could be attributed to organic material oxidation, micro-organisms or plants respiration (Romanak et al., 2014; Sugisaki, 1983). The CO₂ concentrations above this threshold anomaly could result from a mixing of potential deep sources such as mantle degassing, carbonate metamorphism, or carbonate dissolution with other surface sources as describe above (Cooper et al., 1997).

The locations for CO₂ anomalies both in the basins and in fault zones are presented in Figure 4c. The anomalies observed in the basins are disconnected from the deep structure, which lead us to suppose that they are mainly the result of biological processes as detailed in the previous section. The others CO₂ anomalies are localized along faults (Fig. 4b) and are particularly clustered near the Salies diapir and to the north west of Grand Rieu ridge. These latter anomalies are also correlated with the H₂ and ²²²Rn anomalies at this location. This clustering strengthens the scenario of an active gas-bearing fault zone where CO₂ acts as a carrier gas for other species (H₂ and ²²²Rn) from deep-seated sources. Note that H₂ can also migrate independently from other gases because of the small size and high diffusivity of the molecule.

5.1.3 Radon concentration anomalies

The Q-Q plot calculated for ²²²Rn also highlights a non-linear spatial evolution of its concentration with two inflection points indicating at least two possible threshold anomalies, the first at 275 Bq m⁻³ and the second at 4200 Bq m⁻³ (Fig. 4c). Radon concentrations below the first threshold anomaly at 275 Bq m⁻³ correspond to the background level in the area as described by the French Institute for Radioprotection and Nuclear Safety. Radon concentrations between 275 and 4200 Bq m⁻³ are randomly distributed above the sedimentary basins and generally located far from the faults. The radon concentrations above the second threshold anomalies (i.e. 4200 Bq m⁻³) can be as high as 57 kBq m⁻³. These high values are mainly localized along the faults (Fig. 4c) and more particularly to the north western part of Grand Rieu ridge, around the Salies salt diapir, where high H₂ concentrations are also recorded. Note that, The two anomalous values recorded within the core of the Mauléon Basin are the only exceptions to this distribution along faults of the high ²²²Rn concentrations.

Because of its short half-life (3.82 days), ^{222}Rn must be carried rapidly upwards by ascending fluid to remain at high concentration when escaping into the atmosphere. Its presence at elevated concentration in soils indicates both active fluid circulation and subsurface lithologies enriched in ^{238}U , ^{232}Th and ^{40}K (Baubron et al., 2002). It has been already proven that ^{222}Rn is a useful pathfinder to map hydrothermal systems and active faults (Toutain & Baubron, 1999). Therefore, the high concentration of ^{222}Rn correlated with high H_2 and CO_2 concentrations near the Salies diapir, and along the NPFT near Sauveterre-de-Béarn, is a strong evidence for an active fluid circulation in deep-seated formations. Hydrogen may be at least partly sourced from water radiolysis, because these high ^{222}Rn concentrations testify for the presence of radioactive elements at depth.

5.2 Possible H_2 production system in the Pyrenean foothills

The western part of Pyrenean structure is characterized by a massive mantle body at shallow depth (< 10 km) as inferred from geophysical data (Chevrot et al., 2015, 2018; Garcia-Senz et al., 2019; Lacan, 2008; Wang et al., 2016). Another important observation is the occurrence of quasi-periodic seismic activity located to the south of the NPZ beneath the Mauléon Basin (Fig. 5). Numerous studies interpret these seismicity patterns as the result of stress triggered by fluid flows (Faulkner et al., 2010; Hainzl, 2004; Hardebeck, 2012; Rigo et al., 2008). Souriau et al. (2014) indicate that these earthquake clusters might be related to the convective circulation of fluids along the NPF (Fig. 5). Fluid circulation in deeply rooted faults is confirmed by helium and ^{222}Rn anomalies in soil gas (Baubron et al., 2002). Furthermore, the presence of fluid has been detected by low electrical resistivity at 13 to 15 km depths (Campanya et al., 2012). Such a depth also corresponds to the location of the seismic swarm identified by Souriau et al. (2014) (Fig. 5).

The regional geothermal gradient of 25.0 ± 2.7 $^\circ\text{C km}^{-1}$ (Bonté et al., 2010) is relatively modest, but the north western part of Mauléon Basin (Fig. 3a) displays anomalously high temperatures above 65 $^\circ\text{C}$ at 1000 to 2000 m depth. An indication of this thermal anomaly is the presence of numerous hydrothermal springs in the western part of Mauléon Basin; such as Combo-les-Bains, or Salies-de-Béarn. Hot fluid circulation may create a convection cell that drives heat upwards from deep thermal anomaly (Bonté et al., 2010). Given the regional geothermal gradient value, one may also expect temperatures at the top of the exhumated mantle at about 10 km depth to be around 250 $^\circ\text{C}$ (Saspiturry et al., 2020). Such a temperature is optimum for efficient serpentinization of the mantle rocks, magnetite formation, and H_2 generation (Malvoisin et al., 2011; Klein et al., 2020).

Therefore, the combined presence of both, a dense mantle body below the Mauléon Basin potentially subject to an active serpentinization, and deeply-rooted faults corresponding to the NPFT and the NPF zones (Fig. 2), represents a favorable geological setting for H_2 generation and drainage. Water radiolysis may also contribute to H_2 production, but to date we cannot discriminate this source from serpentinization. In the present case, we note however, that the importance of water radiolysis may be secondary compare to serpentinization in the global H_2 budget. Indeed, Warr et al. (2019) indicate that the contribution of water radiolysis on H_2 production is higher in felsic environments whereas its production by serpentinization comes mainly from mafic environments. Here, the presence of a large mantle body (i.e. ultra-mafic rocks) at shallow depth seems to provide the most fertile environment for H_2 generation. We therefore assume that H_2 is more likely generated by serpentinization than by radiolysis.

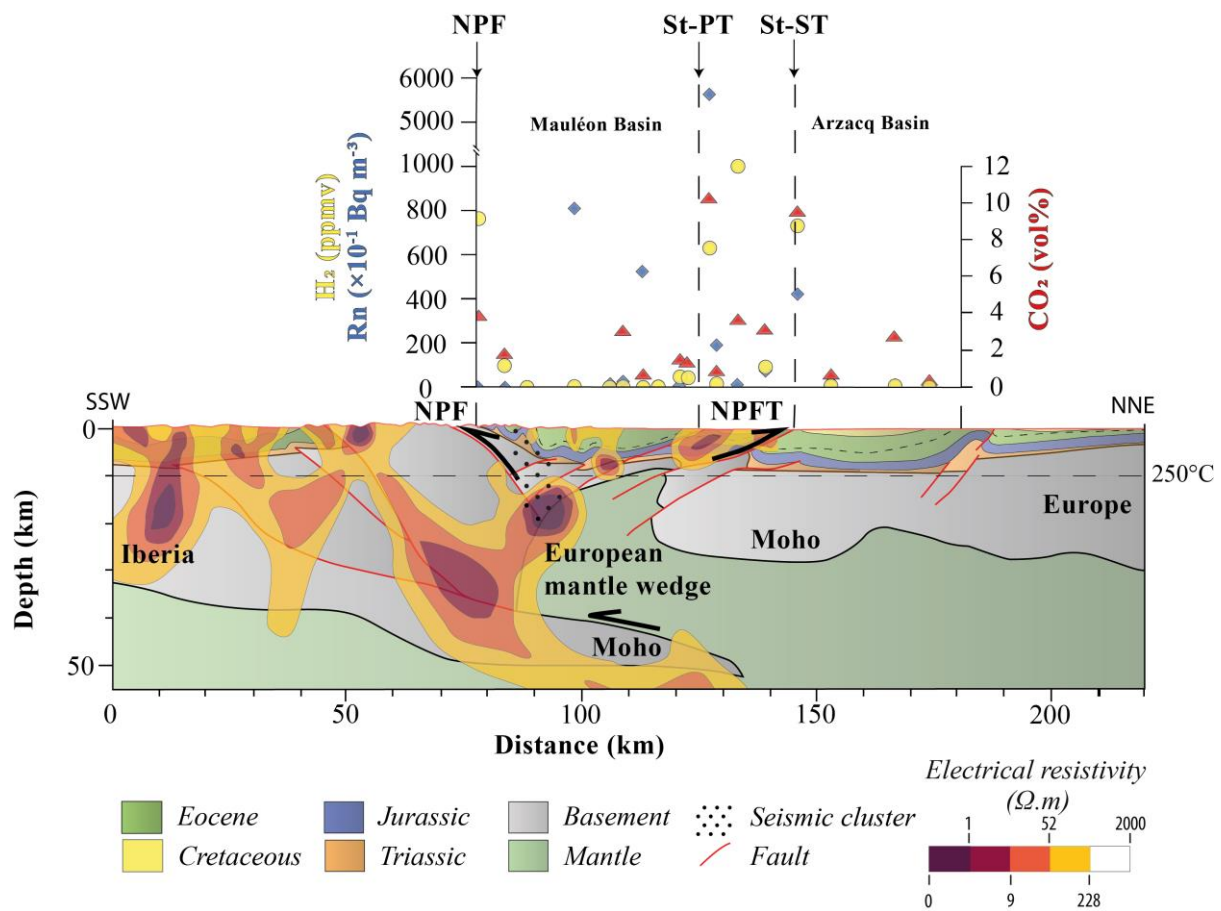


Figure 5. (bottom) Geological interpretation of the tomographic model (modified from Wang et al., 2016) superimposed to both a two-dimensional electrical resistivity model (after Campanyà et al., 2012) and the projection of a deep seismic cluster (after Souriau et al., 2014). The location of the section is shown on Figure 1. (top) H_2 (circle), ^{222}Rn (diamond) and CO_2 (triangles) max concentrations obtained along this section. NPFT – North Pyrenean Frontal Thrust; NPF – North Pyrenean Fault; St-ST - Saint-Suzanne Thrust; St-PT - Saint-Palais Thrust

In fact, the high H_2 emission spots obtained from the soil gas measurements carried out in the western Pyrenees agree well with the presence of this mantle body at shallow depth and the deep-rooted faults. The gas concentration along the western ECORS-Arzacq profile is displayed in Figure 5. The highest H_2 , CO_2 and ^{222}Rn soil gas concentrations were recorded along the NPFT and the Grand Rieu ridge at >1000 ppmv, 10 vol%, and 57 kBq m^{-3} , respectively. Such deeply rooted faults, described as weakened zones partly composed of highly connected fracture networks, represent preferential pathways for fluid circulation carrying H_2 and other gases from deep sources to the surface (Baubron et al., 2002; Donzé et al., 2020; Gal & Gadalia, 2011). The gas concentration measurements carried out in the Mauléon and Arzacq Basins display lower values than within the Grand Rieu ridge (Fig 3a) and show a strong variability in concentration between H_2 , CO_2 and ^{222}Rn . Hydrogen is nearly absent from these basins while the ^{222}Rn is only present in Mauléon Basin and CO_2 is present

in both basins. These basins were never connected during the Cretaceous rifting event, because they were separated by the Grand Rieu. The Arzacq Basin is therefore not connected to the mantle structure well identified below the Mauléon Basin (Masini et al., 2014; Lescoutre et al., 2019). Hence, these major structural features explain very well the contrasted in term of gas concentration patterns observed in-between these two basins.

In addition, the main hot spots located between Sauveterre-de-Béarn, Orthez and Peyrehorade are close to or just above the Salies salt diapir whose roof is only at less than 70 m below the surface (Berard & Mazurier, 2000). Such a structural configuration may also offer potential traps for deep-seated gases such as H₂. Indeed, salt formation is considered to offer the most promising option for large scale H₂ storage, because of their excellent sealing capacity and the relatively inert nature of salt with respect to H₂ (Sainz-Garcia et al., 2017; Tarkowski, 2019; Zivar et al., 2020). High H₂ concentrations (up to 30 vol%) have already been documented in evaporite formations and in particular in salt deposits (Warren, 2016). In salt formations, H₂ may have several origins like production during early biodegradation of organic matter, and water radiolysis due to elevated concentration of ⁴⁰K and ⁸⁷Rb, but the preponderant contribution of exogenic sources with subsequent migration into the evaporite trap is the most satisfying explanation.

6. Conclusions

Based on soil gas analysis and mapping we have discovered several hotspots of H₂, CO₂, ²²²Rn where the concentration of these gases exceeds the regional background by two order of magnitude and more. The sampling sites of high H₂ concentration (> 1000 ppmv), together with CO₂ (up to 10 vol%), and ²²²Rn (up to 60 kBq m⁻³) are mostly located close to the North Pyrenean Frontal Thrust. The Crossing the information based on soil gas maps with different geophysical and geological datasets led us to identify a possible fertile environment for H₂ generation and drainage. First, outcrops of serpentized peridotites in the NPZ are good indicator of the presence of exhumed mantle rocks at depth . Second, the geophysical observations reveal the presence of massive mantle body at shallow depth (< 10 km from tomographic, magnetic and gravimetric investigations) where active serpentization may occur. Third, the H₂ and ²²²Rn may be carried upward by CO₂ along major faults that connect the mantle body to the surface. The Salies salt diapir whose roof is only at less than 70 m below the surface represents an ideal gas trap for deep-seated gases such as H₂.

The discovery of these hotspots paves the way for detailed studies of noble gases and stable isotopes composition, but also for careful microbiological and pedological investigations to better constrain H₂ source(s) and migration path. The targeting approach deployed in our study may be applied elsewhere in the world and more particularly in orogenic belts presenting a geological configuration comparable to the western Pyrenean area. These orogenic areas, rich in ultramafic rocks, could be preferentially targeted for an industrial prospection of native H₂ resources.

Acknowledgments, Samples, and Data

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Supplementary material

Table A1. All untreated soil gas data

Table A2. Average of soil gas data at each location

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Location	X	Y	CH4 (vol%)	CO2 (vol%)	O2 (vol%)	H2 ppmv	CO ppmv	H2S ppmv	Balance (vol%)	Radon (bq m ⁻³)	Atmospheric pressure (mbar)	Humidity (%)	Temperature (°C)	soil type
Peyrorado	-1.110608	43.53165	0	3.1	18.8	31	4	0	78.8	13260	1015	83.8	23	Grassland
La Bourgade	-1.186809	43.519494	0	0.1	3.8	0	0	0	15.8	7444	1016	77.7	24	Forest
Sud Bardos	-1.1929778	43.445451	0	0.9	20.3	34	2	0	79.2	72	1012	91.9	25	Grassland
Isturitz	-1.2023857	43.358344	0	1.0	19.9	16	2	0	79.3	199	1004	68.8	27	Grassland
Iholdy	-1.197617	43.267475	0	1.1	19.7	1	1	0	79.4	177	987	85.7	27	Grassland
Bois d'Ostabat	-1.0636998	43.282326	0	1.0	20.2	3	1	0	79.5	283	993	79.1	29	Meadow
Gabat	-1.0722578	43.37346	0	1.1	20.4	2	1	0	79.5	76	1000	85.6	33	Grassland
Arancou	-1.0562003	43.445526	0	0.9	19.0	18	4	0	79.6	66	1006	70.2	36	Grassland
Puyo	-0.9448968	43.546198	0	0.5	19.9	14	1	0	79.5	29	1007	71.6	35	Grassland
Salies de Bearn	-0.918758	43.460145	0	1.7	19.7	52	3	0	79.6	132	1007	54.7	35	Grassland
Saint Laurent Bretagne	-0.1969404	43.382274	0	0.4	16.3	3	1	0	79.2	799	984	72.9	21	Grassland
Lannecaube	-0.2109628	43.482495	0	1.5	19.8	26	3	0	79.2	309	1002	74.7	23	Grassland
Castetpugon	-0.2208758	43.563465	0	0.2	20.8	6	2	0	79.0	173	1004	78.4	24	Grassland
Sensacq	-0.3496236	43.581854	0.18	1.3	20.6	26	3	0	78.9	70	1007	87.2	23	Grassland
Méracq	-0.3937847	43.512739	0	0.7	20.7	9	2	0	79.0	147	376	213.9	172	Grassland
Navailles-Angos	-0.3458781	43.405046	0	0.1	20.6	6	1	0	79.3	229	995	76.4	27	Grassland
Uzein	-0.4410873	43.39658	0	0.7	20.6	4	1	0	79.1	189	1003	76.2	27	Grassland
Esterencuby	-1.1867999	43.105215	0	1.2	21.0	38	1	0	78.5	29	991	72.3	21	Meadow
Errozate	-1.1510656	43.042125	0.08	1.3	21.4	18	1	0.2	78.3	5	887	66.3	18	Meadow
Zazpigain	-1.0379461	43.010372	0	2.2	20.9	27	1	0	78.1	181	861	73.4	17	Meadow
Pic d'Apanice	-1.0379461	43.100868	0	0.1	20.9	0	1	0.8	78.7	148	901	87.5	20	Meadow
Alcay	-0.9149188	43.095668	0	1.6	20.7	5	0	1	79.1	63	986	96.3	25	Meadow
Logibarria	-0.9260405	43.020038	0	0.5	20.8	8	1	1	78.9	35	972	75.1	27	Meadow
Pic d'issarbe	-0.7953253	43.018106	0	2.0	21.0	66	3	1	78.5	705	864	58.1	23	Meadow
Montorry	-0.82029	43.096886	0	0.5	21.1	0	0	1	78.7	59	985	97.9	22	Grassland
Arette	-0.7073994	43.108241	0	1.5	19.9	0	0	1.4	78.9	10978	974	96.7	25	Grassland
Lourdios Ichère	-0.6689824	43.047011	0	0.2	20.9	0	0	1.2	78.9	1003	964	75.7	27	Meadow
Bustince Iribéry	-1.1850354	43.19192	0.02	0.2	21.2	17	1	1	78.6	827	993	72.8	22	Grassland
Saint Juste Ibarre	-1.0561151	43.189128	0	0.5	20.8	0	0	1	78.7	8152	996	90.7	25	Grassland
Ordiaarp	-0.9424667	43.184364	0	0.6	20.7	5	0	1	79.0	43	993	76.6	27	Grassland
Barcus	-0.7867208	43.188848	0	0.6	20.6	23	3	1	79.0	20	981	72.9	28	Grassland
Esquile	-0.7048902	43.194938	0	0.4	20.9	0	0	1	78.7	1811	986	64.4	28	Grassland
Lamidou	-0.7168551	43.285576	0.02	0.9	20.5	15	1	1	79.0	32	999	67.6	27	Grassland
Moncayolle	-0.8434068	43.264186	0	0.6	20.8	0	0	1.4	79.1	43	988	61.6	29	Grassland
Ainharp	-0.9272931	43.268024	0	0.7	20.1	0	0	1.6	79.3	5296	981	64.8	32	Grassland
Osserain	-0.9605008	43.377704	0	0.4	20.2	1	0	1.8	79.3	252	1007	46.8	36	Grassland
Laas	-0.8470193	43.379819	0	0.3	20.5	7	0	1.4	79.1	1909	1005	55.6	37	Grassland
Laneplaa	-0.8235575	43.460734	0	0.8	20.7	46	1	1	78.6	851	1002	69.4	27	Grassland
Hourquebie	-0.8417444	43.534271	0	0.6	20.8	1	1	1	78.6	4280	999	77.2	26	Grassland
Pibole	-0.7324928	43.550378	0	0.1	21.1	4	1	1	78.7	388	1007	82.4	26	Grassland
Biron	-0.7487931	43.46425	0	0.0	20.9	0	0	1	79.1	4364	1010	80.8	28	Grassland
Sauvelade	-0.7051026	43.396065	0	1.9	20.2	4	2	1	78.8	2456	1005	60.2	31	Grassland
Abidos	-0.6055312	43.394956	0	2.1	20.8	0	0	1	79.0	88	1006	68.3	30	Grassland
Arthez de Bearn	-0.5979083	43.463609	0	1.0	20.8	25	1	1.52	79.0	95	998	66.3	32	Grassland
Castlener	-0.5769138	43.546863	0	0.2	20.9	2	1	1.6	78.9	42	997	53.5	34	Grassland
Philondex	-0.440628	43.564529	0	1.0	20.5	4	2	1	79.1	74	996	59.5	33	Grassland
Momas	-0.4497019	43.450535	0.22	2.5	19.8	24	3	1.8	79.0	45	999	59.6	34	Grassland
Col de Jaut	-0.3395519	43.036691	0	0.3	19.7	2	1	0	80.2	1927	896	58.2	33	Meadow
Mifaget	-0.3079806	43.110394	0	0.2	19.7	0	0	0	79.3	225	985	75.5	22	Grassland
Montaut	-0.1910826	43.119642	0	1.6	19.7	5	1	0	79.1	8313	983	76.6	22	Forest

