COVID19_France_Regions

December 30, 2021

1 Analyse brute des donnÃl'es quotidiennes publiques covid19 France et rÃl'gions

Dernier Rapport au format pdf sur le site github

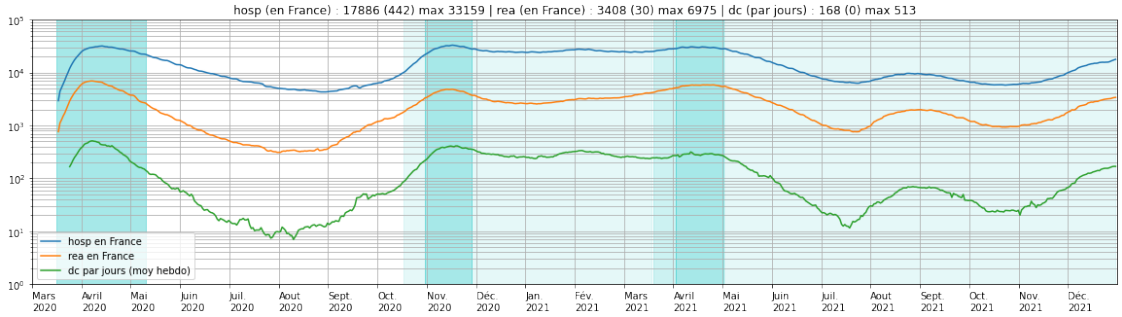
[12]:
```
run -i function.py
```

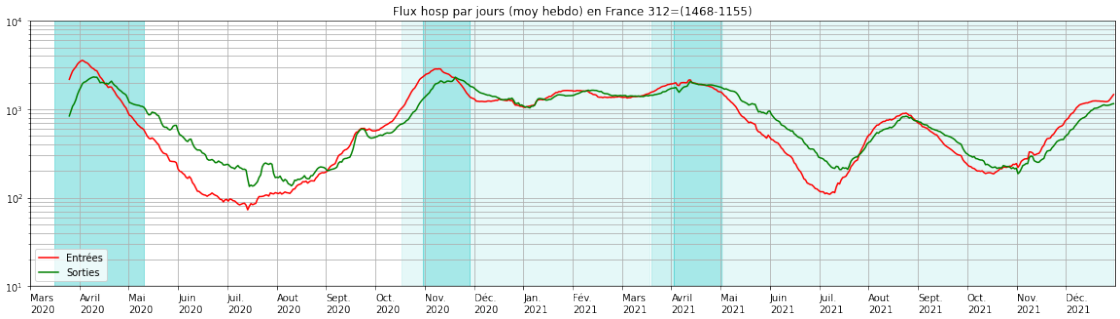
[13]:
```
run -i load.py
```

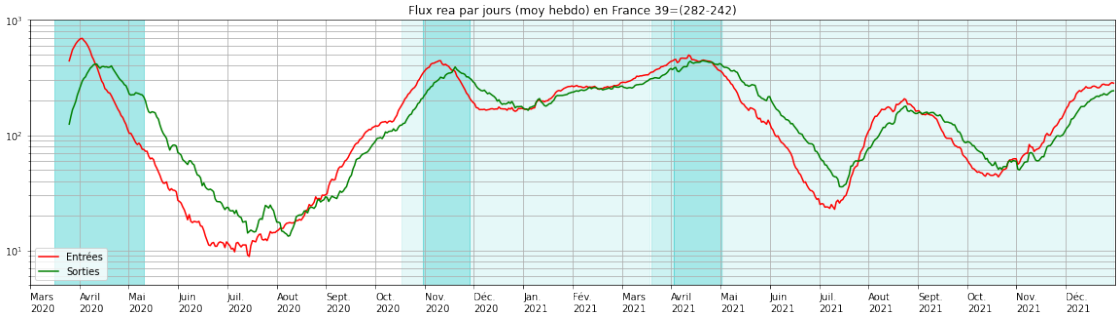
```
Read  ./RawData/donnees-hospitalieres-classe-age-covid19-2021-12-30-19h10.csv
Read  ./RawData/donnees-hospitalieres-nouveaux-covid19-2021-12-30-19h10.csv
```

