Digicel

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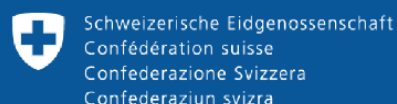# Assessing mobility during the period of floods in Haiti: a rapid analysis

16 June 2023

Executive Summary

This situational report provides an overview of CDR-derived displacement and population movements in sections of Haiti identified by IOM-DTM to have been affected by the floods. The report highlights areas where subscribers of Digicel Haiti have been displaced to, from and within and provides an estimate of the number of newly and remaining displaced subscribers in communal sections of interest. The estimates shown are our best current assessment of movements. However, there are a number of uncertainties. The information should be interpreted together with other available evidence.

Leogane Commune

In the week of June 5 to 11, an estimated 3,000 subscribers were newly displaced from 10e Section Fond d'Oie (HT0121-10), with a few hundred within the same section. Furthermore, 1,500 individuals were newly displaced to 4e Section Fond de Boudin (HT0121-04), along with additional displacements of 700 in 1re Section Dessources (HT0121-01), 650 in 2e Section Petite Rivière (HT0121-02), 600 in 3e Section Grande Rivière (HT0121-03), and 500 in 10e Section Fond d'Oie (HT0121-10). As of June 11 significant numbers of subscribers likely remain displaced in four administrative sections of Leogane: 1,900 in 4e Section Fond de Boudin (HT0121-04), 1,000 in 1re Section Dessources (HT0121-01), 700 in 3e Section Grande Rivière (HT0121-03), and 650 in 10e Section Fond d'Oie (HT0121-10).

Northern Peninsula

Large displacements, estimated from abnormal movements, have been observed since the end of May or early June in 3e Section Aubert (HT0911-03) and 4e Section Mahotière (HT0911-04). As a result, an estimated 500 subscribers remain displaced in each of these two communal sections. While additional possibly displaced subscribers are observed in the region, most of them are likely related to earlier displacements (or other abnormal movements) occurring before June, particularly in the areas of 1re Section Plate Forme (HT0933-01), 2e Section Mare-Rouge (HT0931-02), and 5e Section Dessources (HT0934-05).

Port-au-Prince

In recent weeks, significant abnormal movements of subscribers have been observed in, out of, and within 1re Section Turgeau (HT0111-01). These movements include over 2,000 excess arrivals in the week ending 04 June and 1,800 excess departures in the following week (ending June 11). Approximately 500 subscribers possibly remain displaced in this communal section. The cause of these movements, whether related to floods or other events in Port-au-Prince, remains unclear. However, adjacent 2e Section Morne l'Hopital (HT0111-02) does not exhibit similar large changes, with only around 100 excess arrivals in the week ending 04 June.

Petit-Goave

Around 200 newly displaced subscribers are estimated to be in 6e Section Trou Canari (HT0122-06) as of the week ending 11 June. Additionally, another 200 subscribers arrived earlier in the week ending 04 June and may be located in 1re Section Bino (HT0122-01). Larger displacements are however observed out of the region: a significant abnormal number of departures (over 2,000) have been observed from 2e Section Delatre (HT0122-02) in the week

ending 11 June. It is likely that most of these subscribers have left the communal section rather than being displaced within, possibly a few to the communal section of Trou Canari likely beyond Petit-Goave given the low arrivals and excess residents in other Petit-Goave sections.

Understanding the figures & report

Figures provided in this report may be conservative estimates because:

- They are based on the analysis of movements of Digicel SIM cards only, not of the whole population: for reference, in 2018, in Port-au-Prince, only 76% of the adult population owned a phone (source: DHS Haiti 2016/2017) and the latest public figures (2016) on Digicel market shares nationally are 74% (CONATEL, 2016);
- Only the subset of Digicel SIM cards with sufficient activity for our analyses are included.

Therefore, the figures reported here are likely to be lower-bound estimates. However, they may also sometimes overestimate displacements. Displacements are estimated from assessing how abnormal the number of movements and residents are, compared to usual numbers and usual variations. However, such abnormal numbers may also arise from malfunctions or artefacts of mobile communications. While we attempt to remove such artefacts, some may remain.

To enhance clarity and consistency, the report will use the term "newly displaced" to describe the excess departures and arrivals without specifying whether they occurred to or within the region. The term "remaining displaced" will be used to refer to the excess residents, representing individuals who continue to be displaced within the region.

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Authors & contributors

This report was authored by the Flowminder Foundation, a non-profit foundation specialising in the analysis of anonymous mobile operator data, satellite imagery and household survey data for humanitarian and development purposes. Flowminder provides insight and strengthens the capacity of governments, mobile network operators, national and international agencies and researchers to use big data for humanitarian and development purposes. www.flowminder.org

Acknowledgements

Objectives

To study displacements around the period of flooding in Haiti starting 30 May 2023, particularly in the affected communes of Port-au-Prince, Leogane, Petit Goave, Port-de-Paix and Northern Peninsula (See Figure 1). We define the 'Northern Peninsula' as the communes of *Port-de-Paix*, *Bombardopolis Anse Rouge*, *Jean Rabel*, *Môle Saint Nicolas* and *Baie de Henne*.
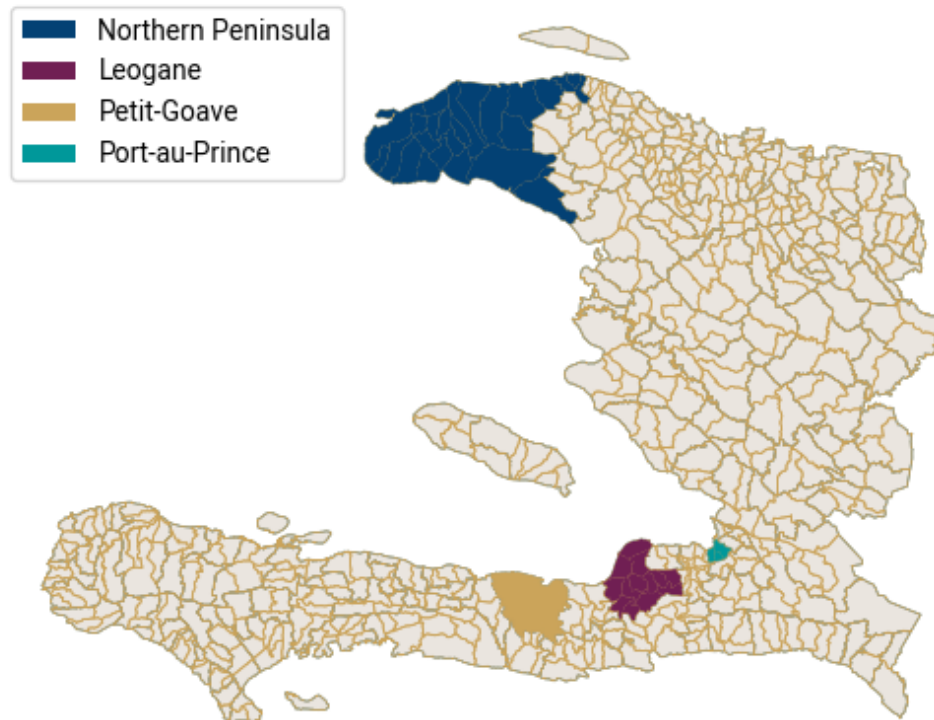
Figure 1: Study regions

Data protection & privacy

No personal data, such as an individual's identity, demographics, location, contacts or movements, is made available to the government or any other third party at any time. All results produced by Digicel Haiti and the Flowminder Foundation are aggregated results (for example, subscriber density in a given municipality), which means that they do not contain any information about individual subscribers. This data is fully anonymised. This approach complies with the European Union's General Data Protection Regulation (EU GDPR 2016/679). Data is processed on a server installed behind Digicel Haiti's firewall in Haiti, and no personal data leaves Digicel Haiti's premises.

How to interpret the results

How to interpret indicators

Definitions:

- **Excess Arrivals:** Refers to the number of subscribers displaced within the current week to a specific region, including both arrivals from other regions and arrivals from within the same region.
- **Excess Departures:** Refers to the number of subscribers displaced within the current week from their usual place of residence in a specific region, including both departure to other regions and departure to locations within the same region.
- **Excess Residents:** Refers to the number of subscribers who remain displaced within a region, including both newly displaced subscribers and those who have become displaced since February 2023. This term reflects the ongoing stock of displaced people in the region.

It is important to note that there may be a higher number of excess residents compared to excess arrivals, indicating that the overall stock of displaced individuals in the region might exceed the number of newly displaced individuals within the current reporting period. Additionally, it is essential to clarify that the sum of local excesses in residents in a region serves as an indication of the potential number of subscribers remaining displaced in the region. However, it does not necessarily mean that the total resident population in the region is abnormally large, as individuals may have been displaced within the same region.

The report may use the term "newly displaced" to describe the excess departures and arrivals without specifying whether they occurred to or within the region. The term "remaining displaced" will be used to refer to the excess residents, representing individuals who continue to be displaced in the region.

How to interpret maps
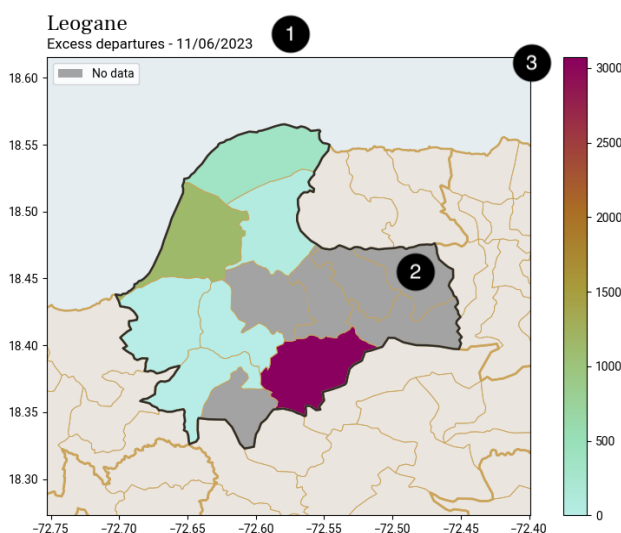
1) This map shows the sum of local excess departures for each admin3 in the commune of Leogane (new displacements from and within), on the week ending on 11 June 2023. The relocations considered are from 05 June until 11 June 2023.
2) In grey admin3 we have no data (or too few subscribers to provide estimates).
3) Admin3 where there are no excess departures are shown in light blue.
4) Here, the maximum number of excess departures is roughly 3,000. This means that there were 3,000 more departures than we expected, based on the period between February and May. This figure includes people who departed their regular home location to a location outside the communal section, as well as people who departed their regular home location to a location within the communal section.

How to interpret time series
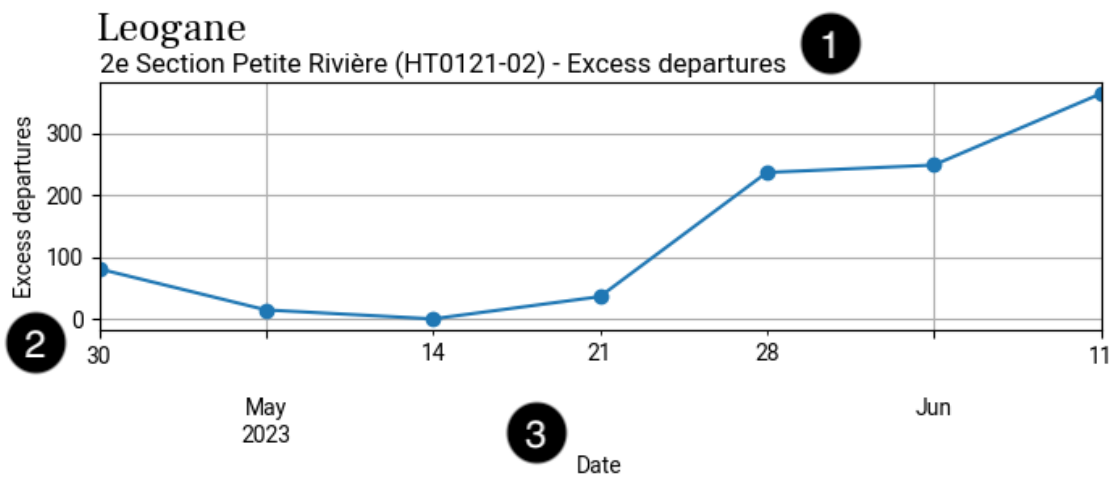
- **[1]** This graph shows the number of excess departures from the communal section 2e Section Petite Riviere. Its PCODE reference is HT0121-02. It is in the commune of Leogane.
- **[2]** The graph shows the number of excess departures - that is, the number of departures above expected, calculated from a period where there was no flooding. This number can be thought of as the people who departed that were unexpected - so could be newly displaced - and could be related to the flooding given the dates.
- **[3]** There is a data point for each week. Each data point uses relocations from the week prior - so the data point on the 11th of June uses relocations between the 5th of June and the 11th.

Results: 05 June 2023 to 11 June 2023

Leogane

An estimated 3,000 subscribers may have been newly displaced out of 10e Section Fond d-Oie (HT0121-10) (and a few hundreds within) in the week of 05 to 11 June, while 1,500 were newly displaced to 4e Section Fond de Boudin (HT0121-04) (or within) in the same week and another 700 to 1re Section Dessources (HT0121-01), 650 to 2e Section Petite Rivière (HT0121-02), 600 to 3e Section Grande Rivière (HT0121-03) and 500 to 10e Section Fond d'Oie (HT0121-10).
Overall four admin3 in Leogane have significant numbers of subscribers possibly remaining displaced (1,900 in 4e Section Fond de Boudin (HT0121-04), 1,000 in 1re Section Dessources (HT0121-01), 700 in 3e Section Grande Rivère (HT0121-03) and 650 in 10e Section Fond d'Oie (HT0121-10), see map below), with most displaced in the week ending 11 June (see annex).

Estimated subscribers displaced out of - and within - each admin3 of Leogane in 5-11 June 2023 (*Sum of local excess departures*)
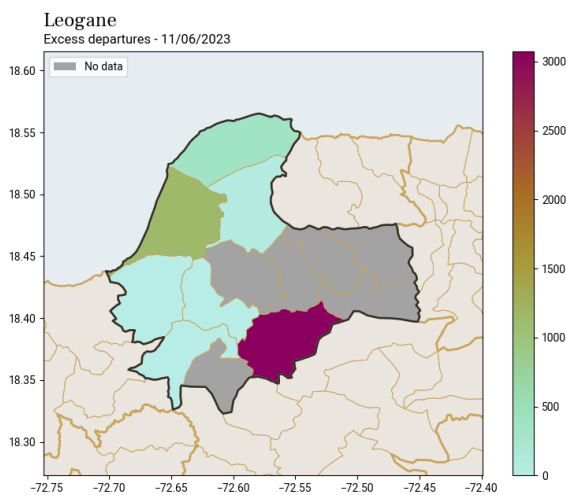
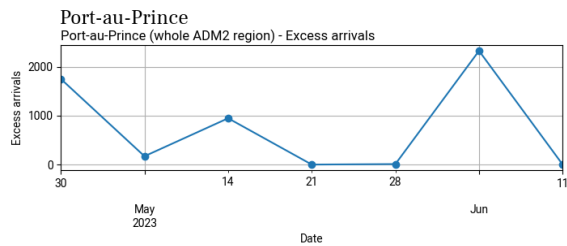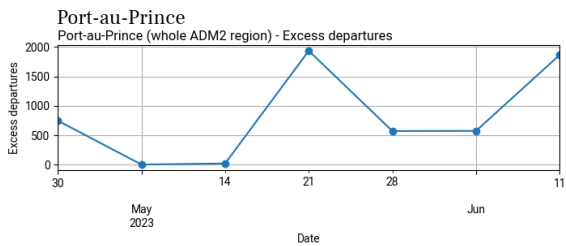**Estimated subscribers displaced to - and within - each admin3 of Leogane in 5-11 June 2023** (*Sum of local excess arrivals*)
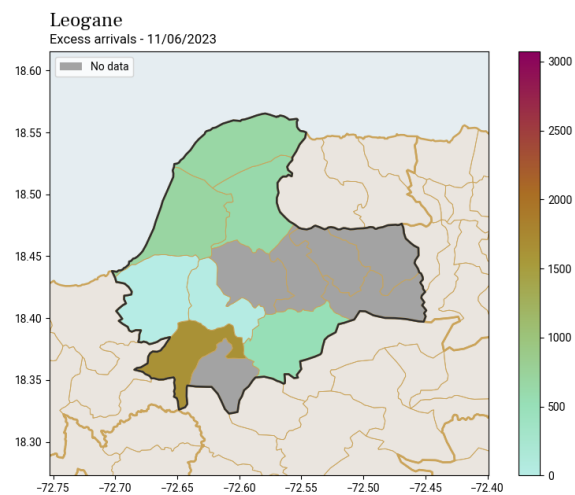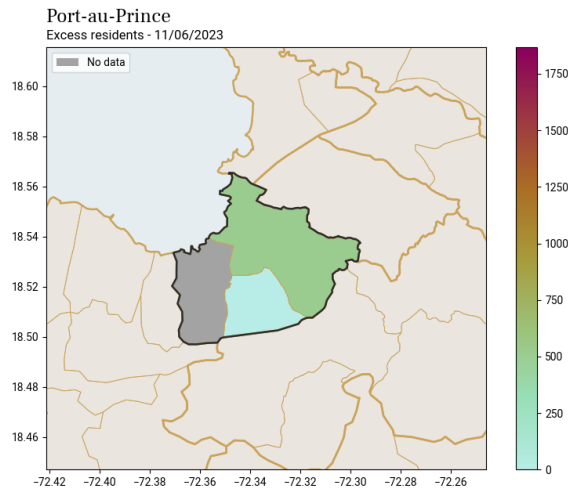

Estimated subscribers displaced out of - and within - Leogane in May - June 2023 (*Sum of local excess departures*)
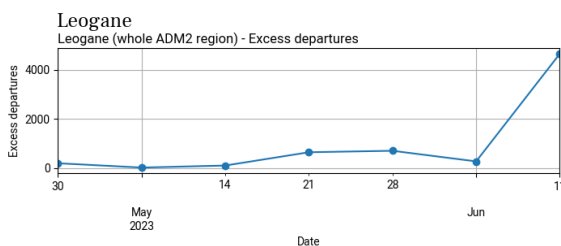
**Estimated subscribers displaced to - and within - Leogane in May - June 2023** (*Sum of local excess arrivals*)
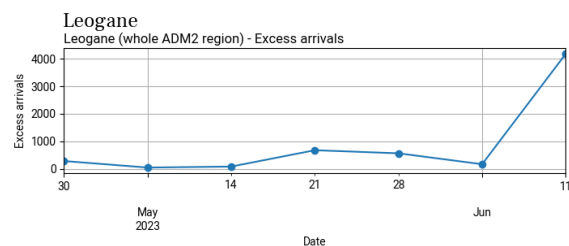
Estimated subscribers remaining displaced in each admin3 of Leogane 5-11 June 2023

Sum of local excesses in residents within each of the admin3 of Leogane 5-11 June 2023
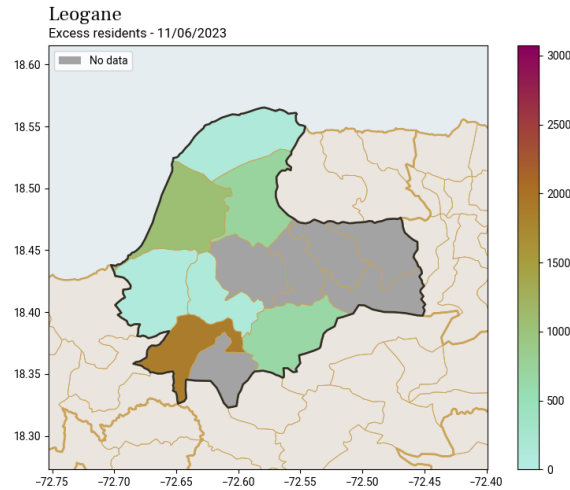
Estimated subscribers remaining displaced in Leogane in May - June 2023

Sum of local excesses in residents within the Leogane adm2 area in May - June 2023
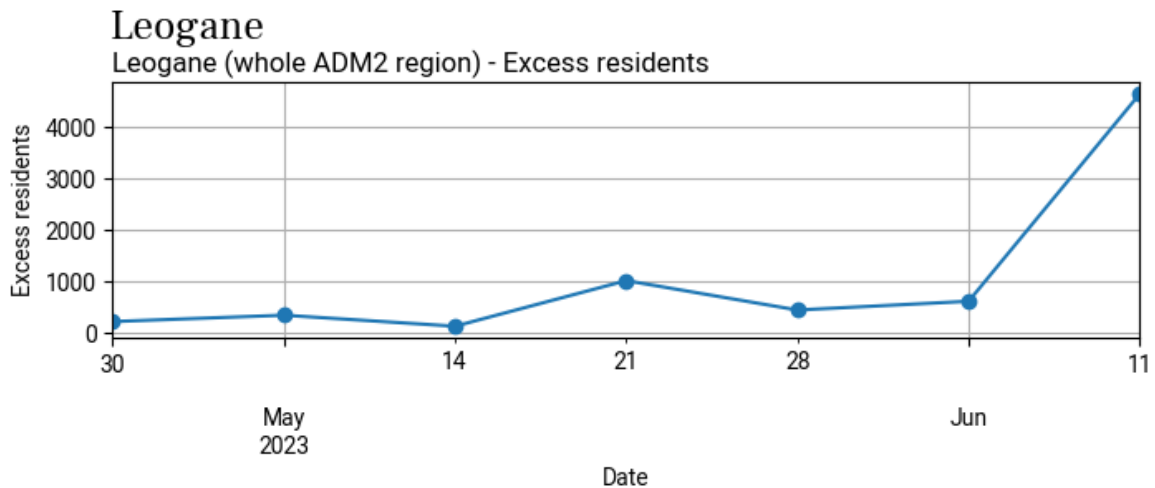
## Northern Peninsula

Possible displacements (abnormally high movements) are observed since end May - early June in 3e Section Aubert (HT0911-03) and in 4e Section Mahotière (HT0911-04), resulting in 500 subscribers estimated to remain displaced by 11 June in each of these 2 communal sections - see below and from annex.

While more possibly displaced subscribers are observed in the region, most may be related to displacements (abnormally high relocations) earlier than June, particularly for the area 1re Section Plate Forme (HT0933-01) 2e Section Mare-Rouge (HT0931-02) and 5e Section Dessources (HT0934-05).

Estimated subscribers displaced out of - and within - each admin3 of the Northern Peninsula in 5-11 June 2023
(Sum of local excess departures)

Estimated subscribers displaced to - and within - each admin3 of the Northern Peninsula in 5-11 June 2023
(Sum of local excess arrivals)
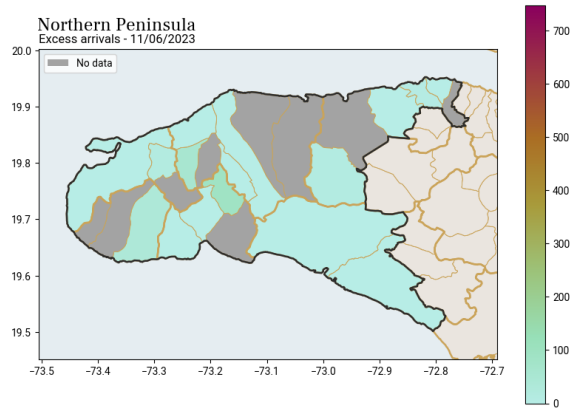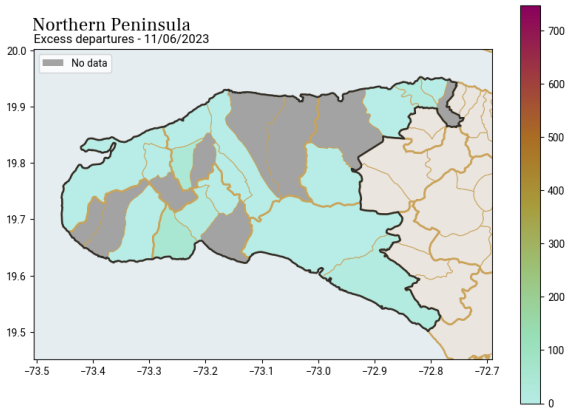
Estimated subscribers displaced out of - and within - the Northern Peninsula in May - June 2023 *(Sum of local excess departures)*

Estimated subscribers displaced to - and within - the Northern Peninsula in May - June 2023 *(Sum of local excess arrivals)*
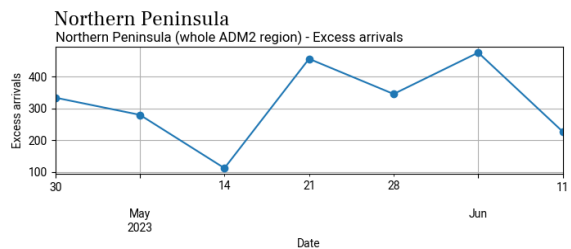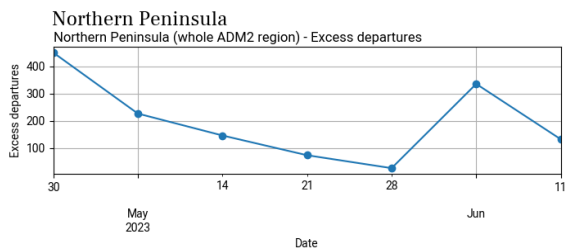

Estimated subscribers remaining displaced in each admin3 of the Northern Peninsula 5-11 June 2023

Sum of local excesses in residents within each of the admin3 of the Northern Peninsula 5-11 June 2023
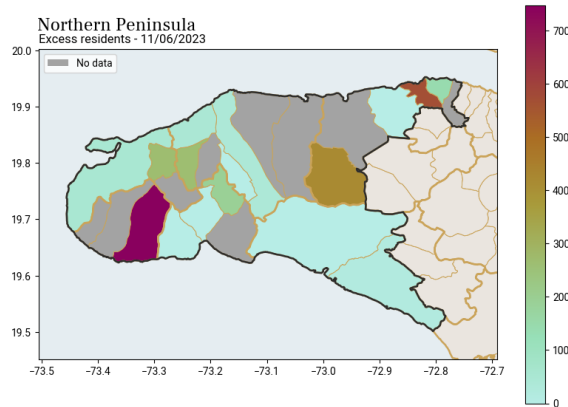
Estimated subscribers remaining displaced in the Northern Peninsula in May - June 2023

Sum of local excesses in residents within the the Northern Peninsula adm2 area in May - June 2023
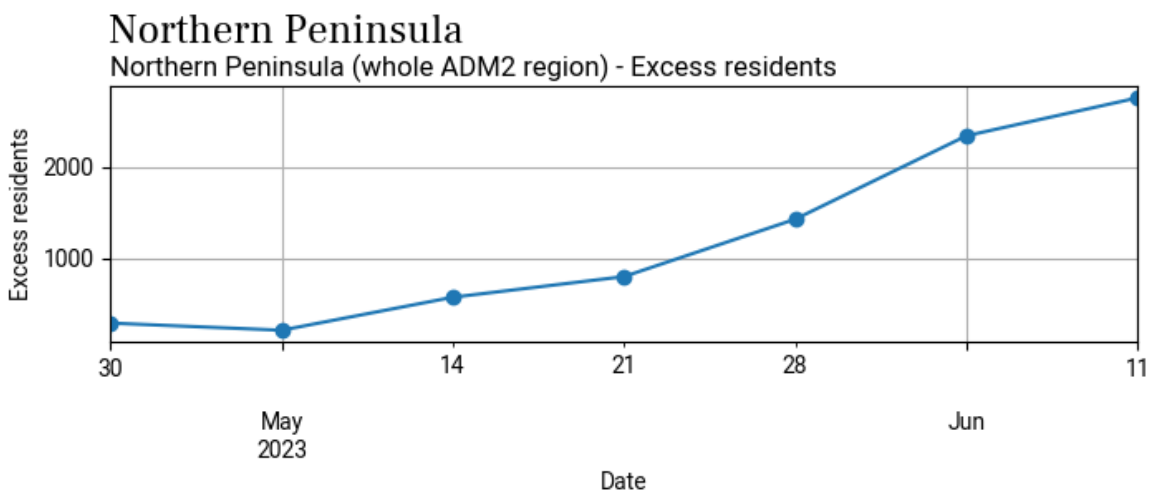
Port-au-Prince (PaP)

Large abnormal movements in, out of and within 1re Section Turgeau (HT0111-01) are observed in recent weeks, with over 2,000 excess arrivals in the week ending 04 June, and 1,800 excess departures the week after (ending June 11), leaving around 500 subscribers possibly remaining displaced. It is unclear from these data if these movements are due to floods or other events affecting PaP. The adjacent section: 2e Section Morne l'Hopital (HT0111-02) does not register such large changes (only ~100 excess arrivals the week ending 04 June).

Estimated subscribers displaced out of - and within - each admin3 of Port-au-Prince in 5-11 June 2023
(Sum of local excess departures)

Estimated subscribers displaced to - and within - each admin3 of Port-au-Prince in 5-11 June 2023
(Sum of local excess arrivals)

Port-au-Prince
Excess departures - 11/06/2023

Port-au-Prince
Excess arrivals - 11/06/2023
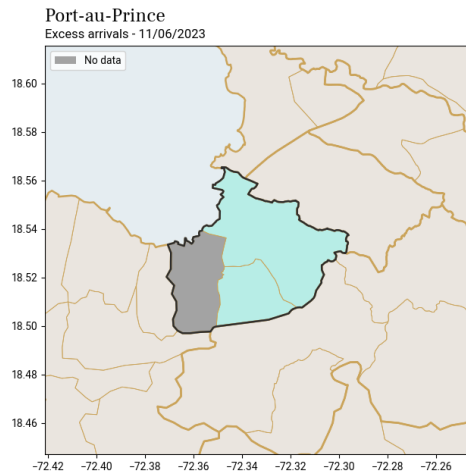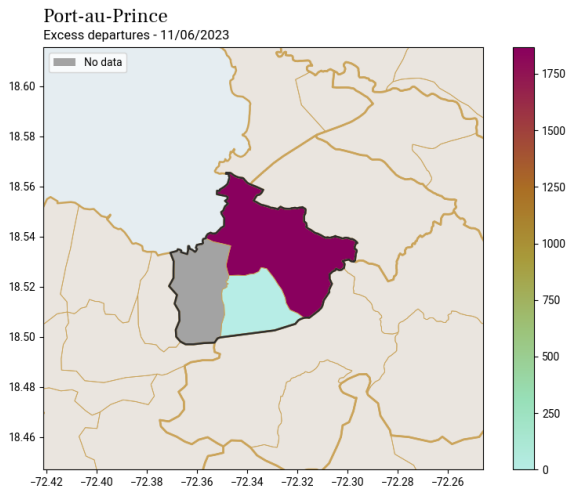
Note: there were 0 excess arrivals in Port-au-Prince detected in this week (but over 2000 the week before)

Estimated subscribers displaced out of - and within - Port-au-Prince in May - June 2023 *(Sum of local excess departures)*

Estimated subscribers displaced to - and within - Port-au-Prince in May - June 2023 *(Sum of local excess arrivals)*

Port-au-Prince
Port-au-Prince (whole ADM2 region) - Excess departures

Port-au-Prince
Port-au-Prince (whole ADM2 region) - Excess arrivals

Estimated subscribers remaining displaced in each admin3 of Port-au-Prince 5-11 June 2023

Sum of local excesses in residents within each of the admin3 of Port-au-Prince 5-11 June 2023

Estimated subscribers remaining displaced in Port-au-Prince in May - June 2023

Sum of local excesses in residents within the Port-au-Prince adm2 area in May - June 2023
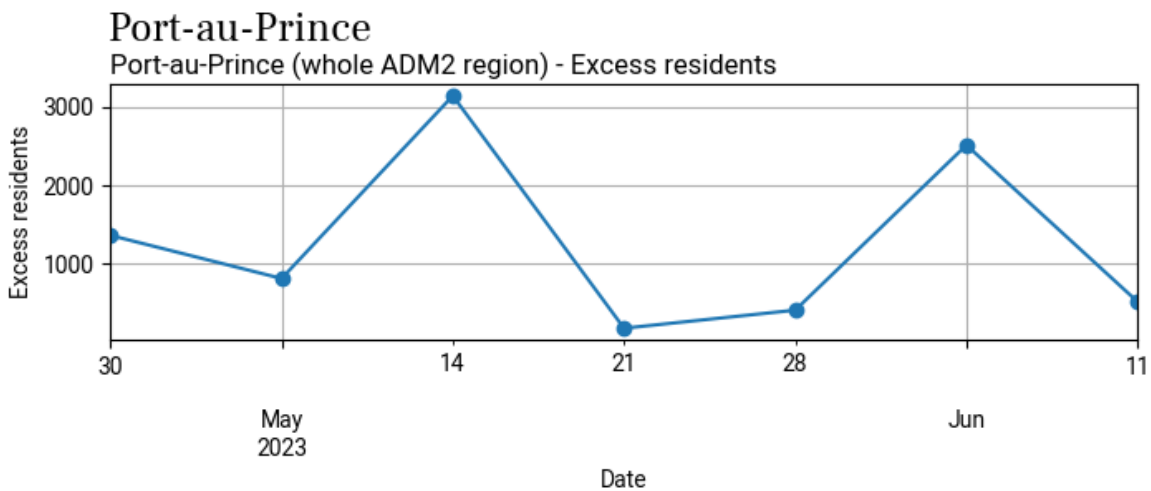
Petit-Goave

Around 200 newly displaced subscribers in the week ending 11 June may be in 6e Section Trou Canari (HT0122-06) , and another 200 may be in 1re Section Bino HT0122-01 but arrived earlier in the week ending 04 June.

A large abnormal number of departures (over 2000) have been observed out of 2e Section Delatre (HT0122-02) in the week ending 01 June. It is likely that most of these subscribers have left the section rather than being displaced within, possibly a few to the communal section of Trou Canari and likely beyond Petit-Goave given the low arrivals and excess residents in other Petit-Goave sections.