Location	X	Y	CH4 (vol%)	CO2 (vol%)	O2 (vol%)	H2 ppmv	CO ppmv	H2S ppmv	Balance (vol%)	Radon (bq m ⁻³)	Atmospheric pressure (mbar)	Humidity (%)	Temperature (°C)	soil type
Mauléon Licharre	-0.89056	43.2317	0	0.1	19.9	1	0	0	79.9	63	990	70.0	30	Soil
Charre	-0.87881	43.3195	0	0.6	19.7	13	2	0	79.7	36	1001	62.4	31	Soil
Béhasque Lapiste	-1.00086	43.3238	0	0.1	20.2	2	1	0	79.7	65	1004	61.6	32	Soil
Pagolle	-0.98865	43.2314	0	0.0	20.1	2	0	0	79.7	73	996	56.5	35	Soil
Saint Etienne Lantabat	-1.14774	43.2461	0	0.3	20.5	2	0	0	79.3	12835	994	63.3	33	Soil
Méharin	-1.13918	43.3302	0	0.1	20.5	1	0	0	79.4	61	997	64.6	32	Soil
Orègue	-1.13547	43.3961	0	0.3	20.1	1	0	0	79.6	115	999	62.2	33	Soil
Abitain	-0.99522	43.4123	0	0.3	20.5	1	0	0	79.2	5365	999	70.4	25	Soil
Orion	-0.86208	43.4185	0	0.4	20.1	1	0	0	79.4	86	981	91.8	24	Soil

Location	Date	X	Y	CH ₄ (vol%)	CO ₂ (vol%)	O ₂ (vol%)	H ₂ ppmv	CO ppmv	H ₂ S ppmv	Balance (vol%)	soil type
Montaut	15/02/2018	-0.1645	43.1376944	0	0.2	20.3	8	1	0	79.3	Forest
Montaut	15/02/2018	-0.1647222	43.1376944	0	0.6	19.5	16	6	0	79.7	Forest
Montaut	15/02/2018	-0.1647222	43.1376944	0	0.6	19.5	20	2	0	79.7	Forest
Montaut	15/02/2018	-0.1647778	43.1376944	0	1	19.5	9	1	0	79.3	Forest
Montaut	15/02/2018	-0.1647778	43.1376944	0	1.8	19.1	7	1	0	78.9	Forest
Montaut	15/02/2018	-0.1648611	43.1377222	0	1.2	19.3	13	0	0	79.3	Forest
Montaut	15/02/2018	-0.165	43.1379444	0.5	0.3	20.1	17	2	4	78.9	Forest
Montaut	15/02/2018	-0.1651111	43.1380278	0.8	1.1	18.8	28	15	4	79.1	Forest
Montaut	15/02/2018	-0.1651111	43.1380278	1	0.6	19.8	36	5	8	78.4	Forest
Montaut	15/02/2018	-0.1654722	43.1380833	0	0.7	20	28	1	3	79.1	Forest
Montaut	15/02/2018	-0.1656389	43.1382222	0	0.8	19.9	25	0	2	79.1	Forest
Montaut	15/02/2018	-0.16575	43.1381944	0	0.2	20.4	88	6	1	79.2	Forest
Montaut	15/02/2018	-0.1658333	43.1383056	0	0.1	20.6	28	2	0	79.1	Forest
Montaut	15/02/2018	-0.1658611	43.1383889	0	0.3	20.3	56	7	1	79.2	Forest
Montaut	15/02/2018	-0.1658611	43.1383889	0	1	20	47	16	1	78.8	Forest
Montaut	15/02/2018	-0.1658889	43.1384167	0	0.2	20.5	39	2	0	79.1	Forest
Montaut	15/02/2018	-0.1659444	43.1385278	0.2	0.6	19.6	87	33	1	79.4	Forest
Montaut	15/02/2018	-0.1659444	43.1385278	0.2	0.3	20.4	94	12	1	78.9	Forest
Montaut	15/02/2018	-0.1658889	43.1386944	0	0.4	20.3	43	7	1	79.1	Forest
Montaut	15/02/2018	-0.1662778	43.1386111	0	0.1	20.8	40	1	0	78.9	Forest
Montaut	15/02/2018	-0.1662222	43.1391111	0	0.5	20.4	25	7	0	78.9	Forest
Lasseube	22/02/2018	-0.475571	43.225542	0	0.4	19.8	19	1	0	79	Forest
Lasseube	22/02/2018	-0.4745933	43.2234727	0	1.2	19.6	11	3	0	78.7	Forest
Lasseube	22/02/2018	-0.4745232	43.2234382	0	0.8	19.4	20	3	0	79	Forest
Lasseube	22/02/2018	-0.4743337	43.2235308	0	0.4	20.1	14	1	0	78.9	Forest
Lasseube	22/02/2018	-0.4748103	43.2235812	0	0.2	20.3	49	0	0	78.9	Forest
Lasseube	22/02/2018	-0.474962	43.223558	0	1.5	19.1	29	1	0	78.7	Forest
Lasseube	22/02/2018	-0.4749757	43.223641	0	0.4	19.8	49	2	0	78.9	Forest
Lasseube	22/02/2018	-0.475238	43.2236543	0	0.4	20.3	42	2	0	78.7	Forest
Lasseube	22/02/2018	-0.4750615	43.2233492	0	1.7	15.6	64	4	0	79.3	Forest
Rébénacq	22/02/2018	-0.3957728	43.1533967	0	0.7	19.8	37	0	0	78.9	Forest
Rébénacq	22/02/2018	-0.3959203	43.1531877	0	0.2	20.3	23	0	0	78.8	Forest
Rébénacq	22/02/2018	-0.3962142	43.1531203	0	0.2	20.7	12	0	0	78.9	Grassland
Rébénacq	22/02/2018	-0.3963295	43.1530043	0	0.2	20.6	5	0	0	78.9	Grassland
Rébénacq	22/02/2018	-0.3965502	43.1526615	0	0.2	20.6	1	0	0	78.9	Grassland
Rébénacq	22/02/2018	-0.3957263	43.1522712	0	0.1	20.7	0	0	0	78.9	Grassland
Rébénacq	22/02/2018	-0.3957627	43.152633	0	0.1	20.8	0	0	0	78.9	Grassland
Col d'urdach	22/02/2018	-0.6641538	43.1180562	0.1	0.4	18.1	1000	79	2	80.5	Meadow
Col d'urdach	22/02/2018	-0.664306	43.1180788	0	0.3	19.2	1000	61	2	80.1	Meadow
Col d'urdach	22/02/2018	-0.664412	43.118094	0	0.2	19.4	323	17	0	79.6	Meadow
Col d'urdach	22/02/2018	-0.6644703	43.1180537	0	0.2	19.9	475	3	0	79.5	Meadow
Col d'urdach	22/02/2018	-0.6644968	43.1181472	0	0.3	20.1	105	4	0	79.5	Meadow
Col d'urdach	22/02/2018	-0.6646515	43.1181627	0.1	0.3	20.4	66	4	0	79.2	Meadow
Col d'urdach	22/02/2018	-0.664736	43.1177692	0.1	0.1	19.8	413	7	0	79.2	Meadow
Montaut	01/03/2018	-0.1643212	43.1380202	0	0.1	20.4	20	0	0	79.5	Forest
Montaut	01/03/2018	-0.1644252	43.1379812	0	0.1	19.6	7	2	0	79.5	Forest
Montaut	01/03/2018	-0.1640965	43.1379307	0	0.1	19.7	4	4	0	79.6	Forest
Montaut	01/03/2018	-0.1643232	43.138064	0	0.1	19.9	6	6	0	79.5	Forest
Montaut	01/03/2018	-0.1642893	43.1381833	0	0.2	19.9	12	2	0	79.4	Forest
Montaut	01/03/2018	-0.1641413	43.1382297	0	0.4	19.6	6	2	0	79.4	Forest
Montaut	01/03/2018	-0.1640383	43.1382155	0	0.1	19.6	14	2	0	79.5	Forest
Montaut	01/03/2018	-0.1637747	43.1383822	0	1.2	19.9	1	0	0	78.8	Forest
Montaut	01/03/2018	-0.1636903	43.1383243	0	0.3	19.4	2	1	0	79.4	Forest
Montaut	01/03/2018	-0.1637943	43.138295	0	0.1	19.7	4	4	0	79.4	Forest
Montaut	01/03/2018	-0.1636315	43.1383545	0	0.1	19.6	7	2	0	79.4	Forest
Montaut	01/03/2018	-0.163641	43.1381857	0	0.1	19.7	3	0	0	79.3	Forest
La Saline	14/03/2018	-0.9750965	43.442167	0.1	0.1	20.5	1	0	0	79.1	Forest
La Saline	14/03/2018	-0.975058	43.4420828	0.1	1.6	20.2	10	1	0	78.8	Forest
La Saline	14/03/2018	-0.9751335	43.4419952	0	2.6	19.5	31	2	0	79	Forest
La Saline	14/03/2018	-0.9751945	43.4421347	0	1.7	20	50	4	0	79.2	Forest
La Saline	14/03/2018	-0.9751592	43.4420173	0	0.4	20.2	53	2	0	79.2	Forest
La Saline	14/03/2018	-0.9748788	43.4421095	0	0.5	20.1	41	4	0	79.2	Forest
La Saline	14/03/2018	-0.9748665	43.4422035	0	0.2	20.6	14	1	0	79.1	Forest
La Saline	14/03/2018	-0.9747237	43.4421727	0	0.4	20.4	9	2	0	79.2	Forest

La Saline	14/03/2018	-0.9744672	43.4421662	0	1	20.1	12	1	0	79.1	Forest
La Saline	14/03/2018	-0.9740355	43.4418158	0	3.1	17.7	9	1	0	79.5	Forest
La Saline	14/03/2018	-0.9729313	43.4416493	0	2.7	19.6	4	1	0	79.3	Forest
La Saline	14/03/2018	-0.9762373	43.4418903	0	1.4	20.6	0	0	0	79	Forest
La Saline	14/03/2018	-0.9762167	43.4416758	0	0.3	20.6	3	0	0	78.9	Forest
La Saline	14/03/2018	-0.9762115	43.441722	0	0.5	20.3	15	1	0	79	Forest
La Saline	14/03/2018	-0.9760372	43.4419772	0	0.7	19.9	3	0	0	79.1	Forest
La Saline	14/03/2018	-0.9754932	43.4420153	0	0.5	20.4	5	1	0	79.1	Forest
La Saline	14/03/2018	-0.9751193	43.4416655	0	4.1	16.6	5	1	0	79.8	Forest
La Saline	14/03/2018	-0.9750193	43.4416693	0	2.6	17.5	1	0	0	79.7	Forest
La Saline	14/03/2018	-0.9752113	43.4416175	0	2.1	18.1	8	0	0	79.3	Forest
La Saline	14/03/2018	-0.9751687	43.441696	0	0.1	20.5	12	2	0	79.2	Forest
La Saline	14/03/2018	-0.9749573	43.4417077	0	0.3	20.3	11	1	0	79.3	Forest
La Saline	14/03/2018	-0.9749468	43.4416613	0	1	20.2	12	0	0	79.1	Forest
La Saline	14/03/2018	-0.974798	43.4412693	0	1.4	17.3	12	1	0	79.7	Forest
La Saline	14/03/2018	-0.9748048	43.4413007	0	0.8	20	4	1	0	79.4	Forest
La Saline	14/03/2018	-0.974995	43.4418665	0	0.3	20.1	13	1	0	79.6	Forest
La Saline	14/03/2018	-0.9751057	43.4420958	0	0.1	20.1	9	0	0	79.6	Forest
La Saline	14/03/2018	-0.9751592	43.4421248	0	0.6	19.8	34	1	0	79.5	Forest
La Saline	14/03/2018	-0.9751247	43.442053	0	0.4	20	7	1	0	79.6	Forest
La Saline	14/03/2018	-0.9750288	43.4421793	0	0.8	19.7	16	0	0	79.6	Forest
La Saline	14/03/2018	-0.9752068	43.4420912	0	0.3	20.1	2	0	0	79.6	Forest
La Saline	14/03/2018	-0.9752217	43.4419373	0	1.1	19.2	5	1	0	79.6	Forest
La Saline	14/03/2018	-0.9747533	43.442334	0	1.1	19.1	18	2	0	79.3	Forest
La Saline	14/03/2018	-0.9748752	43.442813	0	2.8	17.4	31	3	0	80.2	Forest
La Saline	14/03/2018	-0.975023	43.4428177	0	1.4	18.1	157	5	0	79.3	Forest
La Saline	14/03/2018	-0.9752322	43.4429002	0	0.3	20.3	28	1	0	79.4	Forest
La Saline	14/03/2018	-0.9755785	43.4429695	0	2	16.7	63	2	0	79.5	Forest
La Saline	14/03/2018	-0.9757913	43.443018	0	0.3	20.3	7	0	0	79.3	Forest
La Saline	14/03/2018	-0.9758867	43.4430132	0	0.3	20.3	11	1	0	79.3	Forest
La Saline	14/03/2018	-0.9734632	43.4442082	0	2.4	19.7	12	1	0	79.1	Forest
La Saline	14/03/2018	-0.9736822	43.4442152	0	2.1	19.6	77	5	0	79.2	Forest
La Saline	14/03/2018	-0.9735583	43.4441808	0	2.4	19	53	1	0	79.2	Forest
La Saline	14/03/2018	-0.9734462	43.4447463	0	0.3	20.5	6	2	0	79.6	Forest
La Saline	14/03/2018	-0.9734595	43.4446983	0	2.3	18.2	4	2	0	80.3	Forest
La Saline	14/03/2018	-0.9734997	43.444886	0	2.8	17.1	7	0	0	79	Forest
La Saline	14/03/2018	-0.9734445	43.4451275	0	2	19.7	8	4	0	79.1	Forest
La Saline	14/03/2018	-0.9732677	43.4454033	0	0.8	20	3	1	0	79	Forest
La Saline	14/03/2018	-0.9732893	43.4457868	0	0.6	20.4	6	2	0	79	Forest
La Saline	14/03/2018	-0.9734505	43.4466582	0	0.7	20.7	21	2	0	79.1	Forest
La Saline	14/03/2018	-0.9733277	43.4465763	0	0.7	20.3	19	3	0	79	Forest
La Saline	14/03/2018	-0.9735527	43.4448362	0	3.2	17.2	11	4	0	79.6	Forest
La Saline	14/03/2018	-0.9735215	43.444711	0	2.3	18.2	9	2	0	79.4	Forest
Sud Le Bourguet	14/03/2018	-0.9777712	43.4509313	0	0.2	20	67	2	0	79.1	Forest
Sud Le Bourguet	14/03/2018	-0.9773423	43.4512025	0	2.9	18	17	4	0	79	Forest
Sud Le Bourguet	14/03/2018	-0.9776297	43.4513497	0	2.7	18.2	21	0	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.9776645	43.451482	0	1.7	19.9	59	5	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.9775612	43.451605	0	0.6	20	45	2	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.9776637	43.4516368	0	0.7	19.9	41	3	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.9781478	43.4539367	0	0.2	20.5	408	3	0	79.4	Forest
Sud Le Bourguet	14/03/2018	-0.9778852	43.4538962	0	2.4	18.6	547	12	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.977805	43.4539298	0	0.3	20.4	145	3	0	79.3	Forest
Sud Le Bourguet	14/03/2018	-0.977751	43.4538078	0	0.5	19.2	45	1	0	79.1	Forest
Sud Le Bourguet	14/03/2018	-0.9777703	43.4537505	0	0.5	19.9	54	3	0	79.1	Forest
Sud Le Bourguet	14/03/2018	-0.9778852	43.4536867	0	1.5	19.9	38	3	0	79.2	Forest
Sud Le Bourguet	14/03/2018	-0.9780985	43.4536047	0	2.5	18.1	21	1	0	79.1	Forest
Sud Le Bourguet	14/03/2018	-0.9775505	43.4534532	0	0.9	19.3	1	0	0	78.9	Forest
Sud Le Bourguet	14/03/2018	-0.9775568	43.4531925	0	1.7	19.6	10	2	0	78.9	Forest
Sud Le Bourguet	14/03/2018	-0.9773038	43.4529652	0	4.1	16.5	7	2	0	79.4	Forest
Sud Le Bourguet	14/03/2018	-0.977322	43.4529423	0	3.9	16.6	12	1	0	79.4	Forest
Sud Le Bourguet	14/03/2018	-0.9772428	43.4528433	0	3.8	16.8	19	1	0	78.8	Forest
Sud Le Bourguet	14/03/2018	-0.9772082	43.4529033	0	2.4	19.3	13	3	0	78.2	Forest
Armendarits	15/03/2018	-1.169328	43.287837	0	0.1	20.1	7	1	0	79.7	Grassland
Armendarits	15/03/2018	-1.169328	43.287837	0	0.7	19.7	22	0	0	79.7	Grassland
Armendarits	15/03/2018	-1.1694012	43.2877785	0	0.2	19.8	36	1	0	79.8	Grassland
Armendarits	15/03/2018	-1.169179	43.2880077	0	0.2	19.5	5	1	0	79.7	Grassland
Armendarits	15/03/2018	-1.1689343	43.2881155	0	0.2	19.5	3	1	0	79.9	Grassland