1.1 Chiffres des hospitalisations et des dÃl'cÃís (CumulÃl's en France)

[15]:
```
DisplayFrance()
```



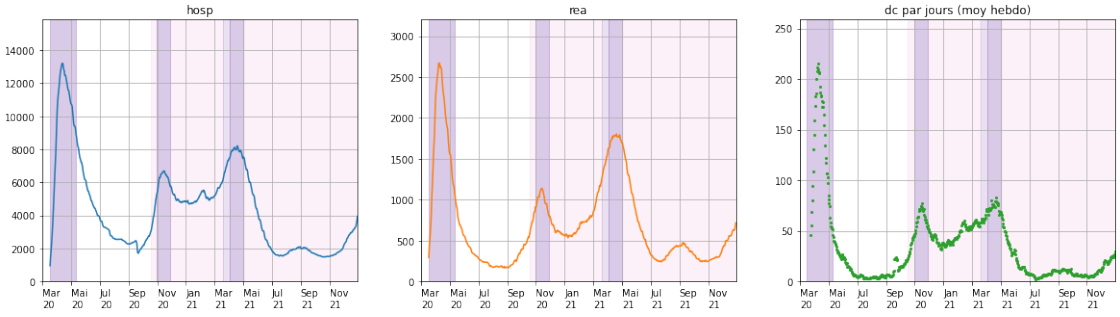




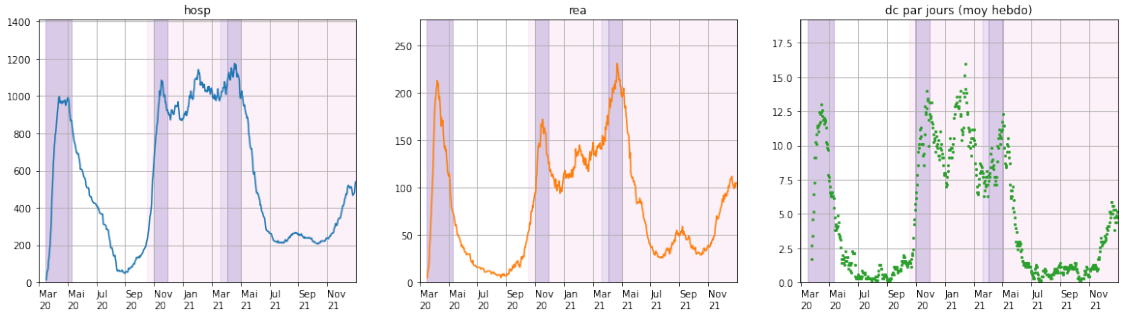
1.2 Chiffres des hospitalisations et des dÃľcÃĺs (par rÃľgions)

[17]:
```
for reg in region:
    DisplayRegions(reg)
```

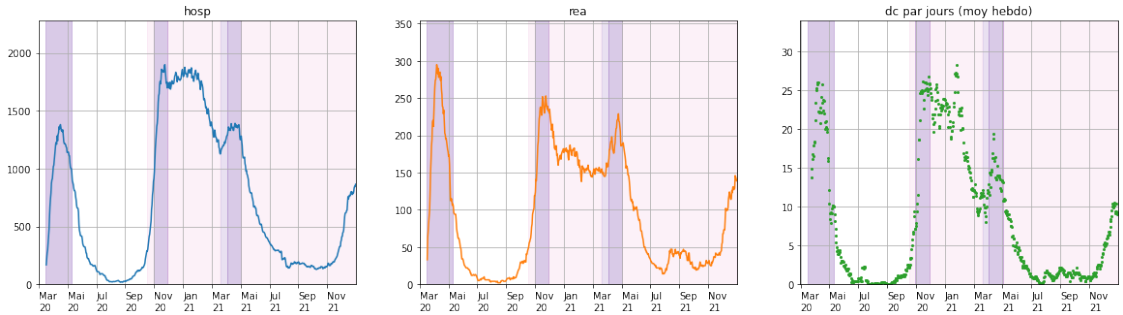
ILE DE FRANCE (0 Ãă 99+ ans)



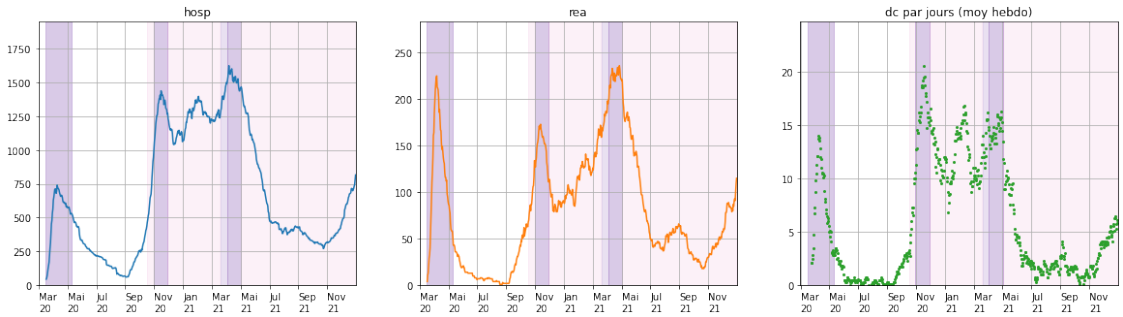
CENTRE VAL DE LOIRE (0 Ãă 99+ ans)



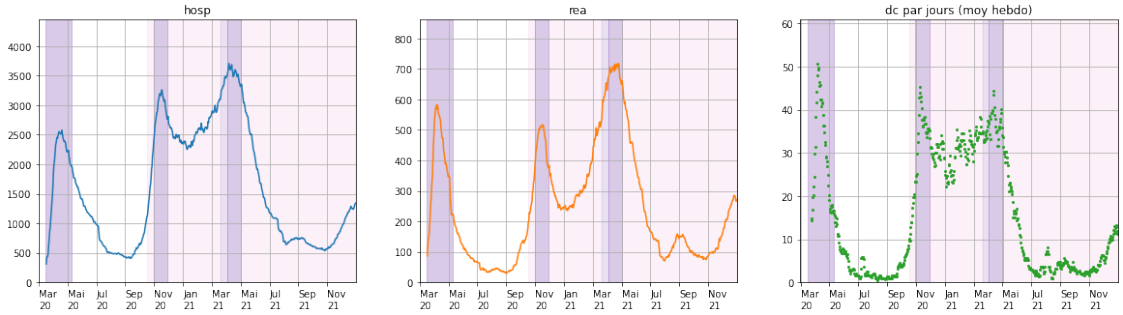
BOURGOGNE FRANCHE COMTE (0 Ãă 99+ ans)