Estimated subscribers displaced out of - and within - each admin3 of Petit-Goave in 5-11 June 2023

(Sum of local excess departures)
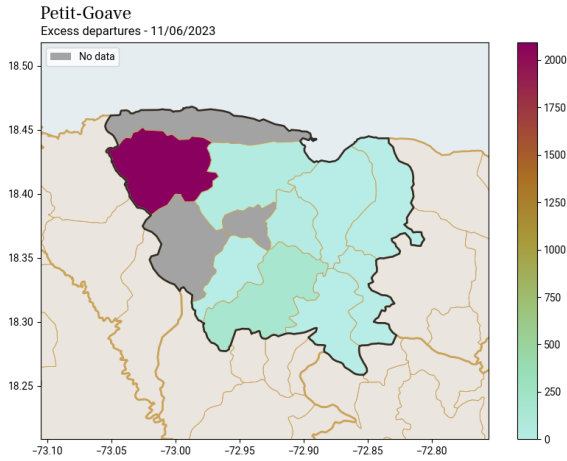
Estimated subscribers displaced to - and within - each admin3 of Petit-Goave in 5-11 June 2023

(Sum of local excess arrivals)
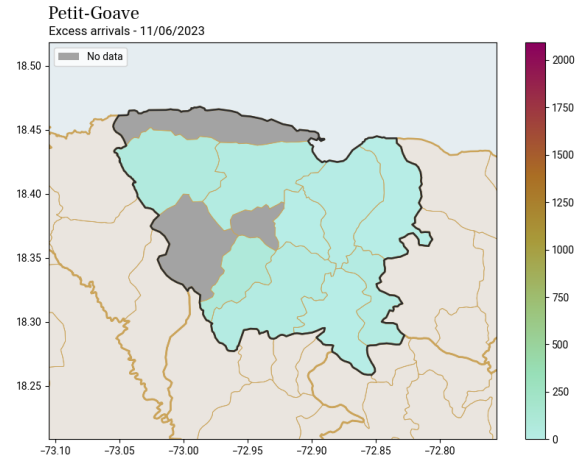
Estimated subscribers displaced out of - and within - Petit-Goave in May - June 2023

(Sum of local excess departures)
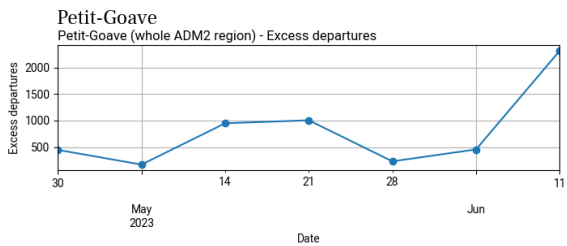
Estimated subscribers displaced to - and within - Petit-Goave in May - June 2023 *(Sum of local excess arrivals)*
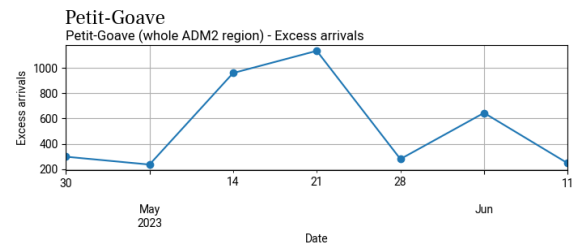
Estimated subscribers remaining displaced in each admin3 of Petit-Goave 5-11 June 2023

Sum of local excesses in residents within each of the admin3 of Petit-Goave 5-11 June 2023

Petit-Goave
Excess residents - 11/06/2023
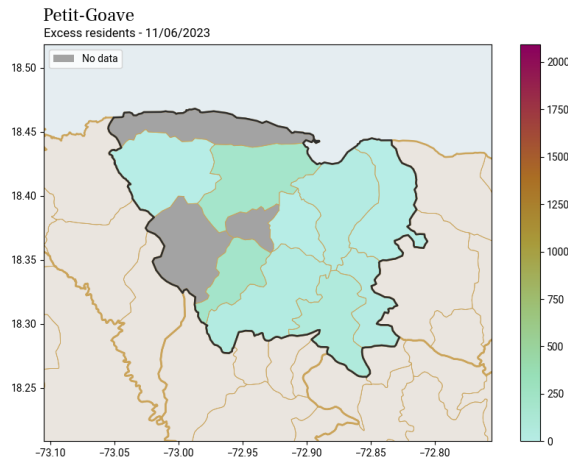
Estimated subscribers remaining displaced in Petit-Goave in May - June 2023

Sum of local excesses in residents within the Petit-Goave adm2 area in May - June 2023

Petit-Goave
Petit-Goave (whole ADM2 region) - Excess residents
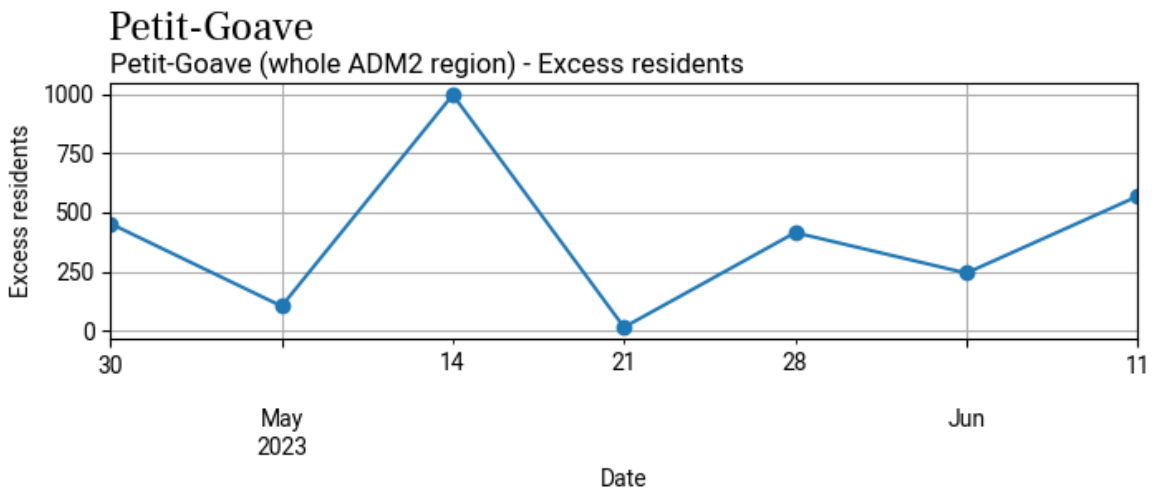
Summary of largest excess movements

Largest excess per region, per week during flooding:

Region	Week	Excess arrivals (newly displaced to or within)	Excess departures (newly displaced away from or within)	Excess residents (remaining displaced)
Leogane	29 May - 4 June	2e Section Petite Rivière 61	2e Section Petite Rivière 249	2e Section Petite

				Rivière 426.0
	5 June - 11 June	4e Section Fond de Boudin 1633	10e Section Fond d'Oie 3072	4e Section Fond de Boudin 1872.5
Northern Peninsula (*Port-de-Paix, Bombardopolis Anse Rouge, Jean Rabel, Mole Saint Nicolas* and *Baie de Henne)*	29 May - 5 June	4e Section Mahotière 216.0	6e Section la Corne 231.0	3e Section Aubert 615.5
	5 June - 11 June	3e Section Reserve ou Ti Paradis 92.0	1re Section Citerne Remy 52.0	1re Section Plate Forme 748.0
Port-au-Prince	29 May - 5 June	1re Section Turgeau HT0111-01 2192.0	1re Section Turgeau HT0111-01 573.0	1re Section Turgeau HT0111-01 2513.0
	5 June - 11 June	n/a	1re Section Turgeau HT0111-01 1866.5	1re Section Turgeau HT0111-01 516.0
Petit-Goave	29 May - 5 June	12e Section des Fourques HT0122-12 319.5	12e Section des Fourques HT0122-12 240.5	2e Section Delatre HT0122-02 131.0
	5 June - 11 June	6e Section Trou Canari HT0122-06 88.0	2e Section Delatre HT0122-02 2091.0	6e Section Trou Canari HT0122-06 209.5

Data & methods

Data used

For billing purposes, mobile operators keep track of subscribers activity. These records are generated every time a subscriber makes or receives a call, sends or receives an SMS, or uses mobile data on their phone. They are called Call Detail Records (CDRs). CDRs contain information about the location of the cell tower that routes the call. These data can be analysed in near real time and provides insight into mobility patterns locally and across a country.

This report is based on the results of an analysis of CDR data provided by Digicel Haiti. CDRs are de-identified by Digicel Haiti and then analysed by Flowminder. Cell towers in close proximity are grouped together in clusters to limit the bias associated with call forwarding between nearby towers.

CDR data used in this report ranges from 01 February 2023 to 11 June 2023.

The aggregates we computed for this report were home relocation counts (see below) per pair of cell tower clusters.

Tower clusters are groups of nearby cell towers computed using a hierarchical clustering based on Ward's method and a 1km threshold.

Methods

Home locations

For each subscriber, for each day X in the month, the subscriber's "daily home location" on day X is assigned as the cluster within which they most often had their last call detail record (CDR) event of the day over the 7-day window (X-6, …, X). Ties are broken by choosing the cluster that was most recently the last CDR event of the day within the 7-day window.

Home relocations

For each day in the study period, the number of home relocations are computed between disjoint (non-overlapping) windows - i.e. day X-7 to day X.
Estimated relocation dates can be delayed by as many as 7 days due to the window of 7 days used in the home detection algorithm.

Excess departures

Excess departures from a tower cluster are calculated by comparing the total weekly departures to the (median number of departures from the cluster + 1 median absolute deviation) observed

departures during the defined baseline period (February to May). This difference signifies abnormal mobility trends for a cluster. A positive difference indicates a higher-than-expected departure number, as per the historical average.

Excess departures indicate new displacements from a particular cluster. Excess departures for a region (admin3 or adm2) is the sum of excess departures for each cluster, giving the number of local excess departures from and within the regions, estimated to correspond to the number of new displaced out or within the region.

Excess arrivals

Similar to excess departures, excess arrivals are computed for each cluster, then summed per admin3 and adm2. They may correspond to the number of newly displaced subscribers to or within a region.

Excess residents

The excess residents are determined by first calculating the cumulative sum of net flows (total arrivals - total departures) for a cluster. This tracks how the subscriber population changes over the study period from a starting point of 0 (no change). The value reflects how much the subscriber resident population has changed since the start of the study period. The excess in subscriber residents is then found using the same approach as arrivals and departures, looking at the difference between (the median number of residents during the baseline + 1 median absolute deviation) and the total number of residents (relative to 0).

Excess residents come from the accumulation of abnormal arrivals and departures over time, that is the accumulation of new displacements each week, and therefore correspond to the number of subscribers remaining displaced each week at a particular cluster location.

As with excess arrivals and excess departures, the excess residents per cluster are summed over clusters for each admin3 and adm2, to obtain the total of local excess residents in a region (but not the excess residents of the region as a whole), which corresponds to the subscribers remaining displaced in the region (whether they were displaced from the same region or another).

Maps and time series

Excess departures, excess arrival and excess residents are shown as maps and time series to identify the locations displaced subscribers left, arrived to and where they remain displaced and how displacement numbers and stocks[2] have evolved over time from May to 11 June 2023.

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[2] The words stock and flows are used according to the International Recommendations on Internally Displaced Persons Statistics (IRIS), developed by the IDP subgroup of the Expert Group on Refugee and IDP Statistics (EGRIS), led by the Joint IDP Profiling Service (JIPS), with support from the United Nations Statistics Division (UNSD), Statistics Norway and the Internal Displacement Monitoring Centre (IDMC).

Caveats

The estimates shown are our best current assessment of movements. However, there are a number of uncertainties. The information should be interpreted together with other available evidence.

Figures provided in this report may be conservative estimates because:
- They are based on the analysis of movements of Digicel SIM cards only, not of the whole population: for reference, in 2018 in Port-au-Prince, only 76% of the adult population owned a phone (source: DHS Haiti 2016/2017) and the latest public figures (2016) on Digicel market shares nationally are 74% (CONATEL, 2016)
- Only the subset of Digicel SIM cards with sufficient activity for our analyses are included.

Therefore, the figures reported here are likely to be lower-bound estimates. However, they may also sometimes overestimate displacements. Displacements are estimated from assessing how abnormal the number of movements and residents are, compared to usual numbers and usual variations, however, such abnormal numbers may also arise from malfunctions or artefacts of mobile communications. While we attempt to remove such artefacts some may remain.

This report has been prepared under time constraints and without undergoing our standard testing procedures. It is recommended to further verify and validate the information before making critical decisions or actions. Flowminder is available to provide additional analytical support.

Annex A: Maps per region, 28/05, 04/06, 11/06
Leogane

Excess departures
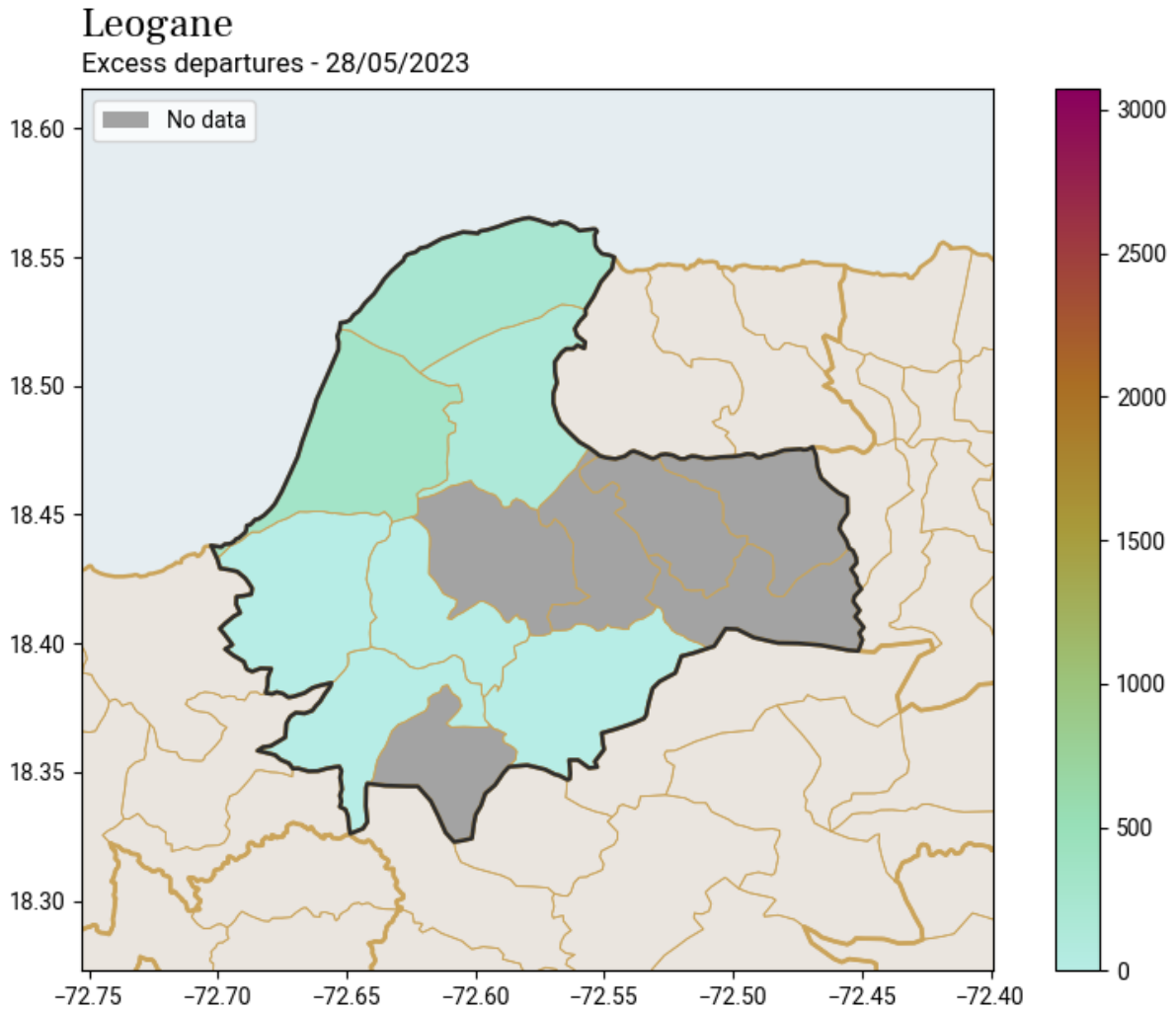
Maps

Leogane
Excess departures - 04/06/2023
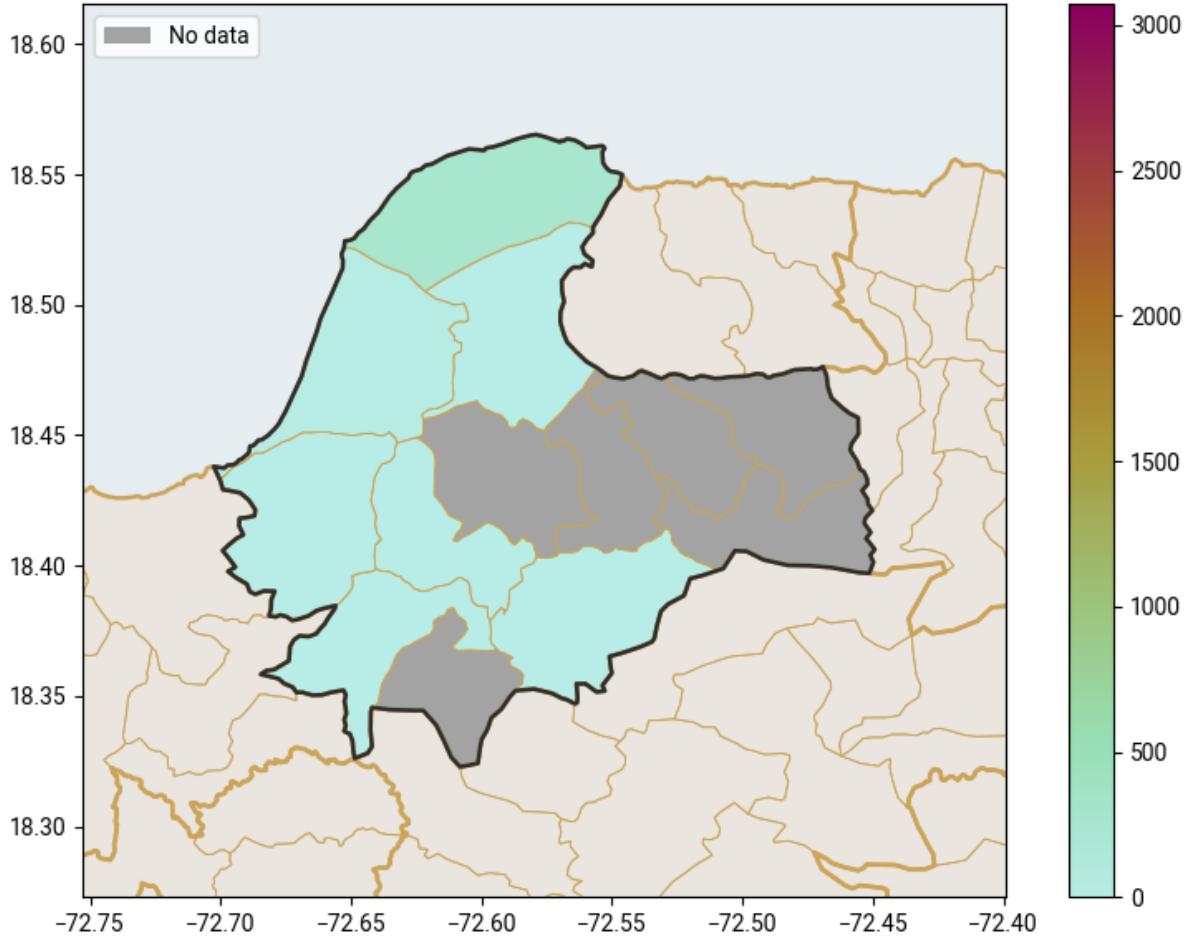
Leogane

Excess departures - 11/06/2023
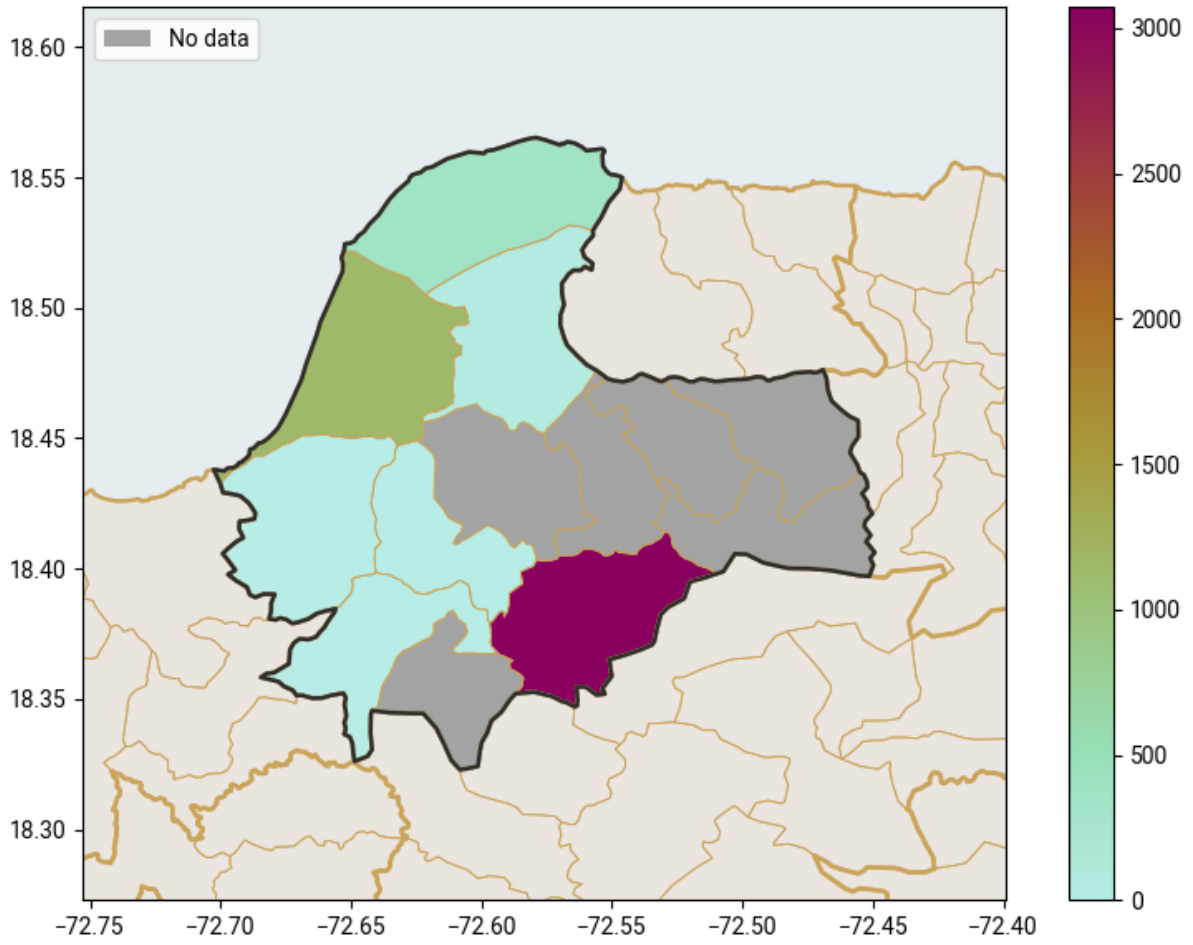
Excess arrivals

Maps

Leogane
Excess arrivals - 28/05/2023

Leogane
Excess arrivals - 04/06/2023
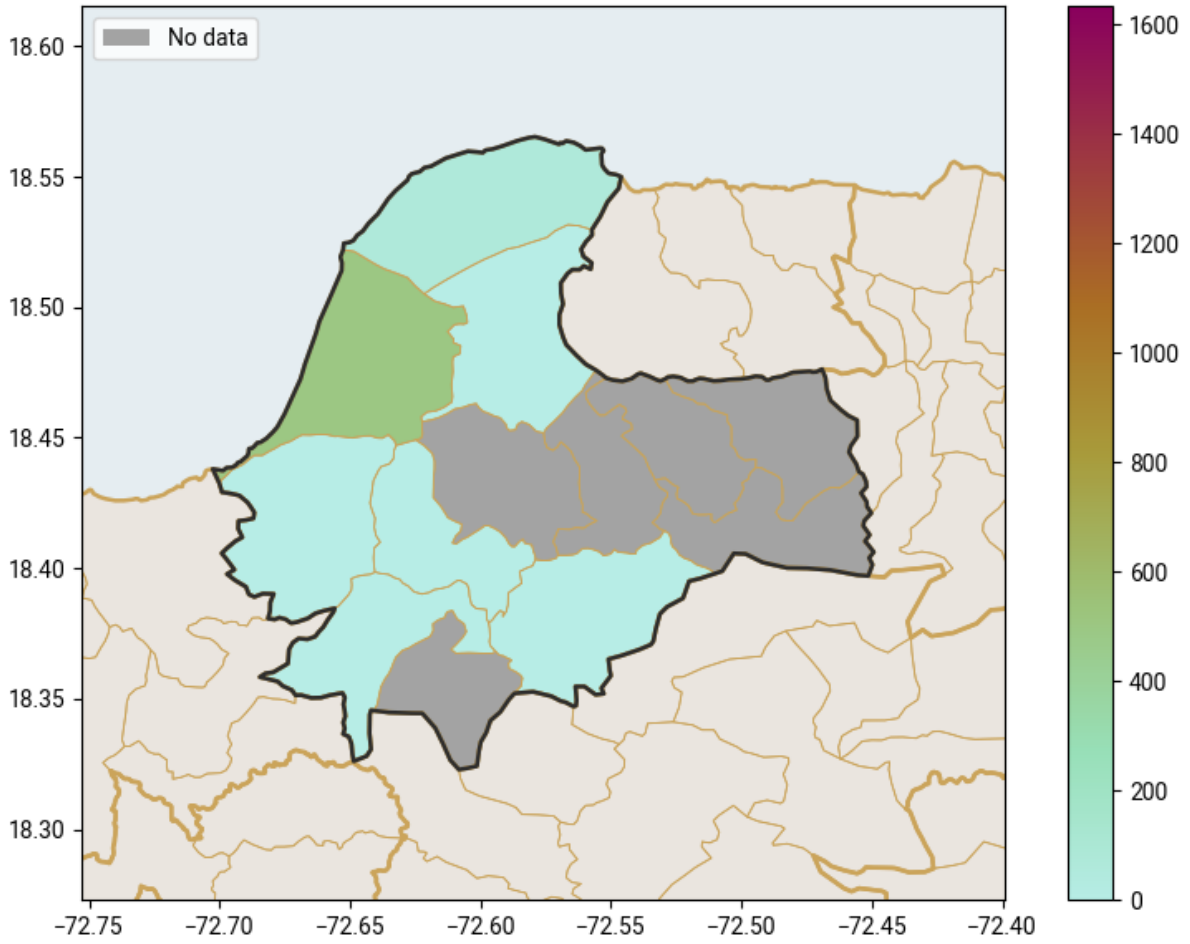
Leogane

Excess arrivals - 11/06/2023
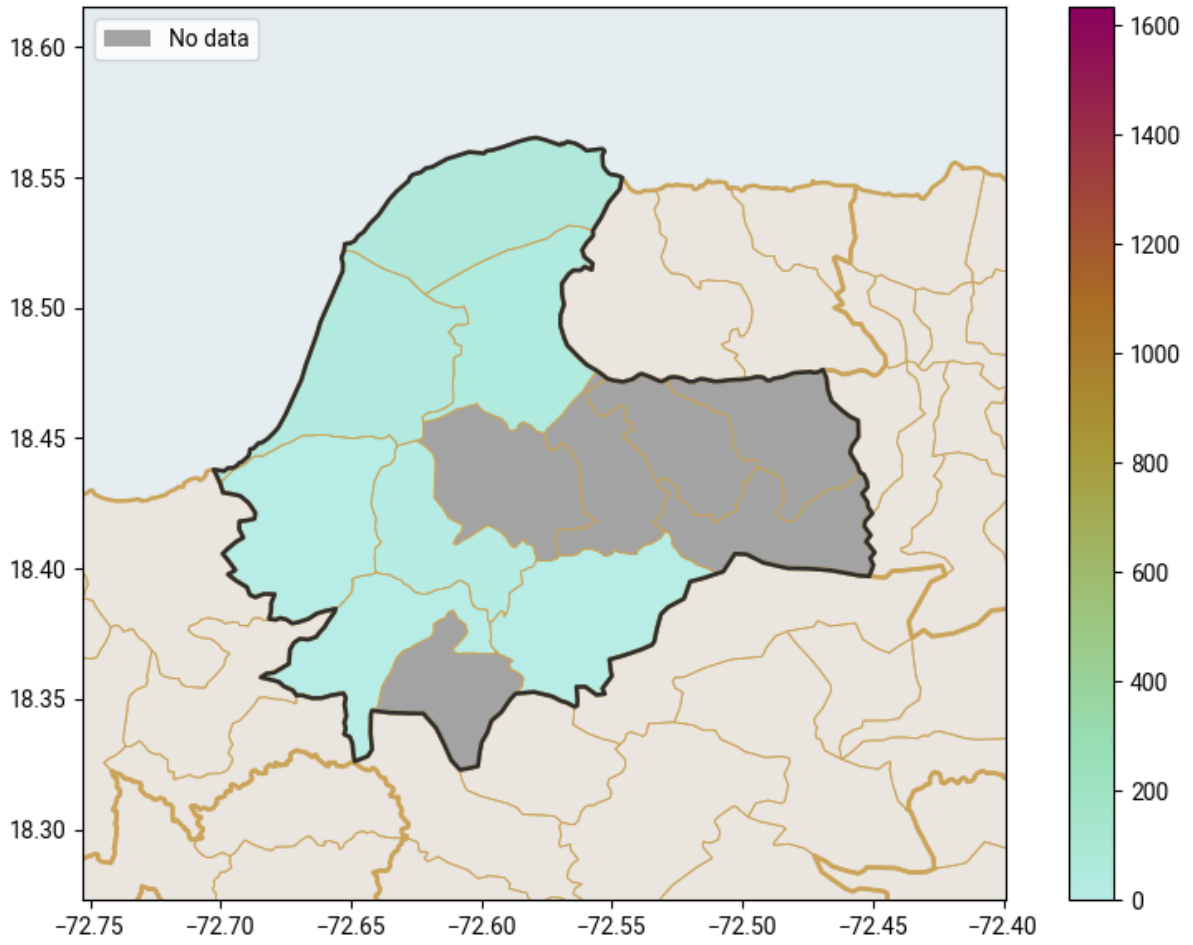
Excess residents

Maps

Leogane
Excess residents - 28/05/2023
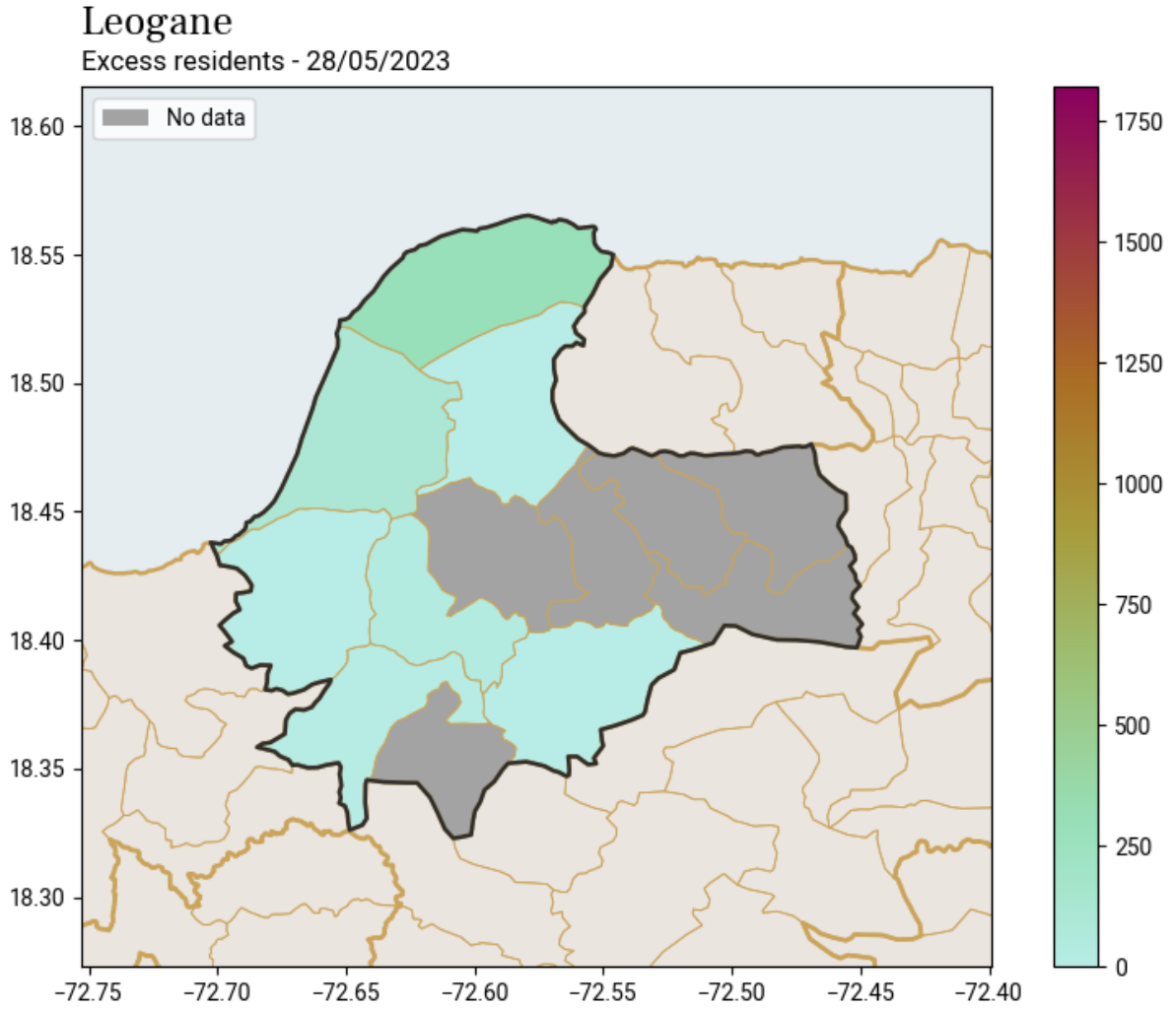
Leogane
Excess residents - 04/06/2023
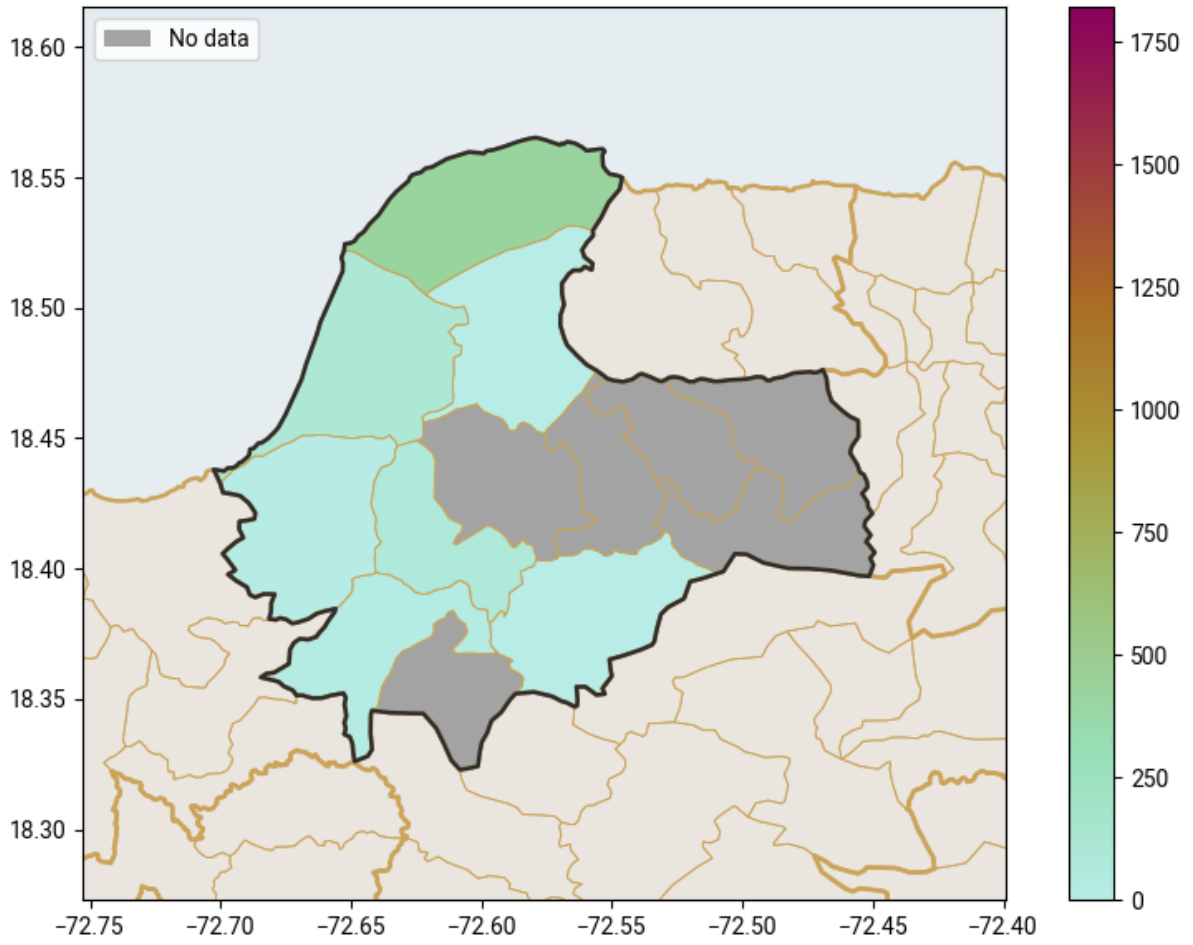
Leogane