Armendarits	15/03/2018	-1.1689288	43.2882802	0	0.2	19.1	5	0	0	79.9	Grassland
Armendarits	15/03/2018	-1.168786	43.288348	0	0.3	19.3	6	1	0	79.9	Grassland
Armendarits	15/03/2018	-1.1685127	43.2885522	0	0.2	19.9	24	2	0	79.8	Grassland
Armendarits	15/03/2018	-1.1579942	43.3016815	0	0.2	19.6	0	0	0	79.7	Grassland
Armendarits	15/03/2018	-1.1579148	43.3012453	0	0.8	19.7	6	8	0	79.5	Grassland
Armendarits	15/03/2018	-1.1579098	43.3013702	0	0.9	19.5	20	5	0	79.7	Grassland
Armendarits	15/03/2018	-1.1579847	43.3012603	0.1	1.1	19	16	7	0	79.6	Grassland
Armendarits	15/03/2018	-1.1579348	43.3012288	0	0.5	19.9	15	5	0	79.7	Grassland
Armendarits	15/03/2018	-1.1579563	43.3010107	0	0.3	19.6	25	6	0	79.6	Grassland
Armendarits	15/03/2018	-1.1579305	43.3009972	0	0.7	19.5	9	7	0	79.6	Grassland
Armendarits	15/03/2018	-1.1579958	43.300808	0	1.3	19.6	4	2	0	79.7	Grassland
Armendarits	15/03/2018	-1.1580453	43.3006523	0	1.5	19.8	17	5	0	79.1	Grassland
Armendarits	15/03/2018	-1.157992	43.3007188	0	0.6	20.1	9	3	0	80.1	Grassland
Armendarits	15/03/2018	-1.1575958	43.3008153	0	0.5	16.5	6	4	0	79.6	Grassland
Armendarits	15/03/2018	-1.1576383	43.300734	0	0.3	19.9	5	2	0	79.6	Grassland
Armendarits	15/03/2018	-1.1581723	43.301136	0	0.1	20	5	5	0	79.5	Grassland
Armendarits	15/03/2018	-1.1581228	43.3011803	0	3.2	16.5	2	1	0	80.3	Grassland
Armendarits	15/03/2018	-1.1582988	43.3011328	0	2.9	17.1	3	3	0	79.5	Grassland
Armendarits	15/03/2018	-1.1578728	43.3021435	0	0.3	20.3	1	1	0	79.4	Grassland
Armendarits	15/03/2018	-1.1578663	43.3021457	0	0.5	19.9	18	2	0	79.4	Grassland
Armendarits	15/03/2018	-1.1536783	43.3276302	0	0.1	20.3	24	4	0	79.6	Grassland
Armendarits	15/03/2018	-1.1364785	43.3215688	0	0.2	19.9	7	2	0	79.8	Grassland
Armendarits	15/03/2018	-1.1363037	43.3215793	0	0.9	19.4	37	7	0	79.6	Grassland
Armendarits	15/03/2018	-1.1361185	43.3216047	0	0.1	20.2	8	3	0	80	Grassland
Armendarits	15/03/2018	-1.1355955	43.3217743	0	2.4	17.5	17	6	0	79.7	Grassland
Armendarits	15/03/2018	-1.135432	43.3217505	0	0.5	19.9	4	2	0	79.6	Grassland
Armendarits	15/03/2018	-1.1351168	43.3217147	0	0.4	20	13	3	0	79.6	Grassland
Armendarits	15/03/2018	-1.1352648	43.3202693	0	2.6	18.5	11	3	0	79.9	Grassland
Armendarits	15/03/2018	-1.1353303	43.3202363	0	0.8	19.6	47	6	0	79.7	Grassland
Armendarits	15/03/2018	-1.1354513	43.3202388	0	0.1	19.9	15	2	0	79.6	Grassland
Mauléon Nord	22/03/2018	-0.8712205	43.2516035	0	0.2	20.4	7	0	0	79.2	Grassland
Sauveterre	29/03/2018	-0.9467363	43.1756103	0	0.1	20.2	33	3	0	79.7	Grassland
Sauveterre	29/03/2018	-0.9468712	43.4076148	0	0.4	19.9	5	0	0	79.8	Grassland
Sauveterre	29/03/2018	-0.9470058	43.4073415	0	0.2	19.9	3	0	0	79.9	Grassland
Sauveterre	29/03/2018	-0.9472095	43.4070228	0	1.5	18.7	6	0	0	79.8	Grassland
Sauveterre	29/03/2018	-0.9471935	43.4067808	0.4	2.2	16.7	8	1	0	80.7	Grassland
Sauveterre	29/03/2018	-0.9473323	43.4065395	0	1.7	17.5	7	1	0	80	Grassland
Sauveterre	29/03/2018	-0.9475332	43.4062885	0	0.6	19	2	1	0	80.3	Grassland
Sauveterre	29/03/2018	-0.947621	43.406076	0	0.3	19.5	0	0	0	80	Grassland
Sauveterre	29/03/2018	-0.947674	43.4054703	0	0.1	19.9	1	0	0	80	Grassland
Sauveterre	29/03/2018	-0.9478187	43.4054413	0	0.1	19.9	3	0	0	80	Grassland
Sauveterre	29/03/2018	-0.9479578	43.405017	0	0.3	19.8	7	3	0	79.9	Grassland
Sauveterre	29/03/2018	-0.9480075	43.4047863	0	0.3	19.7	2	1	0	80	Grassland
Sauveterre	29/03/2018	-0.9479553	43.4047912	0	0.1	19.8	1	0	0	80.1	Grassland
Sauveterre	29/03/2018	-0.9479248	43.404535	0	0.1	19.8	1	0	0	80	Grassland
Sauveterre	29/03/2018	-0.9479597	43.4043507	0	0.1	19.8	2	1	1	80.1	Grassland
Sauveterre	29/03/2018	-0.9479688	43.4041508	0	0.1	19.8	0	0	0	80	Grassland
Sauveterre	29/03/2018	-0.947961	43.404027	0	0.1	19.8	1	1	1	80	Grassland
Sauveterre	29/03/2018	-0.9482058	43.4038793	0.4	0.7	18.6	4	2	1	80.4	Grassland
Sauveterre	29/03/2018	-0.9481645	43.4038767	0.2	0.4	18.9	7	2	1	80.2	Grassland
Sauveterre	29/03/2018	-0.9489128	43.4036628	0	0.2	19.5	5	1	0	79.9	Grassland
Sauveterre	29/03/2018	-0.9493665	43.4033277	0	0.1	20	2	2	0	79.9	Grassland
Sauveterre	29/03/2018	-0.9497722	43.4040078	0	0.1	20	25	2	0	79.8	Grassland
Sauveterre	29/03/2018	-0.949797	43.4040568	0	0.1	20.1	4	0	0	79.7	Grassland
Sauveterre	29/03/2018	-0.9505142	43.4040775	0	0.8	19.8	9	3	0	79.5	Grassland
Sauveterre	29/03/2018	-0.9506103	43.4040895	0	0.3	19.9	16	1	0	79.8	Grassland
Sauveterre	29/03/2018	-0.950835	43.4040013	0	0.2	20.1	1	0	0	79.5	Grassland
Sauveterre	29/03/2018	-0.950817	43.4042597	0	0.1	20.4	4	1	0	79.5	Grassland
Sauveterre	29/03/2018	-0.9513202	43.4045563	0	0.1	20.4	6	1	0	79.5	Grassland
Sauveterre	29/03/2018	-0.9514618	43.4048278	0	0.1	20.1	11	2	0	79.5	Grassland
Sauveterre	29/03/2018	-0.9518605	43.4055925	0	0.1	20.4	49	2	0	79.3	Grassland
Sauveterre	29/03/2018	-0.9517122	43.4057213	0	1.3	18.9	31	11	0	79.7	Grassland
Sauveterre	29/03/2018	-0.95209	43.4059285	0	2.8	18.1	34	3	0	79.3	Grassland
Sauveterre	29/03/2018	-0.9523202	43.4058108	0	2.6	18	52	4	0	79.3	Grassland
Sauveterre	29/03/2018	-0.9525893	43.4061757	0	2.4	18.3	11	1	0	79.1	Grassland
Sauveterre	29/03/2018	-0.9526067	43.4064645	0	7.2	13.3	148	34	0	80.9	Grassland
Sauveterre	29/03/2018	-0.9527935	43.4065913	0	7.2	13.2	173	24	0	79.7	Grassland

Sauveterre	29/03/2018	-0.9531197	43.4066168	0	5.7	9.2	632	11	1	81.3	Grassland
Sauveterre	29/03/2018	-0.9532543	43.4068952	0	3	15.4	104	6	0	79	Grassland
Sauveterre	29/03/2018	-0.9525438	43.4071193	0	0.6	20.4	187	11	0	78.9	Grassland
Sauveterre	29/03/2018	-0.9525917	43.4073667	0	0.7	20.6	28	3	0	78.9	Grassland
Sauveterre	29/03/2018	-0.9508853	43.4066657	0	0.4	20.7	121	5	0	78.9	Grassland
Sauveterre	29/03/2018	-0.9502885	43.4066168	0	1	19.6	198	7	0	79.4	Grassland
Sauveterre	29/03/2018	-0.9501203	43.4055437	0	1.1	19.4	6	1	0	78.7	Grassland
Sauveterre	29/03/2018	-0.9495548	43.4054707	0	0.1	21.2	6	2	0	78.7	Grassland
Sauveterre	29/03/2018	-0.9490133	43.4054767	0	0.1	21.2	4	1	0	78.7	Grassland
Sauveterre	29/03/2018	-0.949013	43.4054853	0	0.5	20.3	29	3	0	78.8	Grassland
Sauveterre	29/03/2018	-0.9491333	43.4054662	0	2.5	17.4	81	18	0	80.4	Grassland
Sauveterre	29/03/2018	-0.9486832	43.4054683	0	1.8	18.3	177	7	0	79.3	Grassland
Sauveterre	29/03/2018	-0.9480718	43.4052173	0	1.1	19.5	7	0	0	78.5	Grassland
Sauveterre	29/03/2018	-0.9480718	43.4054475	0	0.1	21.1	3	1	0	78.8	Grassland
Sauveterre	29/03/2018	-0.9480718	43.4054633	0	0.6	19.9	3	1	0	78.6	Grassland
Col d'Urdach	18/04/2018	-0.6646265	43.1177437	0.1	0.1	20.1	15	2	0	79.9	Meadow
Col d'Urdach	18/04/2018	-0.66426	43.1180943	0.1	0.4	19.7	2	0	0	79.9	Meadow
Montaut	25/04/2018	-0.168492	43.138661	0	0.7	20.5	27	3	0	79.1	Forest
Montaut	25/04/2018	-0.168492	43.138661	0	0.5	19.9	35	3	0	78.5	Forest
Montaut	25/04/2018	-0.1686963	43.1387925	0	0.2	20.8	34	12	0	78.8	Forest
Montaut	25/04/2018	-0.1686493	43.1386995	0	0.3	20.3	65	8	0	78.9	Forest
Montaut	25/04/2018	-0.1685993	43.1388455	0	0.8	20.1	24	9	0	78.8	Forest
Montaut	25/04/2018	-0.1683395	43.1384888	0	0.2	20.4	2	2	0	78.8	Forest
Montaut	25/04/2018	-0.165906	43.138088	0	0	19.9	73	9	0	79.4	Forest
Montaut	04/05/2018	-0.1686902	43.1389622	0	5.7	20.3	2	0	0	79.4	Forest
Montaut	04/05/2018	-0.1683057	43.1382958	0	0.1	20.3	1	0	0	79.4	Forest
Montaut	04/05/2018	-0.1659067	43.1382203	0	0	20.5	1	0	0	79.1	Forest
Montaut	16/05/2018	-0.164457	43.137754	0.1	0	20.3	1	0	0	79.4	Forest
Montaut	16/05/2018	-0.168492	43.138661	0	0.1	20.4	1	0	0	79.2	Forest
Montaut	16/05/2018	-0.168428	43.138497	0.1	0	20.4	1	0	0	79.2	Forest
Montaut	16/05/2018	-0.167975	43.138244	0	0	20.5	0	0	0	79.2	Forest
Castetnau-Camblong	16/05/2018	-0.7897172	43.3239003	0	0.6	20.1	7	0	0	79.1	Grassland
Turon de la Técoùère	20/06/2018	-0.4945167	43.0631987	0.3	0.1	19.9	0	0	0	79.7	Meadow
Turon de la Técoùère	20/06/2018	-0.4945737	43.0633133	0.2	0.1	19.5	1	0	0	80.2	Meadow
Turon de la Técoùère	20/06/2018	-0.4945313	43.0631845	0.2	0.1	19.1	0	0	0	80.6	Meadow
Turon de la Técoùère	20/06/2018	-0.4945693	43.063233	0.2	0.1	18.8	17	7	0	80.9	Meadow
Turon de la Técoùère	20/06/2018	-0.4944077	43.0632138	0.1	1	17	300	11	1	81.5	Meadow
Turon de la Técoùère	20/06/2018	-0.4946103	43.0634592	0	0.2	17.9	130	3	1	81.1	Meadow
Turon de la Técoùère	20/06/2018	-0.4946233	43.0634558	0	0.3	18.3	93	3	1	81	Meadow
Turon de la Técoùère	20/06/2018	-0.4944435	43.0636402	0	1.1	18.3	22	0	0	80.7	Meadow
Turon de la Técoùère	20/06/2018	-0.4944555	43.063598	0.1	1.1	19	111	2	0	80	Meadow
Turon de la Técoùère	20/06/2018	-0.4942145	43.0641563	0.2	4.1	16.6	612	23	0	79.6	Meadow
Turon de la Técoùère	20/06/2018	-0.4942358	43.0641743	0.1	2.9	16.8	333	12	0	79.8	Meadow
Turon de la Técoùère	20/06/2018	-0.4936763	43.0642122	0	1.1	18	174	6	0	80.5	Meadow
Turon de la Técoùère	20/06/2018	-0.4933843	43.0641078	0	2.3	18.9	405	13	1	80.2	Meadow
Turon de la Técoùère	20/06/2018	-0.4923743	43.0646652	0	1.2	19.3	142	5	0	79.7	Meadow
Turon de la Técoùère	20/06/2018	-0.4925355	43.0646657	0	3.4	19.7	750	19	1	80.1	Meadow
Turon de la Técoùère	20/06/2018	-0.4923217	43.0651015	0.1	5.3	15.6	120	2	0	78.7	Meadow
Turon de la Técoùère	20/06/2018	-0.4921712	43.065022	0.1	5.5	16.3	228	12	0	78.8	Meadow
Turon de la Técoùère	20/06/2018	-0.4921788	43.0652115	0.1	3.5	18.9	205	15	0	78.8	Meadow
Turon de la Técoùère	20/06/2018	-0.4918437	43.0654473	0	1.2	19.3	105	4	0	79.3	Meadow
Turon de la Técoùère	20/06/2018	-0.4918172	43.0656038	0	0.2	19.2	365	4	0	79.6	Meadow
Turon de la Técoùère	20/06/2018	-0.4915328	43.0657285	0	0.1	18.8	736	12	1	79.9	Meadow
Turon de la Técoùère	20/06/2018	-0.4914363	43.0658517	0	0	17.1	1000	20	2	79.9	Meadow
Turon de la Técoùère	20/06/2018	-0.4914632	43.0658952	0	0	20.1	1000	1	0	79.8	Meadow
Turon de la Técoùère	20/06/2018	-0.4914962	43.0657058	0	0	18.6	800	7	1	80	Meadow
Turon de la Técoùère	20/06/2018	-0.4908852	43.0666567	0	1.3	19.9	67	5	0	79.5	Meadow
Turon de la Técoùère	20/06/2018	-0.4909217	43.0666983	0	1	19.9	17	2	0	79.3	Meadow
Turon de la Técoùère	20/06/2018	-0.489865	43.0646607	0	2.4	11.6	37	1	0	79.3	Meadow
Turon de la Técoùère	20/06/2018	-0.4898323	43.0646528	0	0.3	20.2	217	4	0	79.4	Meadow
Turon de la Técoùère	20/06/2018	-0.491625	43.0619573	0	2.5	20.3	159	6	0	79.3	Meadow
Turon de la Técoùère	20/06/2018	-0.495814	43.0620837	0	1.8	20.2	2	1	0	78.9	Meadow
Turon de la Técoùère	20/06/2018	-0.4961447	43.0622418	0	1.8	20	23	6	0	78.6	Meadow
Nord Baigts-de-Béarn	02/05/2019	-0.829677	43.5231383	0	0.3	20.3	152	2	0	79.1	Forest
Nord Baigts-de-Béarn	02/05/2019	-0.8296143	43.5231413	0.2	0.8	20.1	107	1	0	79	Forest
Nord Baigts-de-Béarn	02/05/2019	-0.8291317	43.5234377	0	0.2	20.7	92	6	1	79.1	Forest
Nord Baigts-de-Béarn	02/05/2019	-0.8291422	43.5233227	0.1	0.3	19.9	734	10	1	79	Forest