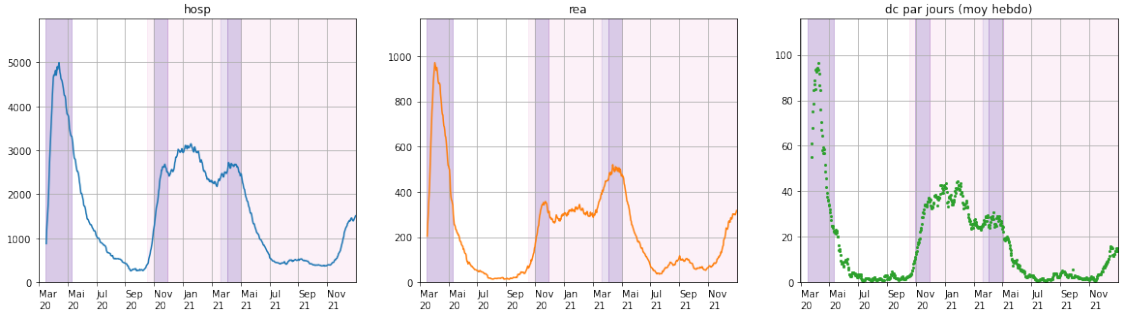
NORMANDIE (0 Ãă 99+ ans)



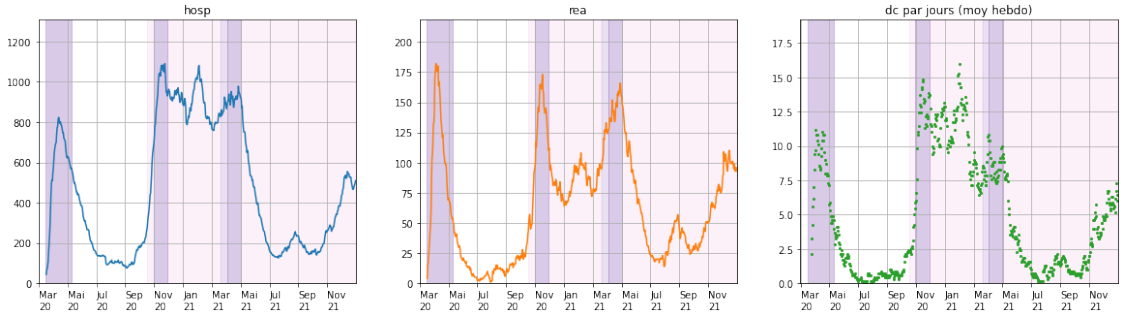
HAUTS DE FRANCE (0 Ãă 99+ ans)



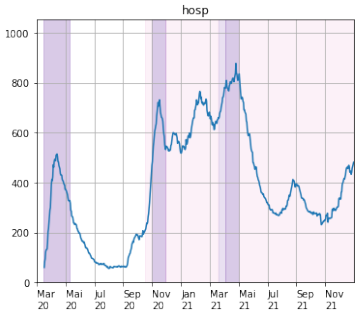
GRAND EST (0 Ãă 99+ ans)

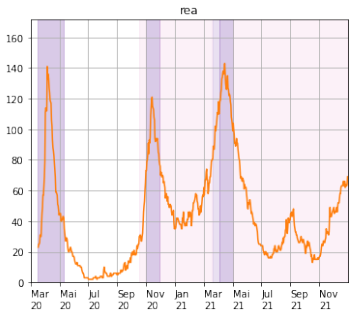


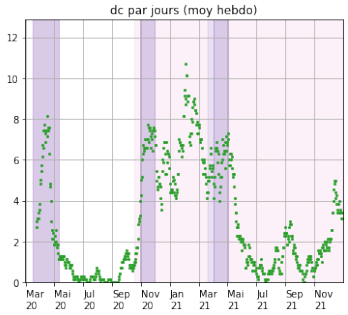
PAYS DE LA LOIRE (0 Ãă 99+ ans)



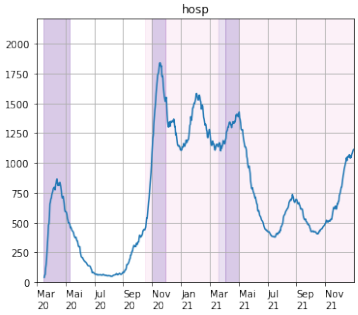
BRETAGNE (0 Ãă 99+ ans)

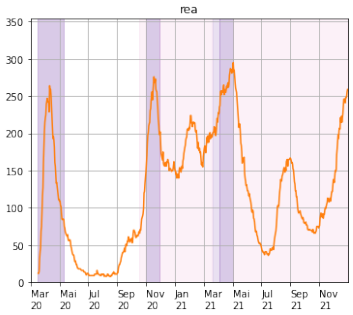


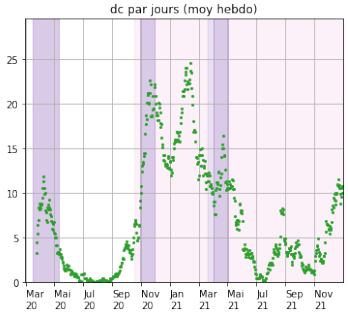




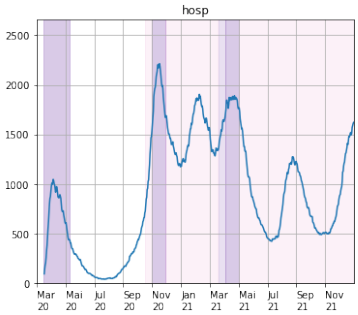
NOUVELLE AQUITAINE (0 Ãă 99+ ans)