Excess residents - 11/06/2023
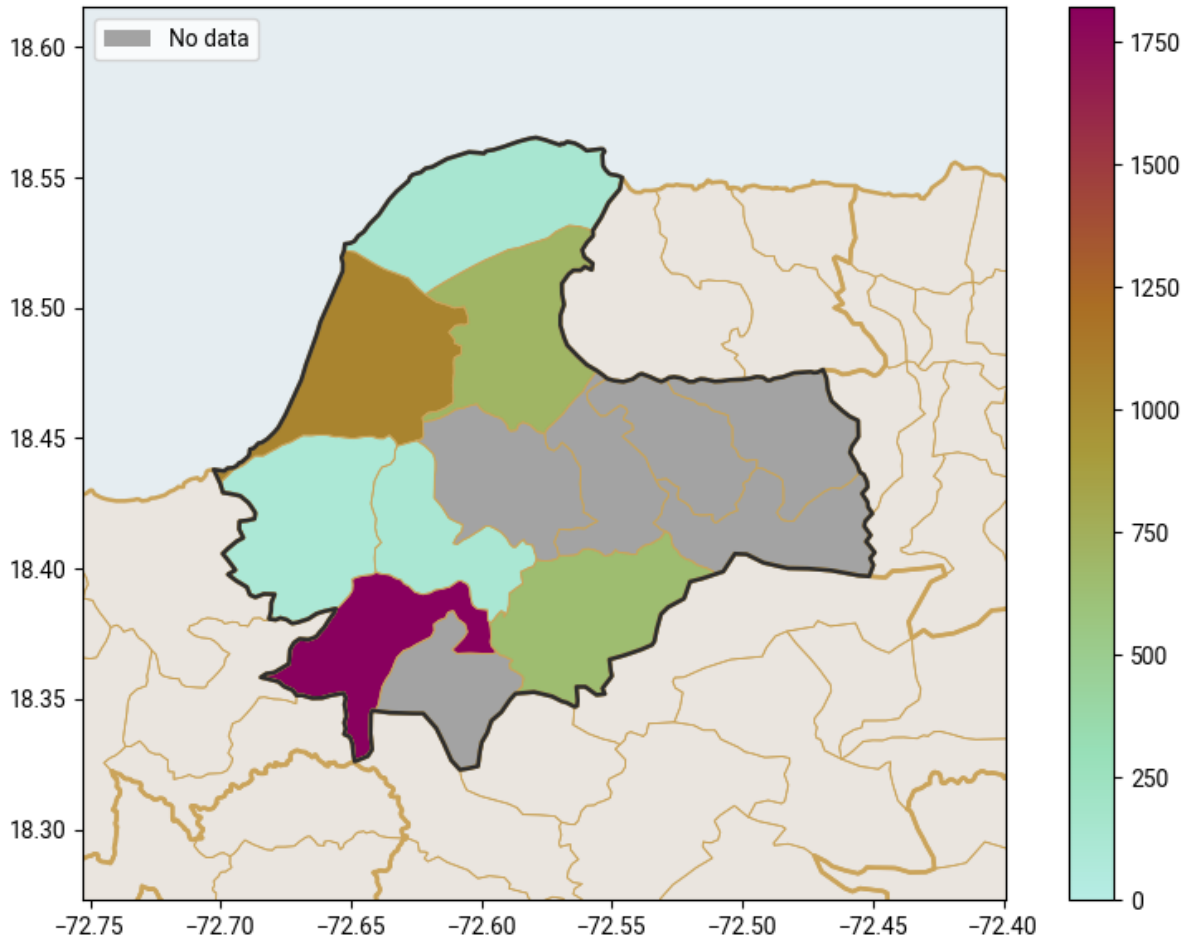
Port-de-Paix and the Northern Peninsula

Excess departures

Maps

Northern Peninsula
Excess departures - 04/06/2023

Northern Peninsula
Excess departures - 11/06/2023

Excess arrivals

Maps

Northern Peninsula
Excess arrivals - 28/05/2023

Northern Peninsula
Excess arrivals - 04/06/2023

Northern Peninsula
Excess arrivals - 11/06/2023

Excess residents

Maps

Northern Peninsula
Excess residents - 28/05/2023

Northern Peninsula
Excess residents - 04/06/2023

Northern Peninsula
Excess residents - 11/06/2023
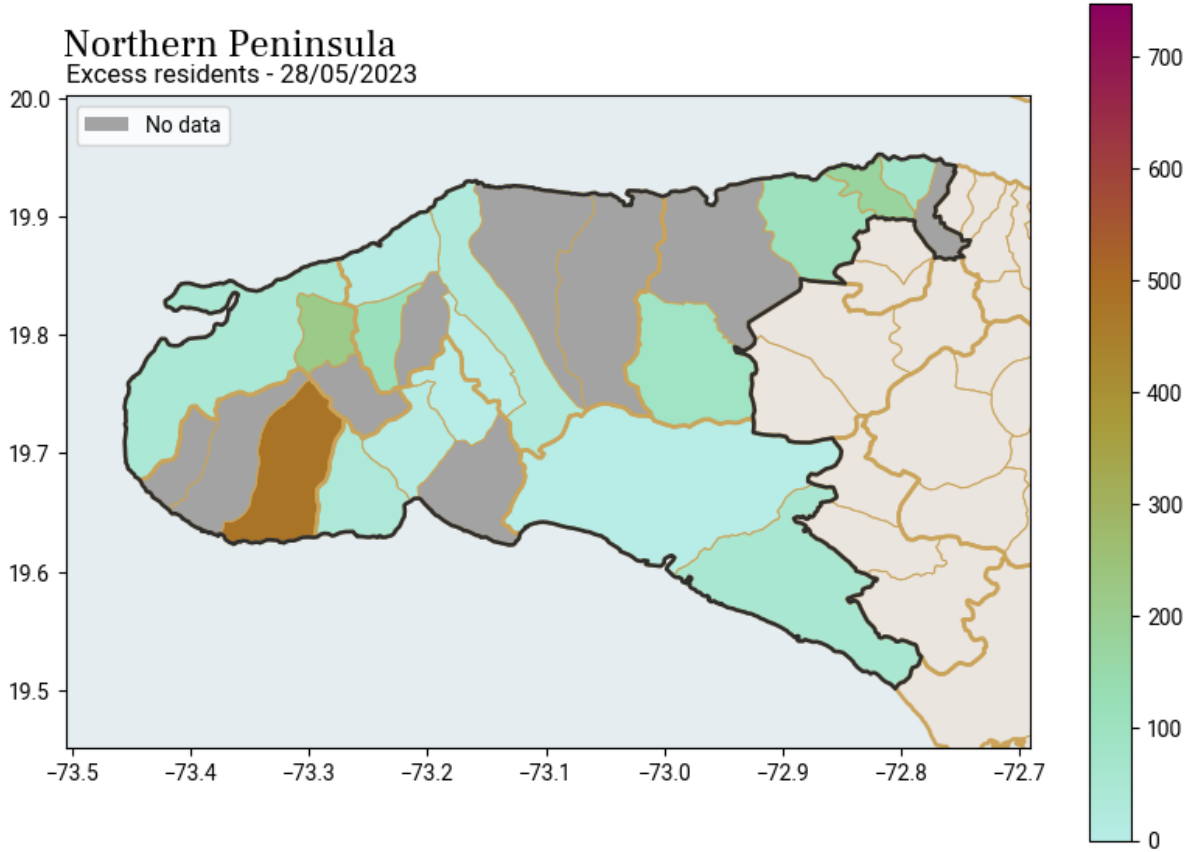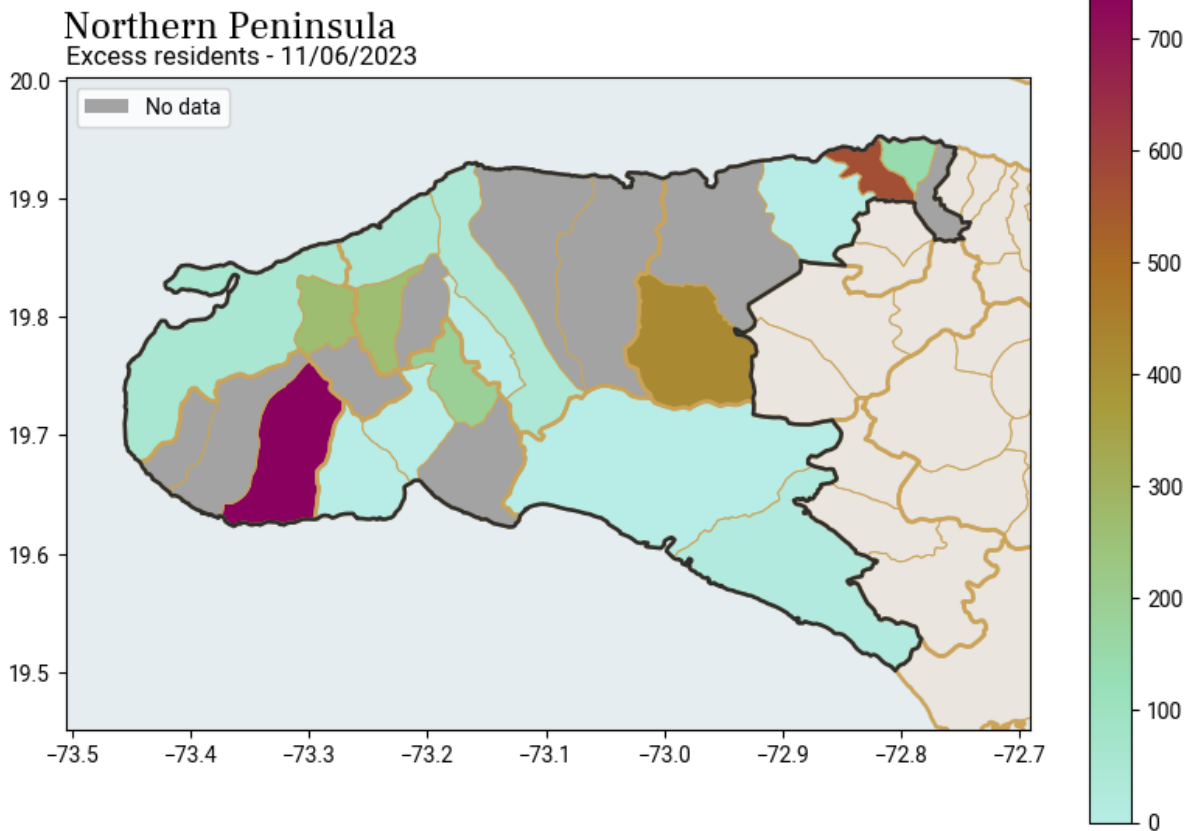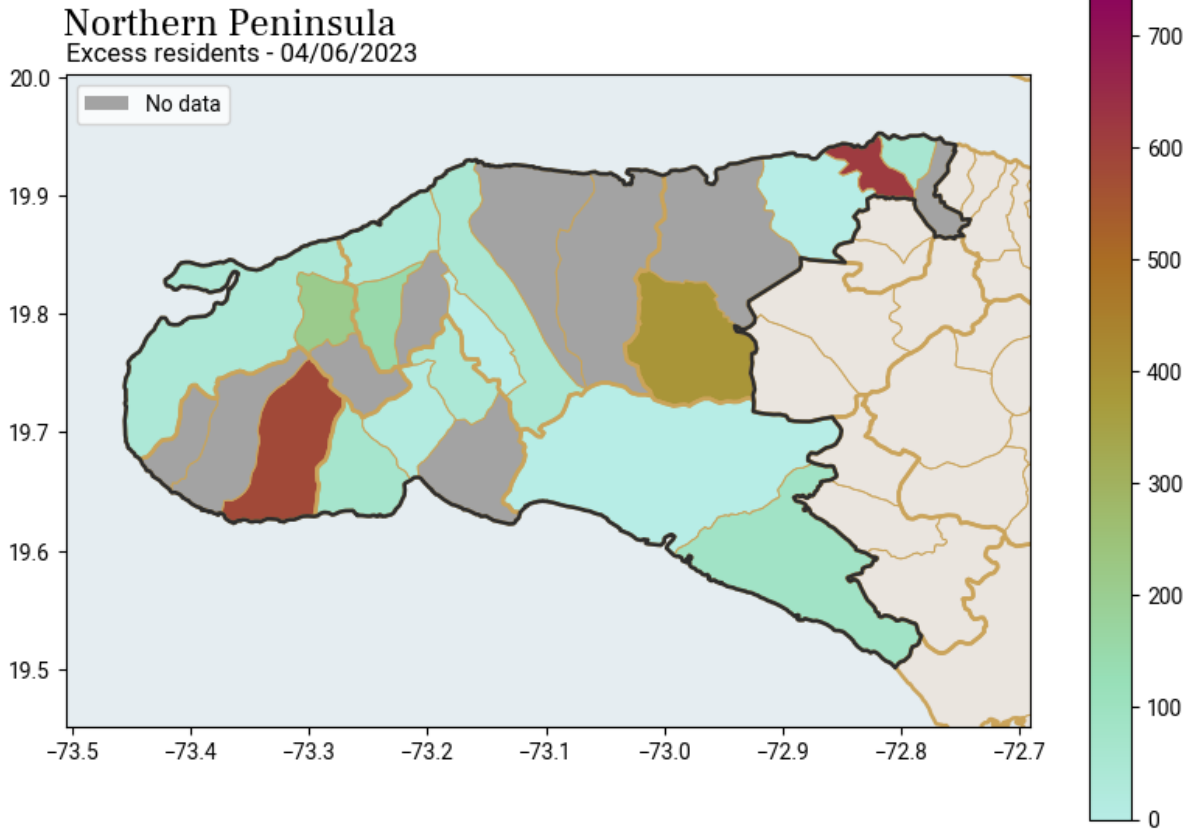
Port-au-Prince

Excess departures

Maps

Port-au-Prince
Excess departures - 28/05/2023

Port-au-Prince
Excess departures - 04/06/2023
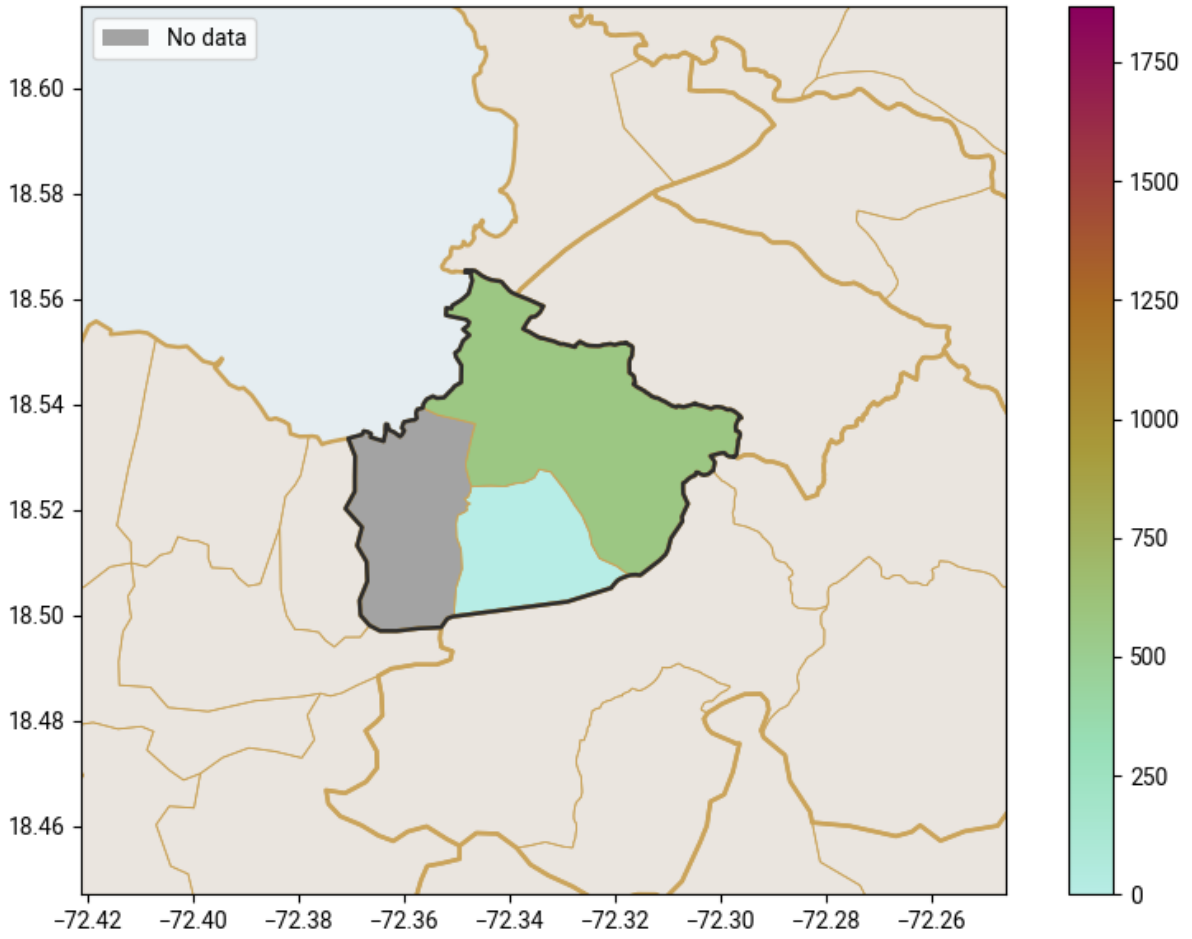
Port-au-Prince
Excess departures - 11/06/2023
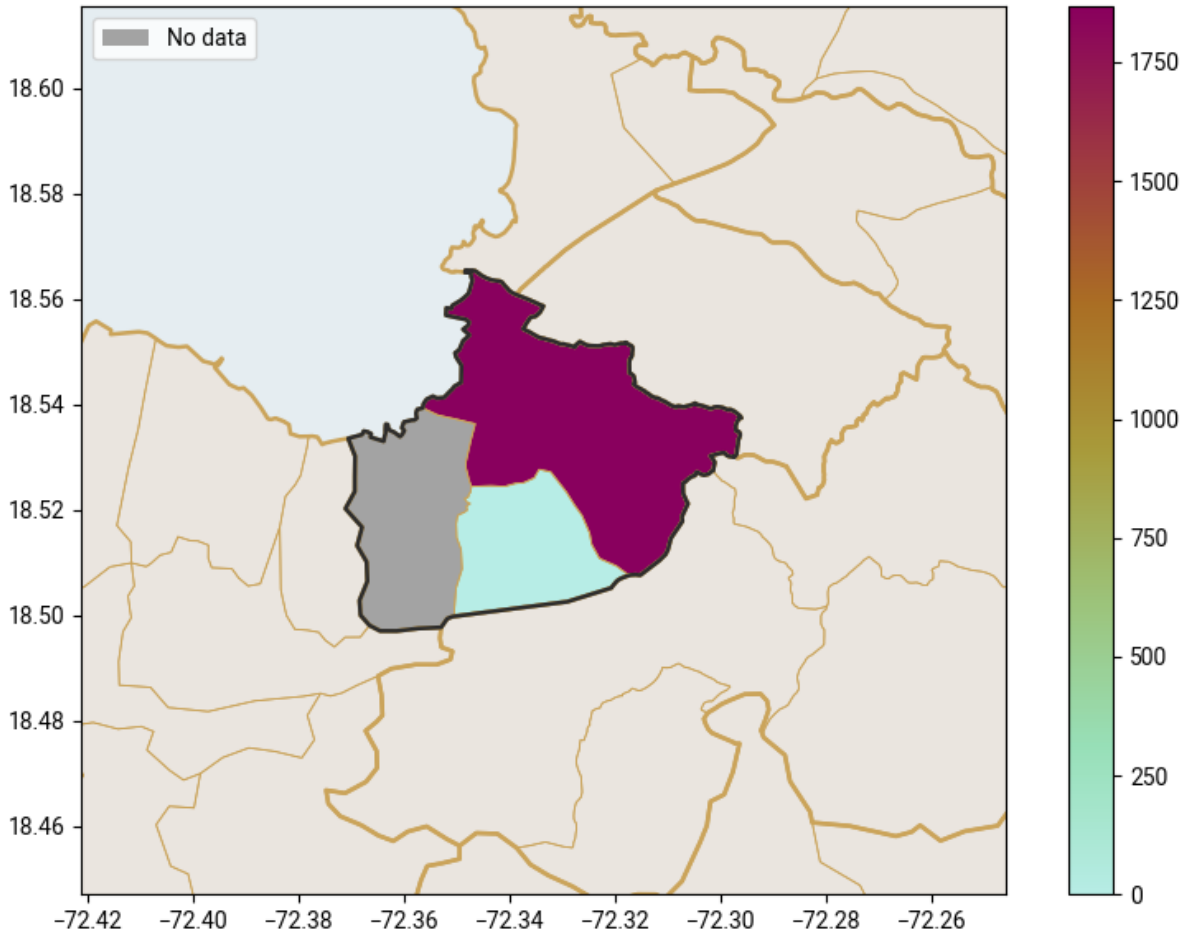
Excess arrivals

Maps

Port-au-Prince
Excess arrivals - 28/05/2023
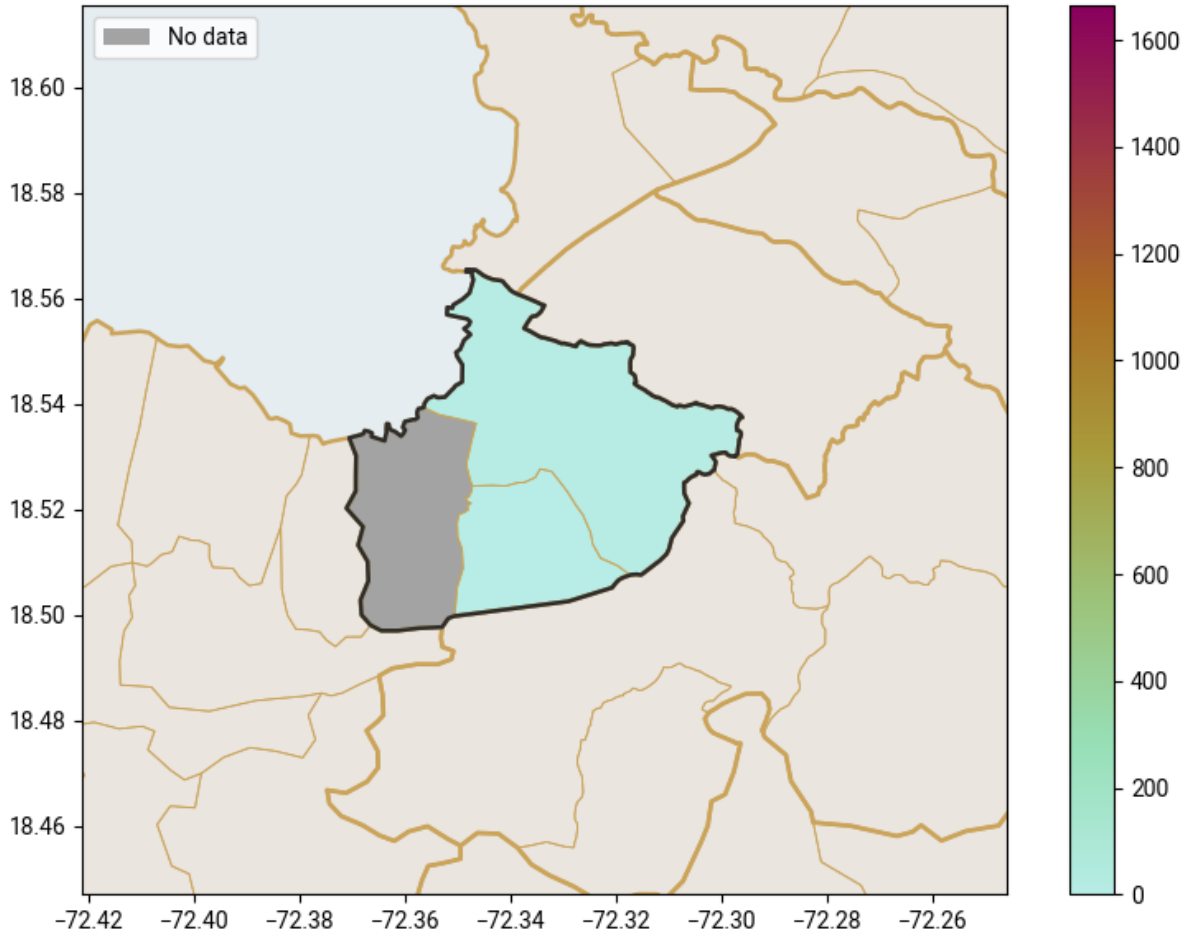
Port-au-Prince
Excess arrivals - 04/06/2023
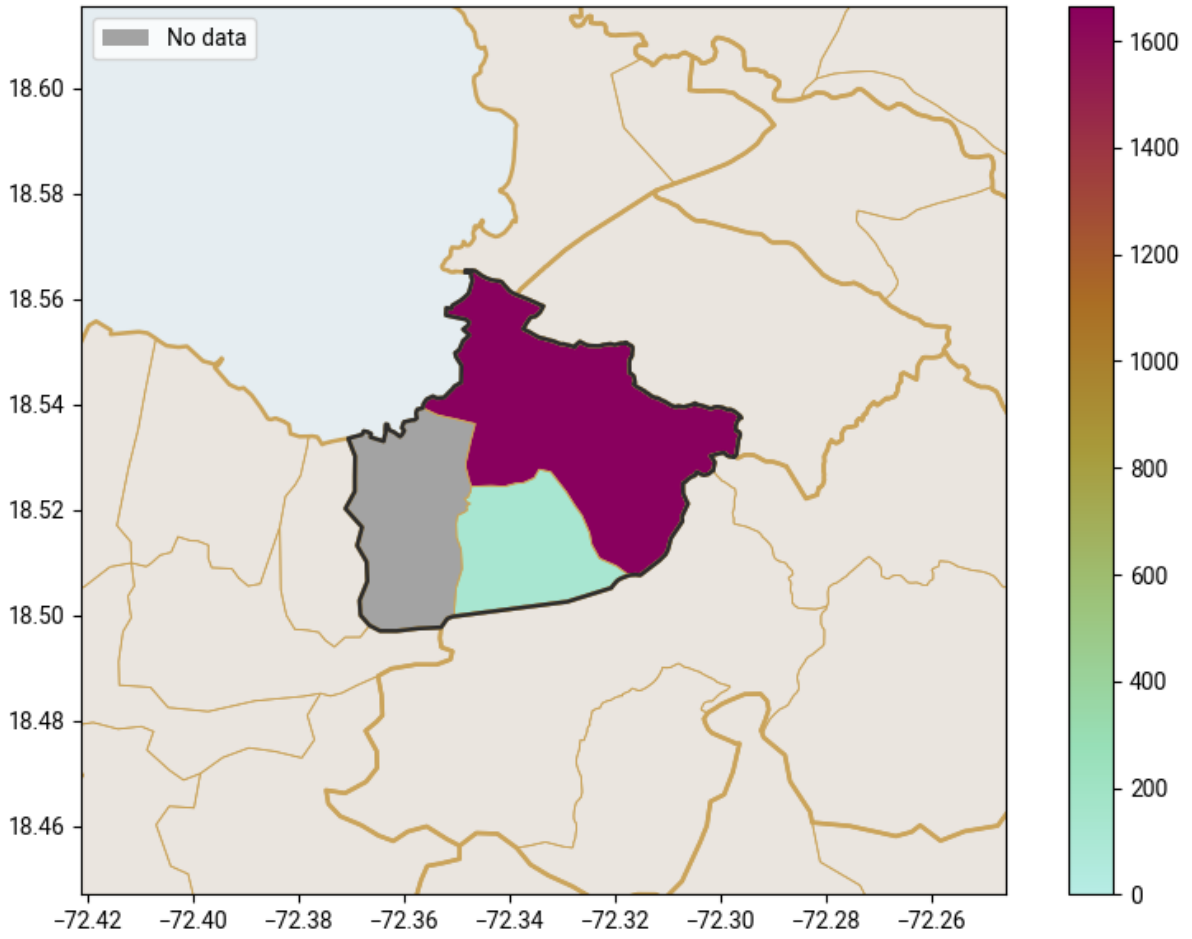
Port-au-Prince
Excess arrivals - 11/06/2023
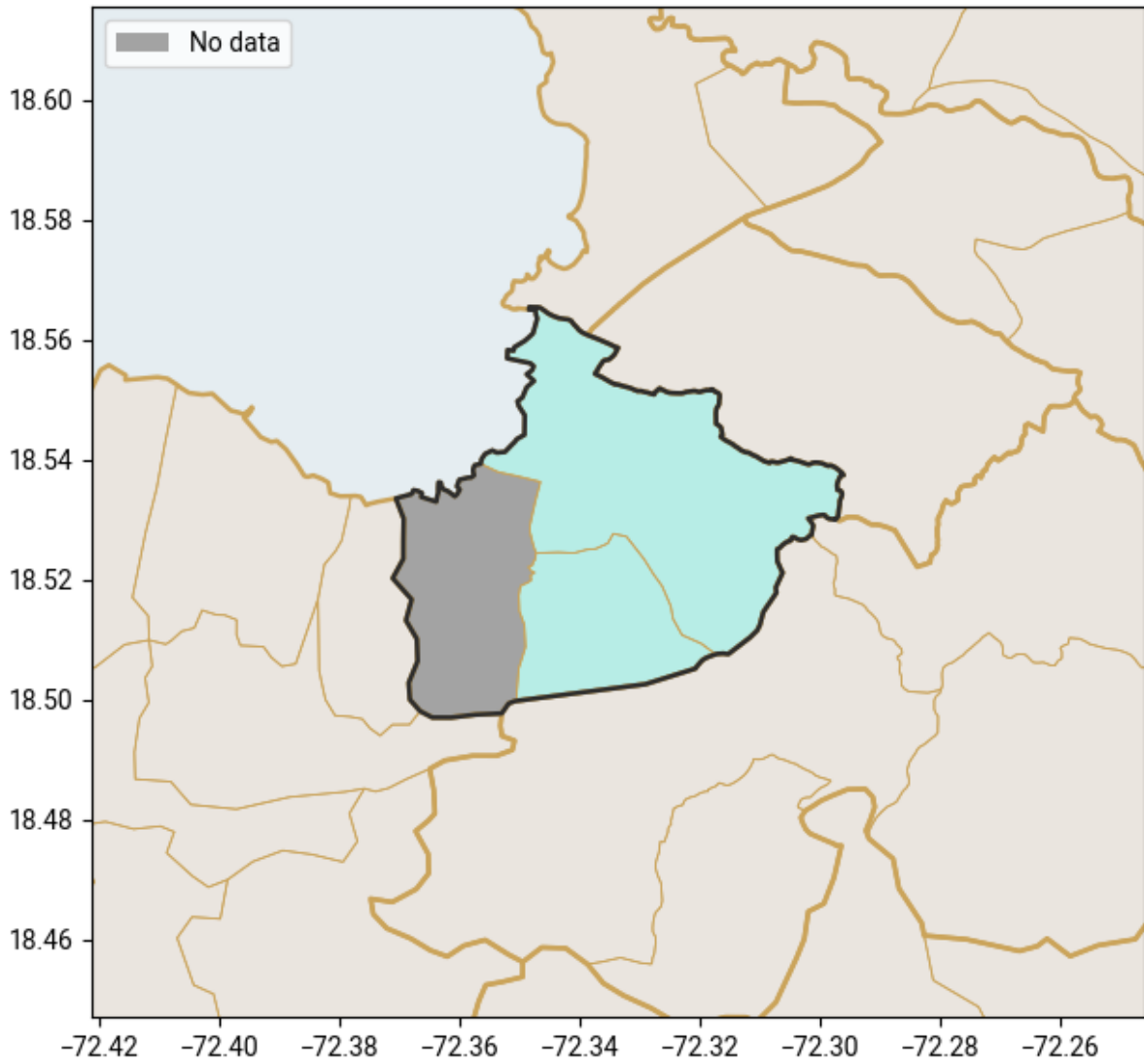
Excess residents

Maps

Port-au-Prince
Excess residents - 28/05/2023
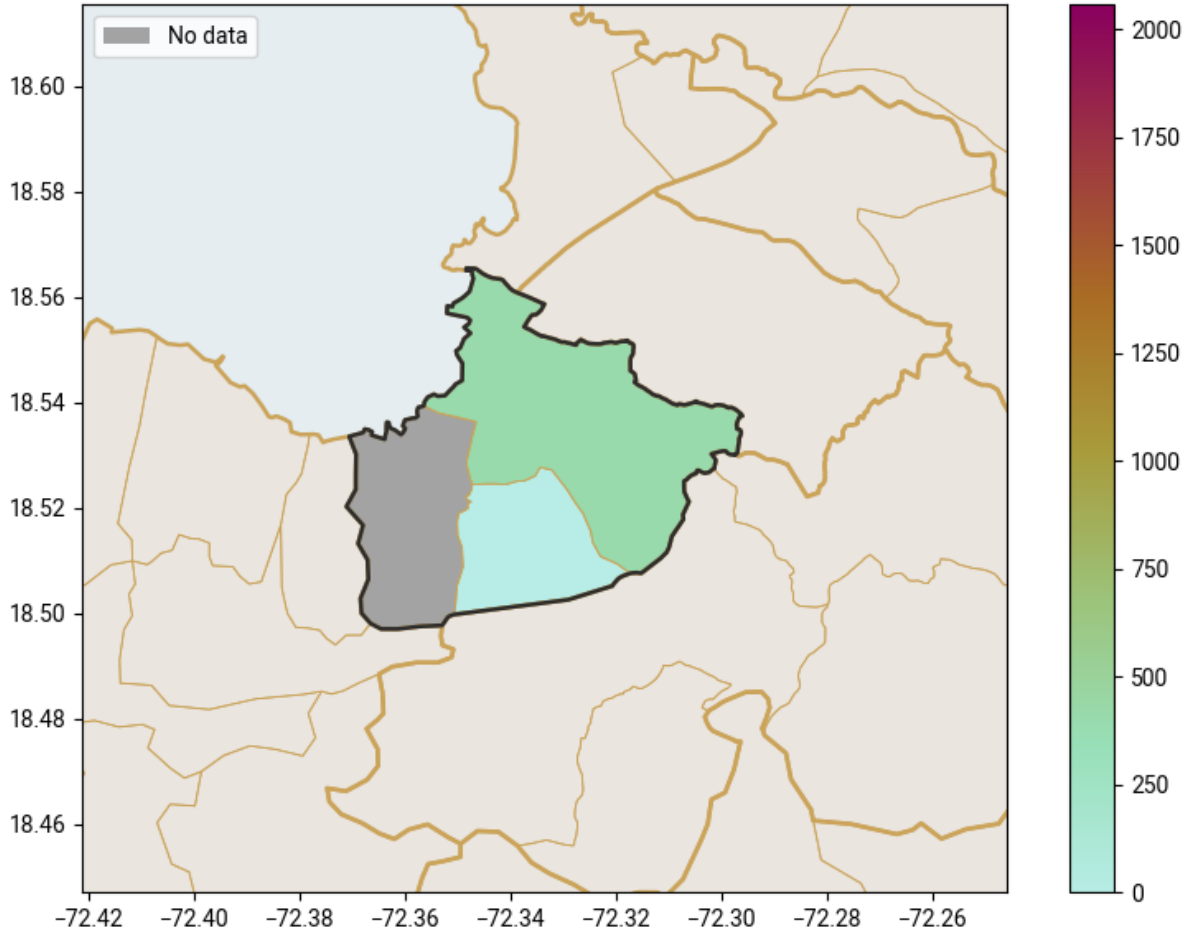
Port-au-Prince
Excess residents - 04/06/2023
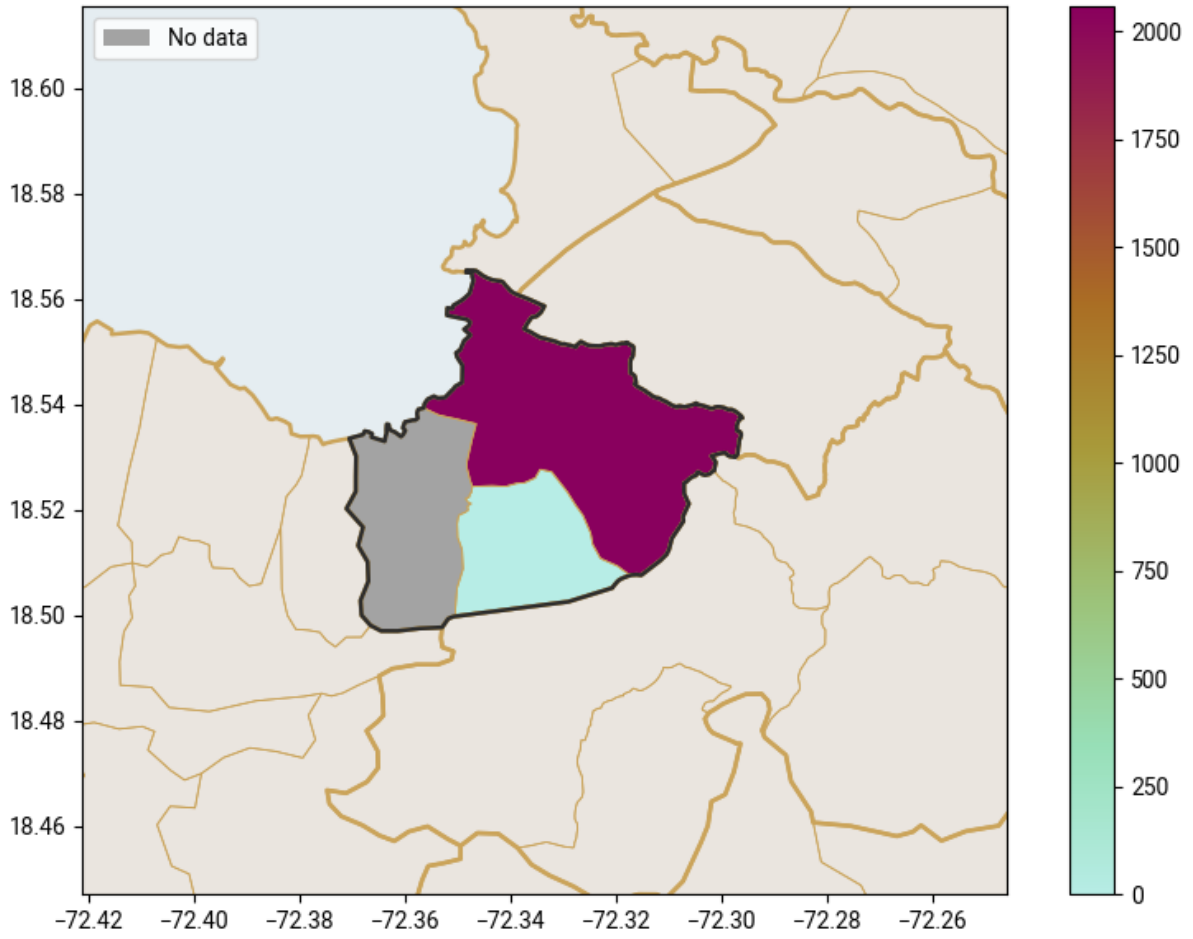
Port-au-Prince