Nord Baigts-de-Béarn	02/05/2019	-0.8289763	43.5233127	0.1	0.1	20	350	9	1	79	Forest
Nord Baigts-de-Béarn	02/05/2019	-0.8284305	43.5224712	0	0.1	20.4	44	2	0	78.7	Forest
Nord Baigts-de-Béarn	02/05/2019	-0.8286693	43.5227893	0	0.7	20.4	221	6	0	78.7	Forest
Est Baigts-de-béarn	02/05/2019	-0.8152538	43.5133895	0	0.1	21.1	27	3	0	78.7	Grassland
Est Baigts-de-béarn	02/05/2019	-0.8152843	43.5134165	0	0.4	21	74	2	0	78.6	Grassland
Labordes	02/05/2019	-0.9088855	43.4354812	0	0.3	20.5	221	2	0	79.4	Grassland
Labordes	02/05/2019	-0.9094275	43.441804	0	0.1	20.8	722	4	1	79.2	Grassland
Labordes	02/05/2019	-0.9093278	43.4418713	0	1.6	19.5	70	2	0	79.1	Grassland
Labordes	02/05/2019	-0.90945	43.4417805	0	0.9	19.4	49	2	0	79.4	Grassland
Labordes	02/05/2019	-0.9201248	43.4612637	0	0.1	18.9	80	0	0	79.4	Grassland
Labordes	02/05/2019	-0.9185263	43.46016	0	3	18.6	284	3	0	79.1	Grassland
Labordes	02/05/2019	-0.9184595	43.4600703	0.6	3.8	16.8	1000	0	3	80.9	Grassland
Labordes	02/05/2019	-0.9076387	43.4416495	0.3	0.4	20.2	20	3	0	79.2	Grassland
Sussaute	02/05/2019	-0.9874452	43.3688172	0	0.1	21.2	12	1	0	79.2	Grassland
Sussaute	02/05/2019	-0.9873432	43.3687193	0	0.6	20.1	36	14	0	79.1	Grassland
Arbouet-Sussaute	02/05/2019	-0.9821332	43.3850248	0	0.1	21.1	0	0	0	78.8	Grassland
Arbouet-Sussaute	02/05/2019	-0.9821667	43.3851167	0	0.1	21	17	3	0	78.9	Grassland
Arbouet-Sussaute	02/05/2019	-0.982216	43.3846762	0	0.1	20.9	43	10	0	79	Grassland
Montaut	16/05/2019	-0.1689808	43.139159	0	0.2	20.2	25	0	0	79.3	Forest
Montaut	16/05/2019	-0.1662492	43.1385372	0	0.9	20.5	15	0	0	79.1	Forest
Montaut	16/05/2019	-0.169671	43.140192	0	0.6	20.6	140	6	0	79.2	Forest
Montaut	16/05/2019	-0.169671	43.140192	0	0.2	19.5	7	2	0	79.2	Forest
Sommet de Moncaut	16/05/2019	-0.31586	43.0759962	0	0.1	21.3	0	0	0	78.6	Meadow
Sommet de Moncaut	16/05/2019	-0.3161847	43.0766237	0	0.1	21.2	2	1	0	78.6	Meadow
Sommet de Moncaut	16/05/2019	-0.316552	43.0768237	0	0	21.2	1	2	0	78.7	Meadow
Sommet de Moncaut	16/05/2019	-0.3164798	43.0770513	0	0.1	21.1	1	1	0	78.8	Meadow
Sommet de Moncaut	16/05/2019	-0.3164035	43.0770528	0	0	21.1	1	0	0	78.8	Meadow
Sud Col d'Apanice	19/06/2019	-1.071121	43.0990375	0	0.2	19.9	3	0	0	79.5	Meadow
Sud Col d'Apanice	19/06/2019	-1.0446587	43.0928573	0	0.2	20.7	3	2	0	78.9	Meadow
Sud Col d'Apanice	19/06/2019	-1.044579	43.0927805	0	0.1	20.9	7	2	0	78.8	Meadow
Baigts de Bearn Est	19/09/2019	-0.8139493	43.5140765	0	0.4	20.7	5	1	0	79	grassland
Baigts de Bearn Est	19/09/2019	-0.8141292	43.5139402	0	0.8	20.1	8	2	0	79.1	grassland
Baigts de Bearn Est	19/09/2019	-0.8140948	43.514101	0	0.6	20.4	4	0	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8140807	43.514104	0	0.8	20.4	1	0	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8139442	43.5140843	0	0.8	20.5	11	0	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8141342	43.5140173	0	1.6	20.3	8	1	0	78.6	grassland
Baigts de Bearn Est	19/09/2019	-0.8140668	43.5140525	0	0.8	20.5	23	0	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.813908	43.5141053	0	0.6	20.7	7	0	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8152402	43.514263	0	3	18.8	10	1	0	78.3	grassland
Baigts de Bearn Est	19/09/2019	-0.8156937	43.5142735	0	3.2	18.9	44	3	0	78.6	grassland
Baigts de Bearn Est	19/09/2019	-0.8154822	43.5143583	0	2.4	19.1	36	1	0	78.5	grassland
Baigts de Bearn Est	19/09/2019	-0.8156817	43.5141447	0	2.5	19	25	6	0	79.1	grassland
Baigts de Bearn Est	19/09/2019	-0.8153205	43.5140208	0	0.4	20.2	481	9	0	79.2	grassland
Baigts de Bearn Est	19/09/2019	-0.8155012	43.5142307	0	0.3	20.6	272	1	0	79.1	grassland
Baigts de Bearn Est	19/09/2019	-0.8155028	43.514072	0	3.2	18.9	180	7	0	79	grassland
Baigts de Bearn Est	19/09/2019	-0.8156273	43.514094	0	1.1	20	37	8	0	79.1	grassland
Baigts de Bearn Est	19/09/2019	-0.8154692	43.5139885	0	0.6	20.2	36	3	0	79	grassland
Baigts de Bearn Est	19/09/2019	-0.8158915	43.5141927	0	2	20.4	90	3	0	79	grassland
Baigts de Bearn Est	19/09/2019	-0.8158785	43.5139147	0	0.3	20.7	21	3	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.815701	43.5140095	0	0	21.1	3	0	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8157095	43.5139962	0	0.6	20.7	7	1	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.815442	43.5140443	0	2.1	19.8	29	7	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8152568	43.514007	0	3.1	19.4	21	7	0	78.5	grassland
Baigts de Bearn Est	19/09/2019	-0.81516	43.514204	0	1.4	20	11	3	0	78.7	grassland
Baigts de Bearn Est	19/09/2019	-0.8147607	43.5143007	0	1.1	20.7	39	2	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8147937	43.514253	0	0.8	20.6	17	2	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8147307	43.5143948	0	2.9	19.7	34	4	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8147143	43.5141988	0	0.5	20.3	43	3	0	79	grassland
Baigts de Bearn Est	19/09/2019	-0.8137635	43.514367	0	2.8	18.8	12	2	0	78.4	grassland
Baigts de Bearn Est	19/09/2019	-0.8131142	43.5144187	0	2.7	18.8	3	1	0	78.7	grassland
Baigts de Bearn Est	19/09/2019	-0.8130212	43.5144518	0	2.3	19.1	37	2	0	79.2	grassland
Baigts de Bearn Est	19/09/2019	-0.8134487	43.5143572	0	0.9	20.1	27	4	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8154588	43.514164	0	0.9	20.2	17	3	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.815536	43.5142368	0	0.9	20.4	43	2	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.815549	43.5143868	0	2.5	19.1	46	6	0	78.6	grassland
Baigts de Bearn Est	19/09/2019	-0.815498	43.5144052	0	2.1	19.2	14	1	0	78.7	grassland
Baigts de Bearn Est	19/09/2019	-0.8155877	43.5145433	0	2.2	19.1	4	2	0	78.7	grassland

Baigts de Bearn Est	19/09/2019	-0.8153997	43.514522	0	5	17.4	198	14	0	78.6	grassland
Baigts de Bearn Est	19/09/2019	-0.8152367	43.514587	0	1.4	19.9	10	1	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8155757	43.5149555	0	4.2	18.4	12	2	0	78.3	grassland
Baigts de Bearn Est	19/09/2019	-0.8156217	43.5150095	0	2.8	18.8	84	7	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8157892	43.5152818	0	0.5	20.4	55	6	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8155323	43.5151345	0	0.6	20.3	51	5	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8150347	43.5136577	0	0.1	21	9	1	0	78.8	grassland
Baigts de Bearn Est	19/09/2019	-0.8149928	43.5134932	0	1.2	20.4	5	2	0	78.6	grassland
Baigts de Bearn Est	19/09/2019	-0.8146185	43.5134188	0	0	20.6	0	0	0	78.9	grassland
Baigts de Bearn Est	19/09/2019	-0.8147987	43.51366	0	1	21.1	0	0	0	78.7	grassland
Baigts de Bearn Est	19/09/2019	-0.8147367	43.5138038	0	3.1	20.7	0	1	0	78.3	grassland
	17/06/2020			0.1	0.1	20.6	0	0	0	79.2	Forest
	17/06/2020	-0.1686737	43.1388272	0	0.1	19.6	90	1	0	79.4	Forest
	17/06/2020	-0.168824	43.1387493	0	0.2	20.5	25	0	0	79.4	Forest
	17/06/2020	-0.1686475	43.1384858	0	0.7	19.7	0	0	0	79.1	Forest
	17/06/2020	-0.168565	43.1382072	0	0.4	20.2	0	0	0	79	Forest
	17/06/2020	-0.1686077	43.1379268	0	1.3	20.7	3	0	0	78.9	Forest
	17/06/2020	-0.1684727	43.1376778	0.1	0.5	20.7	2	0	1	78.9	Forest
	17/06/2020	-0.1684282	43.1375073	0.1	0.2	20.8	0	0	1	78.9	Grassland
	17/06/2020	-0.1684327	43.1374603	0.1	0.2	20.8	2	0	0	79.1	Grassland
	17/06/2020	-0.168434	43.1375377	0	1.2	20.8	1	1	0	79	Grassland
	17/06/2020	-0.1684568	43.137183	0	0.6	19.9	2	1	0	79	Grassland
	17/06/2020	-0.1683153	43.1371375	0	0.7	20.6	3	0	0	79.1	Grassland
	17/06/2020	-0.274979	43.131488	0	0.4	20.6	19	1	0	79.4	Grassland
	17/06/2020	-0.275243	43.131462	0	1.2	19.6	24	2	0	79.4	Grassland
	17/06/2020	-0.2751	43.131639	0	0.8	19.6	20	0	0	79.4	Grassland
	17/06/2020	-0.275041	43.13134	0	1	20.2	164	6	0	79.4	Grassland
	17/06/2020	-0.275039	43.131297	0	0.6	19.8	62	2	0	79.4	Grassland
	17/06/2020	-0.274652	43.131318	0	2	18.3	57	2	0	79.4	Grassland
	17/06/2020	-0.3242408	43.1116397	0	1.1	20.3	5	0	0	79.9	Grassland
	17/06/2020	-0.3238962	43.1116088	0	0.1	19.5	2	0	0	79.8	Grassland
	17/06/2020	-0.350998	43.108082	0	0.1	20.2	2	0	0	79.7	Grassland
	17/06/2020	-0.351282	43.1081138	0	1.2	18.7	6	1	0	79.7	Grassland
	17/06/2020	-0.3516793	43.1082883	0	1.3	17.4	7	0	0	79.9	Grassland
	17/06/2020	-0.3517823	43.1081693	0	0.2	19.9	4	0	0	79.7	Grassland
	17/06/2020	-0.3510108	43.1081807	0	2.1	18.4	5	1	0	80	Grassland
	17/06/2020	-0.3967335	43.088725	0.4	0.6	19	11	1	0	80	Grassland
	17/06/2020	-0.3968948	43.0887727	0	0.8	19.6	7	0	0	79.6	Grassland
	17/06/2020	-0.3971612	43.0885787	0	1.4	18.9	6	1	0	79.8	Grassland
	17/06/2020	-0.3974758	43.0886067	0	0.6	19.1	3	0	0	79.3	Grassland
	17/06/2020	-0.422498	43.211217	0	0.6	20.8	25	1	0	79.1	Grassland
	17/06/2020	-0.4223792	43.2110345	0	0.3	20.7	7	1	0	79	Grassland
	17/06/2020	-0.4221492	43.21113	0	0.1	20.8	63	2	0	79.4	Grassland
	17/06/2020	-0.4220678	43.2110465	0	0.8	18.9	43	4	0	79	Grassland
Caubiou (Gan)	17/06/2020	-0.422629	43.2111117	0	0.4	20.7	129	8	0	79.1	Grassland
Mounicq	22/06/2020	-0.813991	43.514026	0	0.1	20.3	1	0	0	79.6	Grassland
Mounicq	22/06/2020	-0.814011	43.513997	0	0.3	20.1	8	0	0	79.6	Grassland
Mounicq	22/06/2020	-0.813992	43.514023	0	0.1	20.2	5	0	0	79.6	Grassland
Mounicq	22/06/2020	-0.814035	43.51399	0	0.5	20	4	0	0	79.6	Grassland
Mounicq	22/06/2020	-0.813942	43.514036	0	0.2	20.2	1	0	0	79.5	Grassland
Mounicq	22/06/2020	-0.8139	43.514049	0	0.1	20.2	8	0	0	79.5	Grassland
Mounicq	22/06/2020	-0.814312	43.513882	0	5.1	18.5	7	1	0	79.5	Grassland
Mounicq	22/06/2020	-0.814352	43.513889	0	2.2	20.2	0	0	0	79	Grassland
Mounicq	22/06/2020	-0.814668	43.513798	0	0.7	19	3	0	0	79.5	Grassland
Mounicq	22/06/2020	-0.814722	43.513795	0	1.5	19.3	0	0	0	79.2	Grassland
Mounicq	22/06/2020	-0.815489	43.51414	0	0.3	19.3	0	0	0	79.4	Grassland
Mounicq	22/06/2020	-0.815467	43.514114	0	0.1	20.6	4	0	0	79.4	Grassland
Mounicq	22/06/2020	-0.81541	43.514573	0	1.6	19.6	1	0	0	79.1	Grassland
Mounicq	22/06/2020	-0.815893	43.513909	0	1	19.7	1	0	0	79.2	Grassland
Mounicq	22/06/2020	-0.815893	43.513909	0	0.1	20.6	2	0	0	79.2	Grassland
Mounicq	22/06/2020	-0.815845	43.513948	0	0.1	20.6	1	0	0	79.2	Grassland
Mounicq	22/06/2020	-0.8147932	43.5138833	0	9.6	9.8	20	3	0	80.3	Grassland
Mounicq	22/06/2020	-0.8146985	43.5139297	0	1.6	18.7	44	23	0	79.8	Grassland
Mounicq	22/06/2020	-0.8140223	43.5140058	0	0.5	20.5	27	2	0	79.2	Grassland
Mounicq	22/06/2020	-0.8139583	43.513992	0	0.4	20.6	25	3	0	79.1	Grassland
Mounicq	22/06/2020	-0.81397	43.5139398	0	0.7	20.5	43	6	0	79.1	Grassland
Col d'Aubisque	23/06/2020	-0.3314065	42.9855167	0	0.5	19.3	6	0	0	80.3	Meadow

Col d'Aubisque	23/06/2020	-0.3312992	42.9855188	0	0.7	19	15	1	0	80.3	Meadow
Col d'Aubisque	23/06/2020	-0.3311102	42.9855005	0	0.8	19.1	14	1	0	80.2	Meadow
Col d'Aubisque	23/06/2020	-0.3308743	42.9854392	0	0.4	19.1	17	1	0	80.5	Meadow
Col d'Aubisque	23/06/2020	-0.3301202	42.9862565	0	0.2	19	0	0	0	80.8	Meadow
Col d'Aubisque	23/06/2020	-0.330007	42.9862497	0	0.2	19	0	0	0	80.8	Meadow
Col d'Aubisque	23/06/2020	-0.3300337	42.9870337	0	4.2	16.1	18	1	0	80.3	Meadow
Col d'Aubisque	23/06/2020	-0.3300568	42.9870158	0	5.5	14.5	24	1	0	80.5	Meadow
Col d'Aubisque	23/06/2020	-0.3303867	42.9873523	0	1.7	17.9	6	1	0	80.2	Meadow
Col d'Aubisque	23/06/2020	-0.330407	42.9874262	0	1.8	18.1	43	3	0	80.5	Meadow
Col d'Aubisque	23/06/2020	-0.3303015	42.9875025	0	2.9	17	23	2	0	80.5	Meadow
Col d'Aubisque	23/06/2020	-0.3302602	42.9867458	0	0.9	18.6	17	2	0	81.8	Meadow
Col d'Aubisque	23/06/2020	-0.3303795	42.9864895	0	1.2	15.1	12	2	0	79.9	Meadow
Col d'Aubisque	23/06/2020	-0.3324132	42.9858352	0	0.3	19	11	1	0	80.1	Meadow
Barrage eaux bonnes	23/06/2020	-0.382173	42.9708527	61.9	0.1	2.9	3	2	0	35.1	Meadow
Barrage eaux bonnes	23/06/2020	-0.3821882	42.9708515	62.2	0.1	2.3	4	1	0	35.5	Meadow
Barrage eaux bonnes	23/06/2020	-0.4057928	42.9740153	0	0	20.3	0	0	0	79.6	Meadow
Barrage eaux bonnes	23/06/2020	-0.4052458	42.9739172	0	0.4	19.9	5	34	0	73.6	Meadow
Barrage eaux bonnes	23/06/2020	-0.4052932	42.9738957	0	0.4	19.6	11	4	0	79.6	Meadow
Col de jaut	24/06/2020	-0.3891853	43.2247428	0	0.1	20.4	0	0	0	79.5	Meadow
Col de jaut	24/06/2020	-0.3891973	43.2247343	0	0.1	20.4	0	0	0	79.6	Meadow
Col de jaut	24/06/2020	-0.339386	43.0370277	0	0.5	20.1	3	1	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3393897	43.036715	0	0.3	19.9	2	1	0	80.3	Meadow
Col de jaut	24/06/2020	-0.3393977	43.0367558	0	0.5	19.5	3	1	0	80.4	Meadow
Col de jaut	24/06/2020	-0.3397915	43.0365232	0	0.1	19.5	0	0	0	80.2	Meadow
Col de jaut	24/06/2020	-0.3397945	43.0364357	0	0	19.6	1	1	0	80.4	Meadow
Col de jaut	24/06/2020	-0.3392862	43.036025	0	0.1	19.6	1	0	0	80.3	Meadow
Col de jaut	24/06/2020	-0.3394853	43.0355605	0	0.3	19.8	12	3	0	79.9	Meadow
Col de jaut	24/06/2020	-0.3366683	43.035912	0	0.1	20	5	1	0	79.6	Meadow
Col de jaut	24/06/2020	-0.3358932	43.0372987	0	0.2	20.5	42	5	0	79.4	Meadow
Col de jaut	24/06/2020	-0.3360022	43.0371123	0	0.1	20.5	4	1	0	79.6	Meadow
Col de jaut	24/06/2020	-0.3358238	43.0369422	0	0.2	20.1	1	0	0	79.7	Meadow
Col de jaut	24/06/2020	-0.3357442	43.0367185	0	0.1	20.2	0	1	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3352825	43.0364007	0	0.2	20.2	14	1	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3351892	43.0361442	0	0.1	20	0	0	0	79.7	Meadow
Col de jaut	24/06/2020	-0.3350595	43.0361437	0	0.1	20.1	0	0	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3350325	43.0356312	0	0.1	20.1	1	1	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3347173	43.0350217	0	0.2	20	2	1	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3432125	43.0357407	0	0	20.3	11	4	0	79.8	Meadow
Col de jaut	24/06/2020	-0.3513557	43.0360637	0	0.4	19.9	2	2	0	79.7	Meadow
Col de jaut	24/06/2020	-0.3654518	43.04735	0	0.1	20.6	2	0	0	79.2	Meadow
Col de jaut	24/06/2020	-0.3644613	43.0464123	0	0.3	20.5	3	1	0	79.4	Meadow
Col de jaut	24/06/2020	-0.3642105	43.0461813	0	0.1	20.6	1	1	0	79.3	Meadow
Col de jaut	24/06/2020	-0.3640315	43.045905	0	0.2	20.6	1	1	0	79.2	Meadow
Col de jaut	24/06/2020	-0.364038	43.045446	0	0.1	20.8	0	0	0	79.1	Meadow
Col de jaut	24/06/2020	-0.3648683	43.0462642	0	0.3	20.7	0	2	0	79	Meadow
Col de jaut	24/06/2020	-0.3653627	43.0465802	0	0.2	20.9	0	2	0	78.9	Meadow
Col de jaut	24/06/2020	-0.3654045	43.0466162	0	0.3	20.7	4	2	0	79	Meadow
Col de jaut	24/06/2020	-0.3652797	43.0466392	0	0.3	20.9	2	1	0	78.8	Meadow
Col de jaut	24/06/2020	-0.3657247	43.0476127	0	0.1	21.1	0	1	0	78.3	Meadow
Col de jaut	24/06/2020	-0.3657883	43.0476217	0	2	19.6	1	0	0	78.4	Meadow
Col de jaut	24/06/2020	-0.3657617	43.0475088	0	1.9	19.7	4	2	0	78.9	Meadow
Col de jaut	24/06/2020	-0.3658627	43.0476513	0	2.6	20.6	5	2	0	77.8	Meadow
Col de jaut	24/06/2020	-0.3668763	43.0526087	0	0.3	21	0	0	0	78.9	Meadow
Sauveterre	25/06/2020	-0.9520922	43.406295	0	0.1	20.4	17	0	0	79.7	Grassland
Sauveterre	25/06/2020	-0.9521858	43.4063655	0	0.8	19.5	161	11	0	79.7	Grassland
Sauveterre	25/06/2020	-0.9521783	43.4065052	0	1.4	19.1	162	3	1	79.8	Grassland
Sauveterre	25/06/2020	-0.9521377	43.406458	0	0.3	19.7	6	1	1	80.1	Grassland
Sauveterre	25/06/2020	-0.9521225	43.4064745	0	1.6	18.8	3	1	1	79.8	Grassland
Sauveterre	25/06/2020	-0.9523353	43.4062347	0	1.3	18.9	102	3	1	79.8	Grassland
Sauveterre	25/06/2020	-0.9524217	43.4061208	0	0.7	19.5	71	2	1	80.1	Grassland
Sauveterre	25/06/2020	-0.9529282	43.4060822	0	0.2	19.7	24	1	0	80	Grassland
Sauveterre	25/06/2020	-0.9528947	43.4058283	0	0.2	19.8	4	0	0	79.9	Grassland
Sauveterre	25/06/2020	-0.9535103	43.4054635	0	0.5	19.8	24	1	0	79.8	Grassland
Sauveterre	25/06/2020	-0.9535352	43.4054753	0	0.2	19.8	31	0	0	79.9	Grassland
Sauveterre	25/06/2020	-0.9539707	43.4052873	0	0.2	19.9	15	1	0	79.8	Grassland
Sauveterre	25/06/2020	-0.953287	43.406069	0	0.1	20.1	60	2	0	79.7	Grassland
Sauveterre	25/06/2020	-0.9529755	43.4061397	0	0.7	19.7	16	1	0	79.7	Grassland