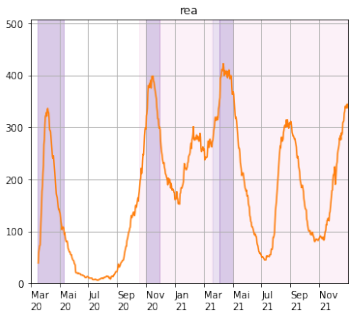


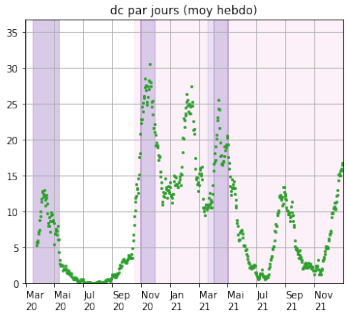




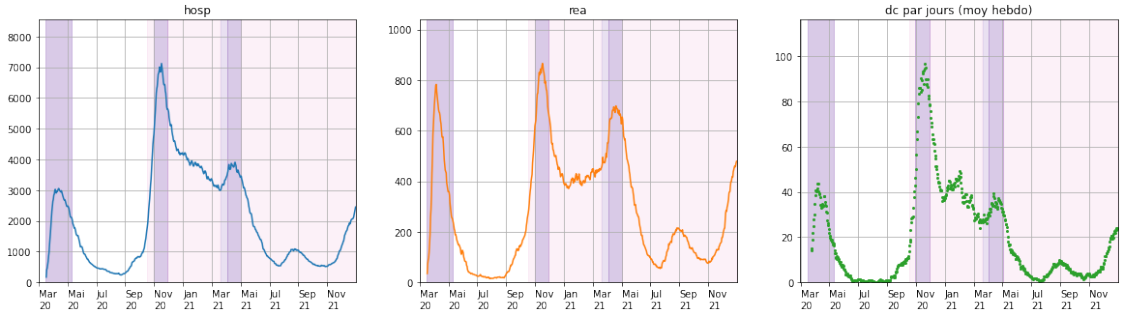
OCCITANIE (0 Ãă 99+ ans)



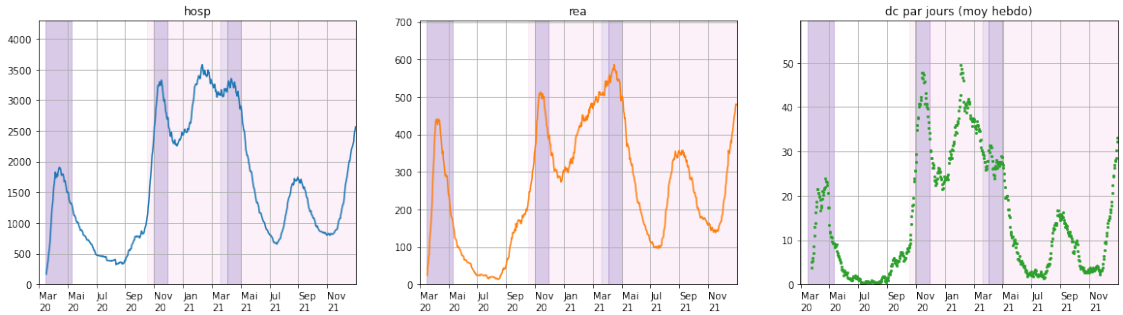




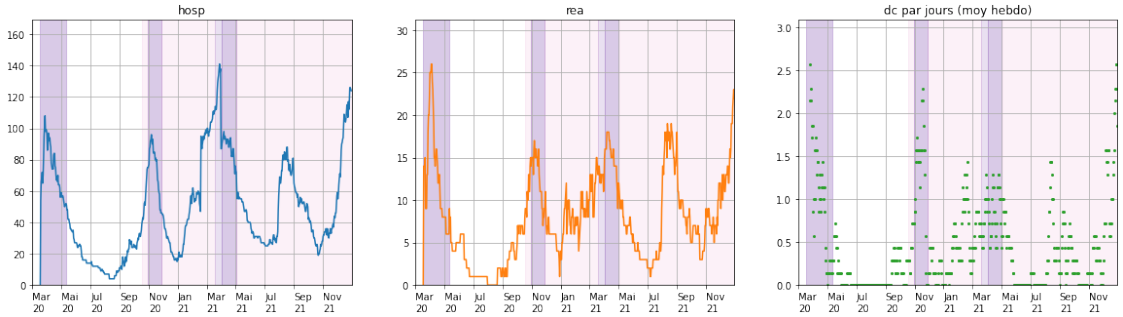
AUVERGNE RHONE ALPES (0 Ãă 99+ ans)



PROVENCE ALPES COTE D AZUR (0 Ãă 99+ ans)