Excess residents - 11/06/2023
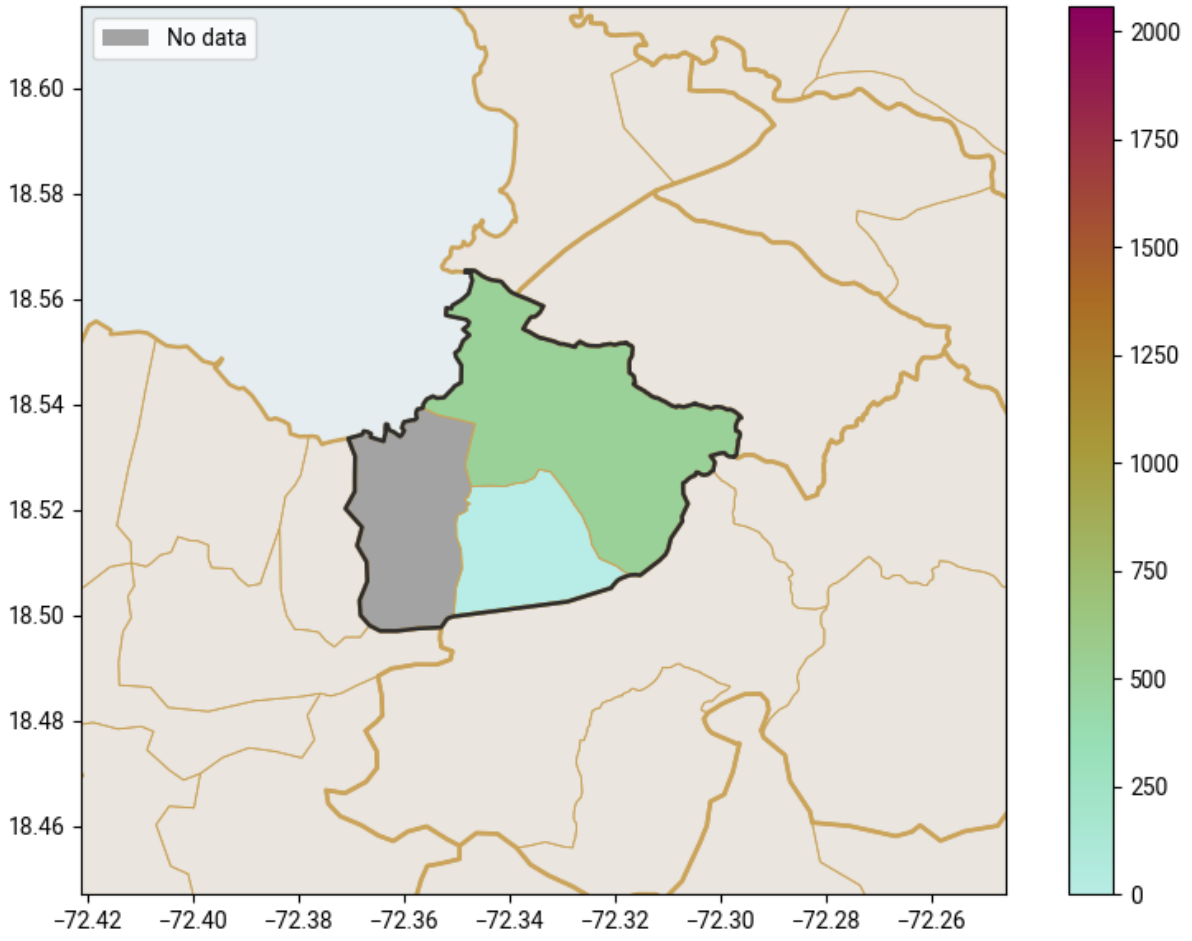
Petit-Goave

Excess departures

Maps

Petit-Goave
Excess departures - 28/05/2023
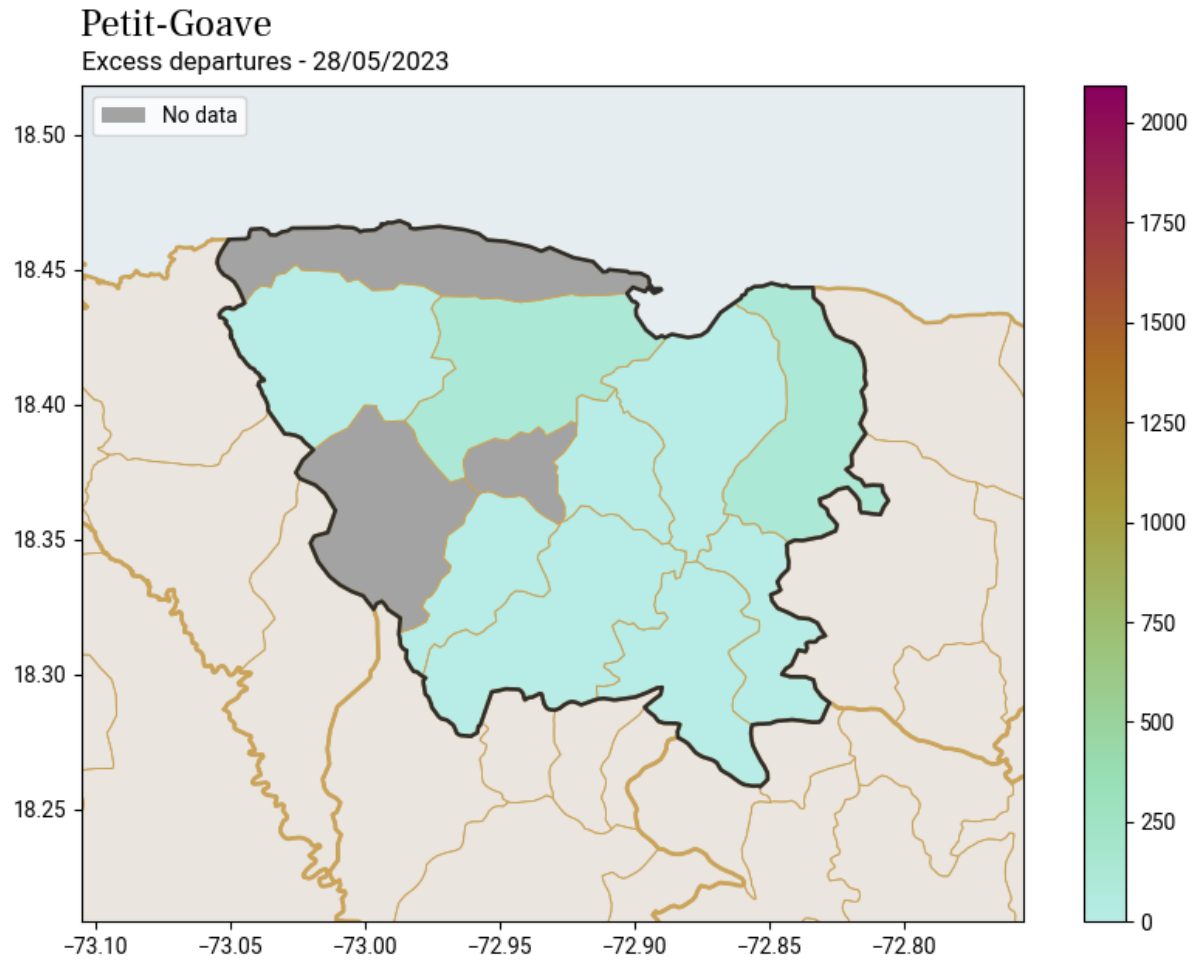
Petit-Goave

Excess departures - 04/06/2023
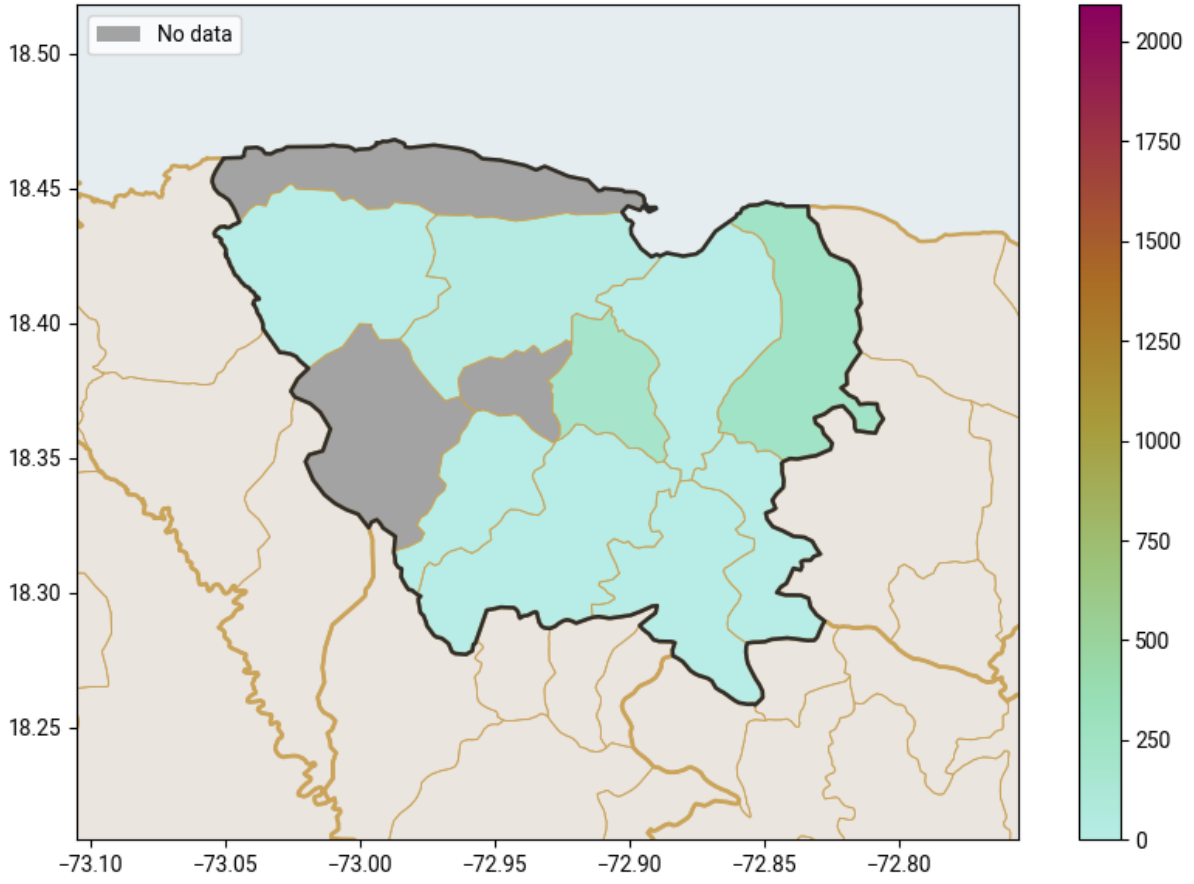
Petit-Goave
Excess departures - 11/06/2023
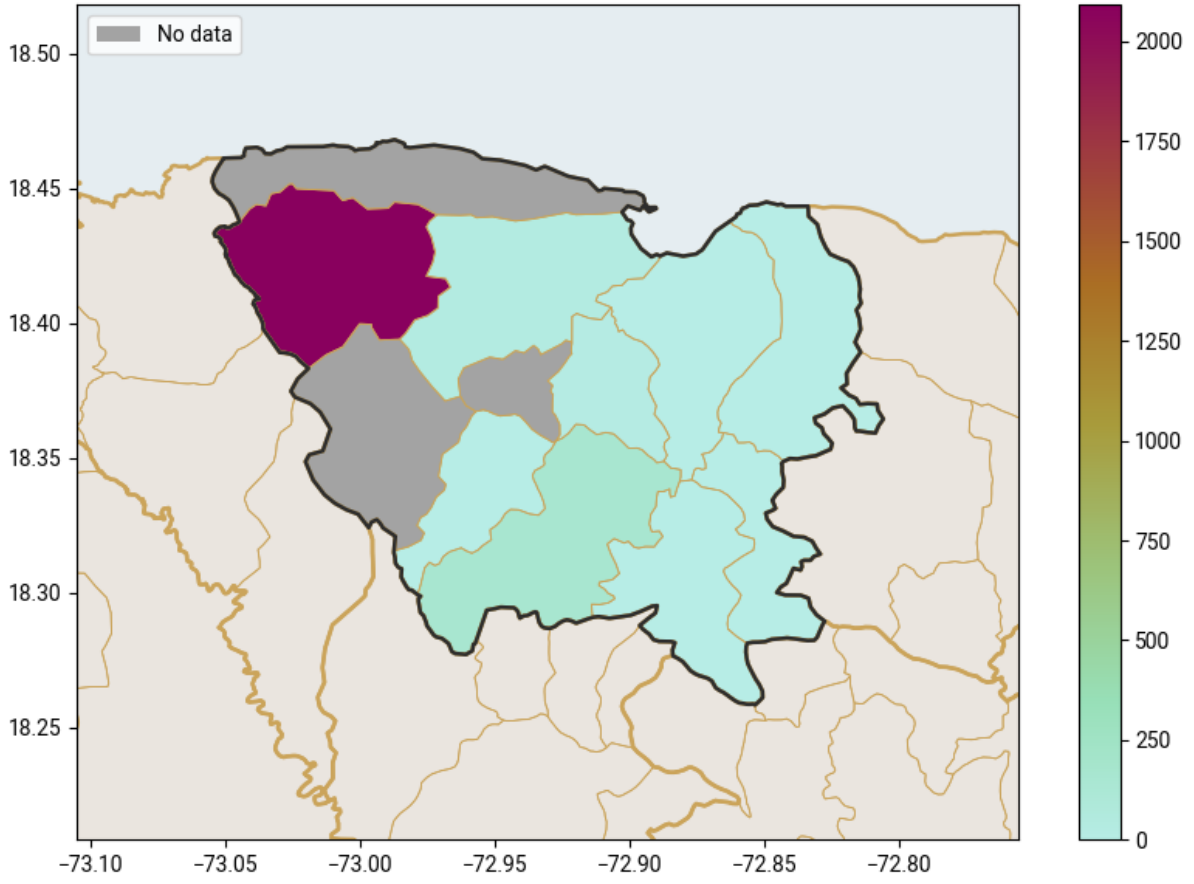
Excess arrivals

Maps

Petit-Goave
Excess arrivals - 28/05/2023
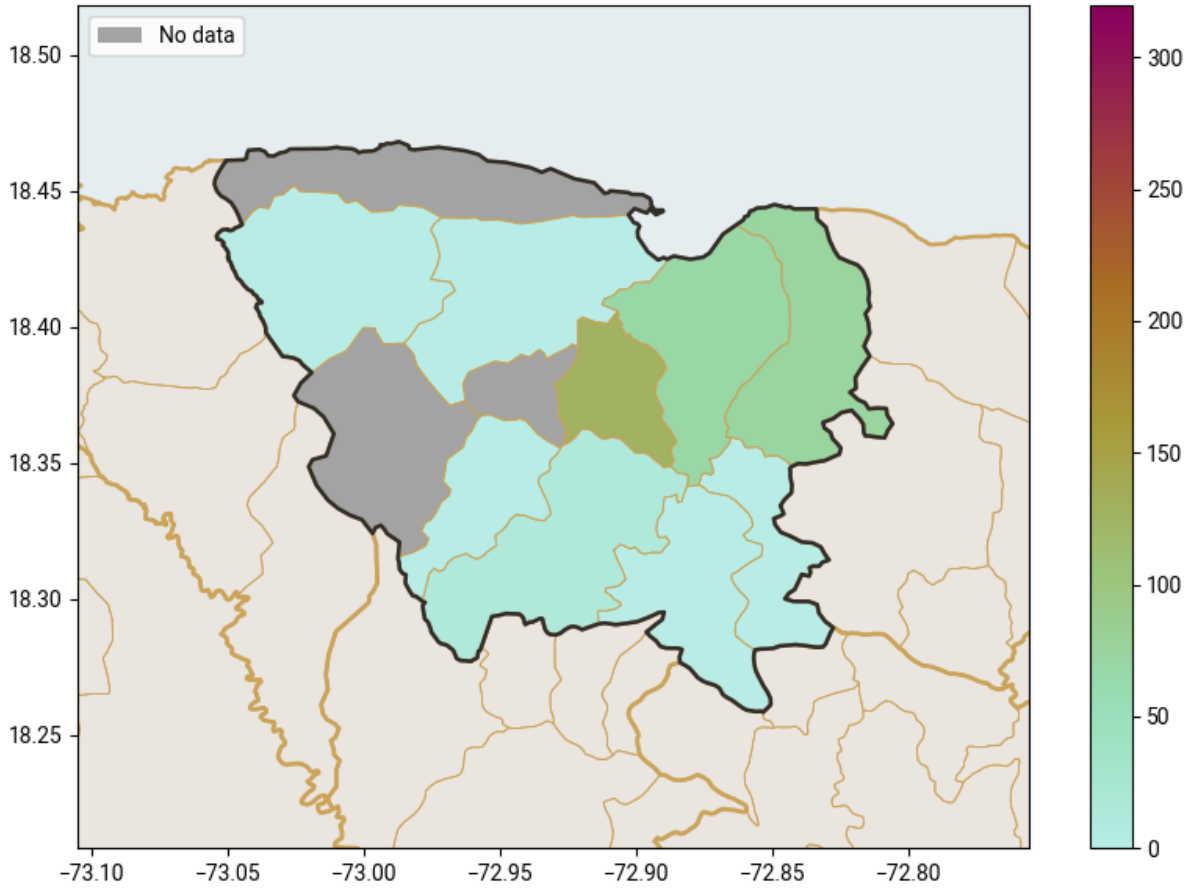
Petit-Goave

Excess arrivals - 04/06/2023
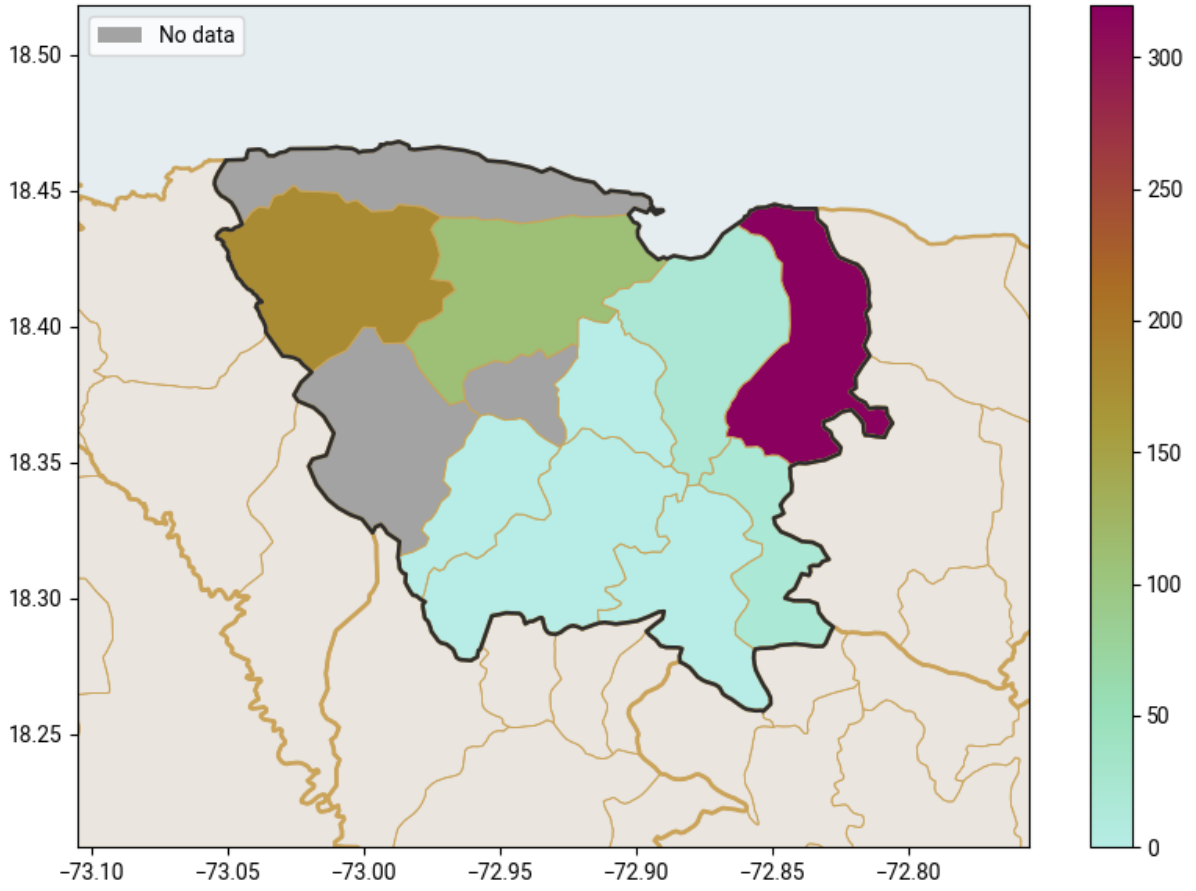
Petit-Goave
Excess arrivals - 11/06/2023
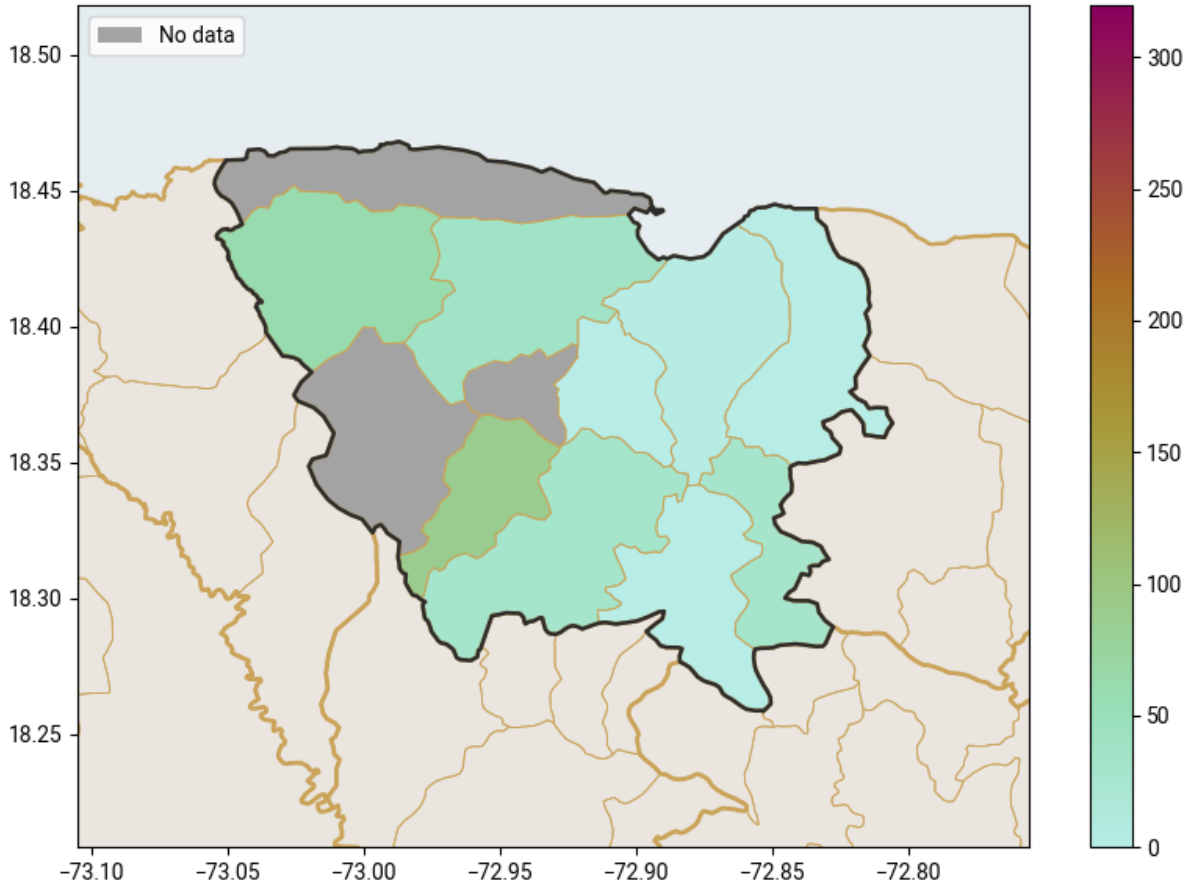
Excess residents

Maps

Petit-Goave
Excess residents - 28/05/2023
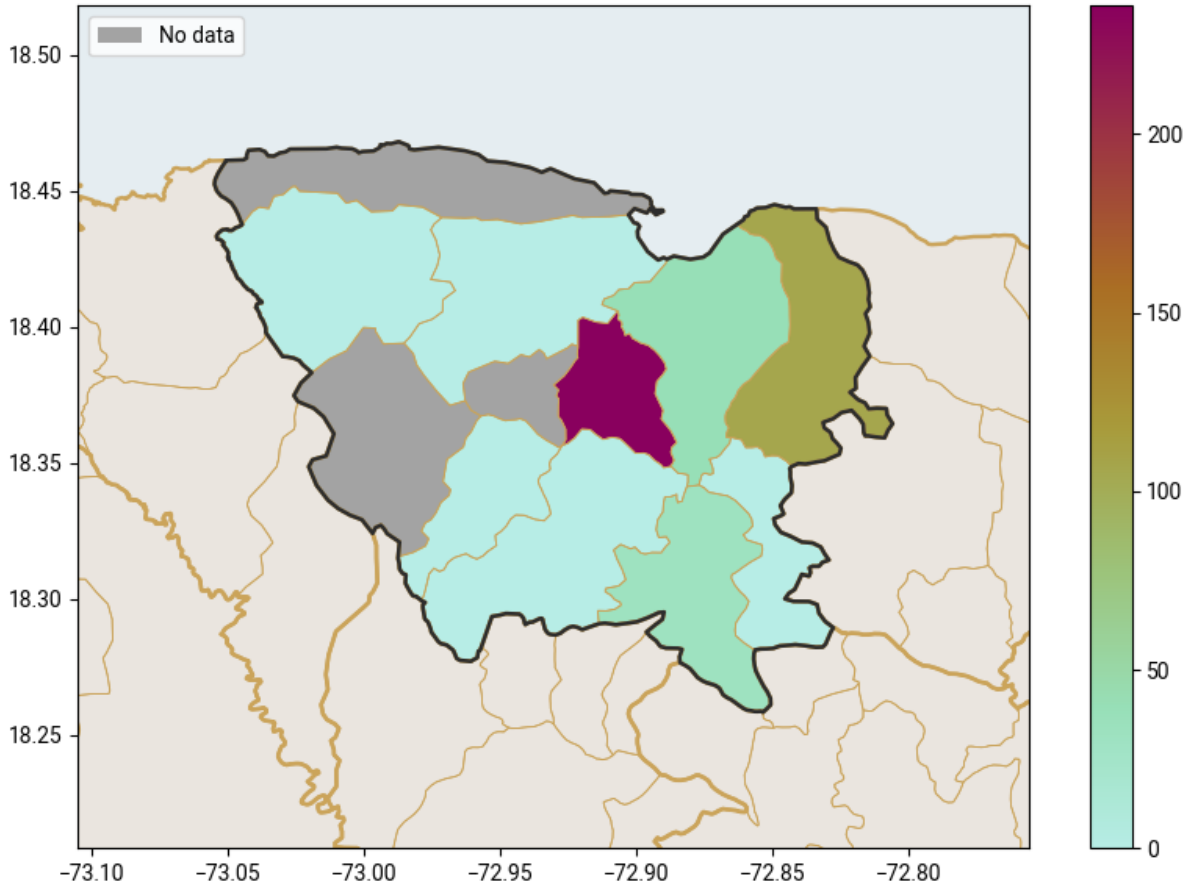
Petit-Goave
Excess residents - 04/06/2023
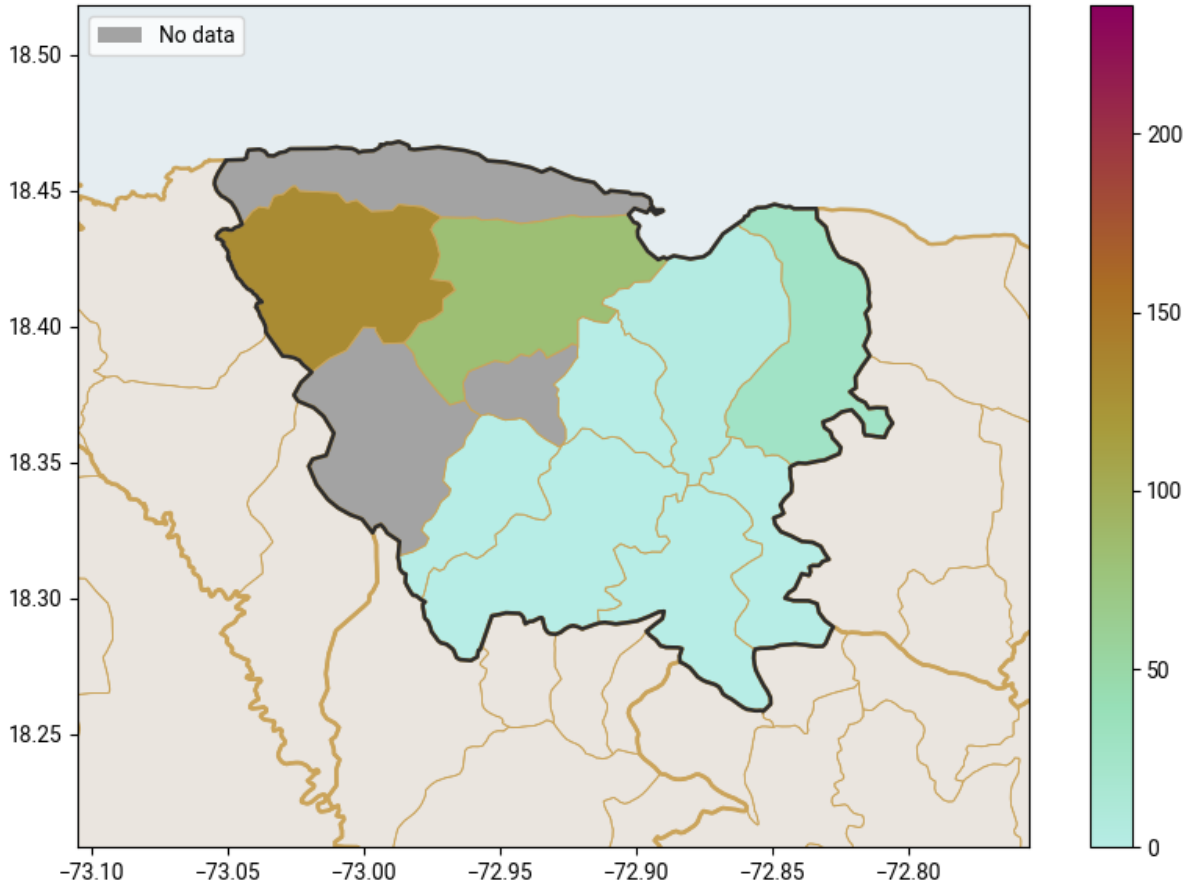
Petit-Goave
Excess residents - 11/06/2023
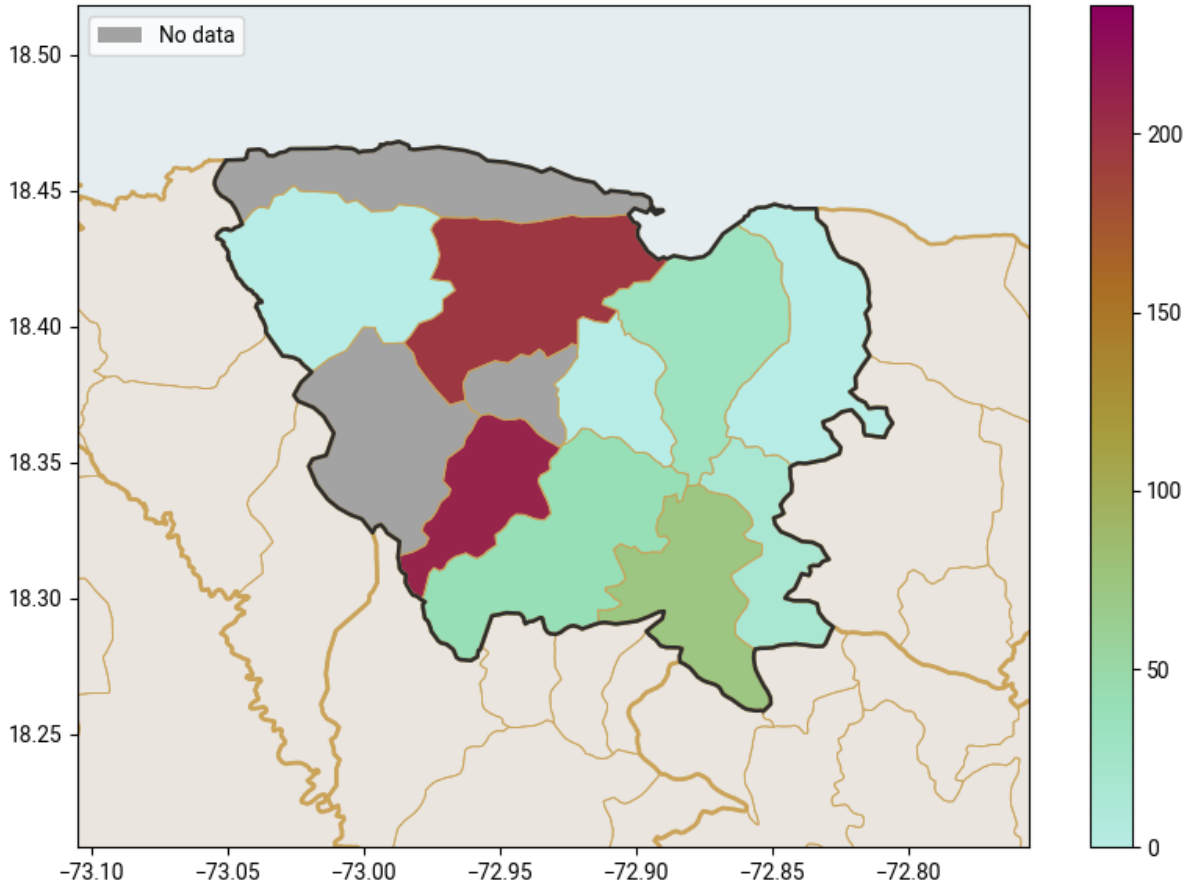
Annex B: Time series per region