Sauveterre	25/06/2020	-0.952546	43.4064295	0	0.3	20	113	7	0	79	Grassland
Sauveterre	25/06/2020	-0.9523878	43.4063012	0	2.4	18.6	77	7	0	79.4	Grassland
Sauveterre	25/06/2020	-0.9520887	43.4062378	0	0.7	19.9	69	7	0	79.3	Grassland
Sauveterre	25/06/2020	-0.952216	43.4064185	0	2.3	18.8	244	16	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9519558	43.4061882	0	0.8	20.1	126	5	0	79.6	Grassland
Sauveterre	25/06/2020	-0.9519832	43.4060688	0	0.3	19.7	78	3	0	79.8	Grassland
Sauveterre	25/06/2020	-0.9513603	43.4056862	0	2.2	18.8	239	15	1	79.8	Grassland
Sauveterre	25/06/2020	-0.950819	43.4057462	0	0.4	19.8	15	4	0	79.8	Grassland
Sauveterre	25/06/2020	-0.9473397	43.4062242	0	0.1	20.3	37	5	0	79.4	Grassland
Sauveterre	25/06/2020	-0.9476132	43.405744	0	0.1	20.5	123	2	0	79.3	Grassland
Sauveterre	25/06/2020	-0.9474778	43.4057787	0	0	20.7	140	2	0	79.3	Grassland
Sauveterre	25/06/2020	-0.9477565	43.4050293	0	0	20.7	96	2	0	79.2	Grassland
Sauveterre	25/06/2020	-0.9478438	43.4049567	0	0	20.7	136	2	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9475672	43.4050935	0	0.1	20.8	22	1	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9477357	43.4048065	0	0.1	20.6	28	2	0	79.2	Grassland
Sauveterre	25/06/2020	-0.9484418	43.404909	0	0	20.7	24	7	0	79.3	Grassland
Sauveterre	25/06/2020	-0.9484315	43.4049743	0	2.9	19	53	5	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9485057	43.4050042	0	0.2	20.2	179	11	0	79.1	Grassland
Sauveterre	25/06/2020	-0.948584	43.4050827	0	0.5	20.4	140	13	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9484705	43.4050778	0	10.3	13.7	63	4	0	79.1	Grassland
Sauveterre	25/06/2020	-0.9484563	43.4052608	0	1.1	19.8	63	7	0	79.2	Grassland
Sauveterre	25/06/2020	-0.9497502	43.4049063	0	1.3	20.1	50	2	0	79	Grassland
Sauveterre	25/06/2020	-0.9500558	43.4048073	0	1.2	20.8	98	6	0	79	Grassland
Sauveterre	25/06/2020	-0.949978	43.404701	0	1.8	19.8	40	4	0	79	Grassland
Sauveterre	25/06/2020	-0.9500803	43.4050028	0	3.2	20.8	80	5	0	78.1	Grassland
Sauveterre	25/06/2020	-0.950135	43.4051152	0	3.8	18.6	46	5	0	78.2	Grassland
Sauveterre	25/06/2020	-0.9186425	43.4601945	0	1.4	20.4	9	1	0	79.5	Grassland
Salies	25/06/2020	-0.9185095	43.4600637	0	2.1	19.4	58	4	0	79.6	Grassland
Salies	25/06/2020	-0.9184705	43.4599923	0	3.7	20	127	6	0	79.6	Grassland
Salies	25/06/2020	-0.9183578	43.4598017	0	0.1	18.9	10	1	0	79.7	Grassland
Salies	25/06/2020	-0.918518	43.45982	0	0.3	19.9	35	3	0	79.7	Grassland
Salies	25/06/2020	-0.9199343	43.461049	0	2.1	20.1	28	3	0	79.5	Grassland
Salies	25/06/2020	-0.9198873	43.4609913	0	0.4	18.4	52	2	0	79.6	Grassland
Salies	25/06/2020	-0.9200742	43.4614787	0	1	20.3	47	4	0	79.5	Grassland
Salies	25/06/2020	-0.9199088	43.4615705	0	0.2	19.6	112	5	0	79.5	Grassland
Salies	25/06/2020	-0.9096175	43.4418002	0	0.6	20.5	0	0	0	79.1	Grassland
Salies	25/06/2020	-0.9093172	43.441686	0	0.3	20.2	0	0	0	79.1	Grassland
Salies	25/06/2020	-0.9093002	43.4416507	0	0.3	20.8	1	3	0	79.2	Grassland
Salies	25/06/2020	-0.9088832	43.441461	0	0.9	20.6	5	5	0	79.3	Grassland
Peyrorade	30/06/2020	-1.1110078	43.5322783	0	2.5	20.8	16	0	0	78.9	Grassland
Peyrorade	30/06/2020	-1.1113287	43.532243	0	6	16.9	33	1	0	79.1	Grassland
Peyrorade	30/06/2020	-1.1111785	43.5320515	0	0.6	19.4	3	1	0	79.3	Grassland
Peyrorade	30/06/2020	-1.110923	43.5321095	0	0.5	20.2	21	1	0	79.3	Grassland
Peyrorade	30/06/2020	-1.1105643	43.5317287	0	0.3	20.4	49	13	0	78.2	Grassland
Peyrorade	30/06/2020	-1.110602	43.5317122	0	8.4	14.9	62	5	0	78.2	Grassland
La Bourgade	30/06/2020	-1.1872112	43.519447	2.2	2.3	17.1	5	1	0	79	Forest
La Bourgade	30/06/2020	-1.1868265	43.51985	0	0.5	18.9	0	0	0	79.2	Forest
La Bourgade	30/06/2020	-1.18639	43.5197185	0	3.1	20.5	10	1	0	78.8	Forest
La Bourgade	30/06/2020	-1.1861458	43.5196368	0	2.7	18.7	11	2	0	79	Forest
La Bourgade	30/06/2020	-1.1857685	43.5190767	0	1.5	20	13	6	0	79	Forest
Sud Bardos	30/06/2020	-1.1929778	43.4454512	0	0.4	20.8	13	1	0	79	Grassland
Sud Bardos	30/06/2020	-1.1927538	43.445497	0	0.3	20	3	0	0	79.2	Grassland
Sud Bardos	30/06/2020	-1.192511	43.4455457	0	0.4	20.6	56	6	0	79.4	Grassland
Sud Bardos	30/06/2020	-1.1920682	43.4455953	0	2.4	20.3	85	1	0	79.1	Grassland
Sud Bardos	30/06/2020	-1.1918822	43.4457232	0	1.1	19.7	11	1	0	79.2	Grassland
Isturitz	30/06/2020	-1.2023857	43.3583435	0	0.4	20.4	6	1	0	79.2	Grassland
Isturitz	30/06/2020	-1.2024238	43.3583735	0	1.2	20.4	23	3	0	79.4	Grassland
Isturitz	30/06/2020	-1.2023182	43.358348	0	0.9	19.6	43	3	0	79.3	Grassland
Isturitz	30/06/2020	-1.2020327	43.3584147	0	0.2	20	8	0	0	79.4	Grassland
Isturitz	30/06/2020	-1.2018648	43.3583502	0	2.2	19	2	1	0	79.1	Grassland
Iholdy	30/06/2020	-1.197437	43.267639	0	0.2	20.4	2	1	0	79.4	Grassland
Iholdy	30/06/2020	-1.197617	43.2674747	0	0.5	20	0	0	0	79.4	Grassland
Iholdy	30/06/2020	-1.1971837	43.2676587	0	0.9	19.8	0	1	0	79.5	Grassland
Iholdy	30/06/2020	-1.1969072	43.267653	0	2.5	19	2	1	0	79.1	Grassland
Iholdy	30/06/2020	-1.1968197	43.267733	0	1.3	19.4	3	2	0	79.4	Grassland
Bois d'Ostabat	30/06/2020	-1.0636998	43.2823257	0	3.1	20.6	9	1	0	79.1	Meadow
Bois d'Ostabat	30/06/2020	-1.0637965	43.2822602	0	0.9	19.5	4	2	0	79.5	Meadow

Bois d'Ostabat	30/06/2020	-1.0640533	43.2816455	0	0.4	20.3	2	1	0	79.6	Meadow
Bois d'Ostabat	30/06/2020	-1.0640897	43.2816602	0	0.3	20.3	1	2	0	79.6	Meadow
Bois d'Ostabat	30/06/2020	-1.063956	43.2814052	0	0.2	20.2	0	1	0	79.6	Meadow
Gabat	30/06/2020	-1.0727082	43.3735083	0	0.2	20.6	0	0	0	79.4	Grassland
Gabat	30/06/2020	-1.0725687	43.3732838	0	0.4	20.4	1	1	0	79.4	Grassland
Gabat	30/06/2020	-1.0725618	43.373425	0	0.9	20.4	4	1	0	79.5	Grassland
Gabat	30/06/2020	-1.0725313	43.3733603	0	3.4	20.3	3	2	0	79.4	Grassland
Gabat	30/06/2020	-1.0723843	43.3732188	0	0.4	20.1	1	1	0	79.8	Grassland
Arancour	30/06/2020	-1.0723475	43.3730985	0	0.2	17.4	4	3	0	79.7	Grassland
Arancour	30/06/2020	-1.0562008	43.4457292	0	0.6	20.5	7	1	0	79.5	Grassland
Arancour	30/06/2020	-1.0562312	43.4456137	0	0.1	20.3	25	4	0	79.6	Grassland
Arancour	30/06/2020	-1.056222	43.4456773	0	3.4	17.3	33	5	0	79.2	Grassland
Arancour	30/06/2020	-1.0561183	43.4456302	0	0.6	18.3	22	5	0	79.7	Grassland
Arancour	30/06/2020	-1.0562003	43.4455257	0	0.3	20	19	3	0	79.9	Grassland
Pouillot	30/06/2020	-0.9448968	43.5461978	0	1.8	19.2	7	2	0	79.3	Grassland
Pouillot	30/06/2020	-0.944911	43.5462223	0	0.3	19.8	18	1	0	79.5	Grassland
Pouillot	30/06/2020	-0.9446598	43.546087	0	0.3	20.2	25	2	0	79.5	Grassland
Pouillot	30/06/2020	-0.944765	43.5461423	0	0.2	20.3	13	1	0	79.5	Grassland
Pouillot	30/06/2020	-0.9448292	43.5462638	0	0.1	20.4	9	0	0	79.6	Grassland
Salies de Bearn	25/06/2020	-0.9185095	43.4600637	0	2.1	19.4	58	4	0	79.6	Grassland
Salies de Bearn	25/06/2020	-0.9184705	43.4599923	0	3.7	20	127	6	0	79.6	Grassland
Salies de Bearn	25/06/2020	-0.9183578	43.4598017	0	0.1	18.9	10	1	0	79.7	Grassland
Salies de Bearn	25/06/2020	-0.918518	43.45982	0	0.3	19.9	35	3	0	79.7	Grassland
Salies de Bearn	25/06/2020	-0.9199343	43.461049	0	2.1	18.4	28	3	0	79.5	Grassland
Saint Laurent Bretagne	03/07/2020	-0.196688	43.382039	0	0.4		2	0	0	79.2	Grassland
Saint Laurent Bretagne	03/07/2020	-0.1968628	43.3822223	0	0.3	20.5	0	0	0	79.2	Grassland
Saint Laurent Bretagne	03/07/2020	-0.196851	43.3823007	0	0.2	20.6	0	0	0	79.2	Grassland
Saint Laurent Bretagne	03/07/2020	-0.1970817	43.382455	0	0.9	20.6	2	2	0	79.1	Grassland
Saint Laurent Bretagne	03/07/2020	-0.1972187	43.3823552	0	0.4	19.7	10	1	0	79.2	Grassland
Lannecaube	03/07/2020	-0.2106413	43.482156	0	4.2	20.9	47	8	0	78.2	Grassland
Lannecaube	03/07/2020	-0.2107055	43.4823757	0	0.9	17.7	17	1	0	79.3	Grassland
Lannecaube	03/07/2020	-0.2110172	43.4826915	0	0.7	20.1	20	3	0	79.4	Grassland
Lannecaube	03/07/2020	-0.2112873	43.4825608	0	1.2	20.1	8	1	0	79.6	Grassland
Lannecaube	03/07/2020	-0.2111628	43.4826923	0	0.5	20	37	2	0	79.6	Grassland
Castetpugon	03/07/2020	-0.221285	43.56341	0	0.1	20.8	0	1	0	79.1	Grassland
Castetpugon	03/07/2020	-0.221293	43.563205	0	0.1	20.8	1	2	0	79.1	Grassland
Castetpugon	03/07/2020	-0.221096	43.5635	0	0.1	20.8	9	2	0	79.1	Grassland
Castetpugon	03/07/2020	-0.220018	43.563712	0	0.1	20.8	13	3	0	78.9	Grassland
Castetpugon	03/07/2020	-0.220687	43.563496	0	0.7	20.6	5	1	0	78.8	Grassland
Sensacq	03/07/2020	-0.3498228	43.581888	0	1.5	21.1	25	2	0	78.7	Grassland
Sensacq	03/07/2020	-0.3496455	43.5818815	0.2	0.6	20.8	29	3	0	79	Grassland
Sensacq	03/07/2020	-0.349664	43.5819003	0.2	1.7	20.8	52	5	0	78.8	Grassland
Sensacq	03/07/2020	-0.3496043	43.5817715	0	0.9	19.7	16	3	0	79	Grassland
Sensacq	03/07/2020	-0.3493813	43.5818272	0.5	1.9	20.7	7	2	0	79	Grassland
Méracq	03/07/2020	-0.3937743	43.5127292	0	1.9	21	9	2	0	78.7	Grassland
Méracq	03/07/2020	-0.3936115	43.5126915	0	0.4	20.1	7	2	0	79	Grassland
Méracq	03/07/2020	-0.3937737	43.5127433	0	0.6	20.7	13	2	0	79	Grassland
Méracq	03/07/2020	-0.3938117	43.5127513	0	0.3	20.8	13	3	0	79.1	Grassland
Méracq	03/07/2020	-0.3939523	43.512779	0	0.1	20.8	1	0	0	79	Grassland
Navailles-Angos	03/07/2020	-0.3460903	43.4048048	0	0.1	20.8	20	2	0	79.2	Grassland
Navailles-Angos	03/07/2020	-0.3459295	43.4049242	0	0.1	20.6	4	1	0	79.3	Grassland
Navailles-Angos	03/07/2020	-0.3458833	43.4051278	0	0.1	20.6	3	1	0	79.4	Grassland
Navailles-Angos	03/07/2020	-0.3458775	43.4051463	0	0.1	20.5	2	0	0	79.3	Grassland
Navailles-Angos	03/07/2020	-0.34561	43.4052283	0	0.1	20.5	0	1	0	79.4	Grassland
Uzein	03/07/2020	-0.4413152	43.3963883	0	0.3	20.8	1	1	0	79.1	Grassland
Uzein	03/07/2020	-0.4411737	43.3964923	0	0.3	20.6	1	0	0	79.1	Grassland
Uzein	03/07/2020	-0.4411445	43.3965125	0	0.8	20.7	2	0	0	79.2	Grassland
Uzein	03/07/2020	-0.44101	43.3967053	0	0.9	20.5	3	1	0	79.1	Grassland
Uzein	03/07/2020	-0.4407933	43.3967993	0	1.2	20.4	12	1	0	79.2	Grassland
Esterencuby	07/07/2020	-1.186444	43.10543	0	1.7	21.4	102	2	0	78.6	Meadow
Esterencuby	07/07/2020	-1.1865923	43.1050473	0	0.6	21.2	22	2	0	78.5	Meadow
Esterencuby	07/07/2020	-1.186745	43.1050828	0	1.9	21	44	1	0	78.4	Meadow
Esterencuby	07/07/2020	-1.1869062	43.1051638	0	0.8	20.6	0	0	0	78.3	Meadow
Esterencuby	07/07/2020	-1.1873122	43.1053518	0	1.1	20.8	20	1	0	78.5	Meadow
Errozate	07/07/2020	-1.1512307	43.0421115	0.1	1.3	20.7	23	0	0	78.2	Meadow
Errozate	07/07/2020	-1.151153	43.0420832	0	0.5	21.5	22	1	0	78.1	Meadow
Errozate	07/07/2020	-1.1509862	43.042063	0	0	21.5	7	0	0	78	Meadow