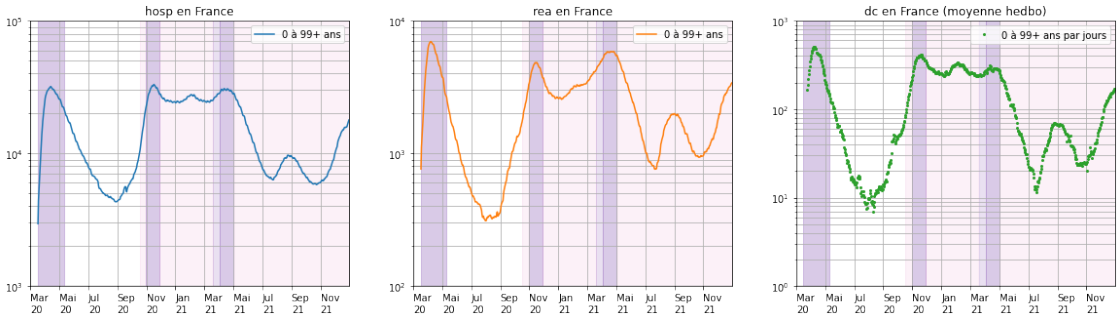
CORSE (0 Ãă 99+ ans)



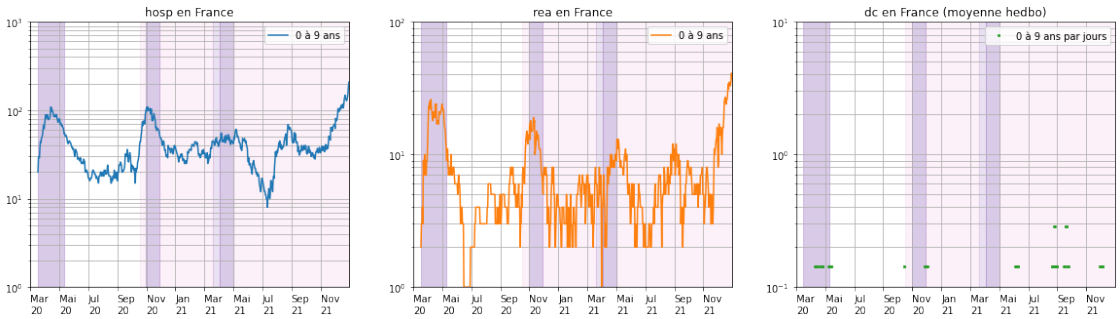
1.3 Chiffres des hospitalisations et des dÃľcÃĺs (par tranches d'age)

[19]:
```
for clage in trancheage:
    DisplayAge(clage)
```

```
0 Ãă 99+ ans
 Max   hosp : 33159 | 1ÃÍre Vague :31990 | 2ÃÍme Vague :33159 |
 Max   rea  :  6975 | 1ÃÍre Vague : 6975 | 2ÃÍme Vague : 5876 |
 Max   dc   :   513 | 1ÃÍre Vague :  513 | 2ÃÍme Vague :  411 |
 Total dc   : 92731 | 1ÃÍre Vague: 18618 | 2ÃÍme Vague :74112 |
```

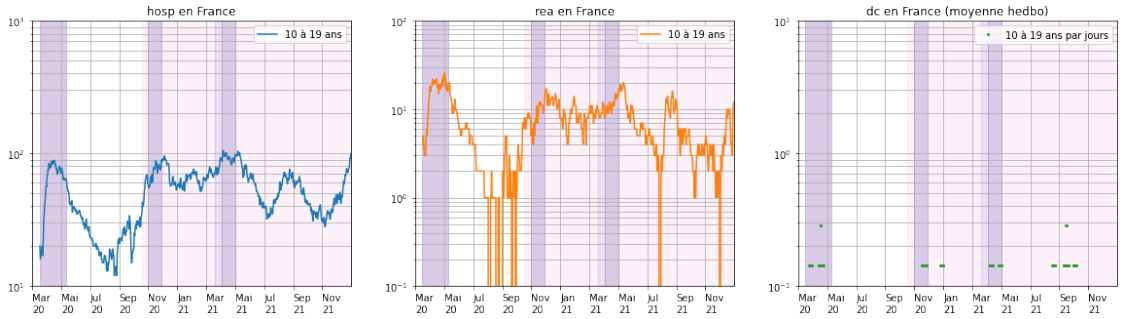



```
0 Ãă 9 ans
 Max   hosp :   208 | 1ÃÍre Vague :  109 | 2ÃÍme Vague :  208 |
 Max   rea  :    41 | 1ÃÍre Vague :   26 | 2ÃÍme Vague :   41 |
 Max   dc   :     0 | 1ÃÍre Vague :    0 | 2ÃÍme Vague :    0 |
 Total dc   :    10 | 1ÃÍre Vague:     3 | 2ÃÍme Vague :    7 |
```



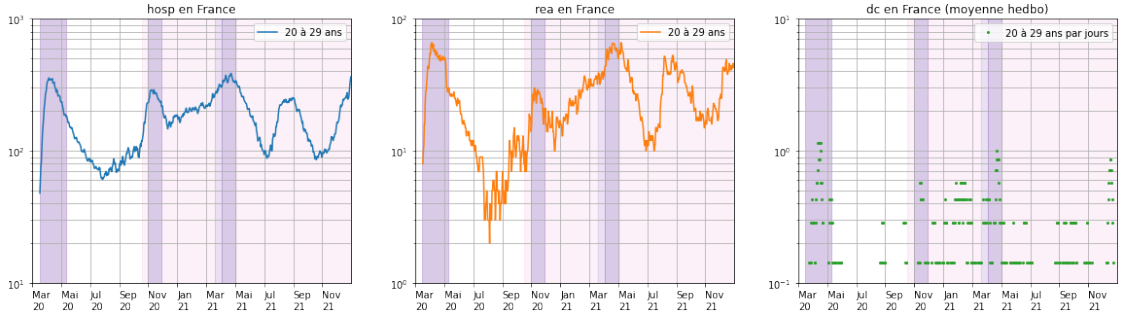

```
10 Ãă 19 ans
 Max   hosp :   105 | 1ÃÍre Vague :   89 | 2ÃÍme Vague :  105 |
 Max   rea  :    26 | 1ÃÍre Vague :   26 | 2ÃÍme Vague :   20 |
```

```
 Max   dc   :     0 | 1ÃÍre Vague :    0 | 2ÃÍme Vague :    0 |
 Total dc   :    11 | 1ÃÍre Vague:     3 | 2ÃÍme Vague :    8 |
```