Leogane

HT0121-10

Leogane
10e Section Fond d'Oie (HT0121-10) - Excess residents

HT0121-12

Leogane
12e Section Cormiers (HT0121-12) - Excess departures

Leogane
12e Section Cormiers (HT0121-12) - Excess arrivals

Leogane
12e Section Cormiers (HT0121-12) - Excess residents
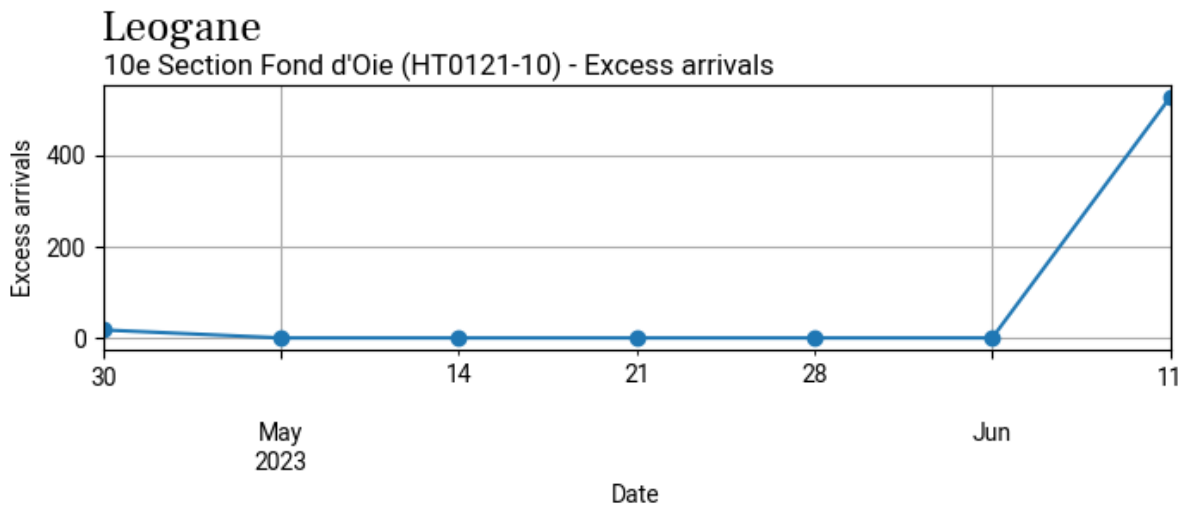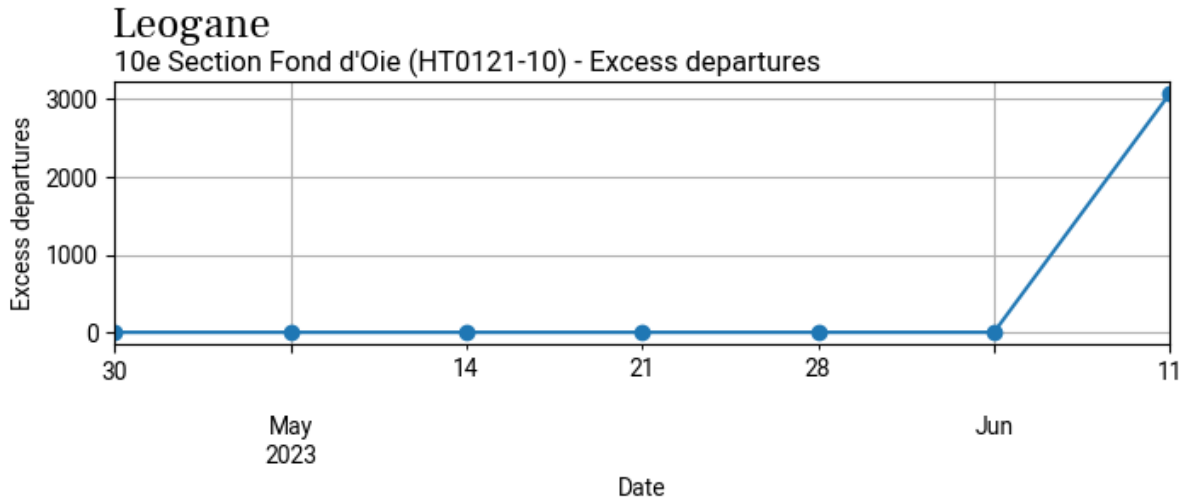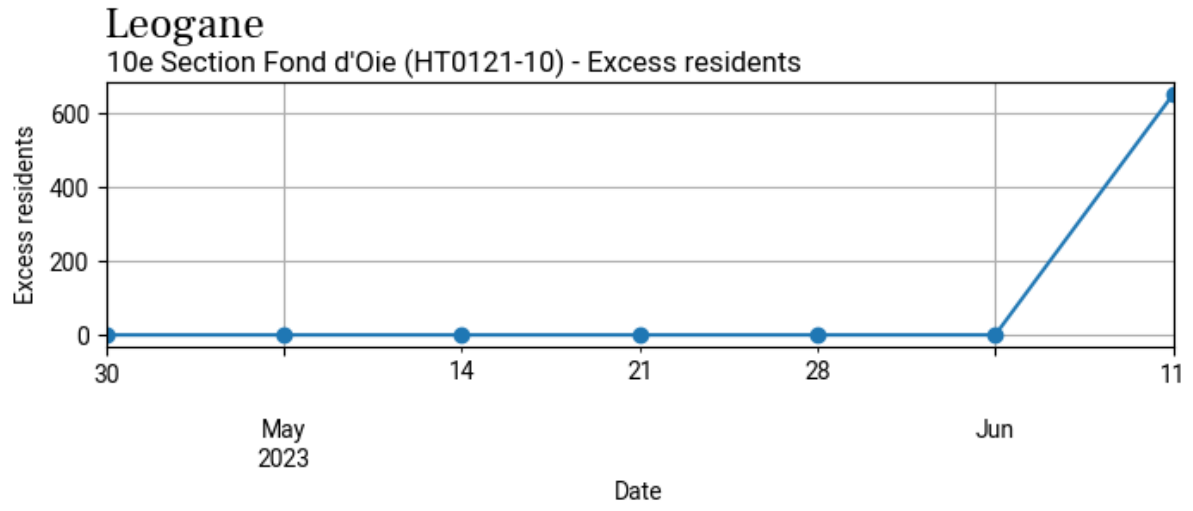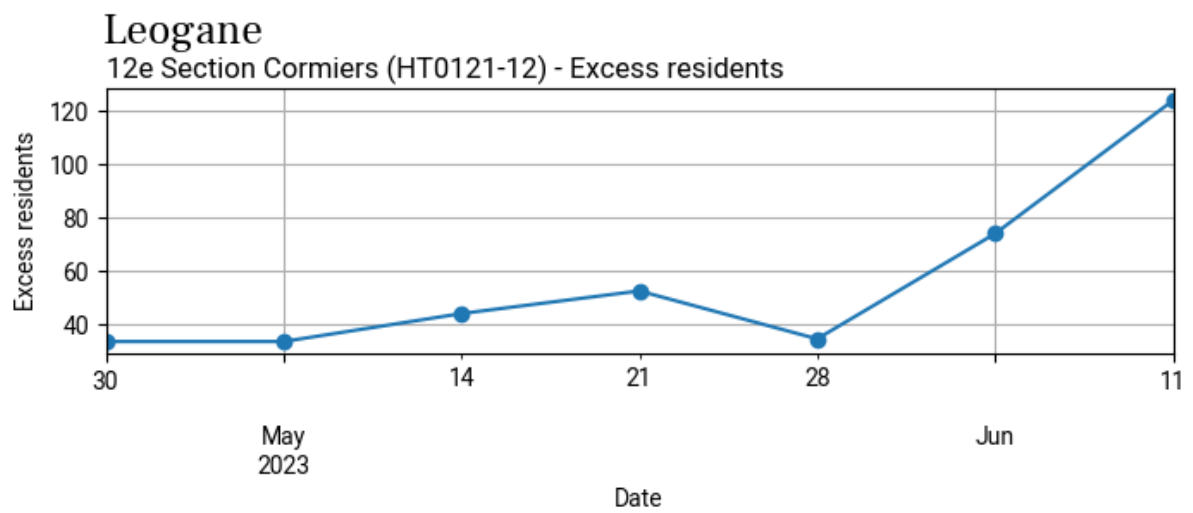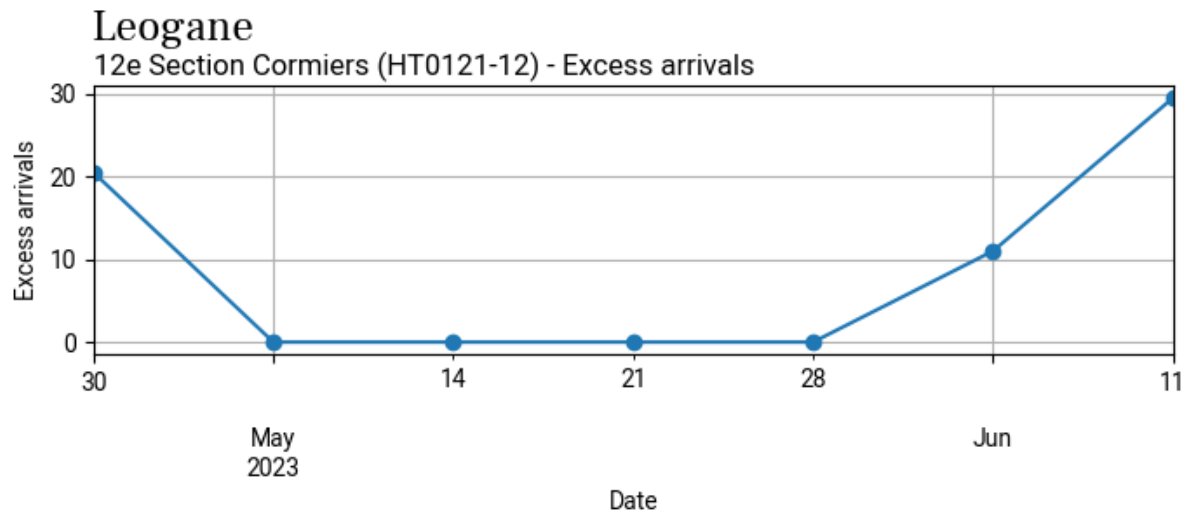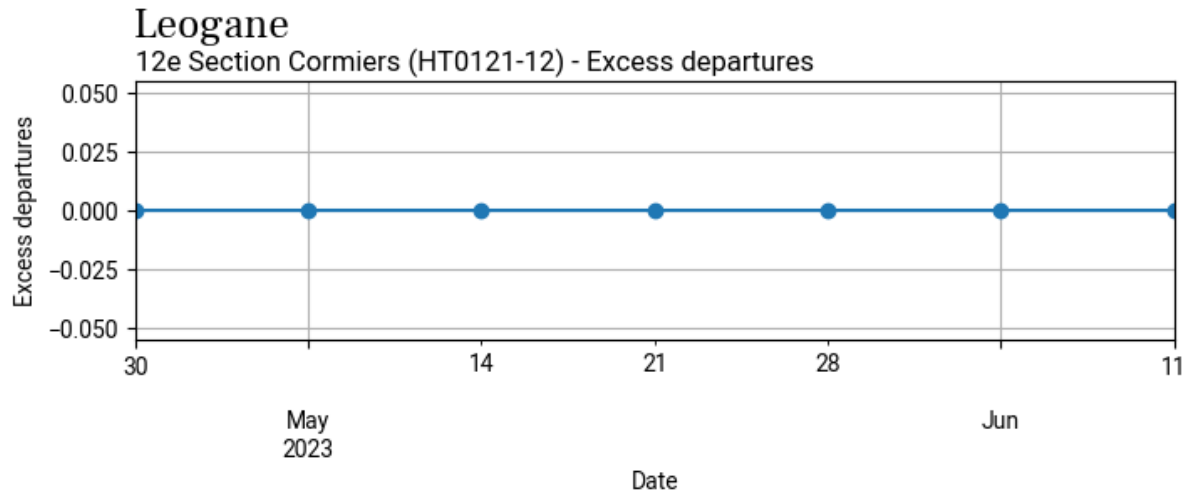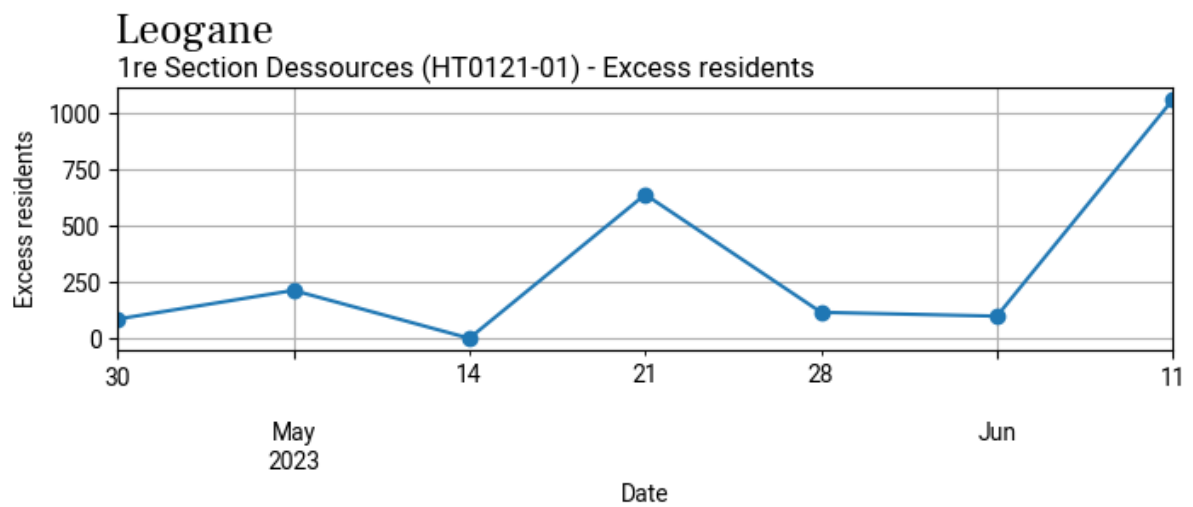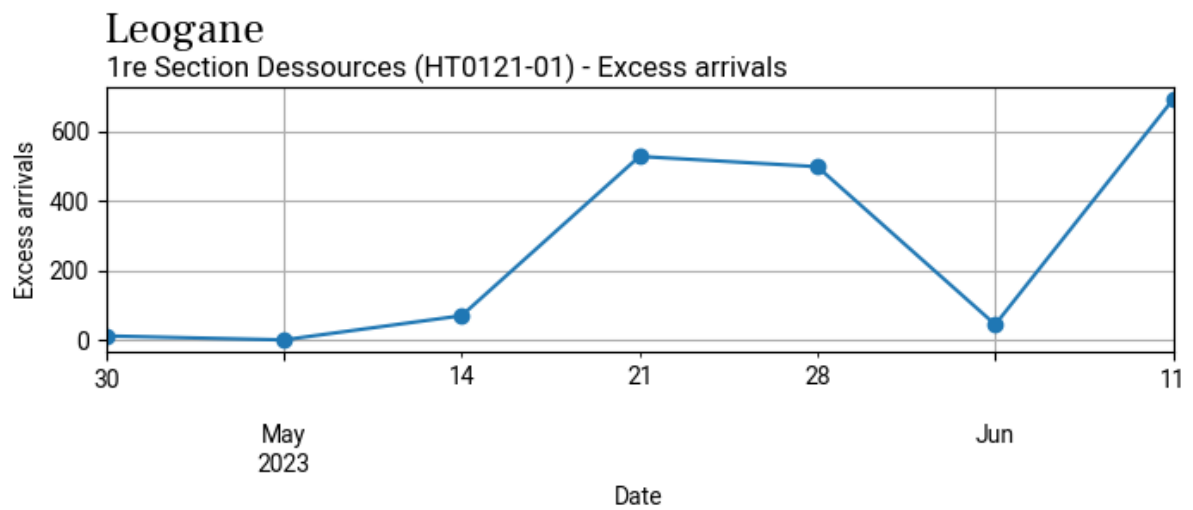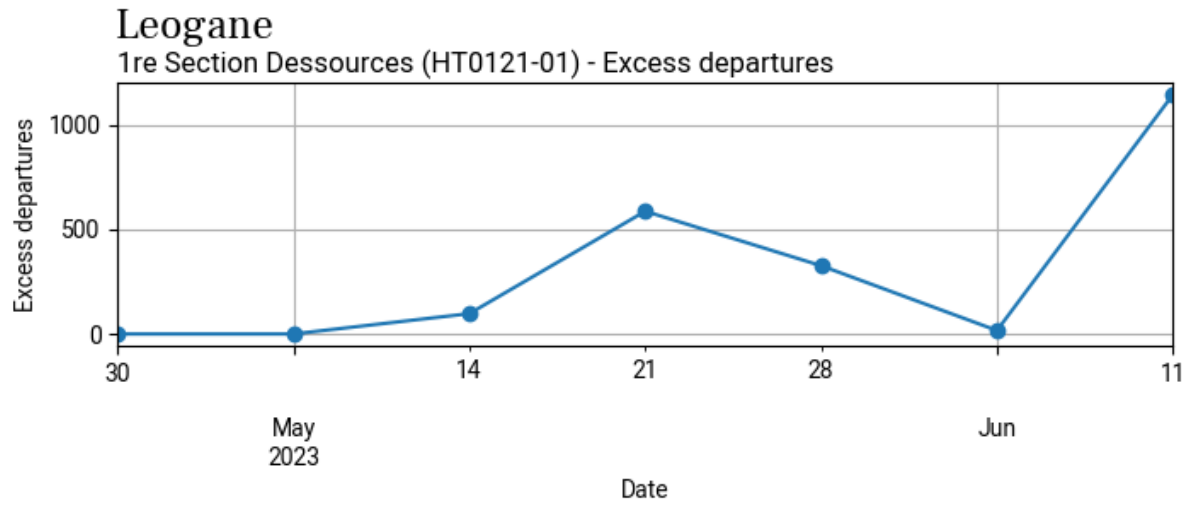
HT0121-01

HT0121-02

Leogane
2e Section Petite Rivière (HT0121-02) - Excess departures
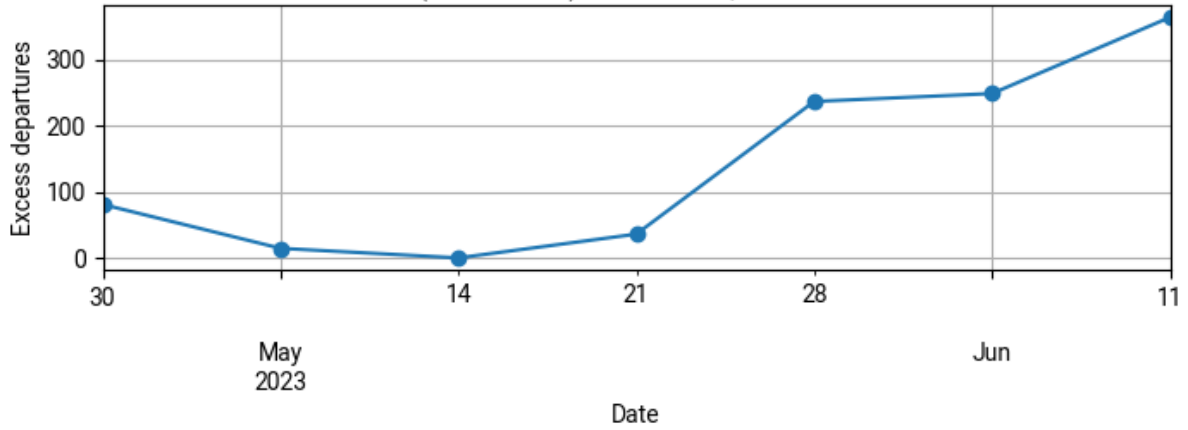
Leogane
2e Section Petite Rivière (HT0121-02) - Excess arrivals
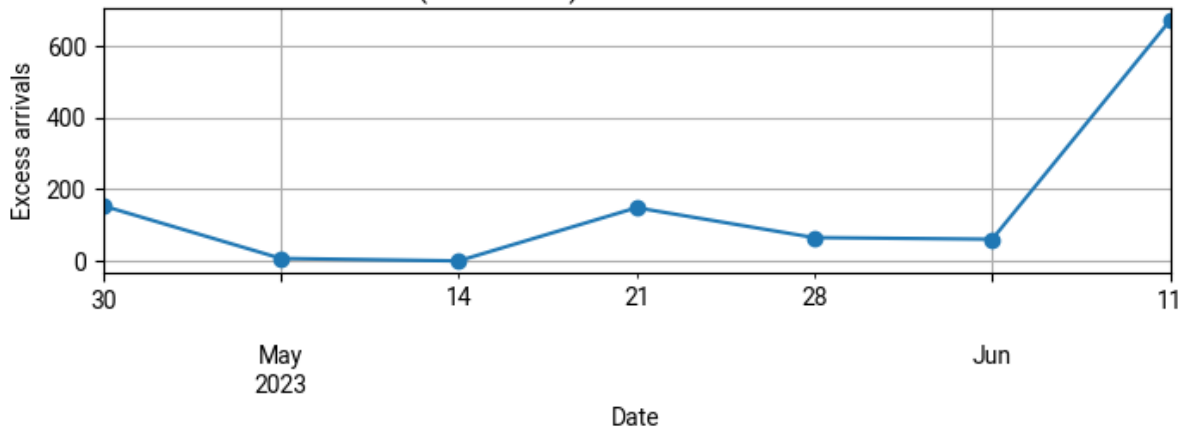
Leogane
2e Section Petite Rivière (HT0121-02) - Excess residents

HT0121-03

Leogane
3e Section Grande Rivère (HT0121-03) - Excess departures

Leogane
3e Section Grande Rivère (HT0121-03) - Excess arrivals

Leogane
3e Section Grande Rivère (HT0121-03) - Excess residents

HT0121-04

Leogane
4e Section Fond de Boudin (HT0121-04) - Excess departures

Leogane
4e Section Fond de Boudin (HT0121-04) - Excess arrivals

Leogane
4e Section Fond de Boudin (HT0121-04) - Excess residents

HT0121-05

Leogane
5e Section Palmiste à Vin (HT0121-05) - Excess departures

Leogane
5e Section Palmiste à Vin (HT0121-05) - Excess arrivals

Leogane
5e Section Palmiste à Vin (HT0121-05) - Excess residents

Northern Peninsula

HT0911-01

Northern Peninsula
1re Section Baudin (HT0911-01) - Excess departures

Northern Peninsula
1re Section Baudin (HT0911-01) - Excess arrivals

Northern Peninsula
1re Section Baudin (HT0911-01) - Excess residents
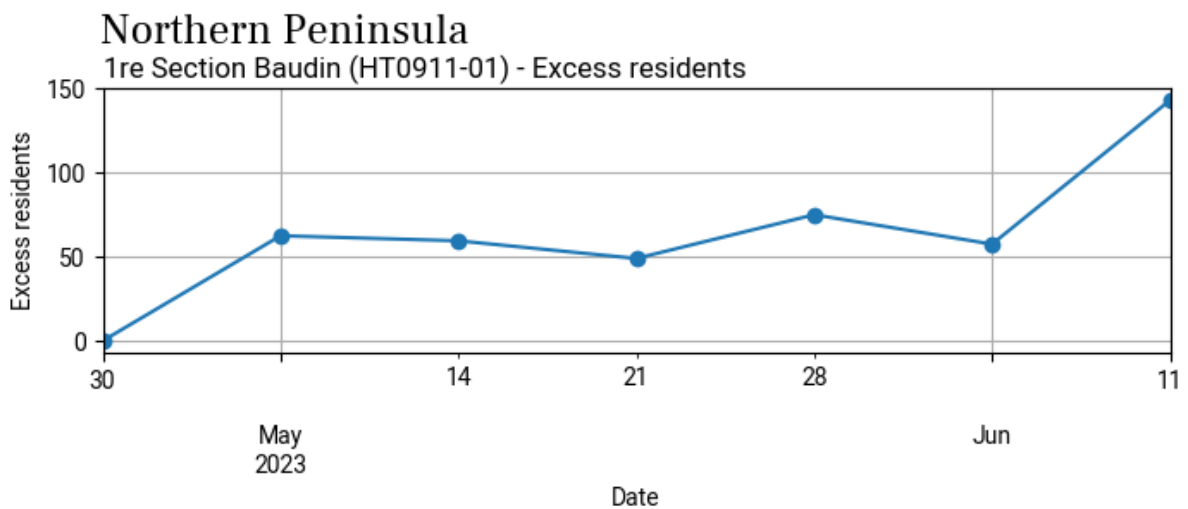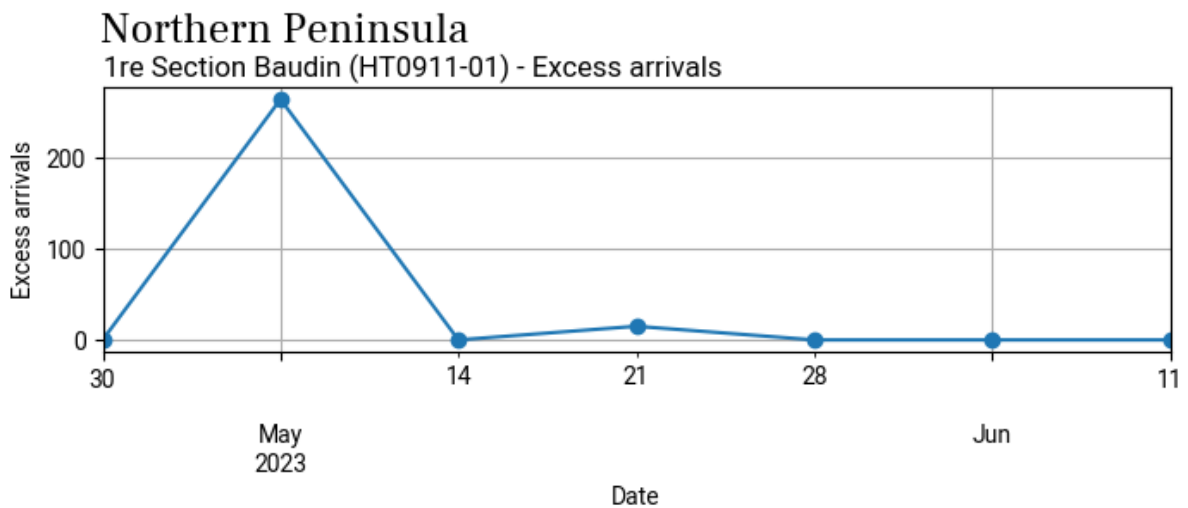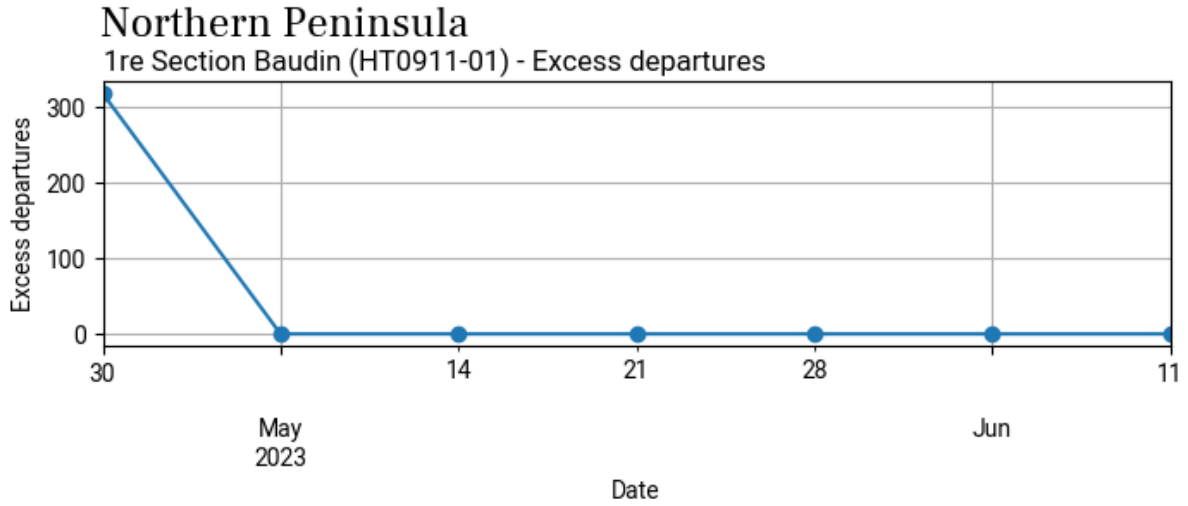
HT0932-01

Northern Peninsula
1re Section Citerne Remy (HT0932-01) - Excess departures
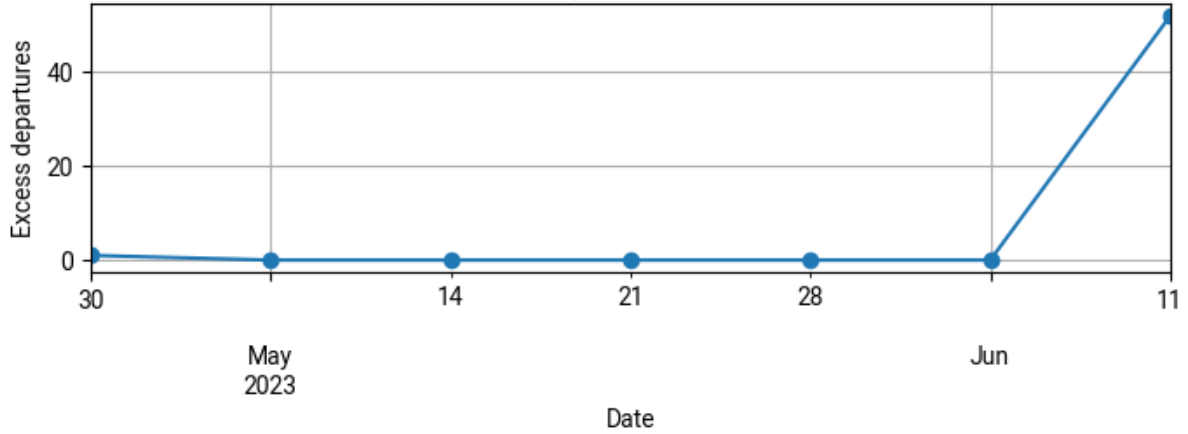
Northern Peninsula
1re Section Citerne Remy (HT0932-01) - Excess arrivals
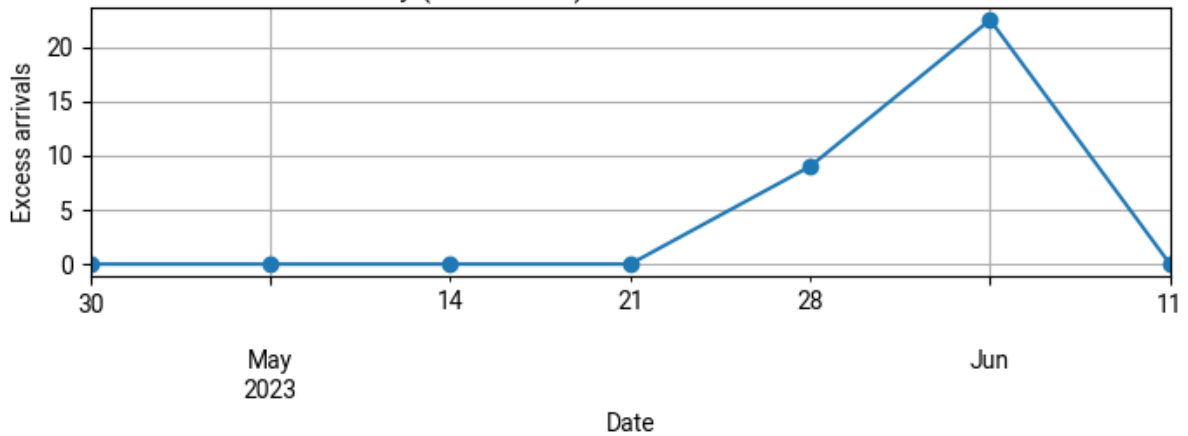
Northern Peninsula
1re Section Citerne Remy (HT0932-01) - Excess residents

HT0931-01

HT0523-01

Northern Peninsula
1re Section l'Arbre (HT0523-01) - Excess departures

Northern Peninsula
1re Section l'Arbre (HT0523-01) - Excess arrivals

Northern Peninsula
1re Section l'Arbre (HT0523-01) - Excess residents

HT0933-01

Northern Peninsula
1re Section Plate Forme (HT0933-01) - Excess departures

Northern Peninsula
1re Section Plate Forme (HT0933-01) - Excess arrivals

Northern Peninsula
1re Section Plate Forme (HT0933-01) - Excess residents

HT0932-02

Northern Peninsula
2e Section Dos d'Ane (HT0932-02) - Excess departures

Northern Peninsula
2e Section Dos d'Ane (HT0932-02) - Excess arrivals

Northern Peninsula
2e Section Dos d'Ane (HT0932-02) - Excess residents
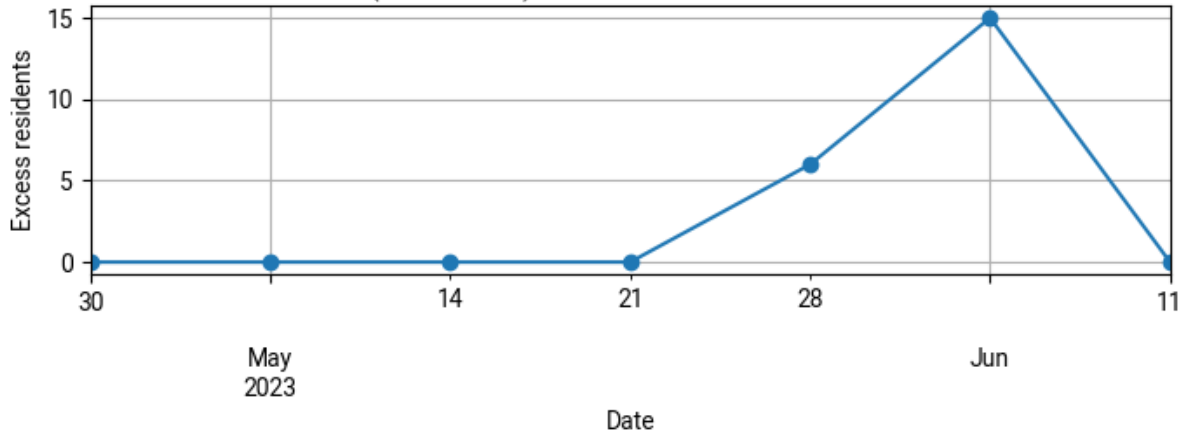
HT0931-02