Errozate	07/07/2020	-1.1508618	43.0420977	0	1	21.8	20	0	0	77.9	Meadow
Errozate	07/07/2020	-1.1510965	43.0422695	0.3	3.8	21.4	757	2	1	79.2	Meadow
Zazpigain	07/07/2020	-1.0381133	43.010437	0	1.5	21.4	21	1	0	78.1	Meadow
Zazpigain	07/07/2020	-1.0380397	43.0103353	0	2.2	21	23	1	0	78.2	Meadow
Zazpigain	07/07/2020	-1.0379608	43.0103772	0	3.2	21	24	2	0	78	Meadow
Zazpigain	07/07/2020	-1.0377065	43.0103283	0	2.2	20.4	29	1	0	78.1	Meadow
Zazpigain	07/07/2020	-1.0379102	43.0103827	0	1.8	20.7	36	1	0	78.1	Meadow
Pic d'Apanice	07/07/2020	-1.0606428	43.1007105	0	0	21.2	0	2	0	78.7	Meadow
Pic d'Apanice	07/07/2020	-1.0605382	43.1008053	0	0.1	21.1	0	0	1	78.7	Meadow
Pic d'Apanice	07/07/2020	-1.0605448	43.1009075	0	0	21.2	0	1	1	78.7	Meadow
Pic d'Apanice	07/07/2020	-1.0603988	43.100888	0	0.1	19.6	0	1	1	78.8	Meadow
Pic d'Apanice	07/07/2020	-1.0605342	43.1010298	0	0.2	21.2	0	2	1	78.7	Meadow
Alcay	07/07/2020	-0.9151655	43.0955535	0	0.6	21.1	0	0	1	78.7	Meadow
Alcay	07/07/2020	-0.9150953	43.095646	0	0.5	20.9	0	0	1	79	Meadow
Alcay	07/07/2020	-0.9149188	43.095548	0	2.9	20.6	18	1	1	79.2	Meadow
Alcay	07/07/2020	-0.9147098	43.0958222	0	0.9	20.3	8	0	1	79.3	Meadow
Alcay	07/07/2020	-0.9145617	43.0957707	0	2.9	20.5	0	0	1	79.4	Meadow
Logibaria	07/07/2020	-0.9260017	43.0201807	0	0.7	21.1	0	1	1	78.9	Meadow
Logibaria	07/07/2020	-0.9260115	43.0201342	0	0.9	20.4	7	1	1	78.8	Meadow
Logibaria	07/07/2020	-0.9261505	43.0200582	0	0.1	21	0	0	1	78.9	Meadow
Logibaria	07/07/2020	-0.9259948	43.0199327	0	0.3	20.9	11	0	1	78.9	Meadow
Logibaria	07/07/2020	-0.9260442	43.0198845	0	0.4	20.8	21	1	1	78.9	Meadow
Pic d'issarbe	07/07/2020	-0.795446	43.0182895	0	2.8	21.1	56	10	1	78.7	Meadow
Pic d'issarbe	07/07/2020	-0.7954132	43.0182295	0	0.2	20.7	50	0	1	78.5	Meadow
Pic d'issarbe	07/07/2020	-0.7954387	43.0181163	0	2.3	21.4	90	2	1	78.3	Meadow
Pic d'issarbe	07/07/2020	-0.7952148	43.0180052	0	1.6	21.2	52	0	1	78.5	Meadow
Pic d'issarbe	07/07/2020	-0.7951137	43.0178907	0	2.9	20.5	80	2	1	78.6	Meadow
Montorry	07/07/2020	-0.8203107	43.096771	0	0.3	21.4	0	0	1	78.4	Grassland
Montorry	07/07/2020	-0.8203222	43.0968048	0	0	21.2	0	0	1	78.7	Grassland
Montorry	07/07/2020	-0.8203387	43.096962	0	1.1	21.1	0	0	1	78.8	Grassland
Montorry	07/07/2020		43.0969963	0	0.1	20.9	0	0	1	78.8	Grassland
Montorry	07/07/2020	-0.8201883	43.0968983	0	1.1	21.1	0	0	1	78.7	Grassland
Arette	07/07/2020	-0.70735	43.108289	0	0.1	20.9	0	0	1	78.9	Grassland
Arette	07/07/2020	-0.7073155	43.1083345	0	0	20.9	0	0	1	79	Grassland
Arette	07/07/2020	-0.7074055	43.1082457	0	0.5	20.9	0	0	2	78.8	Grassland
Arette	07/07/2020	-0.7074155	43.108146	0	6.7	20.9	0	0	2	78.7	Grassland
Arette	07/07/2020	-0.7075103	43.1081888	0	0.1	16	0	0	1	79	Grassland
Lourdios Ichère	07/07/2020	-0.6689227	43.0470052	0	0	20.9	0	0	1	79	Meadow
Lourdios Ichère	07/07/2020	-0.6690297	43.0469728	0	0	20.9	0	0	1	78.9	Meadow
Lourdios Ichère	07/07/2020	-0.669014	43.046963	0	0.1	20.9	0	0	1	78.9	Meadow
Lourdios Ichère	07/07/2020	-0.6689962	43.0470198	0	0.1	20.8	0	0	2	78.9	Meadow
Lourdios Ichère	07/07/2020	-0.6689493	43.0470943	0	0.6	20.8	0	0	1	79	Meadow
Bustince Iribéry	08/07/2020	-1.1851082	43.1919467	0	0.1	21.3	7	0	1	78.6	Grassland
Bustince Iribéry	08/07/2020	-1.1850668	43.1920278	0	0.2	21.2	17	1	1	78.6	Grassland
Bustince Iribéry	08/07/2020	-1.185128	43.1919393	0	0	21.1	16	0	1	78.6	Grassland
Bustince Iribéry	08/07/2020	-1.1849463	43.191885	0	0.1	21.1	14	1	1	78.6	Grassland
Bustince Iribéry	08/07/2020	-1.1849278	43.191803	0.1	0.4	21.2	29	1	1	78.6	Grassland
Saint Juste Ibarre	08/07/2020	-1.0560507	43.1893288	0	1	21.4	0	0	1	78.3	Grassland
Saint Juste Ibarre	08/07/2020	-1.0561777	43.1891588	0	0.1	20.6	0	1	1	78.8	Grassland
Saint Juste Ibarre	08/07/2020	-1.0561238	43.1891283	0	1.3	20.6	0	1	1	78.7	Grassland
Saint Juste Ibarre	08/07/2020	-1.056144	43.1891835	0	0.1	20.7	0	0	1	78.9	Grassland
Saint Juste Ibarre	08/07/2020	-1.0560793	43.1890845	0	0.1	20.9	0	0	1	78.9	Grassland
Ordiarp	08/07/2020	-0.942392	43.1842272	0	0.9	21	0	0	1	78.9	Grassland
Ordiarp	08/07/2020	-0.9425965	43.1843442	0	0.3	20.7	0	0	1	79	Grassland
Ordiarp	08/07/2020	-0.9424638	43.1844137	0	0.5	20.6	0	0	1	79	Grassland
Ordiarp	08/07/2020	-0.9424373	43.1844495	0	0.9	20.6	9	1	1	79	Grassland
Ordiarp	08/07/2020	-0.9424438	43.1843845	0	0.5	20.6	17	0	1	79	Grassland
Barcus	08/07/2020	-0.786773	43.1888432	0	0.5	21	22	2	1	78.9	Grassland
Barcus	08/07/2020	-0.78683	43.1888657	0	0.4	20.8	19	5	1	78.9	Grassland
Barcus	08/07/2020	-0.786783	43.1887922	0	0.3	20.6	27	4	1	79	Grassland
Barcus	08/07/2020	-0.786666	43.188861	0	1.6	20.4	43	5	1	79.3	Grassland
Barcus	08/07/2020	-0.7865522	43.1888778	0	0.2	20.4	3	0	1	78.9	Grassland
Esquiule	08/07/2020	-0.7047513	43.194978	0	0.2	21.1	0	0	1	78.8	Grassland
Esquiule	08/07/2020	-0.7048108	43.1950685	0	0.2	20.8	0	0	1	78.7	Grassland
Esquiule	08/07/2020	-0.7049313	43.1949078	0	0.7	21.1	0	0	1	78.5	Grassland
Esquiule	08/07/2020	-0.7049657	43.194932	0	0.2	20.7	0	0	1	78.7	Grassland
Esquiule	08/07/2020	-0.704992	43.1948027	0	0.5	20.9	0	0	1	78.6	Grassland

Lamidou	08/07/2020	-0.716618	43.2856242	0.1	1.5	20.2	50	1	1	78.6	Grassland
Lamidou	08/07/2020	-0.7167892	43.285512	0	0.4	20.8	0	0	1	78.9	Grassland
Lamidou	08/07/2020	-0.7170097	43.285714	0	0.4	20.4	5	0	1	79.1	Grassland
Lamidou	08/07/2020	-0.7169382	43.2854897	0	1.7	20.7	10	2	1	79.1	Grassland
Lamidou	08/07/2020	-0.7169202	43.2855413	0	0.5	20.3	11	0	1	79.1	Grassland
Moncayolle	08/07/2020	-0.8433655	43.2643478	0	1.6	20.9	0	0	1	79.1	Grassland
Moncayolle	08/07/2020	-0.843489	43.2642078	0	1.2	20.4	0	0	1	79.2	Grassland
Moncayolle	08/07/2020	-0.843462	43.2641115	0	0.1	20.8	0	1	1	79	Grassland
Moncayolle	08/07/2020	-0.8433647	43.2641637	0	0.1	20.8	0	0	2	79.1	Grassland
Moncayolle	08/07/2020	-0.8433527	43.2640985	0	0.1	20.9	0	1	2	79.1	Grassland
Ainharp	08/07/2020	-0.927217	43.268141	0	0.8	20.6	0	0	1	79	Grassland
Ainharp	08/07/2020	-0.9271743	43.2680478	0	1.5	19.5	0	0	2	79.4	Grassland
Ainharp	08/07/2020	-0.9273727	43.2680798	0	0.7	20	0	0	2	79.3	Grassland
Ainharp	08/07/2020	-0.927421	43.2679237	0	0.2	20.4	0	0	1	79.4	Grassland
Ainharp	08/07/2020	-0.9272805	43.2679278	0	0.3	20.2	0	0	2	79.5	Grassland
Osserain	08/07/2020	-0.9603708	43.3777653	0	0	20.7	0	0	1	79.3	Grassland
Osserain	08/07/2020	-0.9605305	43.3777913	0	0	20.5	0	0	2	79.3	Grassland
Osserain	08/07/2020	-0.9603815	43.3776778	0	0.3	20.4	0	0	2	79.2	Grassland
Osserain	08/07/2020	-0.9605468	43.3776765	0	0.2	20.3	0	0	2	79.3	Grassland
Osserain	08/07/2020	-0.9606743	43.3776078	0	1.4	19.3	3	1	2	79.3	Grassland
Laas	08/07/2020	-0.8469535	43.3797703	0	0.9	20.1	21	0	2	79.2	Grassland
Laas	08/07/2020	-0.8468893	43.3797992	0	0.2	20.5	7	0	1	79.1	Grassland
Laas	08/07/2020	-0.8470072	43.3798455	0	0.2	20.5	7	0	1	79.1	Grassland
Laas	08/07/2020	-0.8470685	43.3798265	0	0	20.8	0	0	1	79	Grassland
Laas	08/07/2020	-0.8471782	43.3798552	0	0.1	20.5	2	0	2	79.2	Grassland
Laneplaa	09/07/2020	-0.8237082	43.4606745	0	3.2	21.4	15	1	1	78.1	Grassland
Laneplaa	09/07/2020	-0.8236125	43.4607163	0	0.1	19.6	22	0	1	78.7	Grassland
Laneplaa	09/07/2020	-0.8234998	43.4607182	0	0.5	20.6	97	2	1	78.7	Grassland
Laneplaa	09/07/2020	-0.8234677	43.4607868	0	0.1	21.1	0	0	1	78.7	Grassland
Laneplaa	09/07/2020	-0.8234995	43.4607725	0	0.1	21	95	0	1	78.8	Grassland
Hourquebie	09/07/2020	-0.8419558	43.5343427	0	0.6	20.7	0	4	1	78.5	Grassland
Hourquebie	09/07/2020	-0.8420748	43.5343442	0	0.2	20.7	3	2	1	78.7	Grassland
Hourquebie	09/07/2020	-0.841934	43.534342	0	0.5	20.8	0	0	1	78.6	Grassland
Hourquebie	09/07/2020	-0.8413635	43.5340672	0	1.3	20.8	0	0	1	78.6	Grassland
Hourquebie	09/07/2020	-0.8413937	43.5342613	0	0.5	20.9	0	0	1	78.7	Grassland
Pibole	09/07/2020	-0.7324702	43.550446	0	0	21.3	0	3	1	78.6	Grassland
Pibole	09/07/2020	-0.7325418	43.5503357	0	0	21.3	8	1	1	78.7	Grassland
Pibole	09/07/2020	-0.732416	43.55032	0	0.7	20.7	5	0	1	78.8	Grassland
Pibole	09/07/2020	-0.7325057	43.5503698	0	0	21.1	7	2	1	78.8	Grassland
Pibole	09/07/2020	-0.7325305	43.5504167	0	0	21.1	1	0	1	78.8	Grassland
Biron	09/07/2020	-0.7488428	43.4642157	0	0	21.1	0	0	1	78.9	Grassland
Biron	09/07/2020	-0.7489237	43.4641007	0	0	21	0	0	1	79	Grassland
Biron	09/07/2020	-0.7488008	43.4642248	0	0	20.9	0	1	1	79.1	Grassland
Biron	09/07/2020	-0.7488147	43.4642887	0	0	20.8	0	0	1	79.1	Grassland
Biron	09/07/2020	-0.7485837	43.4644183	0	0	20.7	0	0	1	79.2	Grassland
Sauvelade	09/07/2020	-0.705163	43.3962125	0	1.6	20.9	10	2	1	78.7	Grassland
Sauvelade	09/07/2020	-0.7052283	43.396039	0	1.6	20.6	3	3	1	78.6	Grassland
Sauvelade	09/07/2020	-0.705286	43.395915	0	0.4	20.3	6	4	1	78.9	Grassland
Sauvelade	09/07/2020	-0.7049287	43.3961467	0	3.7	20.7	0	0	1	78.5	Grassland
Sauvelade	09/07/2020	-0.7049072	43.39601	0	2.2	18.3	0	3	1	79.1	Grassland
Abidos	09/07/2020	-0.6056157	43.3950678	0	0.5	20.8	0	1	1	78.9	Grassland
Abidos	09/07/2020	-0.605545	43.3949777	0	9	21	0	0	1	79	Grassland
Abidos	09/07/2020	-0.6056177	43.3948862	0	0.6	21	0	0	1	78.7	Grassland
Abidos	09/07/2020	-0.6054488	43.3949517	0	0.1	20.6	0	1	1	79.1	Grassland
Abidos	09/07/2020	-0.6054287	43.3948967	0	0.1	20.8	0	0	1	79.1	Grassland
Arthez de Bearn	09/07/2020	-0.597732	43.4636332	0	1	20.9	14	0	0	78.9	Grassland
Arthez de Bearn	09/07/2020	-0.597897	43.46366	0	0.5	20.9	28	1	1	79	Grassland
Arthez de Bearn	09/07/2020	-0.5978707	43.4637567	0	2	21	32	2	1	78.8	Grassland
Arthez de Bearn	09/07/2020	-0.5980078	43.46356	0	1.1	20.5	22	0	2	79.1	Grassland
Arthez de Bearn	09/07/2020	-0.598034	43.4634362	0	0.3	20.8	27	1	2	79	Grassland
Castlener	09/07/2020	-0.577049	43.5468982	0	0	21.1	4	0	2	78.9	Grassland
Castlener	09/07/2020	-0.5767332	43.5468945	0	0	21	0	0	2	78.8	Grassland
Castlener	09/07/2020	-0.576904	43.5468503	0	0	21	0	0	2	79.1	Grassland
Castlener	09/07/2020	-0.5769538	43.5467868	0	0.6	20.7	0	1	1	79	Grassland
Castlener	09/07/2020	-0.5769292	43.5468853	0	0.3	20.6	7	2	1	78.9	Grassland
Philondenx	09/07/2020	-0.44067	43.564424	0	0.8	20.7	0	1	1	79	Grassland
Philondenx	09/07/2020	-0.440689	43.5644567	0	0.6	20.6	0	2	1	79.1	Grassland

Philondenx	09/07/2020	-0.4405407	43.5645893	0	0.7	20.6	6	3	1	79.1	Grassland
Philondenx	09/07/2020	-0.4405942	43.5646397	0	1.7	19.9	7	3	1	79.3	Grassland
Philondenx	09/07/2020	-0.4406463	43.5645373	0	1	20.5	9	3	1	79.2	Grassland
Momas	09/07/2020	-0.4497342	43.4506322	1.1	3.6	18.5	50	4	2	78.8	Grassland
Momas	09/07/2020	-0.4497613	43.4505695	0	5.4	20.5	29	4	2	79.2	Grassland
Momas	09/07/2020	-0.449645	43.4504837	0	2.5	19.6	34	4	2	79	Grassland
Momas	09/07/2020	-0.4497067	43.4505138	0	0.2	19.7	5	0	2	78.9	Grassland
Momas	09/07/2020	-0.4496625	43.4504768	0	0.8	20.9	0	1	1	79	Grassland
Mifaget	16/07/2020	-0.3079433	43.1104982	0	0.3	20.6	0	0	0	79.2	Grassland
Mifaget	16/07/2020	-0.3079528	43.1104522	0	0.1	20.6	0	0	0	79.3	Grassland
Mifaget	16/07/2020	-0.3079753	43.1103947	0	0.1	20.6	0	1	0	79.3	Grassland
Mifaget	16/07/2020	-0.3079797	43.1103518	0	0.1	20.6	0	0	0	79.3	Grassland
Mifaget	16/07/2020	-0.3080518	43.1102753	0	0.3	15.9	2	0	0	79.3	Grassland
Montaut	16/07/2020	-0.191059	43.119682	0	0.5	20.4	0	0	0	79.2	Forest
Montaut	16/07/2020	-0.190968	43.119638	0	3.1	18.8	2	1	0	78.9	Forest
Montaut	16/07/2020	-0.1910827	43.119651	0	1.6	19.4	15	0	0	79.2	Forest
Montaut	16/07/2020	-0.1910897	43.119648	0	0.7	20.4	4	0	0	79.2	Forest
Montaut	16/07/2020	-0.1912137	43.1195893	0	2.3	19.7	2	2	0	79.1	Forest
Soum de las Escures	16/07/2020	-0.1720875	43.0229472	0	0.4	20.5	3	0	0	79.4	Forest
Soum de las Escures	16/07/2020	-0.1718538	43.0228075	0	0.3	20.3	3	1	0	79.4	Meadow
Soum de las Escures	16/07/2020	-0.1717842	43.0228087	0	0.9	20.1	6	0	0	79.3	Meadow
Soum de las Escures	16/07/2020	-0.1716142	43.0228122	0	0.3	20.4	4	1	0	79.4	Meadow
Soum de las Escures	16/07/2020	-0.1715298	43.0229227	0	0.3	20.4	0	0	0	79.3	Meadow
Agos Vidalos	16/07/2020	-0.0679817	43.0386507	0	1.5	19.9	0	1	0	78.8	Grassland
Agos Vidalos	16/07/2020	-0.0680287	43.0386297	0	1.5	20	4	0	0	79	Grassland
Agos Vidalos	16/07/2020	-0.0679295	43.0386697	0	1.2	20	4	1	0	79.3	Grassland
Agos Vidalos	16/07/2020	-0.0678297	43.0388415	0	1.3	19.9	2	1	0	78.9	Grassland
Agos Vidalos	16/07/2020	-0.0678745	43.0389642	0	1.7	19.6	2	0	0	78.9	Grassland
Germs-sur-l'oussouet	16/07/2020	0.0547172	43.0546203	0	0.6	20.3	1	0	0	79.2	Meadow
Germs-sur-l'oussouet	16/07/2020	0.0549063	43.0546337	0	4.7	17.4	1	1	0	80.7	Meadow
Germs-sur-l'oussouet	16/07/2020	0.0548062	43.0546612	0	6.8	14.8	4	0	0	79.2	Meadow
Germs-sur-l'oussouet	16/07/2020	0.0547015	43.0546057	0	4.9	20.4	1	0	0	79.1	Meadow
Germs-sur-l'oussouet	16/07/2020	0.0547975	43.054637	0	1.8	18.9	1	0	0	79.4	Meadow
Orincles	16/07/2020	0.0411485	43.1223628	0	0.3	20.5	2	0	0	79.3	Grassland
Orincles	16/07/2020	0.0411733	43.1222295	0	1.4	19.8	15	1	0	79.6	Grassland
Orincles	16/07/2020	0.0410952	43.1220618	0	1.9	19.6	8	1	0	79.6	Grassland
Orincles	16/07/2020	0.0411063	43.1220938	0	1.9	19.5	8	1	0	79.4	Grassland
Orincles	16/07/2020	0.0411383	43.1224583	0	1.1	19.7	5	0	0	79.6	Grassland
Juillian	16/07/2020	0.0179692	43.2050957	0	0.5	20.2	4	1	0	79.4	Grassland
Juillian	16/07/2020	0.0179888	43.2051602	0	0.4	20.2	4	0	0	79.4	Grassland
Juillian	16/07/2020	0.0179372	43.2051828	0	0.5	20.3	2	0	0	79.4	Grassland
Juillian	16/07/2020	0.017816	43.2051542	0	0.9	19.8	2	1	0	79.4	Grassland
Juillian	16/07/2020	0.017756	43.2052563	0	0.5	19.8	2	0	0	79.5	Grassland
Pontacq	16/07/2020	-0.0916387	43.1938932	0	0.1	20.4	1	0	0	79.4	Grassland
Pontacq	16/07/2020	-0.0918295	43.193722	0	1	20	42	3	0	79.4	Grassland
Pontacq	16/07/2020	-0.091808	43.1935247	0	0.2	20.3	1	0	0	79.5	Grassland
Pontacq	16/07/2020	-0.091647	43.193548	0	2.4	19.5	2	1	0	79.6	Grassland
Pontacq	16/07/2020	-0.0917788	43.1935427	0	1.3	20.4	11	2	0	79.6	Grassland
Loubajac	16/07/2020	-0.070349	43.1354765	0	0.2	20.5	3	1	0	79.3	Grassland
Loubajac	16/07/2020	-0.0703357	43.1354148	0	0.3	20.5	16	2	0	79.3	Grassland
Loubajac	16/07/2020	-0.0703358	43.13548	0	1.5	20.6	28	3	0	79.2	Grassland
Loubajac	16/07/2020	-0.0702738	43.135329	0	1.9	19.8	19	2	0	79.1	Grassland
Loubajac	16/07/2020	-0.0702692	43.135459	0	4	19	43	3	0	79.2	Grassland
Bénéjac	16/07/2020	-0.19699	43.199649	0	0.6	20.3	7	1	0	79.3	Grassland
Bénéjac	16/07/2020	-0.197034	43.19965	0	0.9	20.3	9	1	0	79.2	Grassland
Bénéjac	16/07/2020	-0.196885	43.199721	0	0.8	20.3	8	1	0	79.1	Grassland
Bénéjac	16/07/2020	-0.196624	43.199563	0	0.5	20.3	1	0	0	79.2	Grassland
Bénéjac	16/07/2020	-0.196718	43.199592	0	0.2	20.6	3	0	0	79.2	Grassland
Lesquerre	16/07/2020	-0.3421668	43.193199	0	0.9	20.3	3	0	0	79	Grassland
Lesquerre	16/07/2020	-0.3420142	43.193045	0	0.4	20.6	0	0	0	79.1	Grassland
Lesquerre	16/07/2020	-0.3419785	43.1930263	0	0.7	20.4	19	0	0	79.1	Grassland
Lesquerre	16/07/2020	-0.3420807	43.1930437	0	0.3	20.5	34	13	0	79.2	Grassland
Lesquerre	16/07/2020	-0.3418658	43.1931167	0	0.3	20.7	4	1	0	79.2	Grassland
Limendous	17/07/2020	-0.184942	43.2732077	0	1.8	20.7	8	0	0	79	Grassland
Limendous	17/07/2020	-0.1849852	43.273242	0	0.9	20.1	11	1	0	79.3	Grassland
Limendous	17/07/2020	-0.18485	43.2732618	0	1.4	20.1	24	2	0	78.9	Grassland
Limendous	17/07/2020	-0.1845785	43.2734148	0	0.4	20.3	20	1	0	79.2	Grassland