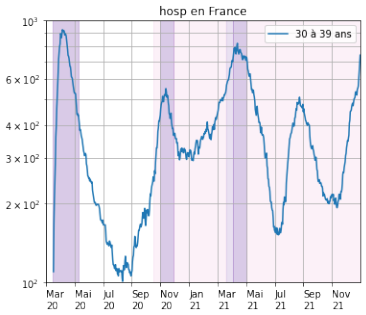
20 Ãă 29 ans

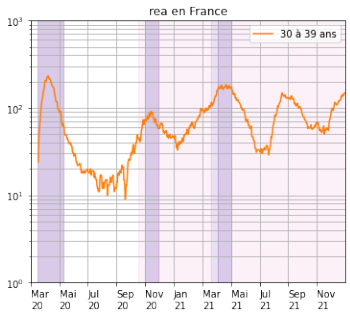
```
 Max   hosp :   386 | 1ÃÍre Vague :  357 | 2ÃÍme Vague :  386 |
 Max   rea  :    66 | 1ÃÍre Vague :   66 | 2ÃÍme Vague :   66 |
 Max   dc   :     1 | 1ÃÍre Vague :    1 | 2ÃÍme Vague :    1 |
 Total dc   :    91 | 1ÃÍre Vague:    19 | 2ÃÍme Vague :   72 |
```

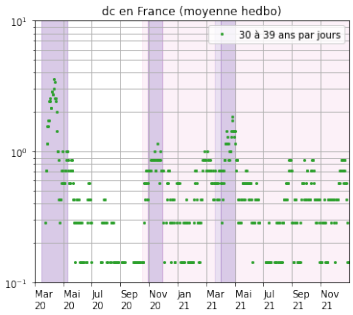


30 Ãă 39 ans

```
 Max   hosp :   923 | 1ÃÍre Vague :  923 | 2ÃÍme Vague :  819 |
 Max   rea  :   233 | 1ÃÍre Vague :  233 | 2ÃÍme Vague :  184 |
 Max   dc   :     3 | 1ÃÍre Vague :    3 | 2ÃÍme Vague :    1 |
 Total dc   :   307 | 1ÃÍre Vague:    88 | 2ÃÍme Vague :  219 |
```

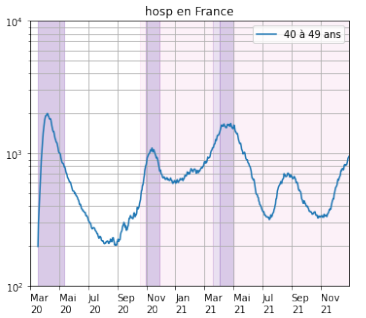


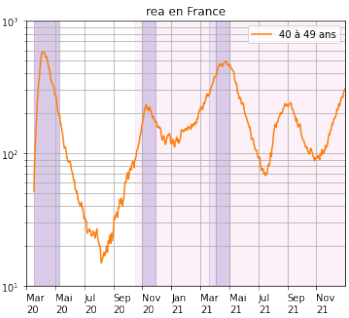


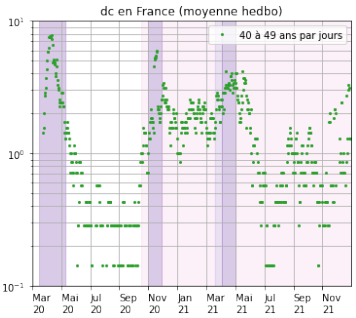


40 Ãă 49 ans

Max	hosp	:	2001	1ÃÍre Vague	:	2001	2ÃÍme Vague	: 1683
Max	rea	:	586	1ÃÍre Vague	:	586	2ÃÍme Vague	: 497
Max	dc	:	7	1ÃÍre Vague	:	7	2ÃÍme Vague	: 5
Total	dc	:	919	1ÃÍre Vague	:	228	2ÃÍme Vague	: 691