Northern Peninsula
2e Section Mare-Rouge (HT0931-02) - Excess departures
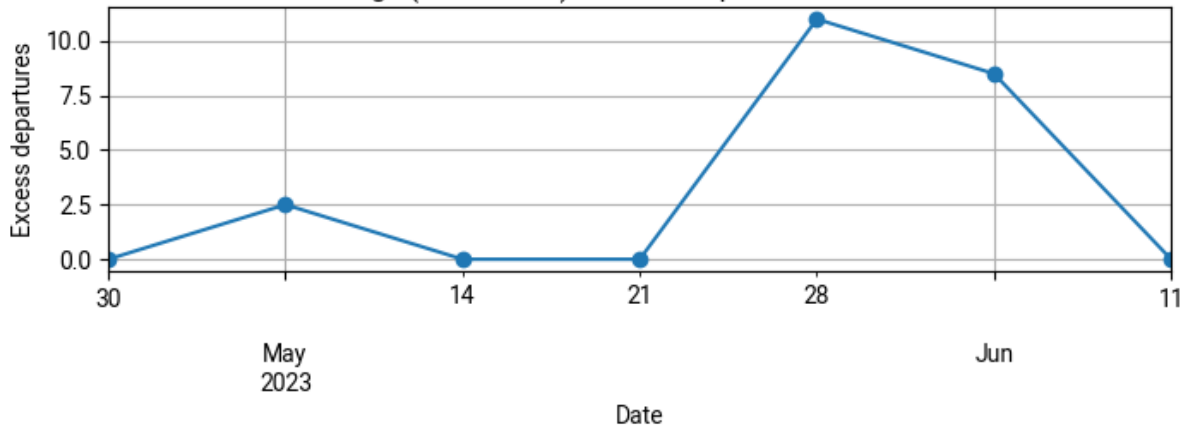
Northern Peninsula
2e Section Mare-Rouge (HT0931-02) - Excess arrivals
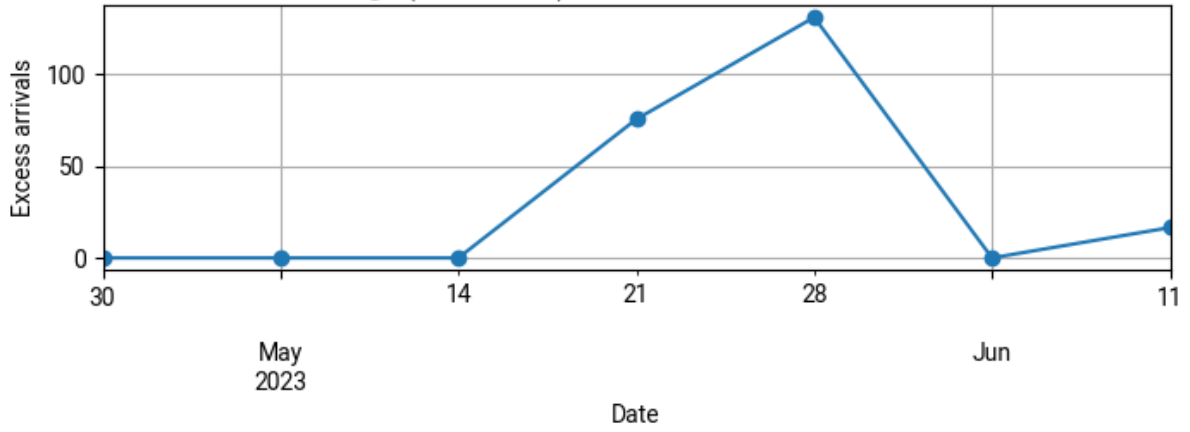
Northern Peninsula
2e Section Mare-Rouge (HT0931-02) - Excess residents
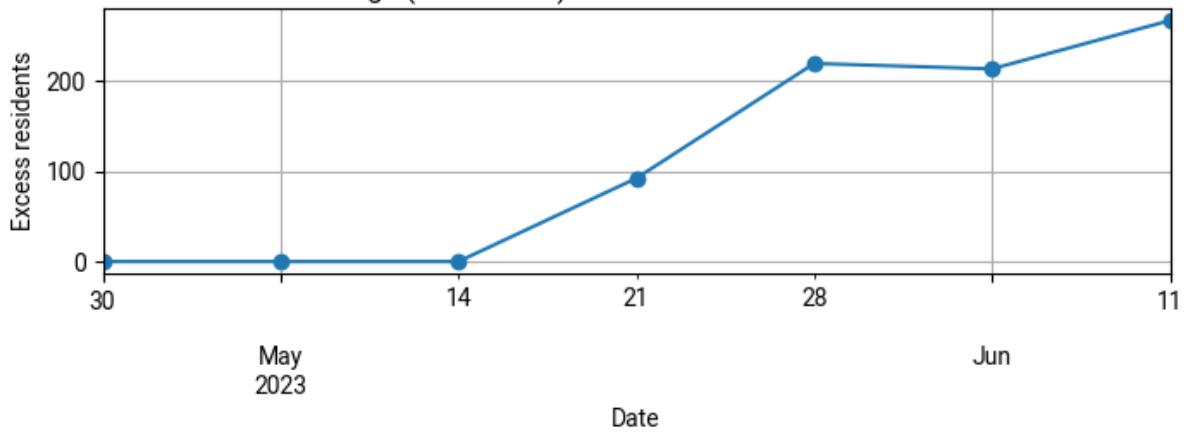
HT0523-02

Northern Peninsula
2e Section Sources Chaudes (HT0523-02) - Excess departures
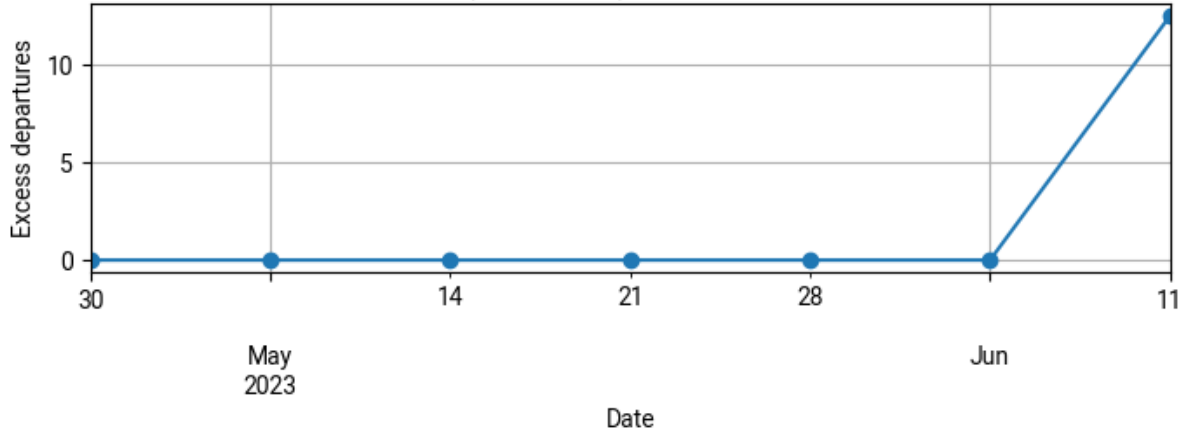
Northern Peninsula
2e Section Sources Chaudes (HT0523-02) - Excess arrivals
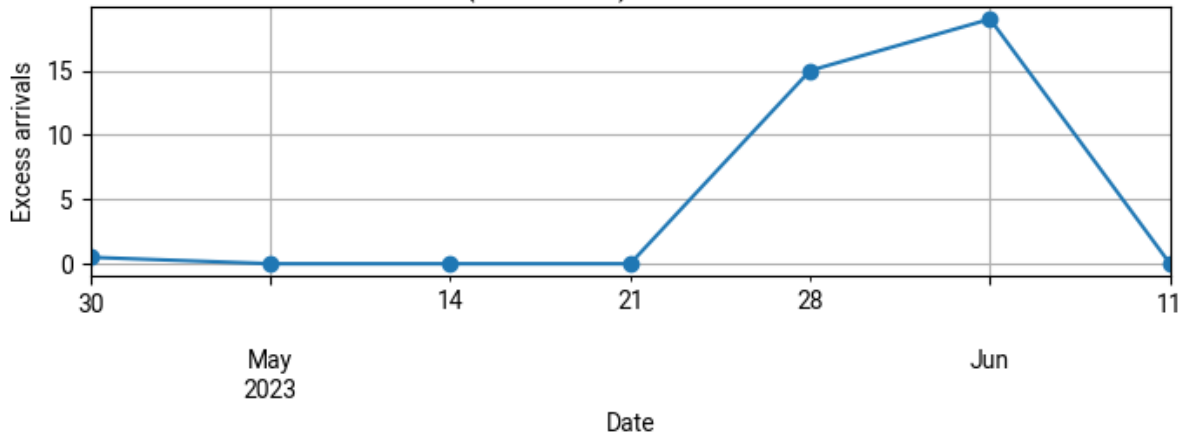
Northern Peninsula
2e Section Sources Chaudes (HT0523-02) - Excess residents
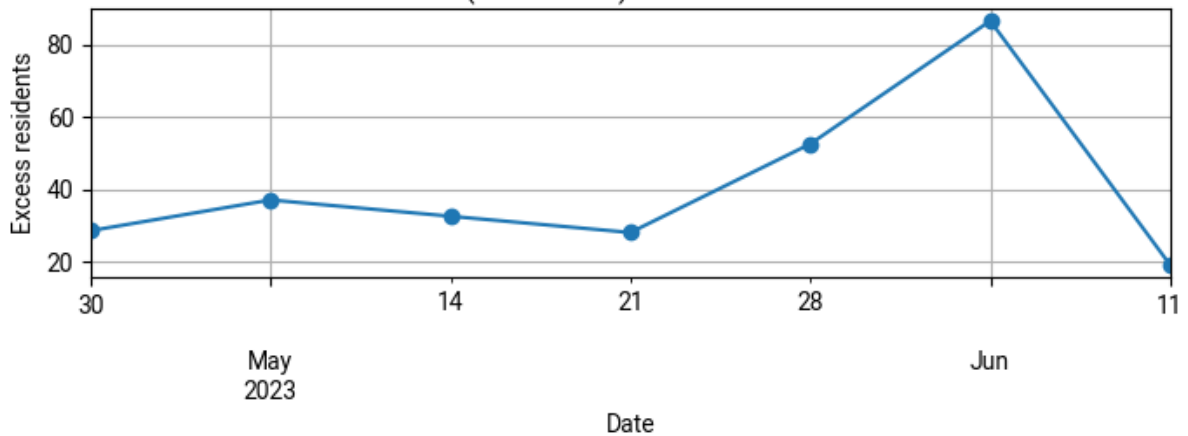
HT0911-03

Northern Peninsula
3e Section Aubert (HT0911-03) - Excess departures
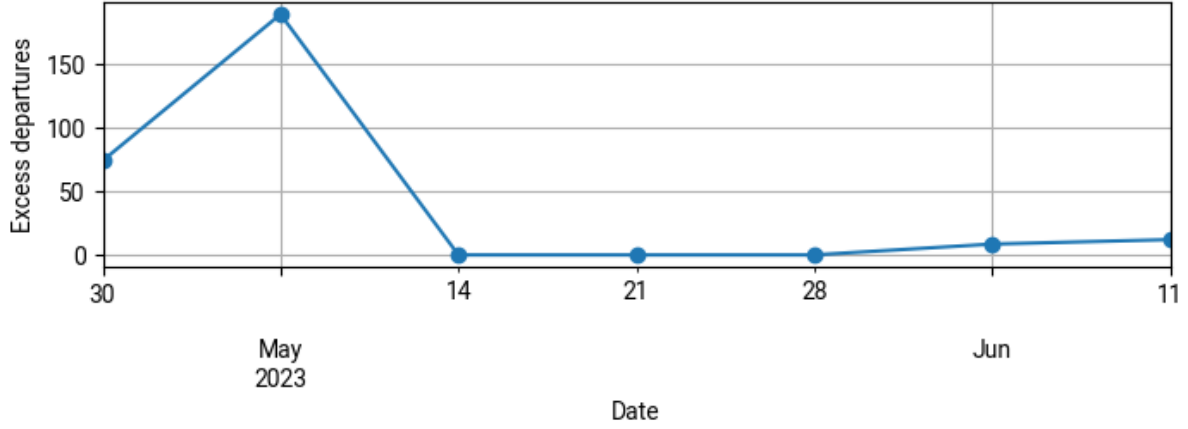
Northern Peninsula
3e Section Aubert (HT0911-03) - Excess arrivals
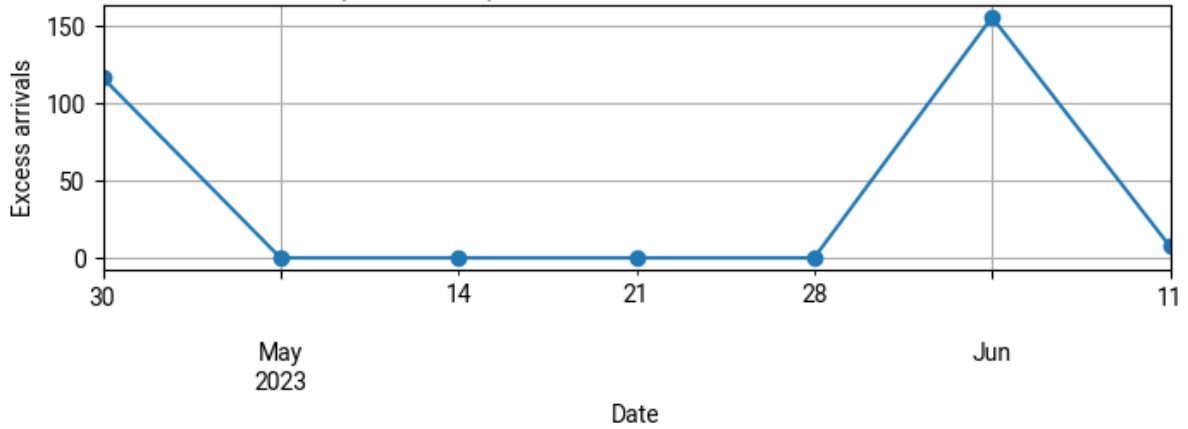
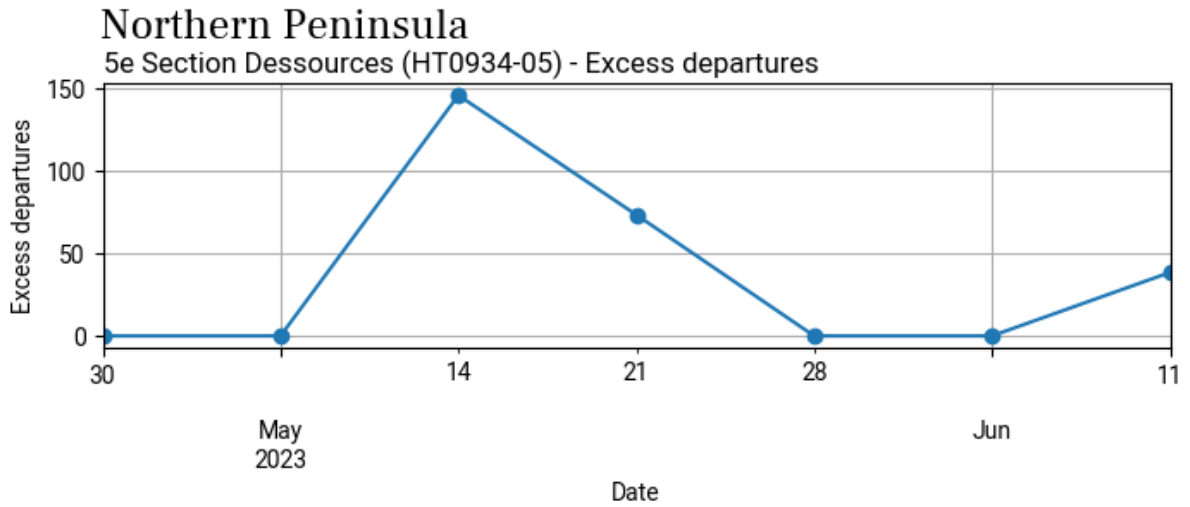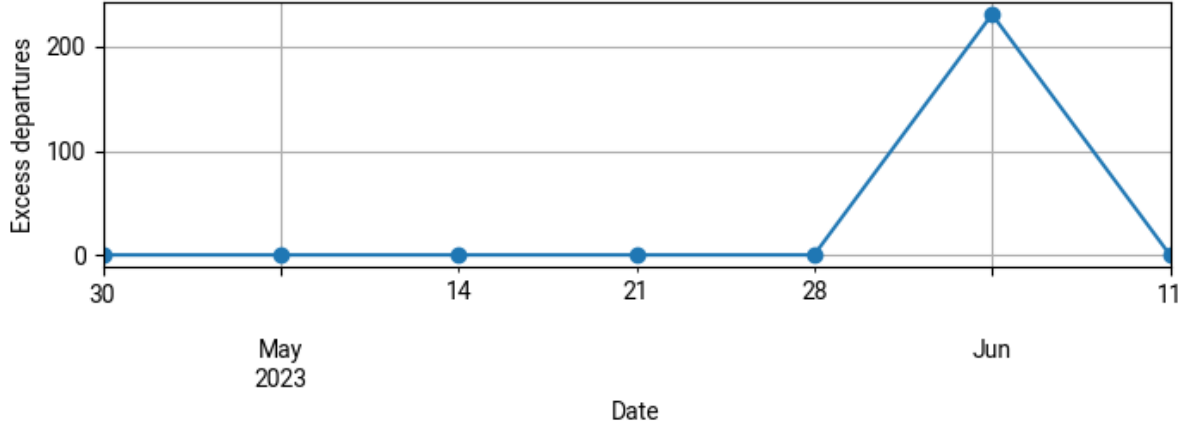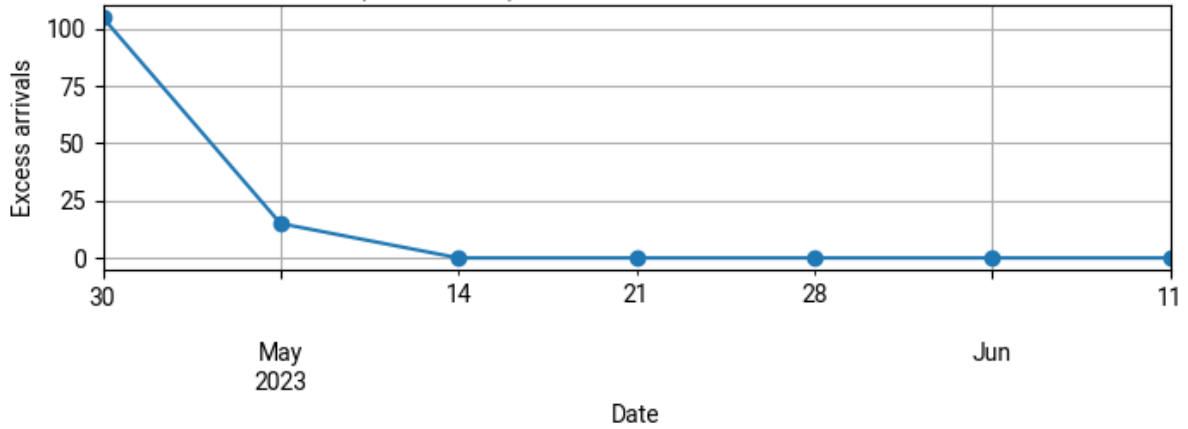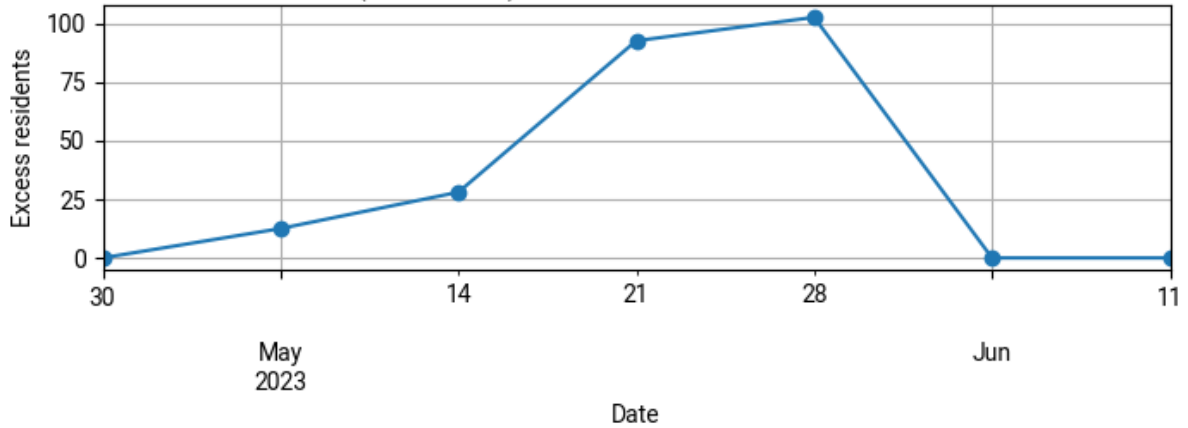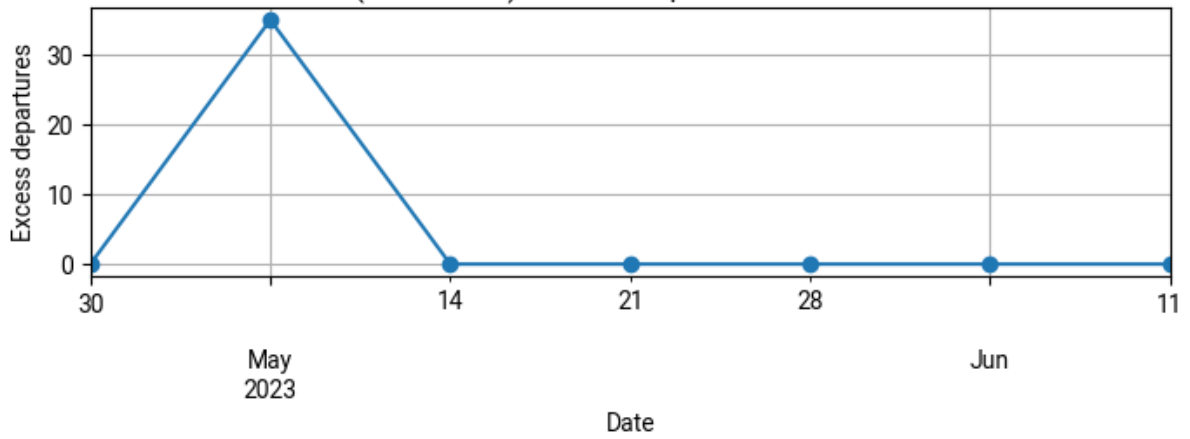

Northern Peninsula
3e Section Aubert (HT0911-03) - Excess residents
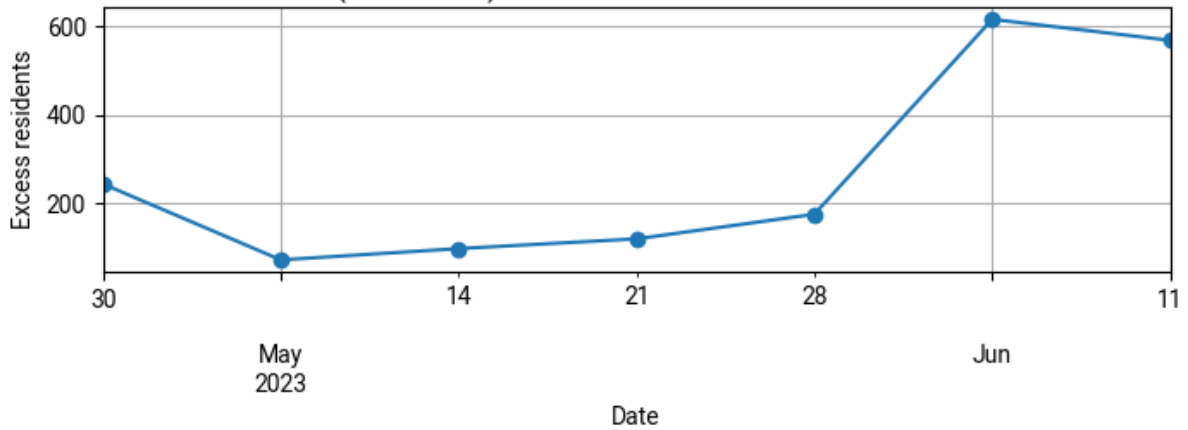
HT0932-03

Northern Peninsula
3e Section Reserve ou Ti Paradis (HT0932-03) - Excess departures
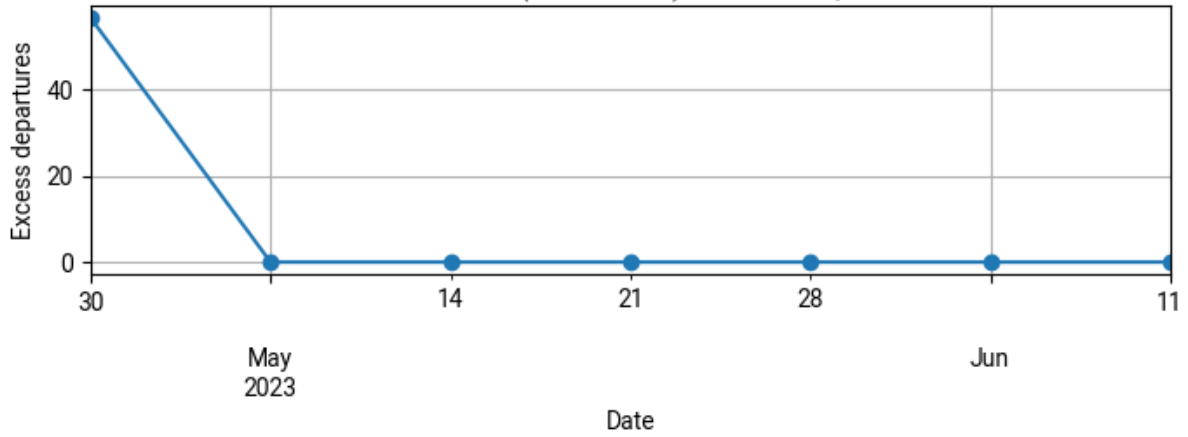
Northern Peninsula
3e Section Reserve ou Ti Paradis (HT0932-03) - Excess arrivals
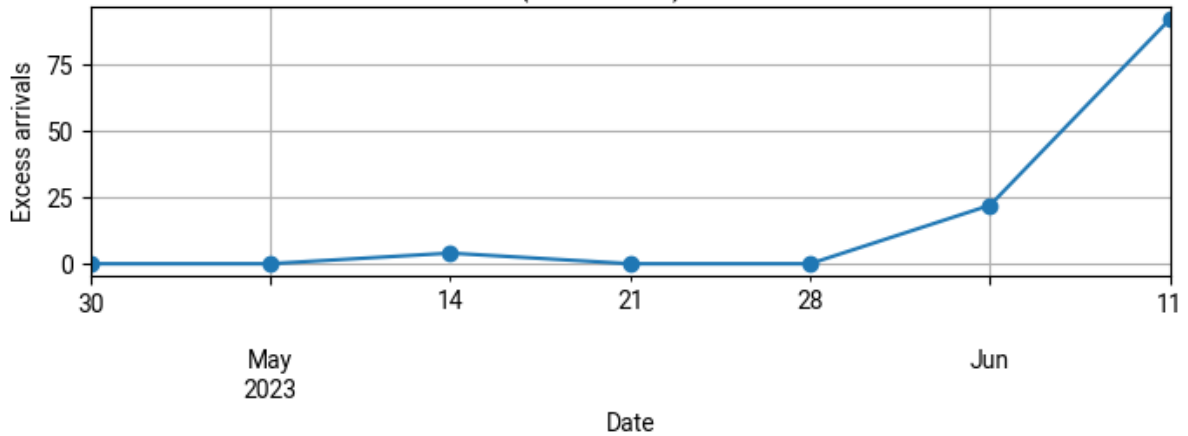
Northern Peninsula
3e Section Reserve ou Ti Paradis (HT0932-03) - Excess residents
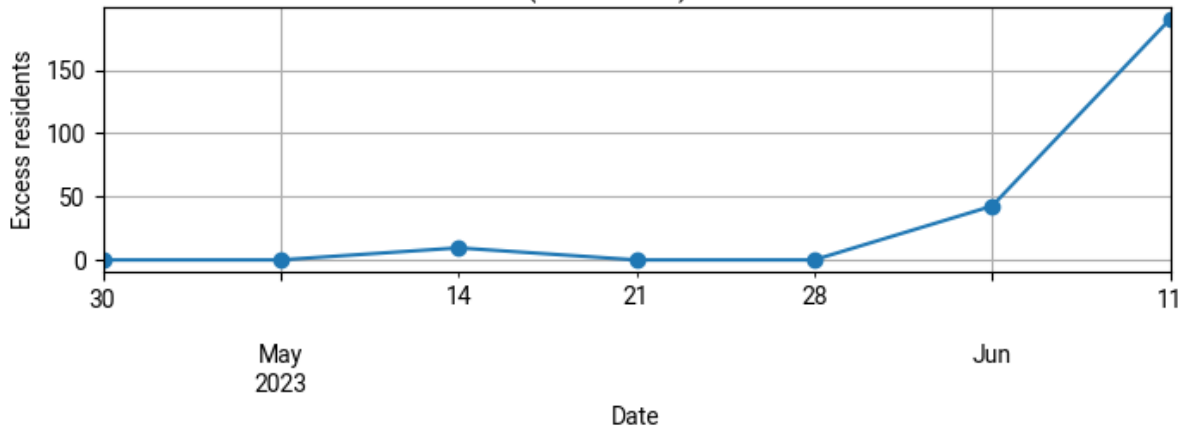
HT0934-03

In this section very small numbers of excess residents are recorded while no excess arrivals or departures were recorded. The balance of 'normal' departures and arrivals however led to slight excess of residents.
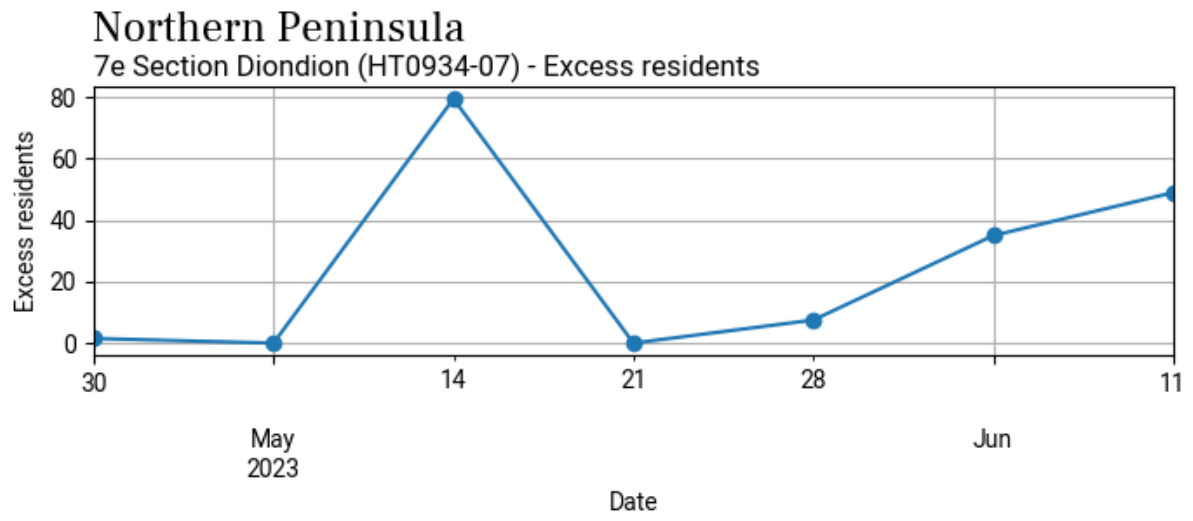

Northern Peninsula
3e Section Vieille Hatte (HT0934-03) - Excess departures

Northern Peninsula
3e Section Vieille Hatte (HT0934-03) - Excess arrivals
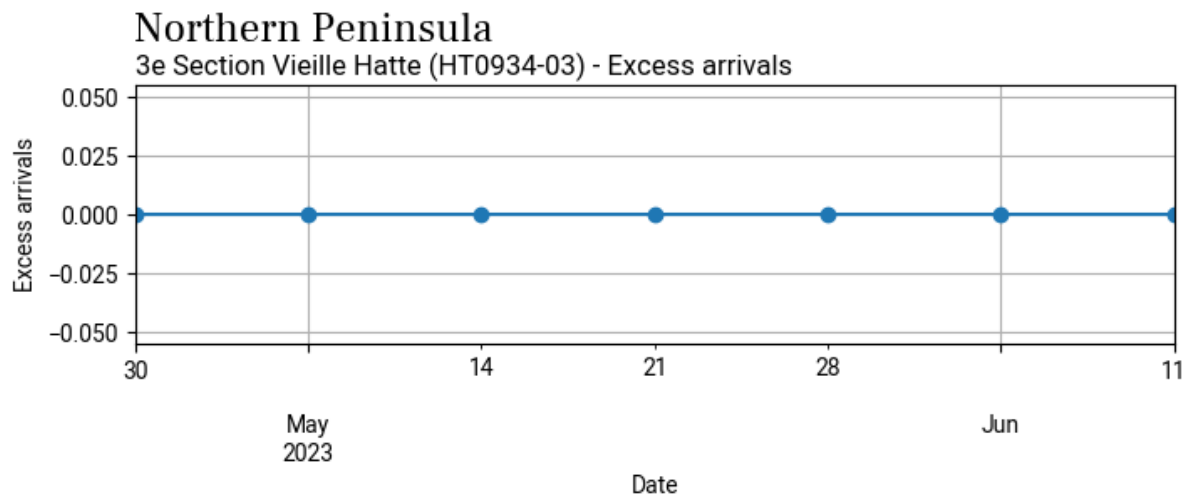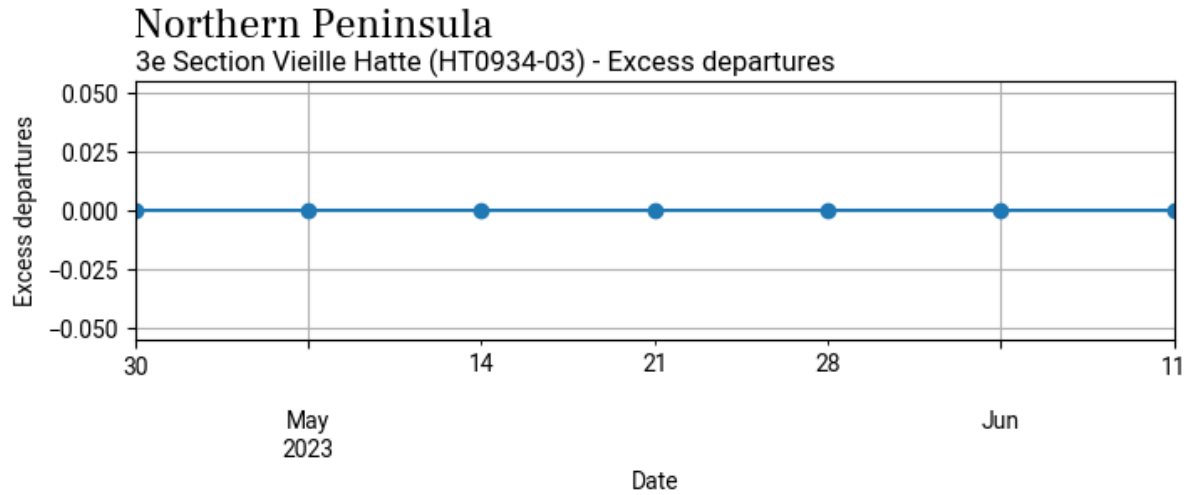
Northern Peninsula
3e Section Vieille Hatte (HT0934-03) - Excess residents
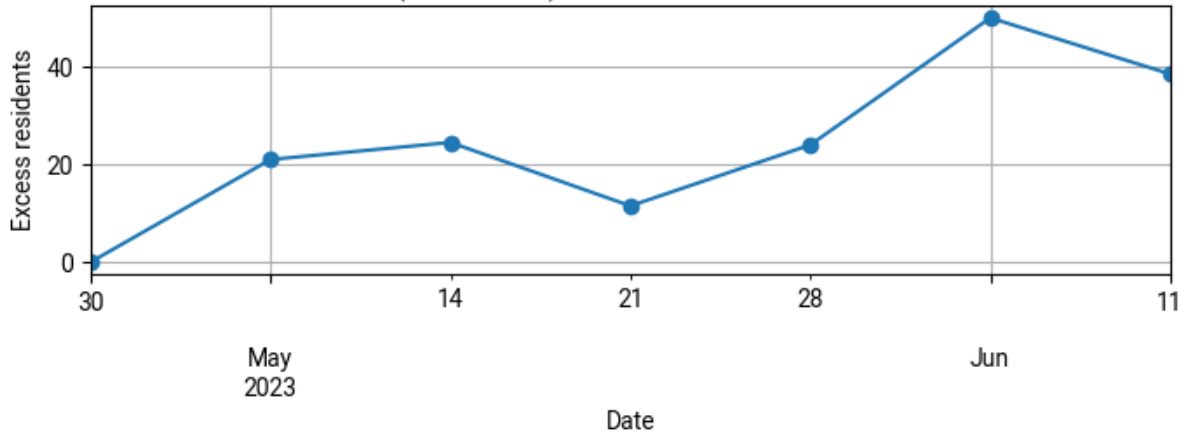
HT0934-04