Limendous	17/07/2020	-0.1846843	43.2732183	0	0.9	20.1	4	1	0	79.1	Grassland
AAST	17/07/2020	-0.0905755	43.2812423	0	0.8	20.6	0	0	0	78.8	Grassland
AAST	17/07/2020	-0.0906192	43.28133	0	0.5	20.7	1	2	0	79	Grassland
AAST	17/07/2020	-0.0906485	43.2813792	0	0.8	20.8	4	1	0	78.8	Grassland
AAST	17/07/2020	-0.090692	43.2813773	0	0.1	20.4	3	0	0	79.1	Grassland
AAST	17/07/2020	-0.090754	43.2811532	0	0.5	20.5	13	1	0	79	Grassland
Lagarde	17/07/2020	0.028728	43.29708	0.1	0.3	20.7	3	0	0	79.1	Grassland
Lagarde	17/07/2020	0.0286485	43.2972113	0	0.2	20.6	5	1	0	79.1	Grassland
Lagarde	17/07/2020	0.0288807	43.297156	0	1	20.2	6	1	0	79.1	Grassland
Lagarde	17/07/2020	0.028839	43.2971893	0	0.4	20.4	5	1	0	79.3	Grassland
Lagarde	17/07/2020	0.0291008	43.2971365	0	0.2	20.4	3	0	0	79.4	Grassland
Saint Lézer	17/07/2020	0.0255307	43.3782162	0	0.3	20.6	1	2	0	79.3	Grassland
Saint Lézer	17/07/2020	0.0255418	43.3781755	0	0.8	20.2	1	2	0	79.2	Grassland
Saint Lézer	17/07/2020	0.0256272	43.3781927	0	0.2	20.2	2	0	0	79.4	Grassland
Saint Lézer	17/07/2020	0.02554	43.3781095	0	0.8	20.5	0	1	0	79.2	Grassland
Saint Lézer	17/07/2020	0.0255788	43.3779572	0	0.6	20.1	5	1	0	79.4	Grassland
Maubourget	17/07/2020	0.0251748	43.4800077	0	0.4	20.2	0	0	0	79.4	Grassland
Maubourget	17/07/2020	0.0251938	43.480026	0	0.2	20.2	1	0	0	79.5	Grassland
Maubourget	17/07/2020	0.0251963	43.4800633	0	0.5	19.7	3	0	0	79.5	Grassland
Maubourget	17/07/2020	0.0251822	43.4801192	0	0.2	20.2	2	0	0	79.5	Grassland
Maubourget	17/07/2020	0.0251663	43.4801543	0	0.1	20.2	3	1	0	79.6	Grassland
Hères	17/07/2020	0.0047642	43.5438105	0	3.2	17.8	3	0	0	79.6	Grassland
Hères	17/07/2020	0.0047792	43.5436597	0	0.7	19.9	1	0	0	79.6	Grassland
Hères	17/07/2020	0.0047897	43.5437658	0	1.1	19.7	2	0	0	79.4	Grassland
Hères	17/07/2020	0.0048278	43.5437758	0	0.5	20	2	0	0	79.6	Grassland
Hères	17/07/2020	0.0048217	43.543793	0	0.8	20.2	4	0	0	79.6	Grassland
Arrosès	17/07/2020	-0.1044333	43.5366138	0	0.3	20	1	1	0	79.5	Grassland
Arrosès	17/07/2020	-0.104399	43.5365902	0	0.5	20.3	1	0	0	79.5	Grassland
Arrosès	17/07/2020	-0.1043697	43.536653	0	0.1	20.3	0	0	0	79.6	Grassland
Arrosès	17/07/2020	-0.1042582	43.5366695	0	0.2	20.1	0	0	0	79.7	Grassland
Arrosès	17/07/2020	-0.1041008	43.5365278	0	0.4	20	4	1	0	79.8	Grassland
Séméacq Blachon	17/07/2020	-0.1237073	43.4946453	0	0.3	19.9	1	2	0	79.8	Grassland
Séméacq Blachon	17/07/2020	-0.1236198	43.4946773	0	0.2	20	2	1	0	79.7	Grassland
Séméacq Blachon	17/07/2020	-0.1233745	43.4945723	0	0.7	20.2	5	1	0	79.7	Grassland
Séméacq Blachon	17/07/2020	-0.1236595	43.494567	0	0.3	20.2	8	1	0	79.6	Grassland
Séméacq Blachon	17/07/2020	-0.1234102	43.494553	0	0.1	20.2	6	1	0	79.6	Grassland
Lucaré	17/07/2020	-0.078102	43.415144	0	1.6	19.6	2	2	0	79.8	Grassland
Lucaré	17/07/2020	-0.078102	43.415144	0	0.7	19.8	0	1	0	79.7	Grassland
Lucaré	17/07/2020	-0.078102	43.415144	0	0.4	20	0	0	0	79.7	Grassland
Lucaré	17/07/2020	-0.077827	43.412965	0	1.2	19.5	0	0	0	79.6	Grassland
Lucaré	17/07/2020	-0.077872	43.413032	0	0.2	20	0	0	0	79.8	Grassland
Bedous	22/07/2020	-0.558885	42.996271	0	0.8	20.3	2	0	0	79.1	Meadow
Bedous	22/07/2020	-0.580959	42.998354	0	0.4	20.4	3	0	0	79.2	Meadow
Bedous	22/07/2020	-0.55879	42.996059	0	0.6	20.3	3	0	0	79.1	Meadow
Bedous	22/07/2020	-0.5591932	42.996031	0	0.3	20.3	3	0	0	79.3	Meadow
Bedous	22/07/2020	-0.558908	42.996065	0	0.3	20.6	13	1	0	79.2	Meadow
Gère Belestin	22/07/2020	-0.421927	43.024804	0	1.4	20	3	1	0	79.1	Meadow
Gère Belestin	22/07/2020	-0.422018	43.024752	0	0.9	19.9	2	1	0	79.4	Meadow
Gère Belestin	22/07/2020	-0.4218915	43.0247782	0	0.4	20.2	1	1	0	79.5	Meadow
Gère Belestin	22/07/2020	-0.4219123	43.0247222	0	0.8	20	7	2	0	79.7	Meadow
Gère Belestin	22/07/2020	-0.4218905	43.0246917	0	1	19.8	2	0	0	79.8	Meadow
Arudy	22/07/2020	-0.4376092	43.1105303	0	1.9	20.1	2	0	0	79.6	Grassland
Arudy	22/07/2020	-0.4374483	43.1105577	0	1.7	19.1	1	1	0	79.4	Grassland
Arudy	22/07/2020	-0.4378262	43.1102668	0	1.4	19.3	0	0	0	79.5	Grassland
Arudy	22/07/2020	-0.4378197	43.1101688	0	1.3	19.1	1	1	0	79.7	Grassland
Arudy	22/07/2020	-0.4377137	43.110243	0	0.9	19.5	0	1	0	79.8	Grassland
Misériou	22/07/2020	-0.5533892	43.1155277	0	1.8	19.6	1	0	0	79.3	Meadow
Misériou	22/07/2020	-0.553402	43.1155778	0	2.6	18.8	3	0	0	79	Meadow
Misériou	22/07/2020	-0.5535452	43.1156187	0	7.9	19.7	5	1	0	77.9	Meadow
Misériou	22/07/2020	-0.553397	43.1154353	0	1	17.2	2	0	0	79.5	Meadow
Misériou	22/07/2020	-0.553475	43.1155432	0	1.2	19.8	3	1	0	79.4	Meadow
Précilhon	22/07/2020	-0.573282	43.1977083	0	0.1	20.4	4	0	0	79.6	Grassland
Précilhon	22/07/2020	-0.5732382	43.197551	0	0.7	19.8	8	1	0	79.6	Grassland
Précilhon	22/07/2020	-0.573247	43.1977563	0	0.1	20.2	6	0	0	79.7	Grassland
Précilhon	22/07/2020	-0.5732867	43.1977603	0	0.1	20.1	3	1	0	79.7	Grassland
Précilhon	22/07/2020	-0.5732755	43.197754	0	0.1	20.1	2	1	0	79.8	Grassland
Labarcat	22/07/2020	-0.4235382	43.205561	0	0.1	20.1	4	1	0	79.8	Grassland

Labarcat	22/07/2020	-0.4233417	43.2054665	0	0.1	20	5	1	0	79.8	Grassland
Labarcat	22/07/2020	-0.4232645	43.2054848	0	1.2	19.6	2	1	0	79.6	Grassland
Labarcat	22/07/2020	-0.4232525	43.2054667	0	0.6	19.7	2	1	0	79.7	Grassland
Labarcat	22/07/2020	-0.4234	43.205556	0	0.1	20	5	1	0	79.7	Grassland
Lesquerré	22/07/2020	-0.3421668	43.193199	0	0.9	20.3	3	0	0	79	Grassland
Lesquerré	22/07/2020	-0.3420142	43.193045	0	0.4	20.6	0	0	0	79.1	Grassland
Lesquerré	22/07/2020	-0.3419785	43.1930263	0	0.7	20.4	19	0	0	79.1	Grassland
Lesquerré	22/07/2020	-0.3420807	43.1930437	0	0.3	20.5	34	13	0	79.2	Grassland
Lesquerré	22/07/2020	-0.3418658	43.1931167	0	0.3	20.7	4	1	0	79.2	Grassland
Bizanos	22/07/2020	-0.352381	43.2808795	0	0.6	20.2	1	0	0	79.7	Grassland
Bizanos	22/07/2020	-0.3524877	43.2809692	0	0.8	19.3	5	0	0	79.8	Grassland
Bizanos	22/07/2020	-0.3524802	43.2808342	0	0.9	19.2	8	1	0	80	Grassland
Bizanos	22/07/2020	-0.3523057	43.2808578	0	0.8	19.5	3	1	0	80.1	Grassland
Bizanos	22/07/2020	-0.352358	43.2808867	0	0.5	19.4	2	1	0	80.3	Grassland
Laroin	22/07/2020	-0.4377835	43.304135	0	0	19.7	1	0	0	80.3	Grassland
Laroin	22/07/2020	-0.4377865	43.3041003	0	0	19.7	2	0	0	80.2	Grassland
Laroin	22/07/2020	-0.4378673	43.3041963	0	0	19.7	2	1	0	80.3	Grassland
Laroin	22/07/2020	-0.4377183	43.304082	0	0.1	19.6	6	2	0	80.2	Grassland
Laroin	22/07/2020	-0.4378415	43.3042063	0	0.4	19.6	3	1	0	80.1	Grassland
Laroin	22/07/2020	-0.4379217	43.3042235	0	0.3	19.4	7	1	0	80.3	Grassland
Haurrot	22/07/2020	-0.5678612	43.3082782	0	0.2	20	3	1	0	79.8	Grassland
Haurrot	22/07/2020	-0.5679992	43.3081078	0	0.3	20.1	2	0	0	79.6	Grassland
Haurrot	22/07/2020	-0.5678602	43.3082385	0	0.5	19.9	5	1	0	79.7	Grassland
Haurrot	22/07/2020	-0.5678013	43.308289	0	0.3	20	4	1	0	79.8	Grassland
Haurrot	22/07/2020	-0.5677583	43.308181	0	0.1	20	3	1	0	79.8	Grassland
Gaujacq	11/08/2020	-0.711854	43.661172	0	0.2	20.6	8	1	0	79.4	Grassland
Gaujacq	11/08/2020	-0.711818	43.661121	0	0.3	20.4	5	1	0	79.4	Grassland
Gaujacq	11/08/2020	-0.71181	43.661096	0	0.6	20.2	5	1	0	79.3	Grassland
Gaujacq	11/08/2020	-0.711829	43.661142	0	0.6	20	16	1	0	79.4	Grassland
Gaujacq	11/08/2020	-0.71198	43.66121	0	2.8	19.1	3	0	0	79	Grassland
Peyredère	11/08/2020	-0.7198242	43.7328115	0	0.1	20.8	1	0	0	79.1	Grassland
Peyredère	11/08/2020	-0.7199733	43.7327623	0	0.4	20.6	1	0	0	79.1	Grassland
Peyredère	11/08/2020	-0.7198872	43.7327407	0	0.3	20.6	1	0	0	79	Grassland
Peyredère	11/08/2020	-0.7199125	43.7326877	0	0.4	20.5	0	0	0	79.3	Grassland
Peyredère	11/08/2020	-0.7199673	43.7327285	0	0.4	20.6	2	2	0	79.4	Grassland
Gamarde-les-Bains	11/08/2020	-0.8617692	43.7397787	0	0.5	20.9	13	0	0	79.1	Grassland
Gamarde-les-Bains	11/08/2020	-0.8618607	43.7396248	0	0.6	20.5	15	0	0	79	Grassland
Gamarde-les-Bains	11/08/2020	-0.861661	43.7396663	0	0.9	20.7	45	1	0	79.1	Grassland
Gamarde-les-Bains	11/08/2020	-0.8613703	43.7396463	0	0.6	20.7	19	0	0	79.2	Grassland
Gamarde-les-Bains	11/08/2020	-0.861776	43.7396423	0	0.2	20.5	2	0	0	79.3	Grassland
Candresse	11/08/2020	-0.9759565	43.723164	0	0.5	20.5	2	0	0	79	Grassland
Candresse	11/08/2020	-0.9760732	43.7231787	0	0.7	20.4	1	1	0	79.1	Grassland
Candresse	11/08/2020	-0.9759162	43.723125	0.1	0.6	20.3	0	1	0	79.1	Grassland
Candresse	11/08/2020	-0.9758305	43.7231423	0	0.6	20.3	0	0	0	79.2	Grassland
Candresse	11/08/2020	-0.9756418	43.7231338	0	0.7	20.3	1	0	0	79.1	Grassland
Eyrasse	11/08/2020	-1.1011817	43.7253257	0	1.1	20.4	2	1	0	79.2	Grassland
Eyrasse	11/08/2020	-1.1009842	43.7252965	0	1	19.7	11	3	0	79.3	Grassland
Eyrasse	11/08/2020	-1.1009377	43.7253348	0.1	1	19.7	13	3	0	79.3	Grassland
Eyrasse	11/08/2020	-1.1009972	43.7251972	0	0.9	19.8	5	1	0	79.4	Grassland
Eyrasse	11/08/2020	-1.1008223	43.7252723	0	0.7	19.7	4	1	0	79.5	Grassland
Balenton	11/08/2020	-1.228461	43.7222162	0	0.4	20.3	0	0	0	79.3	Grassland
Balenton	11/08/2020	-1.2283947	43.7222538	0	0.4	20.2	0	0	0	79.4	Grassland
Balenton	11/08/2020	-1.2282937	43.722274	0	0.4	20.2	0	0	0	79.4	Grassland
Balenton	11/08/2020	-1.2284365	43.7222422	0	0.2	20.2	19	2	0	79.5	Grassland
Balenton	11/08/2020	-1.2283322	43.7222807	0	0.4	20.3	10	0	0	79.4	Grassland
Josse	11/08/2020	-1.2201365	43.6384445	0	0.2	20.3	2	0	0	79.3	Grassland
Josse	11/08/2020	-1.2201792	43.6385422	0	0.2	20.4	5	0	0	79.3	Grassland
Josse	11/08/2020	-1.2199942	43.6385935	0	0.5	20	7	1	0	79.4	Grassland
Josse	11/08/2020	-1.2199308	43.6384893	0	0.1	20.4	9	0	0	79.4	Grassland
Josse	11/08/2020	-1.2201363	43.6385252	0	0.2	20.3	13	1	0	79.4	Grassland
Heugas	11/08/2020	-1.090996	43.631865	0	0.4	20.1	2	1	0	79.6	Grassland
Heugas	11/08/2020	-1.091223	43.631791	0	0.2	20.1	6	1	0	79.8	Grassland
Heugas	11/08/2020	-1.09121	43.63183	0	0.1	20.1	8	1	0	79.8	Grassland
Heugas	11/08/2020	-1.09098	43.631847	0	0.6	20	4	1	0	79.9	Grassland
Heugas	11/08/2020	-1.091198	43.631744	0	0.4	19.8	3	1	0	79.9	Grassland
Mimbaste	11/08/2020	-0.9652445	43.6469152	0	0.3	20.2	2	0	0	79.8	Grassland
Mimbaste	11/08/2020	-0.965301	43.6468947	0	0.3	20	5	0	0	79.9	Grassland