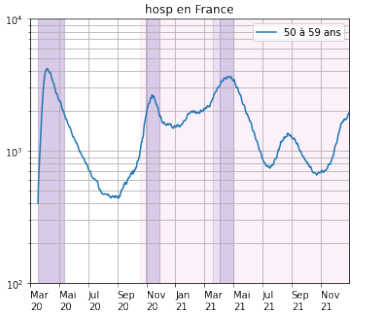


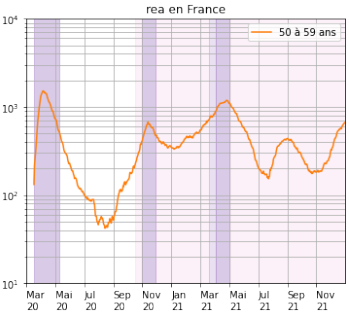


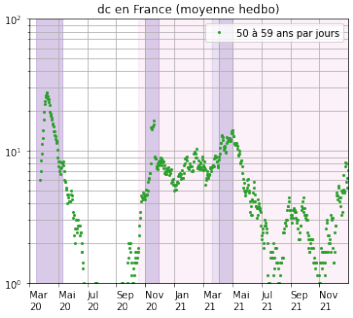


50 Ãă 59 ans

Max	hosp	:	4221	1ÃÍre Vague	:	4221	2ÃÍme Vague	: 3663
Max	rea	:	1519	1ÃÍre Vague	:	1519	2ÃÍme Vague	: 1189
Max	dc	:	27	1ÃÍre Vague	:	27	2ÃÍme Vague	: 16
Total	dc	:	3425	1ÃÍre Vague	:	884	2ÃÍme Vague	: 2541

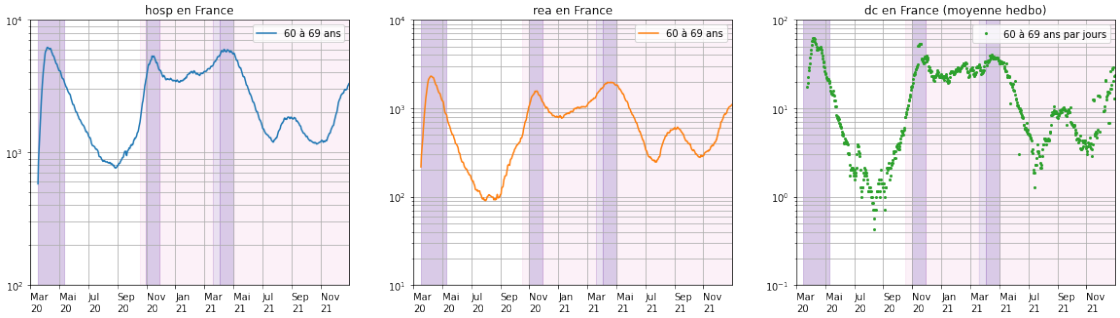






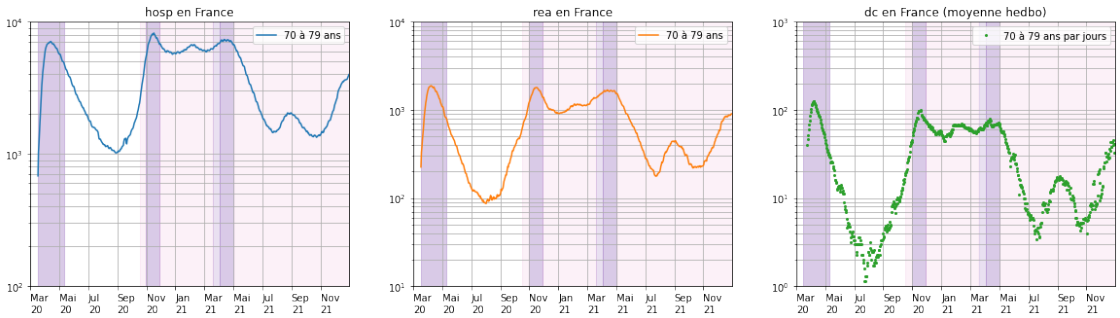
60 Ãă 69 ans

Max hosp : 6210	1ÃÍre Vague : 6210	2ÃÍme Vague : 5987	
Max rea : 2307	1ÃÍre Vague : 2307	2ÃÍme Vague : 1969	
Max dc : 62	1ÃÍre Vague : 62	2ÃÍme Vague : 54	
Total dc : 10362	1ÃÍre Vague: 2214	2ÃÍme Vague : 8147	



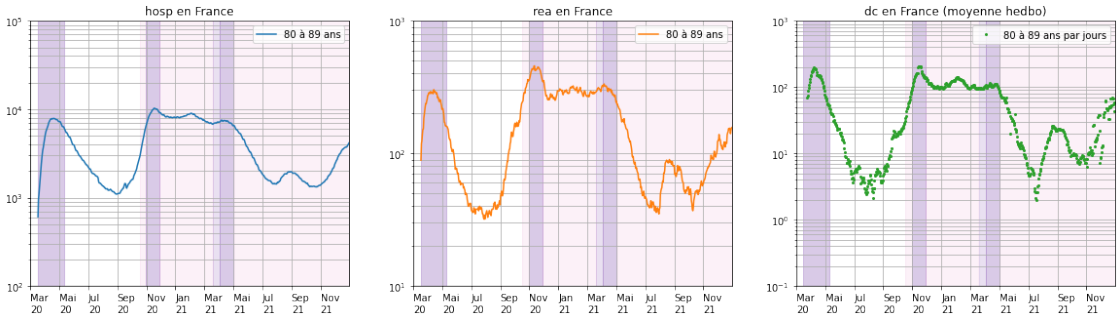
70 Ãă 79 ans

Max hosp : 8223	1ÃÍre Vague : 7096	2ÃÍme Vague : 8223	
Max rea : 1882	1ÃÍre Vague : 1882	2ÃÍme Vague : 1797	
Max dc : 125	1ÃÍre Vague : 125	2ÃÍme Vague : 100	
Total dc : 21065	1ÃÍre Vague: 4168	2ÃÍme Vague :16896	