Northern Peninsula
4e Section la Montagne (HT0934-04) - Excess departures
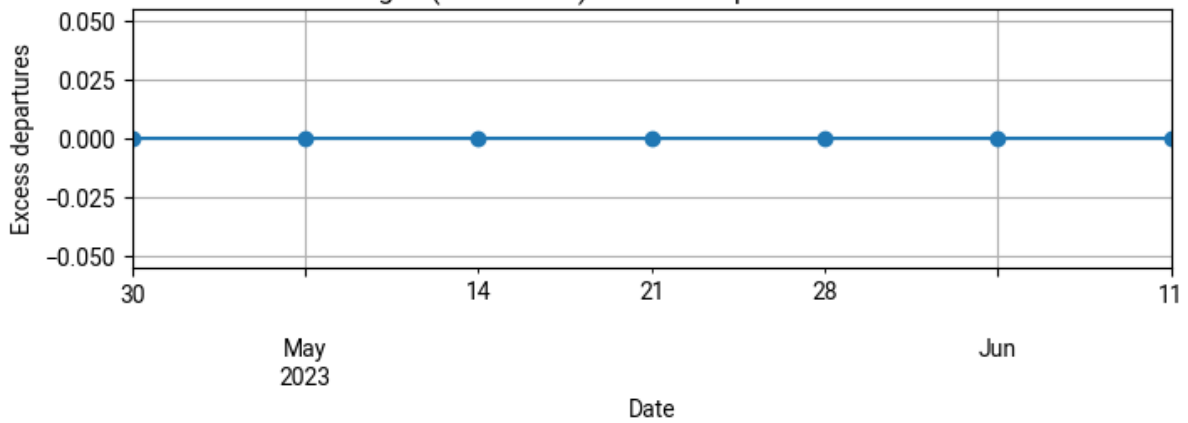
Northern Peninsula
4e Section la Montagne (HT0934-04) - Excess arrivals

Northern Peninsula
4e Section la Montagne (HT0934-04) - Excess residents
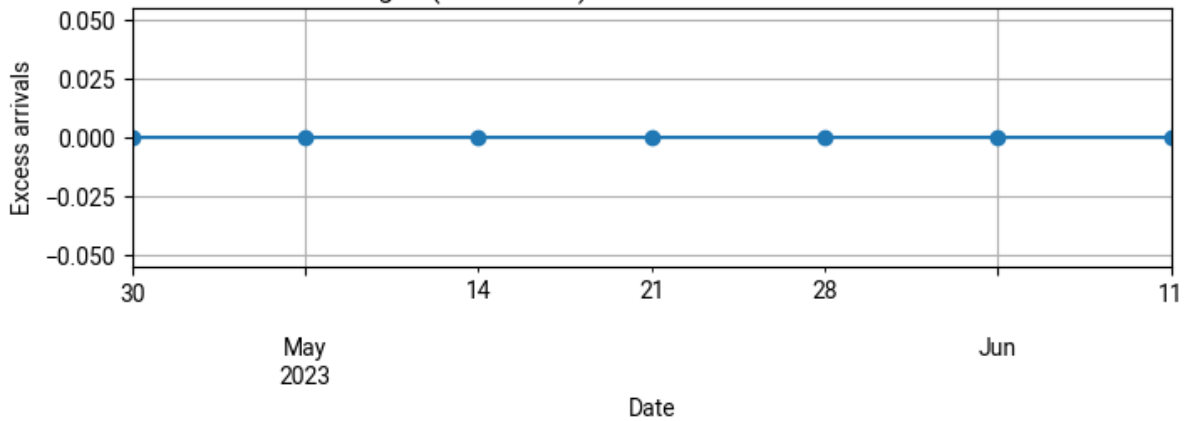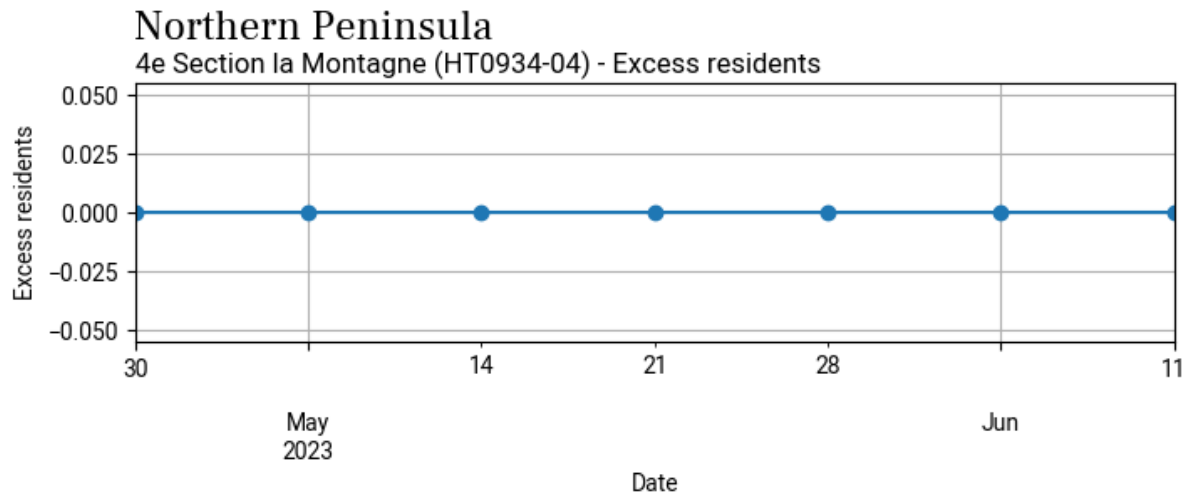
HT0911-04

Northern Peninsula
4e Section Mahotière (HT0911-04) - Excess departures
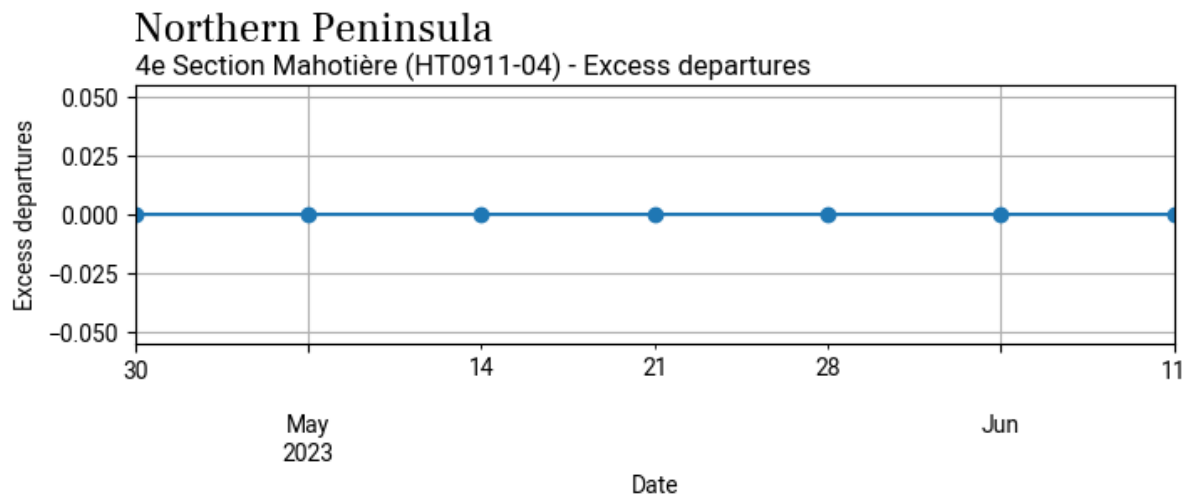
Northern Peninsula
4e Section Mahotière (HT0911-04) - Excess arrivals
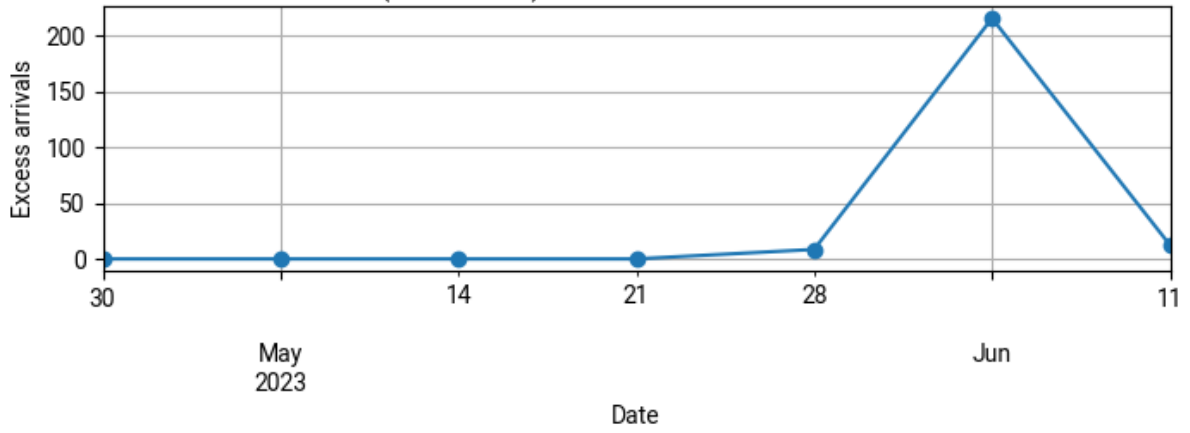
Northern Peninsula
4e Section Mahotière (HT0911-04) - Excess residents

HT0934-05

Northern Peninsula
5e Section Dessources (HT0934-05) - Excess departures

Northern Peninsula
5e Section Dessources (HT0934-05) - Excess arrivals

Northern Peninsula
5e Section Dessources (HT0934-05) - Excess residents
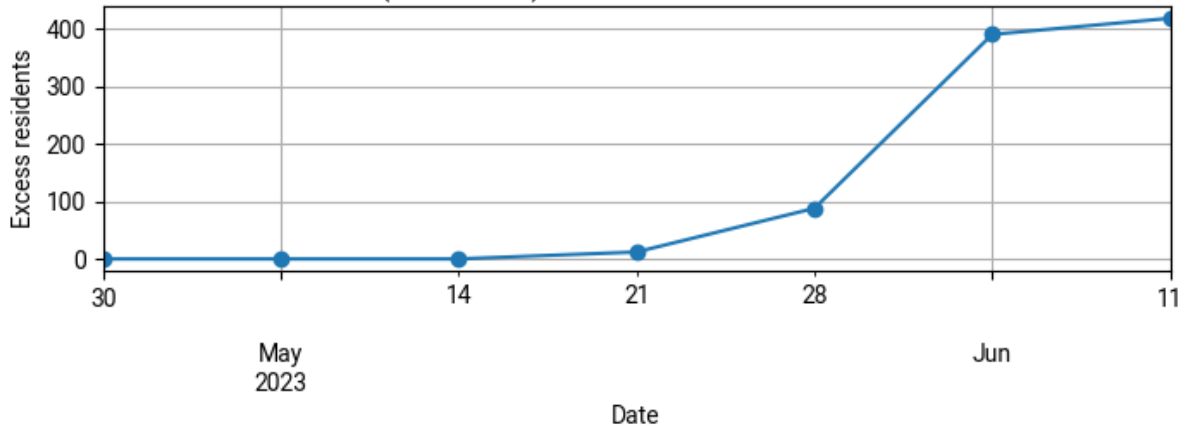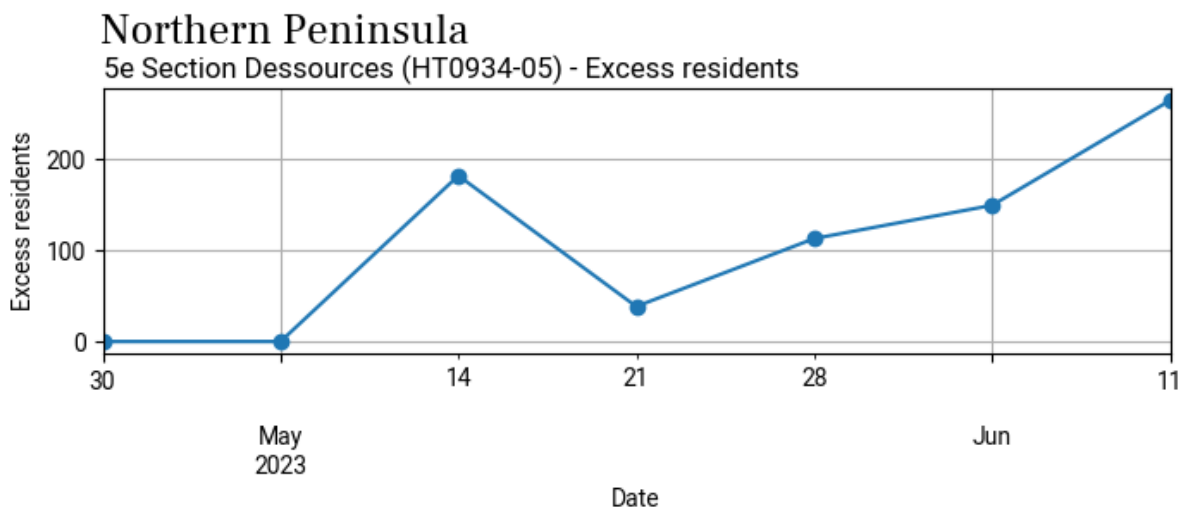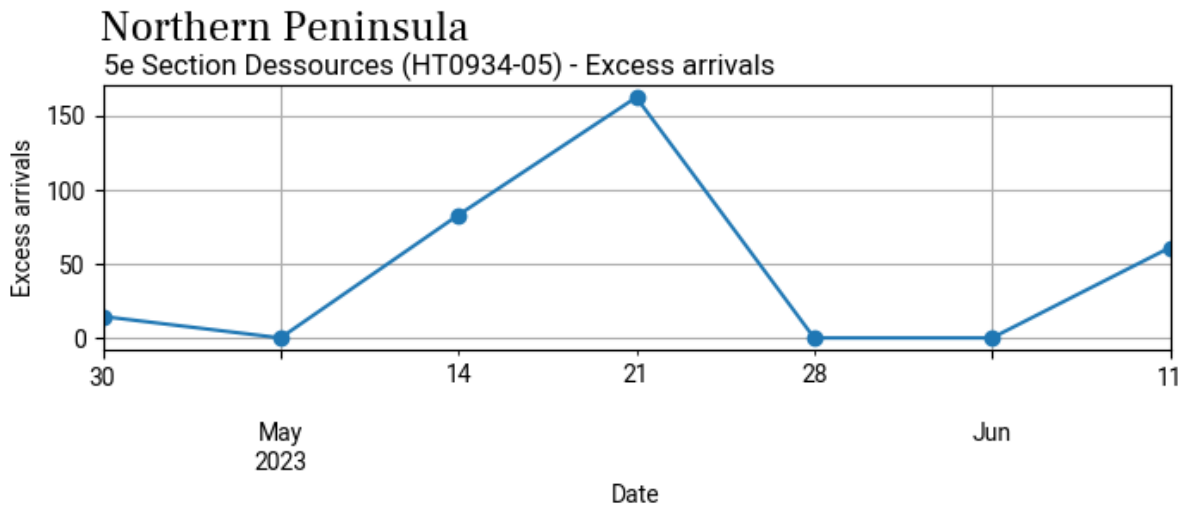
HT0911-06

Northern Peninsula
6e Section la Corne (HT0911-06) - Excess departures

Northern Peninsula
6e Section la Corne (HT0911-06) - Excess arrivals

Northern Peninsula
6e Section la Corne (HT0911-06) - Excess residents

HT0934-07

Northern Peninsula
7e Section Diondion (HT0934-07) - Excess departures

Northern Peninsula
7e Section Diondion (HT0934-07) - Excess arrivals

Northern Peninsula
7e Section Diondion (HT0934-07) - Excess residents

Port-au-Prince

HT0111-01

Port-au-Prince
1re Section Turgeau (HT0111-01) - Excess departures

Port-au-Prince
1re Section Turgeau (HT0111-01) - Excess arrivals

Port-au-Prince
1re Section Turgeau (HT0111-01) - Excess residents
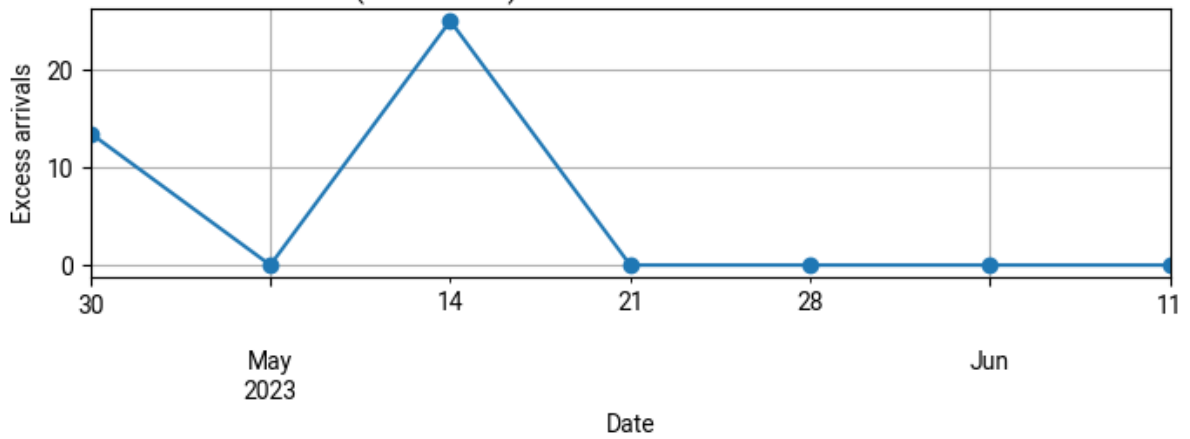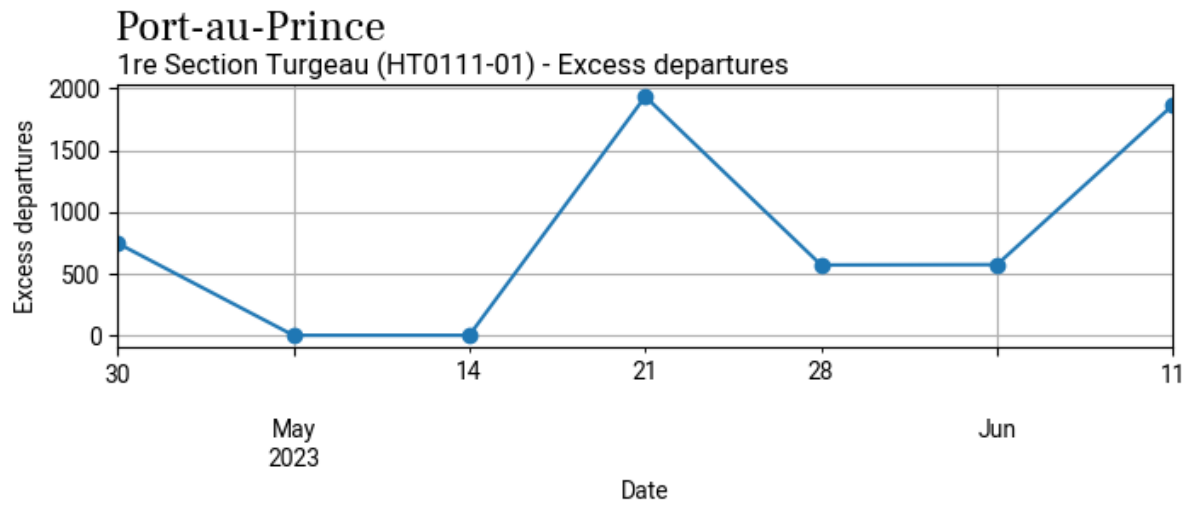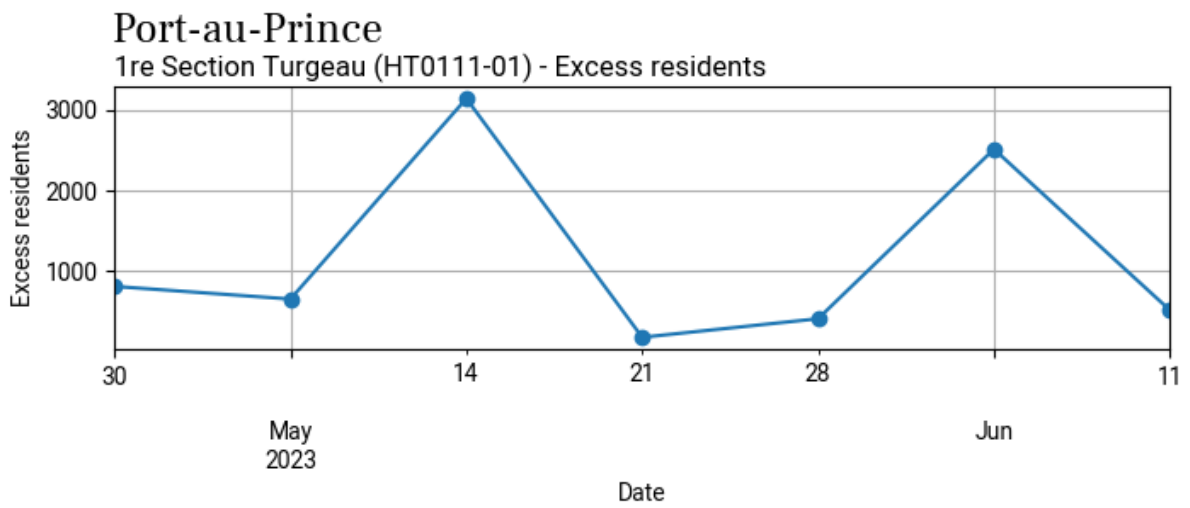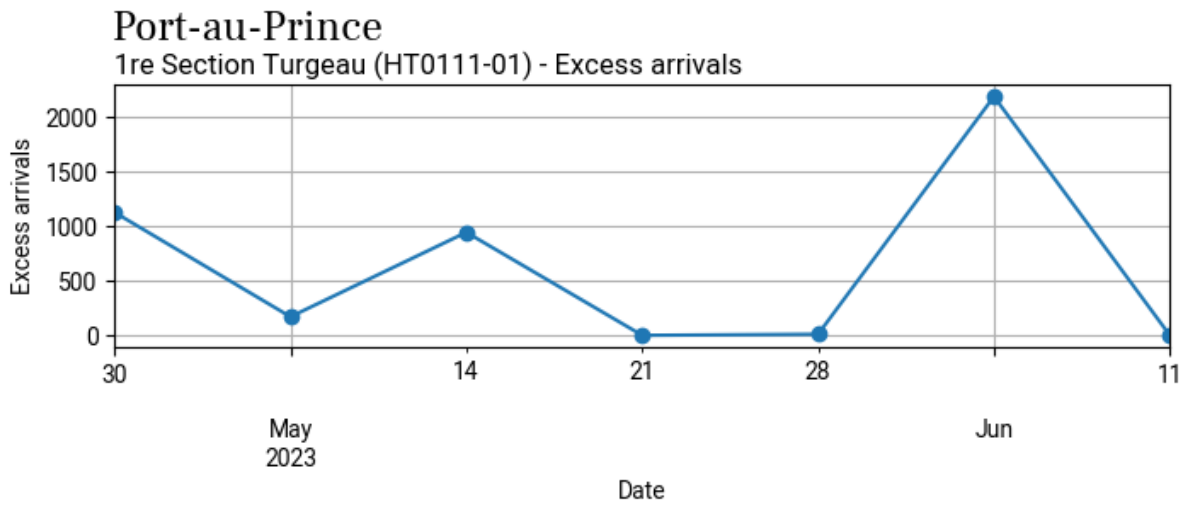
HT0111-02

Port-au-Prince
2e Section Morne l'Hopital (HT0111-02) - Excess departures
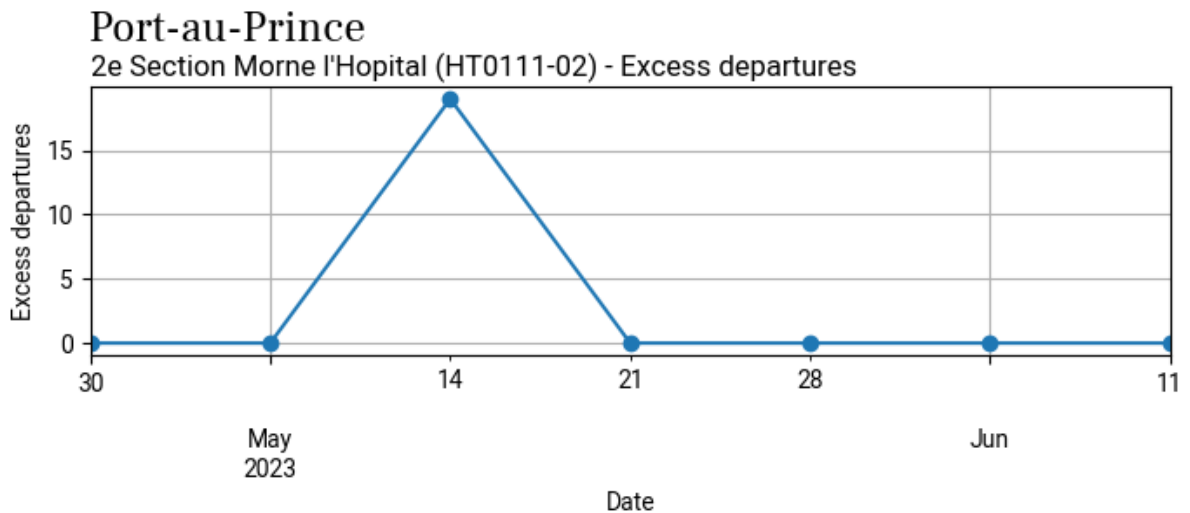
Port-au-Prince
2e Section Morne l'Hopital (HT0111-02) - Excess arrivals
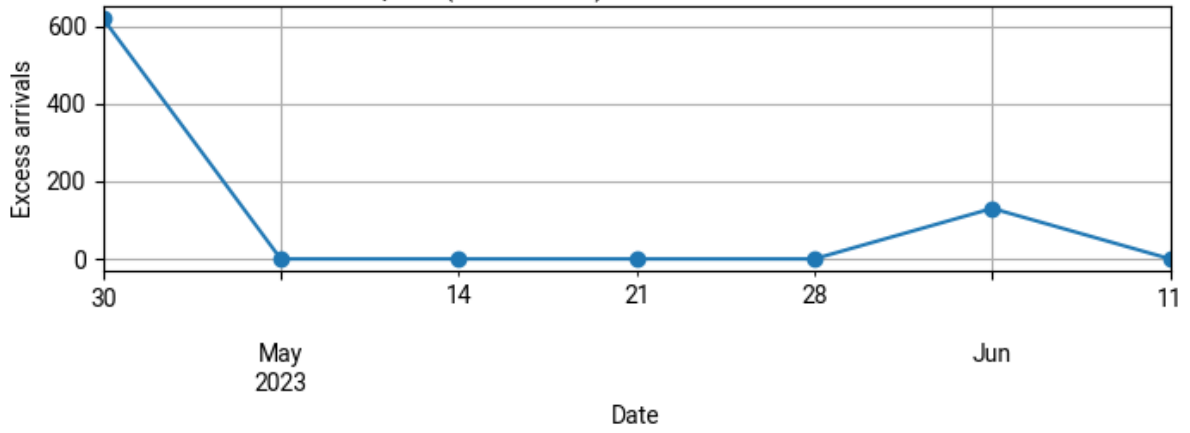
Port-au-Prince
2e Section Morne l'Hopital (HT0111-02) - Excess residents
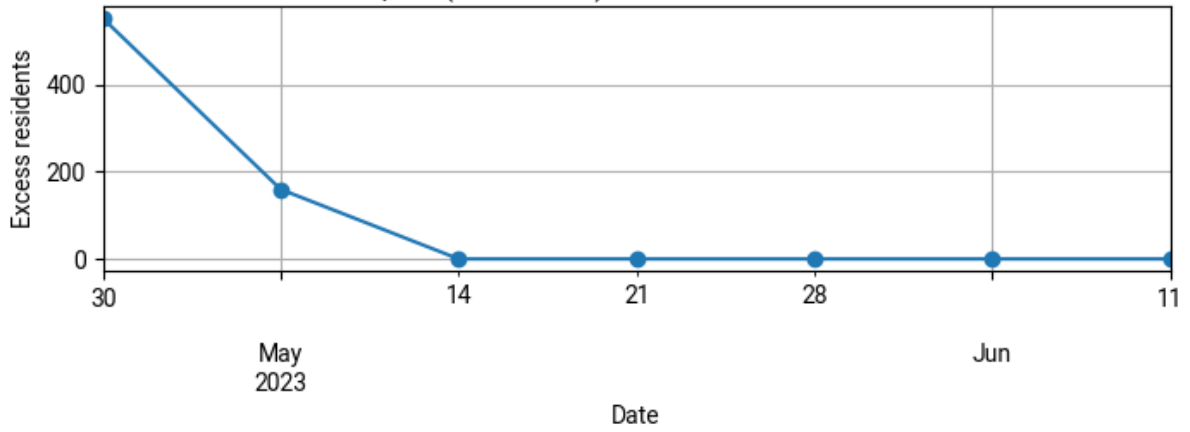
Petit-Goave

HT0122-10

Petit-Goave
10e Section des Palmes (HT0122-10) - Excess departures
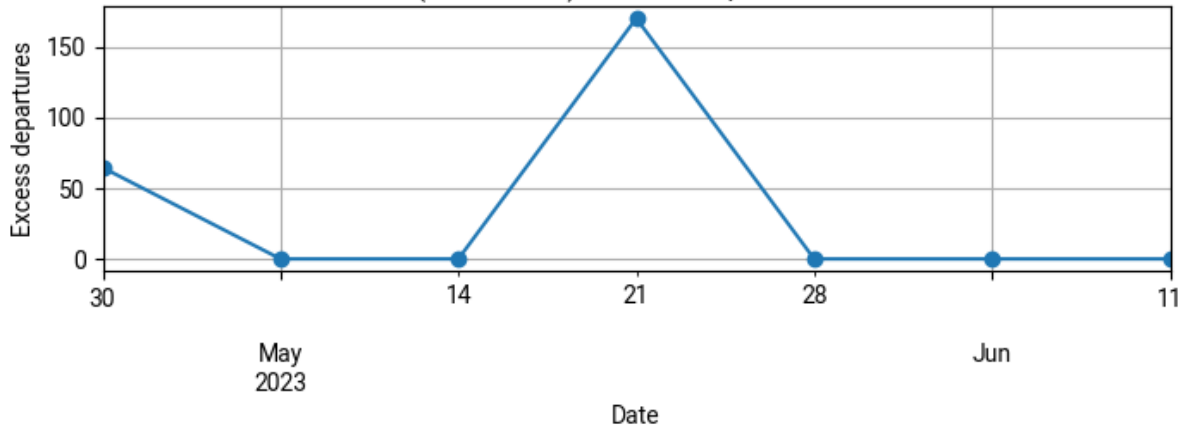
Petit-Goave
10e Section des Palmes (HT0122-10) - Excess arrivals
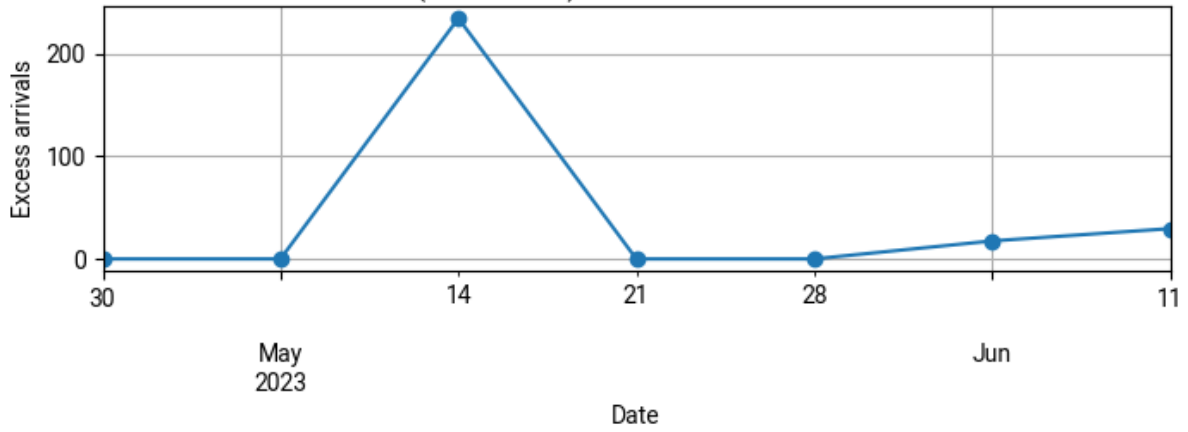
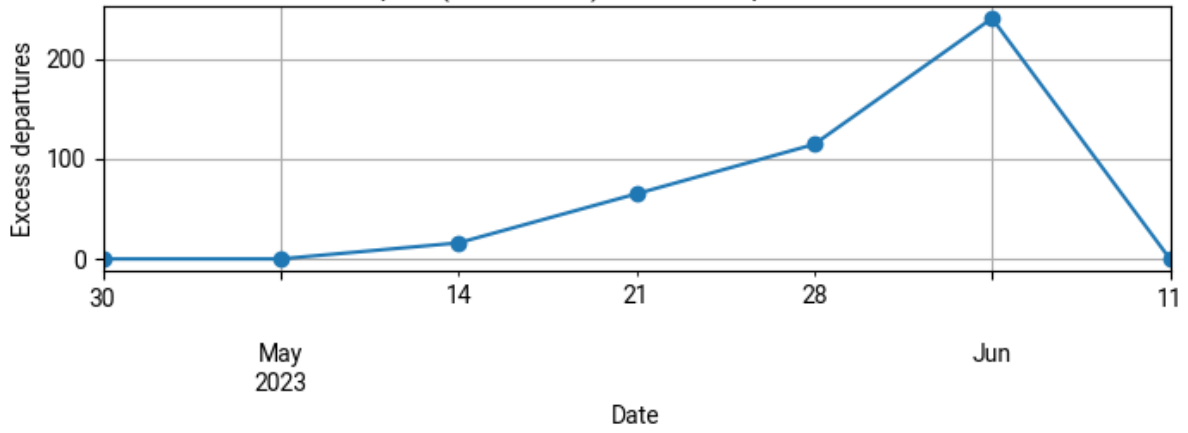## Petit-Goave
10e Section des Palmes (HT0122-10) - Excess residents