Mimbaste	11/08/2020	-0.965351	43.64686	0	0.4	19.8	3	2	0	79.9	Grassland
Mimbaste	11/08/2020	-0.9654008	43.6469332	0	0.2	19.7	3	1	0	80	Grassland
Mimbaste	11/08/2020	-0.9652538	43.6469303	0	0.3	19.8	8	1	0	80	Grassland
Romarez	11/08/2020	-0.838045	43.6329775	0	0.3	20	3	0	0	79.9	Grassland
Romarez	11/08/2020	-0.8381438	43.6329355	0	0.2	19.8	3	0	0	80	Grassland
Romarez	11/08/2020	-0.8380463	43.6330792	0	0.2	19.7	11	1	0	80	Grassland
Romarez	11/08/2020	-0.8379175	43.6330263	0	0.2	19.9	7	1	0	80	Grassland
Romarez	11/08/2020	-0.8380027	43.6330245	0	0.1	19.9	2	0	0	80	Grassland
Bahus soubiran	14/08/2020	-0.363096	43.666309	0	0.4	20.7	0	0	0	79.3	Grassland
Bahus soubiran	14/08/2020	-0.363166	43.666453	0	0.2	20.6	0	1	0	79.4	Grassland
Bahus soubiran	14/08/2020	-0.363088	43.66637	0	0.4	20.2	12	0	0	79.4	Grassland
Bahus soubiran	14/08/2020	-0.363002	43.666293	0	0.5	20.5	2	1	0	79.3	Grassland
Bahus soubiran	14/08/2020	-0.362971	43.666469	0	0.3	20.5	1	1	0	79.4	Grassland
Bernède	14/08/2020	-0.228397	43.669555	0	0.2	20.7	3	0	0	79.1	Grassland
Bernède	14/08/2020	-0.231667	43.669264	0	0.7	20.5	3	0	0	78.9	Grassland
Bernède	14/08/2020	-0.2317108	43.6692927	0	0.3	20.6	3	0	0	79.1	Grassland
Bernède	14/08/2020	-0.2317098	43.6692878	0	0.2	20.7	4	0	0	79.1	Grassland
Bernède	14/08/2020	-0.231682	43.6693105	0	0.1	20.6	8	1	0	79.2	Grassland
Tarsac	14/08/2020	-0.1047977	43.6670352	0	0.5	20.5	0	0	0	79.1	Grassland
Tarsac	14/08/2020	-0.1046757	43.6669787	0	0.4	20.4	8	0	0	79.1	Grassland
Tarsac	14/08/2020	-0.1046098	43.667035	0	0.1	20.6	3	0	0	79.2	Grassland
Tarsac	14/08/2020	-0.1046848	43.6670573	0	0.1	20.6	2	0	0	79.3	Grassland
Tarsac	14/08/2020	-0.1046477	43.6670395	0	0.1	20.6	7	0	0	79.3	Grassland
Arblade le haut	14/08/2020	-0.0639412	43.7436748	0	0.2	20.8	6	1	0	79.2	Grassland
Arblade le haut	14/08/2020	-0.0640433	43.7437165	0	0.1	20.6	2	0	0	79.3	Grassland
Arblade le haut	14/08/2020	-0.0640572	43.7436472	0	0.3	20.6	7	0	0	79.3	Grassland
Arblade le haut	14/08/2020	-0.06405	43.743551	0	0.1	20.6	0	0	0	79.4	Grassland
Arblade le haut	14/08/2020	-0.0639667	43.7435555	0	0.1	20.5	0	0	0	79.4	Grassland
Lussagnet	14/08/2020	-0.230921	43.7748162	0	0.1	20.7	3	0	0	79.2	Grassland
Lussagnet	14/08/2020	-0.2310398	43.7749073	0	0.1	20.6	0	0	0	79.2	Grassland
Lussagnet	14/08/2020	-0.2310505	43.774818	0	0.1	20.7	8	0	0	79.3	Grassland
Lussagnet	14/08/2020	-0.2311072	43.7749108	0	0.4	20.6	1	0	0	79.3	Grassland
Lussagnet	14/08/2020	-0.23099	43.7748947	0	0.1	20.6	1	0	0	79.3	Grassland
Lussagnet	14/08/2020	-0.231062	43.7749715	0	0.4	20.3	0	0	0	79.4	Grassland
Renung	14/08/2020	-0.3554283	43.7404603	0	0.1	20.7	0	0	0	79.6	Grassland
Renung	14/08/2020	-0.3554055	43.740559	0	0.3	20.1	0	1	0	79.6	Grassland
Renung	14/08/2020	-0.3553953	43.7405038	0	0.7	20	9	0	0	79.6	Grassland
Renung	14/08/2020	-0.3553823	43.7405203	0	1.5	20.2	3	0	0	79.6	Grassland
Renung	14/08/2020	-0.3554242	43.7404992	0	0.9	20.2	12	1	0	79.8	Grassland
Renung	14/08/2020	-0.3560313	43.7407593	0	0.7	20	3	0	0	79.7	Grassland
Montgaillard	14/08/2020	-0.481685	43.7377	0	0.8	19.9	11	1	0	79.4	Grassland
Montgaillard	14/08/2020	-0.4818232	43.7377322	0	1	19.7	15	2	0	79.4	Grassland
Montgaillard	14/08/2020	-0.4816722	43.7376365	0	1.4	19.6	32	2	0	79.3	Grassland
Montgaillard	14/08/2020	-0.4818088	43.7377325	0	0.4	20.3	17	2	0	79.4	Grassland
Montgaillard	14/08/2020	-0.4818938	43.7377943	0	1.2	19.8	27	2	0	79.4	Grassland
Audignon	14/08/2020	-0.5882988	43.7297888	0	0.1	20.7	0	0	0	79.2	Grassland
Audignon	14/08/2020	-0.5884475	43.729895	0	1.8	19.5	2	0	0	79.1	Grassland
Audignon	14/08/2020	-0.58841	43.7299447	0	0.5	19.8	3	0	0	79.3	Grassland
Audignon	14/08/2020	-0.5883987	43.7298453	0	0.7	20.6	10	1	0	79.3	Grassland
Audignon	14/08/2020	-0.5885272	43.729939	0	3.8	20.5	19	0	0	79.2	Grassland
Magetmau	14/08/2020	-0.6096252	43.6519425	0	1.5	20.5	32	2	0	79.5	Grassland
Magetmau	14/08/2020	-0.6095663	43.65185	0	0.8	19.8	14	2	0	79.4	Grassland
Magetmau	14/08/2020	-0.6096323	43.6518175	0	1.4	19.6	3	0	0	79.1	Grassland
Magetmau	14/08/2020	-0.6096772	43.651997	0	0.9	19.4	0	0	0	79.2	Grassland
Magetmau	14/08/2020	-0.6097428	43.6518995	0	0.7	19.2	35	1	0	79.7	Grassland
Bats	14/08/2020	-0.4601553	43.6514042	0	0.7	20.2	2	1	0	79.3	Grassland
Bats	14/08/2020	-0.4601502	43.6514328	0	0.6	20.5	4	0	0	79.2	Grassland
Bats	14/08/2020	-0.4600367	43.6515062	0	0.4	20.4	6	1	0	79.3	Grassland
Bats	14/08/2020	-0.4600917	43.6514823	0	0.8	20	5	1	0	79.3	Grassland
Bats	14/08/2020	-0.4599673	43.6516208	0	0.7	20	6	1	0	79.4	Grassland
Lecumberry	18/08/2020	-1.1393383	43.1440442	0	0.7	20.6	0	0	0	79.2	Meadow
Lecumberry	18/08/2020	-1.1393143	43.144071	0	0.3	20	0	0	0	79.4	Meadow
Lecumberry	18/08/2020	-1.1392185	43.1441372	0	0.3	20.2	0	1	0	79.4	Meadow
Lecumberry	18/08/2020	-1.139389	43.1439758	0	0.1	20.2	0	0	0	79.6	Meadow
Lecumberry	18/08/2020	-1.1393502	43.1439783	0	1.2	19.7	0	1	0	79	Meadow
Pierraene. col de Napole	18/08/2020	-0.9862093	43.1541787	0	0.2	20.5	0	0	0	79.5	Meadow
Pierraene. col de Napole	18/08/2020	-0.9861945	43.1542212	0	0.1	20.2	0	1	0	79.6	Meadow

Pierrae. col de Napole	18/08/2020	-0.9861342	43.1541937	0	0.1	20.3	0	0	0	79.6	Meadow
Pierrae. col de Napole	18/08/2020	-0.9861055	43.1542472	0	0.1	20.2	0	0	0	79.7	Meadow
Pierrae. col de Napole	18/08/2020	-0.9861105	43.154076	0	0.1	20.1	0	0	0	79.8	Meadow
Sauguis saint Etienne	18/08/2020	-0.8938353	43.1539908	0	0.1	20.1	0	1	0	79.8	Grassland
Sauguis saint Etienne	18/08/2020	-0.8937287	43.1537652	0	0.5	19.9	5	1	0	79.8	Grassland
Sauguis saint Etienne	18/08/2020	-0.8937233	43.1537592	0	0.3	20	4	0	0	79.8	Grassland
Sauguis saint Etienne	18/08/2020	-0.8938668	43.1537913	0	0.6	19.7	2	0	0	79.9	Grassland
Sauguis saint Etienne	18/08/2020	-0.8939265	43.1537747	0	0.6	19.7	2	1	0	79.9	Grassland
Mauléon Licharre	18/08/2020	-0.890561	43.2317192	0	0.1	20	0	0	0	79.9	Grassland
Mauléon Licharre	18/08/2020	-0.8906138	43.2317945	0	0.1	19.9	1	0	0	79.9	Grassland
Mauléon Licharre	18/08/2020	-0.8905575	43.2317268	0	0.2	20	1	1	0	79.9	Grassland
Mauléon Licharre	18/08/2020	-0.8906512	43.2317132	0	0.1	19.9	0	1	0	80	Grassland
Mauléon Licharre	18/08/2020	-0.8906273	43.2316172	0	0.1	19.9	1	0	0	79.9	Grassland
Charre	18/08/2020	-0.8790327	43.319389	0	0.1	20.2	3	0	0	79.7	Grassland
Charre	18/08/2020	-0.8787977	43.3194755	0	0.1	20.1	3	1	0	79.7	Grassland
Charre	18/08/2020	-0.878745	43.3194802	0	1	19.4	5	2	0	79.6	Grassland
Charre	18/08/2020	-0.8786887	43.3194895	0	0.4	19.4	5	2	0	79.7	Grassland
Charre	18/08/2020	-0.878809	43.3195378	0	1.6	19.2	51	4	0	79.7	Grassland
Béhasque Lapiste	18/08/2020	-1.0008585	43.3238257	0	0.1	20.2	1	1	0	79.7	Grassland
Béhasque Lapiste	18/08/2020	-1.0011103	43.3239293	0	0.1	20.3	2	1	0	79.6	Grassland
Béhasque Lapiste	18/08/2020	-1.0010653	43.324019	0	0.1	20.3	3	0	0	79.6	Grassland
Béhasque Lapiste	18/08/2020	-1.0010308	43.3240365	0	0.3	20.1	1	1	0	79.7	Grassland
Béhasque Lapiste	18/08/2020	-1.001026	43.3240528	0	0	20.2	1	0	0	79.7	Grassland
Pagolle	18/08/2020	-0.9886803	43.2312965	0	0	20.3	1	0	0	79.5	Grassland
Pagolle	18/08/2020	-0.9885677	43.231297	0	0	20.1	2	1	0	79.7	Grassland
Pagolle	18/08/2020	-0.9885308	43.2313123	0	0	20.3	1	0	0	79.8	Grassland
Pagolle	18/08/2020	-0.9886507	43.2313498	0	0.1	20	0	0	0	79.9	Grassland
Pagolle	18/08/2020	-0.9886485	43.2313662	0	0.1	20	5	1	0	79.8	Grassland
Saint Etienne Lantabat	18/08/2020	-1.1477432	43.2460792	0	0.5	20.6	1	1	0	79.1	Grassland
Saint Etienne Lantabat	18/08/2020	-1.1477332	43.2461235	0	0.4	20.6	3	1	0	79.3	Grassland
Saint Etienne Lantabat	18/08/2020	-1.147671	43.246028	0	0.1	20.4	2	0	0	79.4	Grassland
Saint Etienne Lantabat	18/08/2020	-1.1478353	43.2461753	0	0.2	20.4	2	0	0	79.3	Grassland
Saint Etienne Lantabat	18/08/2020	-1.1478137	43.246235	0	0.1	20.5	2	0	0	79.3	Grassland
Méharin	18/08/2020	-1.1391313	43.3301618	0	0	20.6	2	0	0	79.3	Grassland
Méharin	18/08/2020	-1.1392758	43.3302353	0	0.1	20.6	1	0	0	79.3	Grassland
Méharin	18/08/2020	-1.1392132	43.3302238	0	0.1	20.5	1	2	0	79.5	Grassland
Méharin	18/08/2020	-1.139184	43.3301962	0	0.1	20.5	2	0	0	79.4	Grassland
Méharin	18/08/2020	-1.1391825	43.3301988	0	0.1	20.4	1	0	0	79.5	Grassland
Orègue	18/08/2020	-1.1354657	43.3960803	0	0.4	20.3	1	0	0	79.5	Grassland
Orègue	18/08/2020	-1.1353967	43.3959845	0	0.2	20.1	1	0	0	79.6	Grassland
Orègue	18/08/2020	-1.1354163	43.396036	0	0.4	20	1	0	0	79.6	Grassland
Orègue	18/08/2020	-1.1355102	43.3960882	0	0.3	20	2	0	0	79.7	Grassland
Orègue	18/08/2020	-1.135339	43.396099	0	0.2	20.1	1	0	0	79.7	Grassland
Abitain	19/08/2020	-0.9951383	43.4123457	0	0.2	20.8	0	0	0	79.2	Grassland
Abitain	19/08/2020	-0.9950187	43.4123527	0	0.3	20.4	0	1	0	79.2	Grassland
Abitain	19/08/2020	-0.9951878	43.4123408	0	0.5	20.3	4	0	0	79.2	Grassland
Abitain	19/08/2020	-0.995109	43.4122615	0	0.2	20.4	2	0	0	79.2	Grassland
Abitain	19/08/2020	-0.9952165	43.4123142	0	0.2	20.5	0	0	0	79.3	Grassland
Orion	19/08/2020	-0.8620758	43.4184547	0	0.3	20.4	0	1	0	79.2	Grassland
Orion	19/08/2020	-0.8621823	43.4184223	0	0.9	20	1	1	0	79.1	Grassland
Orion	19/08/2020	-0.8621642	43.4183978	0	0.2	20	1	0	0	79.3	Grassland
Orion	19/08/2020	-0.862236	43.418376	0	0.4	20.3	3	0	0	79.5	Grassland
Orion	19/08/2020	-0.8621105	43.4184047	0	0.3	20	1	0	0	79.7	Grassland
Sauveterre	26/08/2020	-0.949009	43.4044013	0	0.1	20.6	37	2	0	79.4	Grassland
Sauveterre	26/08/2020	-0.9492777	43.4046993	0	0.7	19.9	11	0	0	79.8	Grassland
Sauveterre	26/08/2020	-0.949078	43.4048273	0	0.4	19.8	14	1	0	79.6	Grassland
Sauveterre	26/08/2020	-0.9490692	43.4050965	0	0.7	19.6	27	2	0	79.6	Grassland
Sauveterre	26/08/2020	-0.949107	43.4052518	0	1	19.5	5	0	0	79.7	Grassland
Sauveterre	26/08/2020	-0.9491238	43.4055235	0	0.3	20.1	29	2	0	79.6	Grassland
Sauveterre	26/08/2020	-0.9502338	43.4052952	0	0.3	18.9	50	4	0	79.5	Grassland
Sauveterre	26/08/2020	-0.952655	43.4064735	0	0.3	20.3	24	4	0	79.3	Grassland
Sauveterre	26/08/2020	-0.9517605	43.4062013	0	0.3	20.3	37	2	0	79.4	Grassland
Sauveterre	26/08/2020	-0.9512172	43.405307	0	0	20.7	55	6	0	79.4	Grassland
Sauveterre	26/08/2020	-0.9512	43.4050485	0	0.2	20.4	119	6	0	79.4	Grassland
Sauveterre	26/08/2020	-0.9512997	43.4047612	0	0.2	20.3	50	4	0	79.5	Grassland
Sauveterre	26/08/2020	-0.9511887	43.4042962	0	0.3	20.2	60	5	0	79.5	Grassland
Sauveterre	26/08/2020	-0.951668	43.4039612	0	0.5	20	6	1	0	79.3	Grassland

Sauveterre	26/08/2020	-0.951744	43.403663	0	0.4	20.2	18	3	0	79.5	Grassland
Sauveterre	26/08/2020	-0.9508555	43.4039783	0	0.3	20.3	1	0	0	79.5	Grassland
Sauveterre	26/08/2020	-0.948133	43.4044467	0	0	20.6	4	2	0	79.2	Grassland
Sauveterre	26/08/2020	-0.9481632	43.4046447	0	0.6	20.2	12	3	0	79.3	Grassland
Sauveterre	26/08/2020	-0.9479597	43.404895	0	0.5	20.3	12	5	0	79.3	Grassland
Sauveterre	26/08/2020	-0.9490157	43.404403	0	0	20.6	0	0	0	79.4	Grassland
Sauveterre	26/08/2020	-0.9489653	43.4044825	0	0	20.5	0	0	0	79.5	Grassland
Sauveterre	26/08/2020	-0.9490845	43.4043915	0	0	20.5	0	0	0	79.4	Grassland
Sauveterre	27/08/2020	-0.9490627	43.4044773	0	0	20.5	36	3	0	79.5	Grassland
Sauveterre	27/08/2020	-0.9491138	43.4045195	0	0.6	19.9	33	1	0	79.7	Grassland
Sauveterre	27/08/2020	-0.9491623	43.4044675	0	0.5	19.8	21	3	0	79.7	Grassland
Sauveterre	27/08/2020	-0.949107	43.4045245	0	0	20.1	16	1	0	79.6	Grassland
Sauveterre	27/08/2020	-0.9510023	43.405638	0	0	20.4	108	4	0	79.6	Grassland
Sauveterre	27/08/2020	-0.9511262	43.4054517	0	0.2	20.2	50	6	0	79.8	Grassland
Sauveterre	27/08/2020	-0.9511938	43.405433	0	0	20.4	70	12	0	79.8	Grassland
Sauveterre	27/08/2020	-0.952225	43.4062175	0	0.4	19.8	19	5	0	79.6	Grassland
Sauveterre	27/08/2020	-0.9527828	43.407021	0	1.2	19.1	57	9	0	79.6	Grassland
Sauveterre	27/08/2020	-0.9528128	43.40704	0	0.5	19.8	76	5	0	79.8	Grassland
Sauveterre	27/08/2020	-0.9514777	43.4077955	0	0.2	20	17	2	0	79.7	Grassland
Sauveterre	27/08/2020	-0.9497565	43.4081968	0	0.7	19.4	94	12	0	80	Grassland
Sauveterre	27/08/2020	-0.9496363	43.4081757	0	0.3	19.7	39	2	0	80	Grassland
Sauveterre	27/08/2020	-0.950099	43.408015	0	0.1	19.8	55	4	0	80.4	Grassland
Sauveterre	27/08/2020	-0.9506942	43.4075002	0	0.2	19.5	30	5	0	80.3	Grassland
Sauveterre	27/08/2020	-0.9522057	43.4062082	0	0	20.2	51	1	0	79.7	Grassland
Sauveterre	03/09/2020	-0.949258	43.4043885	0	0.1	20.6	18	2	0	79.4	Grassland
Sauveterre	03/09/2020	-0.9487715	43.4043638	0	0.4	20.2	9	3	0	79.6	Grassland
Sauveterre	03/09/2020	-0.9500323	43.4047862	0	0.2	20.1	11	4	0	79.9	Grassland
Sauveterre	03/09/2020	-0.9499057	43.4047035	0	0	19.9	4	2	0	80.2	Grassland
Sauveterre	03/09/2020	-0.9513742	43.4050517	0	0.2	19.8	26	6	0	80.4	Grassland
Sauveterre	03/09/2020	-0.9514117	43.4049842	0	0.2	19.3	18	3	0	80.5	Grassland
Sauveterre	10/09/2020	-0.9491003	43.4045207	0	0.1	20.5	3	2	0	79.3	Grassland
Sauveterre	10/09/2020	-0.9500913	43.4048885	0	0.1	20.2	0	1	0	79.8	Grassland
Sauveterre	10/09/2020	-0.9500235	43.4048148	0	0.2	20.1	0	1	0	79.6	Grassland
Sauveterre	10/09/2020	-0.9512205	43.4051647	0	0	20.2	5	5	0	79.8	Grassland
Sauveterre	10/09/2020	-0.9513072	43.405079	0	0.1	20.1	68	0	0	79.6	Grassland
Sauveterre	10/09/2020	-0.949369	43.405088	0	0.1	20.6	2	1	0	79.3	Grassland