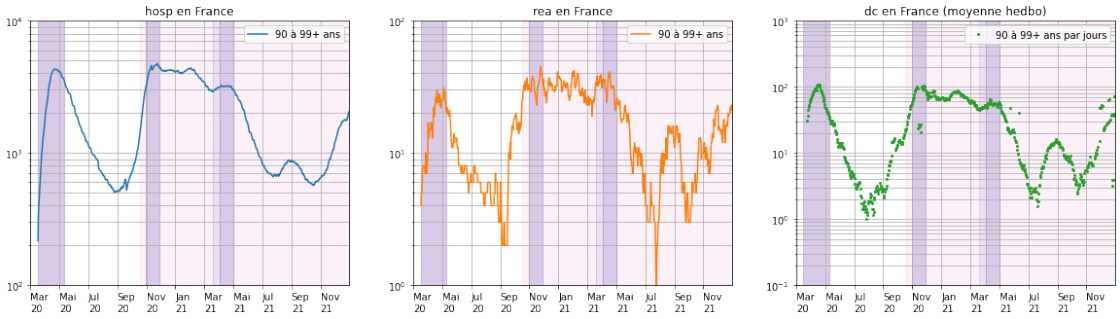


80 Ãă 89 ans

Max hosp : 10267	1ÃÍre Vague : 7886	2ÃÍme Vague :10267	
Max rea : 458	1ÃÍre Vague : 303	2ÃÍme Vague : 458	
Max dc : 209	1ÃÍre Vague : 197	2ÃÍme Vague : 209	
Total dc : 35441	1ÃÍre Vague: 6843	2ÃÍme Vague :28598	




```
90 Ãă 99+ ans
 Max   hosp :  4764 | 1ÃÍre Vague : 4324 | 2ÃÍme Vague : 4764 |
 Max   rea  :    45 | 1ÃÍre Vague :   31 | 2ÃÍme Vague :   45 |
 Max   dc   :   109 | 1ÃÍre Vague :  109 | 2ÃÍme Vague :  103 |
 Total dc   : 20624 | 1ÃÍre Vague:  4066 | 2ÃÍme Vague :16558 |
```



[11]:
```
CreateReport()
PushCommit()
```

2 Sources de donnÃl'es

https://www.data.gouv.fr/fr/datasets/donnees-hospitalieres-relatives-a-lepidemie-de-covid-19/

3 MÃl'thodologie

- Traitement du fichier de donnÃl'es brutes.
- ReprÃl'sentation des moyennes hebdomadaires comme donnÃl'es de base lissÃl'es.
- Affichage des diffÃl'rentes pÃl'riodes de couvre-feu et confinement.

- Versionning du dÃl'pÃt't pour la traÃğabilitÃl' et la reproductibilitÃl' sur un dÃl'pÃt't public.
- Interface pour les commentaires via github.

4 Quelques liens

- Euromomo (EuroMOMO is a European mortality monitoring activity, aiming to detect and measure excess deaths related to seasonal influenza, pandemics and other public health threats.) https://www.euromomo.eu/graphs-and-maps/
- CÃl'piDc (Centre d'Ãl'pidÃl'miologie sur les causes mÃl'dicales de DÃl'cÃÍs) https://opendata.idf.inserm.fr/cepidc/covid-19/index.html
- Avis de scientifiques CNRS, INSERM, Institut Pasteur, INRA, UniversitÃl'. Equipe bÃl'nÃl'vole et indÃl'pendante https://www.adioscorona.org/
- FranceInfo : "Suivez l'Ãl'volution de l'Ãl'pidÃl'mie en France et dans le monde" https://www.francetvinfo.fr/sante/maladie/coronavirus/infographies-covid-19-morts-hospitalisations-age-malades-l-evolution-de-l-epidemie-en-france-et-dans-le-monde-en-cartes-et-graphiques.html
- le suivi des variants en angleterre https://www.gov.uk/government/publications/covid-19-variants-genomically-confirmed-case-numbers/
- Un exemple de modÃl'lisation Ãl'pidÃl'mique par infÃl'rrence https://cloudapps.france-bioinformatique.fr/covidici/

5 Quelques refÃl'rences bibliographiques

- "Evaluation des stratÃl'gies vaccinales COVID-19 avec un modÃÍle mathÃl'matique populationnel" CÃl'cile Kiem, ClÃl'ment Massonnaud, Daniel Levy-Bruhl, Chiara Poletto, Vittoria Colizza, et al. 2020. pasteur-03087143 (23/12/2020)
- "Evolution of outcomes for patients hospitalized during the first SARS-CoV-2 pandemic wave in France. 2020.", NoÃl'mie Lefrancq, Juliette Paireau, NathanaÃńl HozÃl', NoÃl'mie Courtejoie, Yazdan Yazdanpanah, et al. hal-02946545 (23/09/2020)
- "Seroprevalence of SARS-CoV-2 among adults in three regions of France following the lockdown and associated risk factors: a multicohort study." Carrat et al. 2020
- "Ready for a BASE jump? Do not neglect SARS-CoV-2 hospitalization and fatality risks in the middle-aged adult population" Lapidus et al, 2020 (07/11/2020)
- "Estimated date of dominance of VOC-202012/01 strain in France and projected scenarios" Sabbatini et al, 2021 (All reports available here)

5.1 Code Source et donnÃl'es

- `function.py`
- `load.py`

- DonnÃĺes dans le repertoire local /RawData

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