HT0122-11

Petit-Goave
### 11e Section Ravine Sèche (HT0122-11) - Excess departures

Petit-Goave
11e Section Ravine Sèche (HT0122-11) - Excess arrivals

Petit-Goave
11e Section Ravine Sèche (HT0122-11) - Excess residents
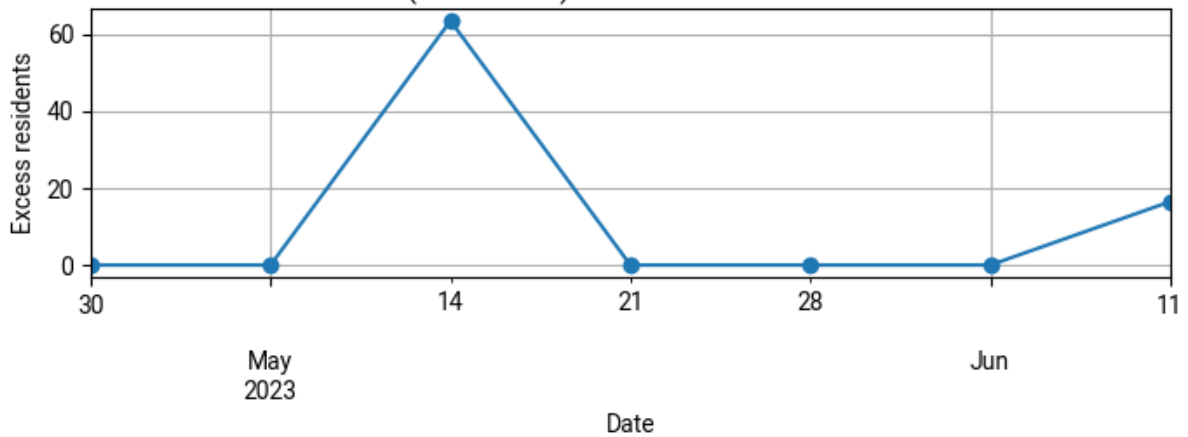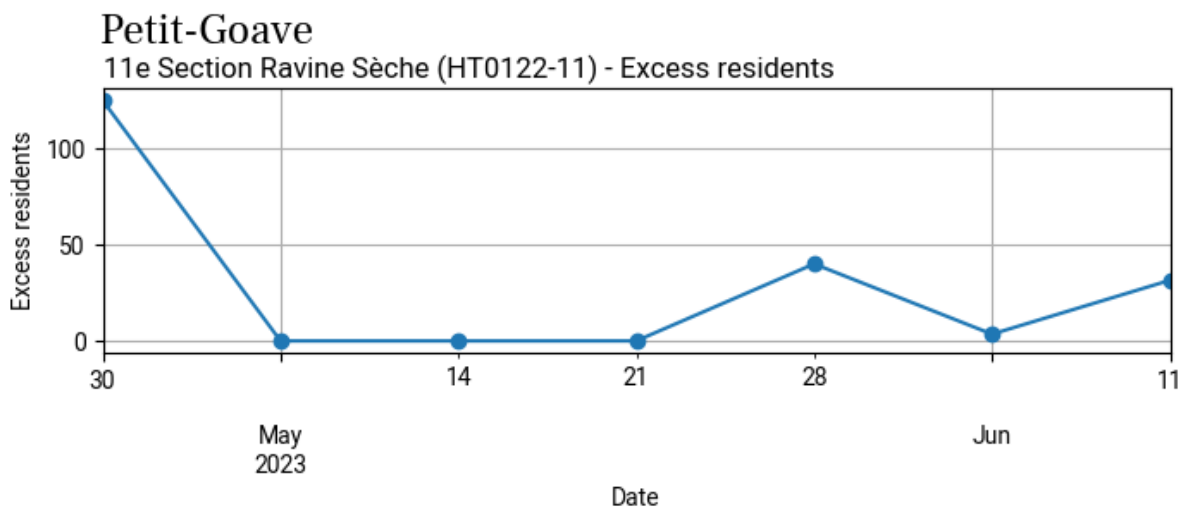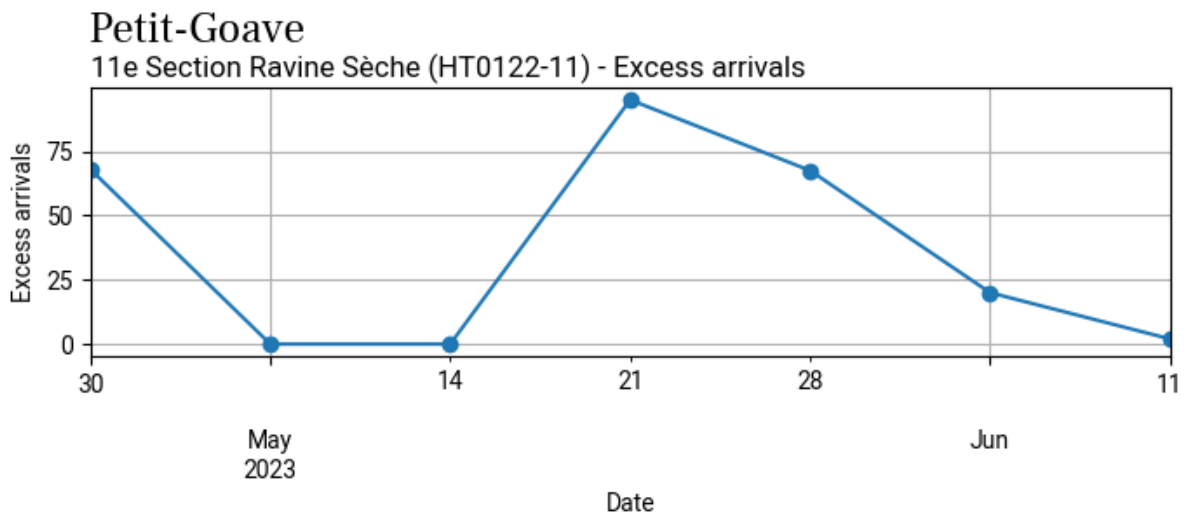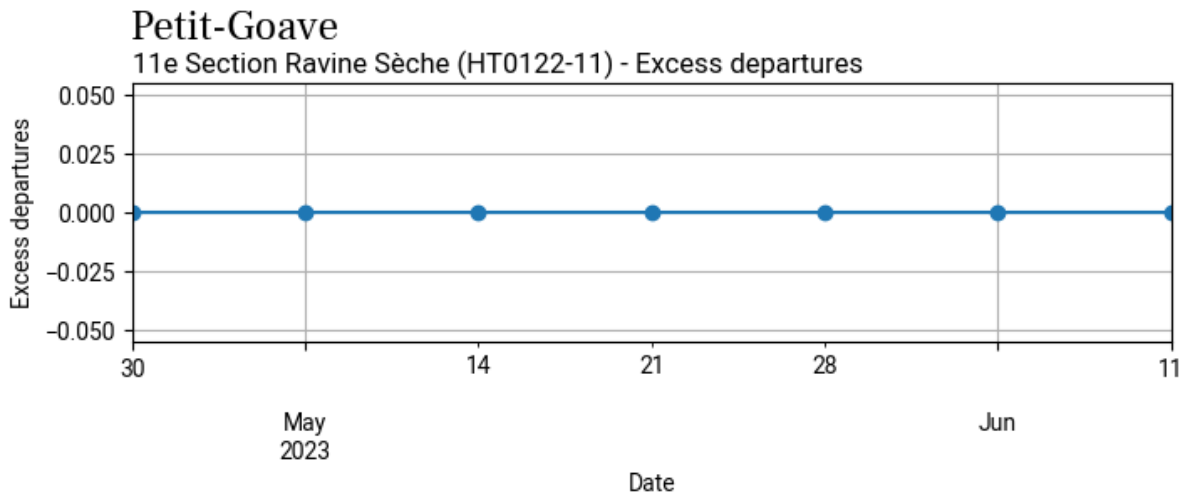
HT0122-12

Petit-Goave
12e Section des Fourques (HT0122-12) - Excess departures

Petit-Goave
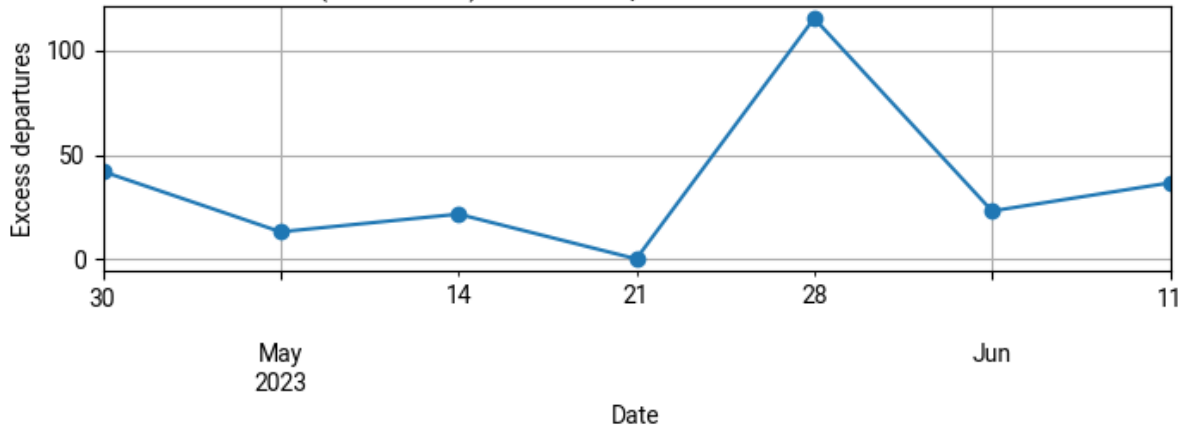### 12e Section des Fourques (HT0122-12) - Excess arrivals
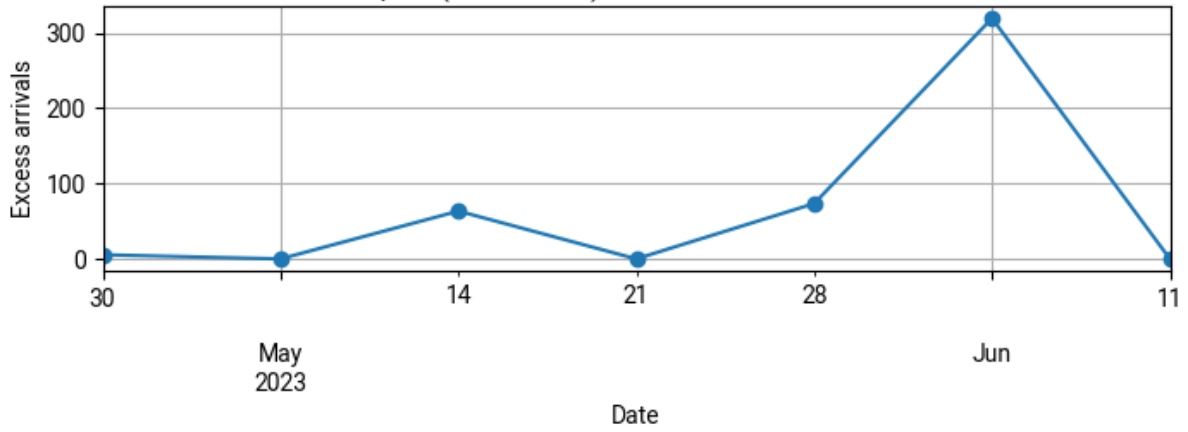
Petit-Goave
12e Section des Fourques (HT0122-12) - Excess residents
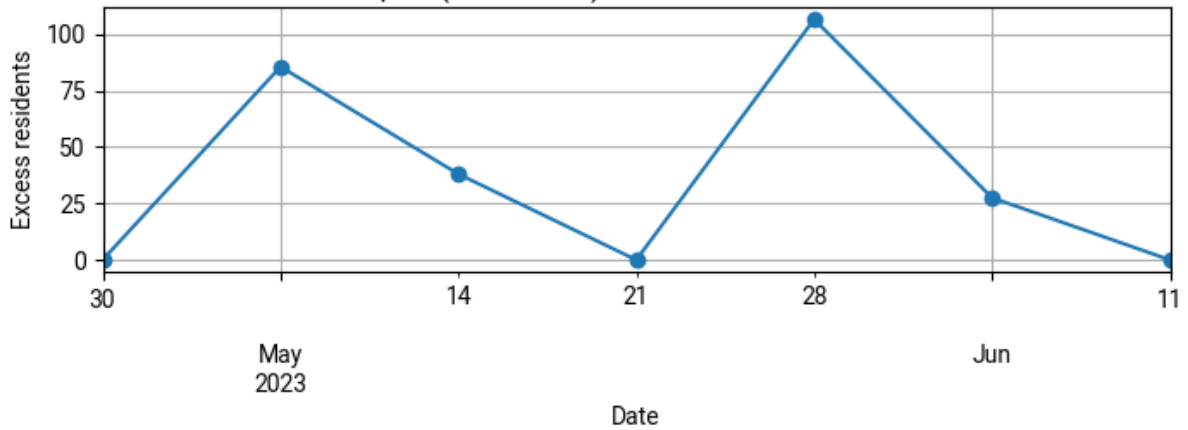
HT0122-01

Petit-Goave
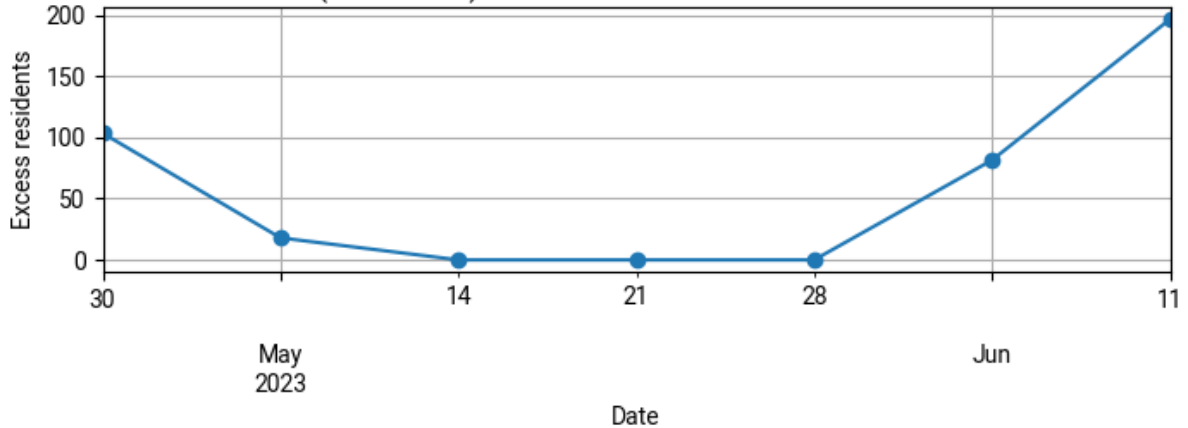### 1re Section Bino (HT0122-01) - Excess departures

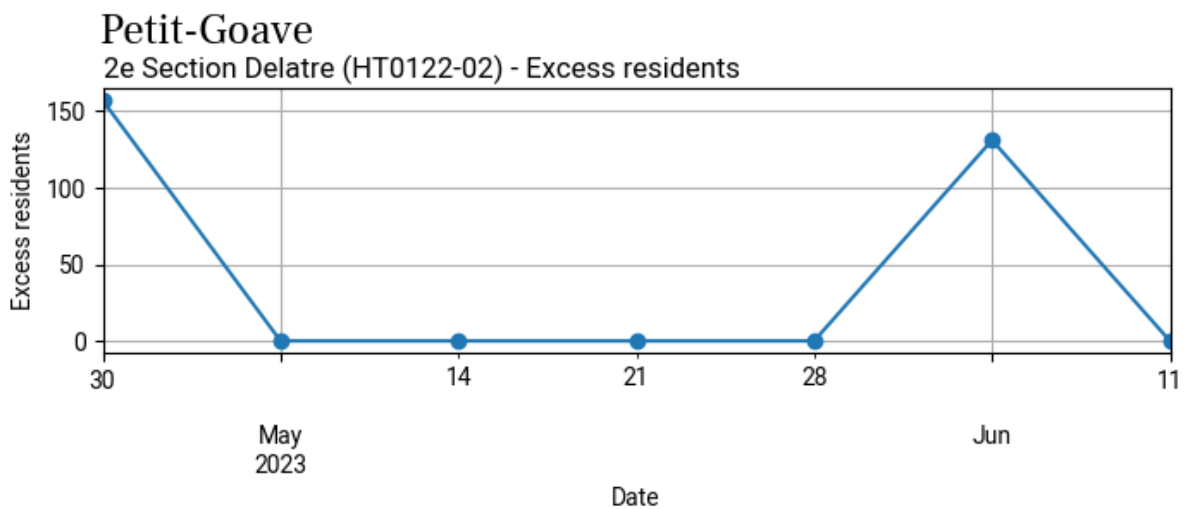## Petit-Goave
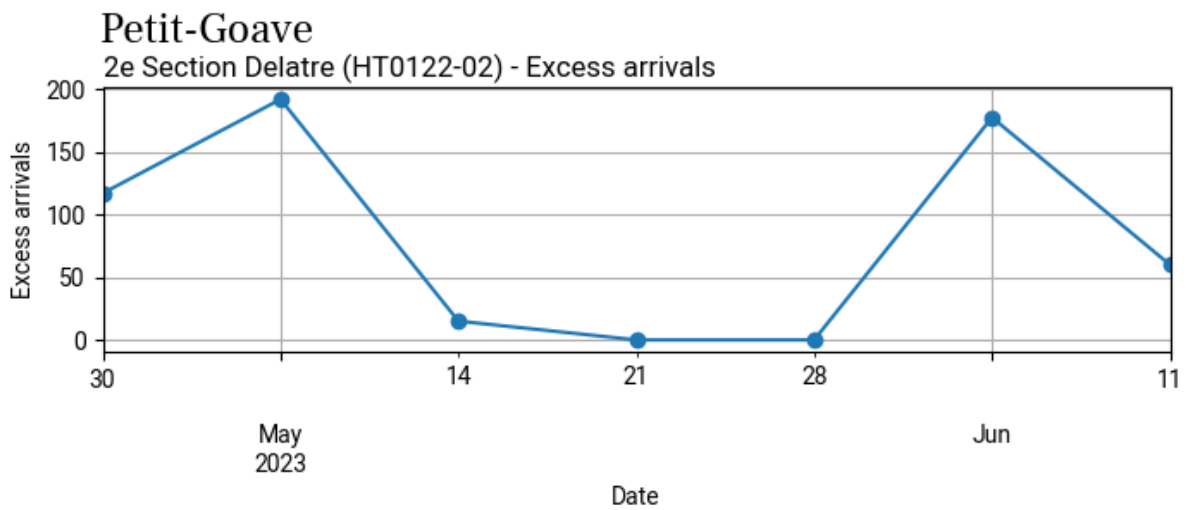### 1re Section Bino (HT0122-01) - Excess arrivals
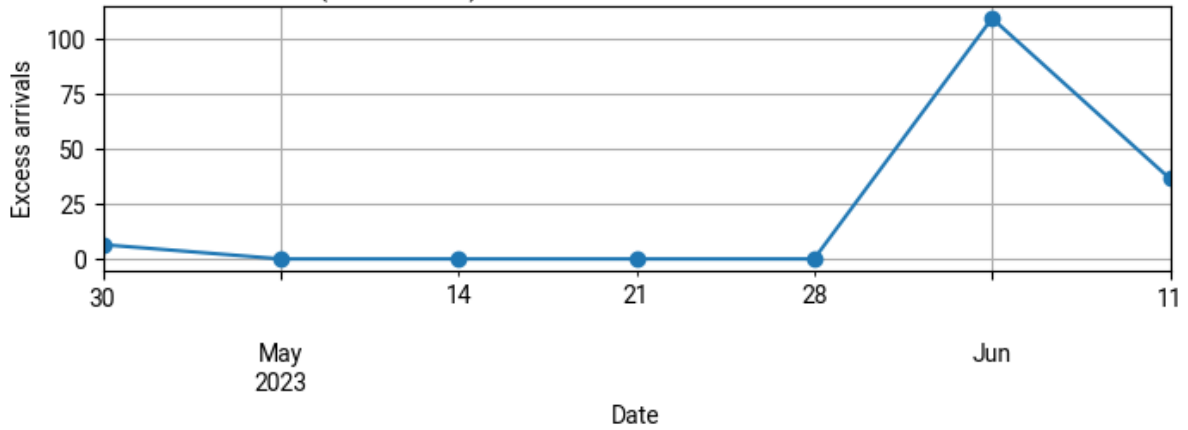
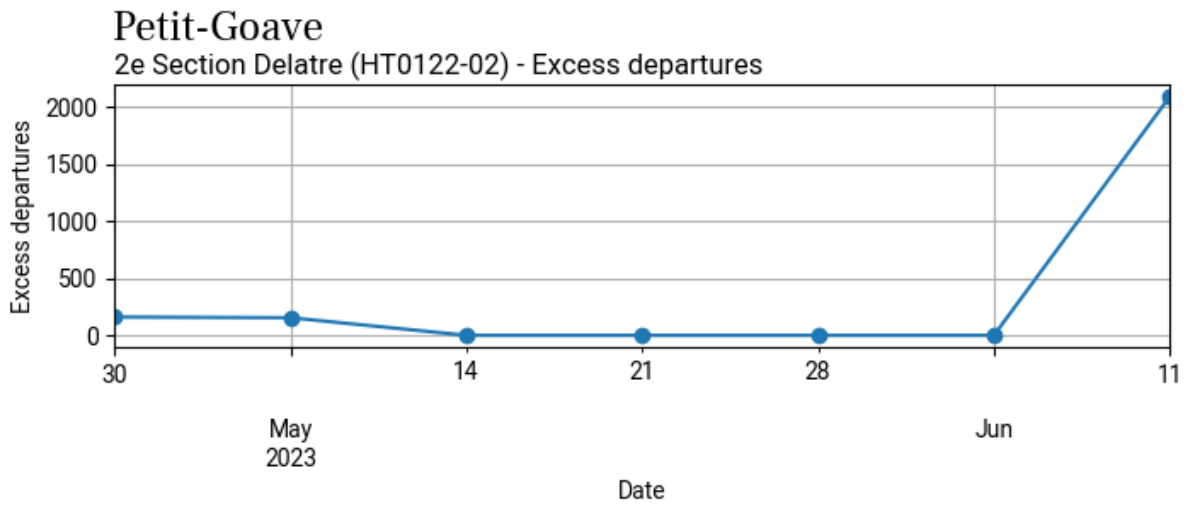
Petit-Goave
1re Section Bino (HT0122-01) - Excess residents

HT0122-02

Petit-Goave
2e Section Delatre (HT0122-02) - Excess departures

Petit-Goave
2e Section Delatre (HT0122-02) - Excess arrivals

Petit-Goave
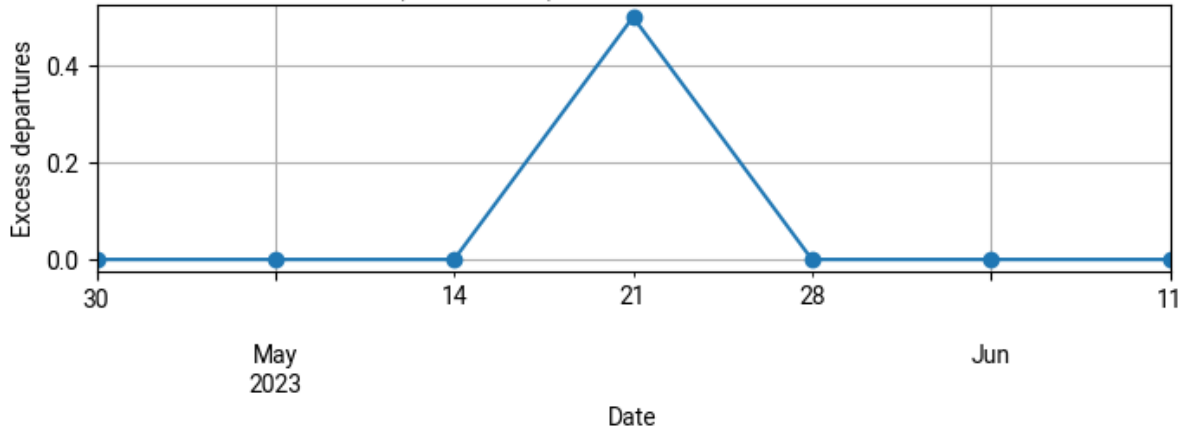### 2e Section Delatre (HT0122-02) - Excess residents
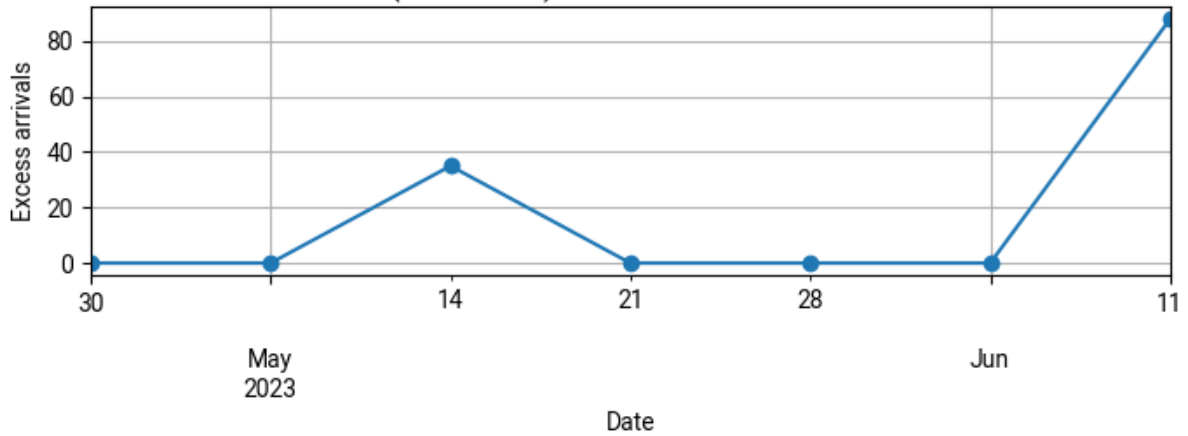

HT0122-06

Petit-Goave
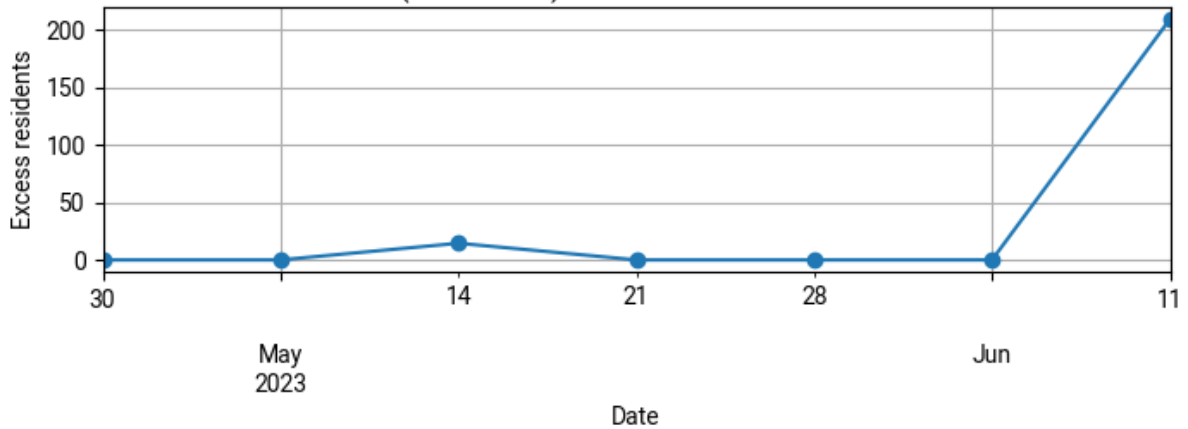6e Section Trou Canari (HT0122-06) - Excess departures

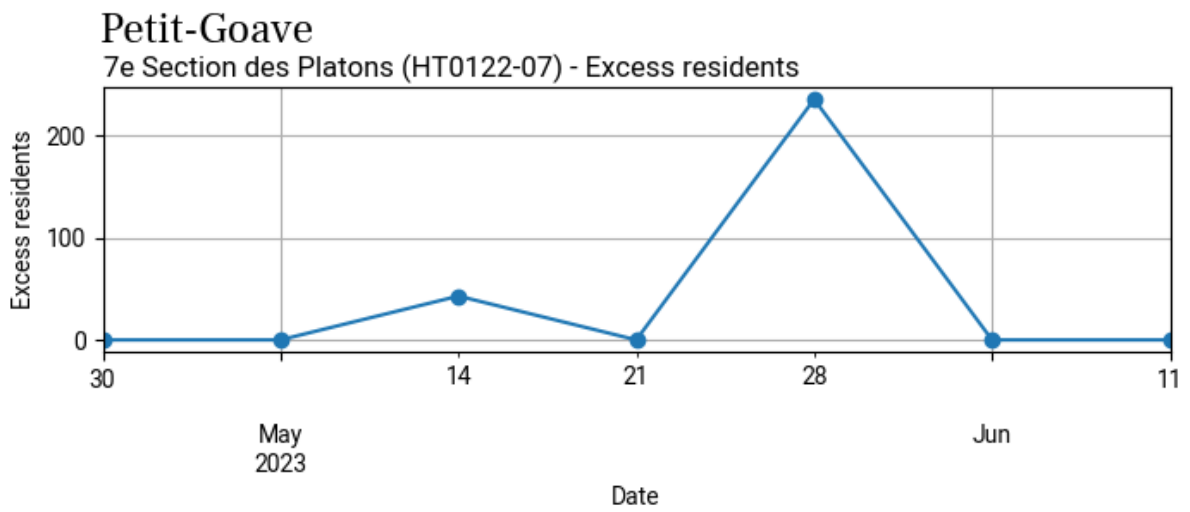Petit-Goave
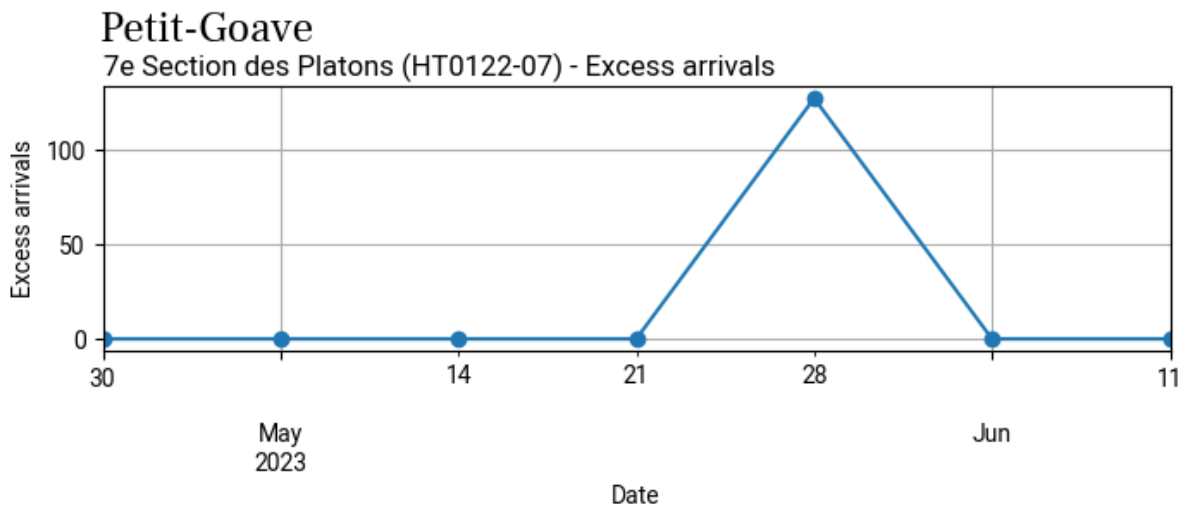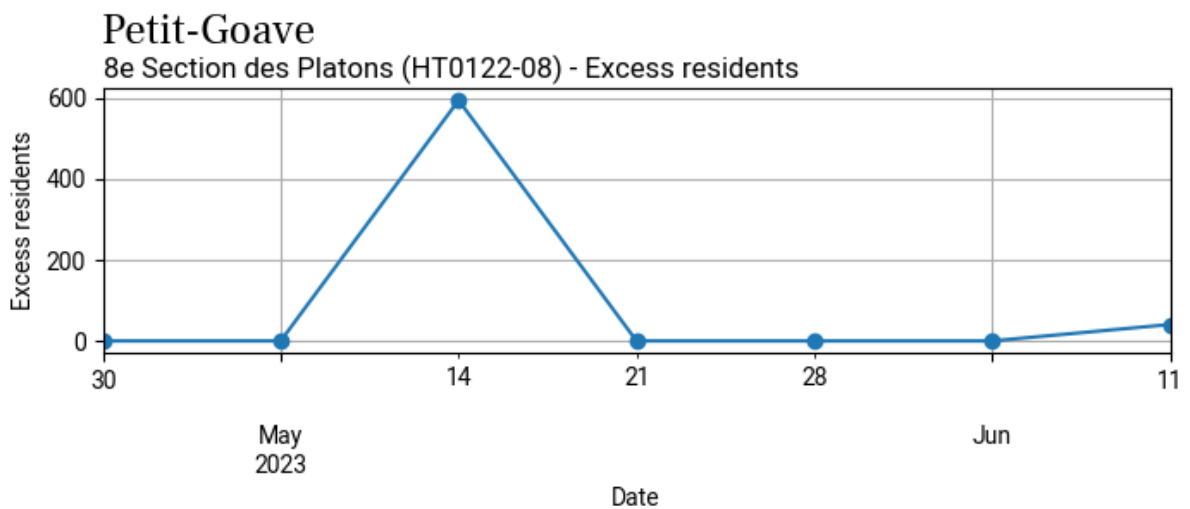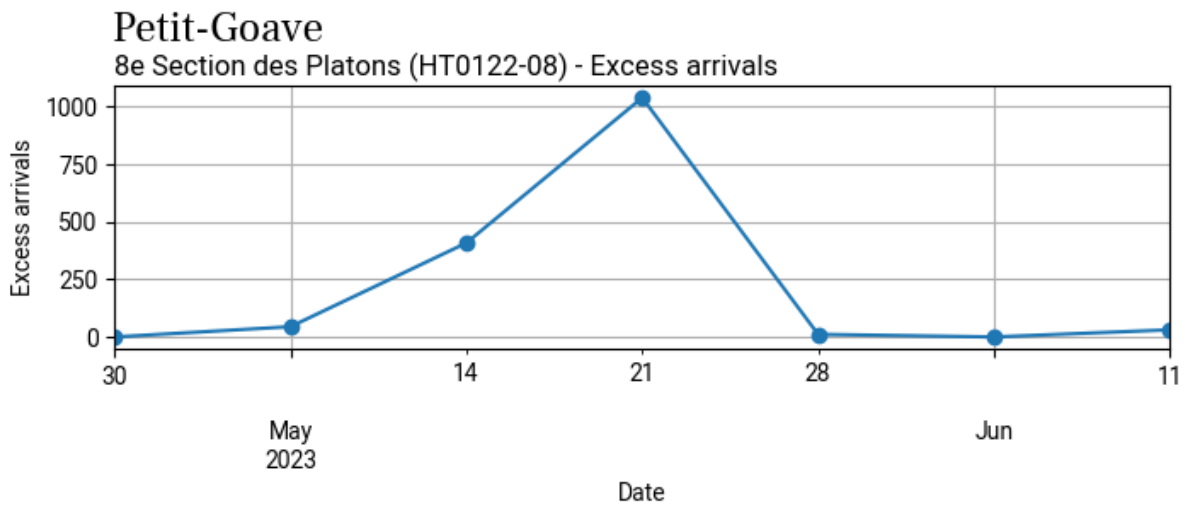6e Section Trou Canari (HT0122-06) - Excess arrivals

Petit-Goave
6e Section Trou Canari (HT0122-06) - Excess residents

HT0122-07

Petit-Goave
7e Section des Platons (HT0122-07) - Excess departures

Petit-Goave
7e Section des Platons (HT0122-07) - Excess arrivals

Petit-Goave
7e Section des Platons (HT0122-07) - Excess residents

HT0122-08

Petit-Goave
8e Section des Platons (HT0122-08) - Excess departures

Petit-Goave
8e Section des Platons (HT0122-08) - Excess arrivals

Petit-Goave
8e Section des Platons (HT0122-08) - Excess residents

HT0122-09

Petit-Goave
9e Section des Palmes (HT0122-09) - Excess departures

Petit-Goave
9e Section des Palmes (HT0122-09) - Excess arrivals
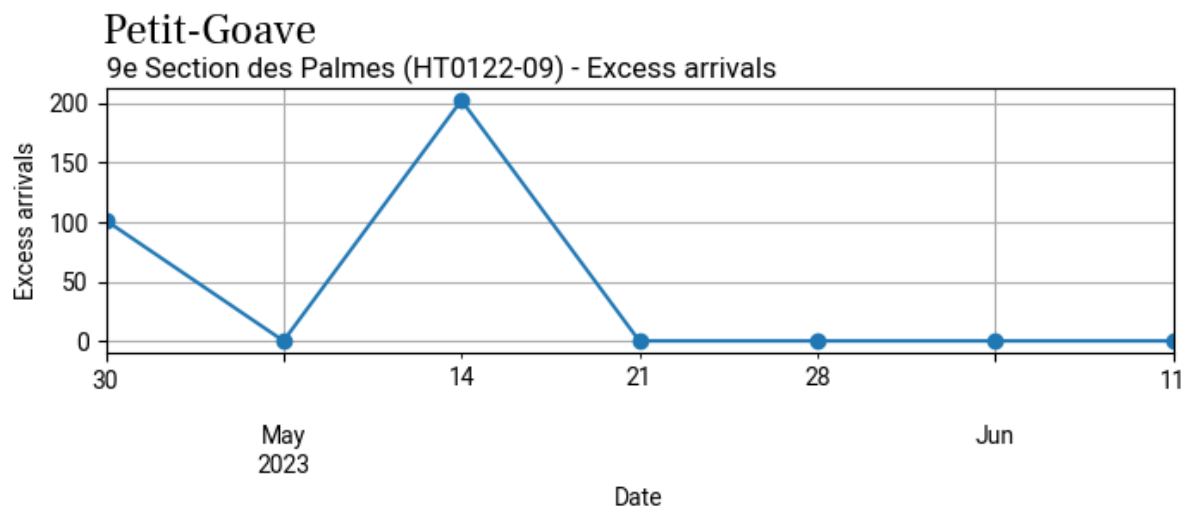
Petit-Goave
9e Section des Palmes (HT0122-09) - Excess residents