Integration of Statistical and Geospatial Information in Central America

Séptima Sesión
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REGIONAL COMMITTEE OF
UNITED NATIONS
ON GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT
FOR THE AMERICAS

Case Panama: Vulnerability Index

Case Panama: Vulnerability Index

Population in 2010: **3,661,835**

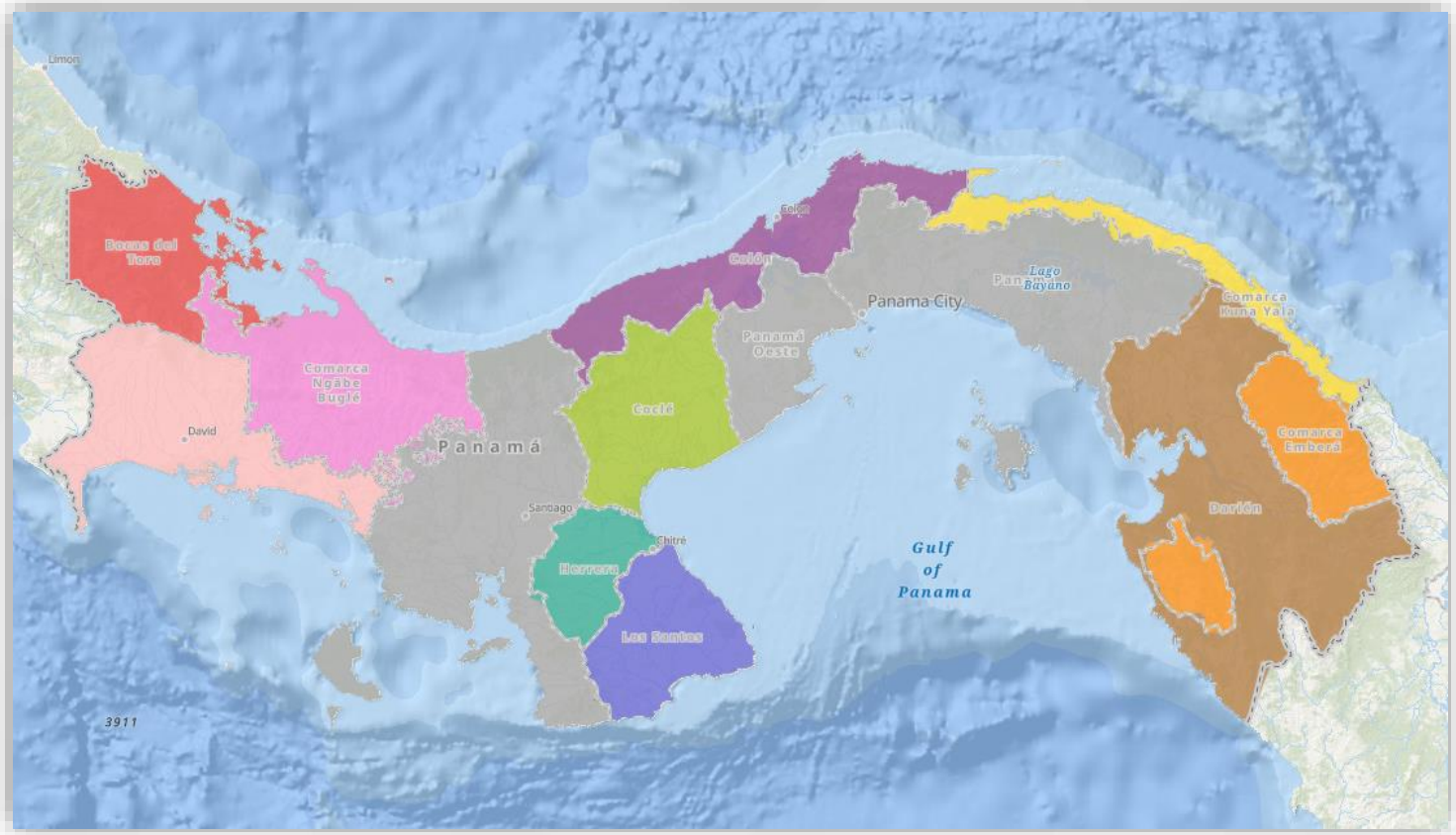
Men: **2,085,950 (50.2%)**

Women: **2,072,833 (49.8%).**

Surface: **75 517,2** km^2

Data Covid-19

Total Tests: **313,342**
Per Million population: **73,236**
Active cases: **23,703**



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Roadmap

Phase 1

Institutional Contact

INEC
MIDES
METRO
MIBUS
MINSA
MEF

Phase 2

Data Processing

Converting tables to geospatial data

Categorize information:
Levels? Features?
Adapt data?

Phase 3

Apply Tool

Concept production and testing:
maps by variables, notebook app, functionality, test and learning line workshop, work sessions, meeting

Phase 4

Interpret Results

Product testing continued:
Interpret result, build presentation of results

End
Presentation of results

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DATA SOURCES

INEC

- Population density
- Access to public water
- Public sewage system
- Population by age
- Number of beds per hospital

Ministry of Health

- Heart Disease
- Respiratory illnesses
- Diabetes
- Hypertension
- Obesity
- Immune system
- Cancer

Ministry of Economy and Finance

- Atlas of disability
- Atlas of poverty

Panama Metro and My Bus, IGNTG

- Subway lines
- Station location
- Bus stops
- Airports
- Ports

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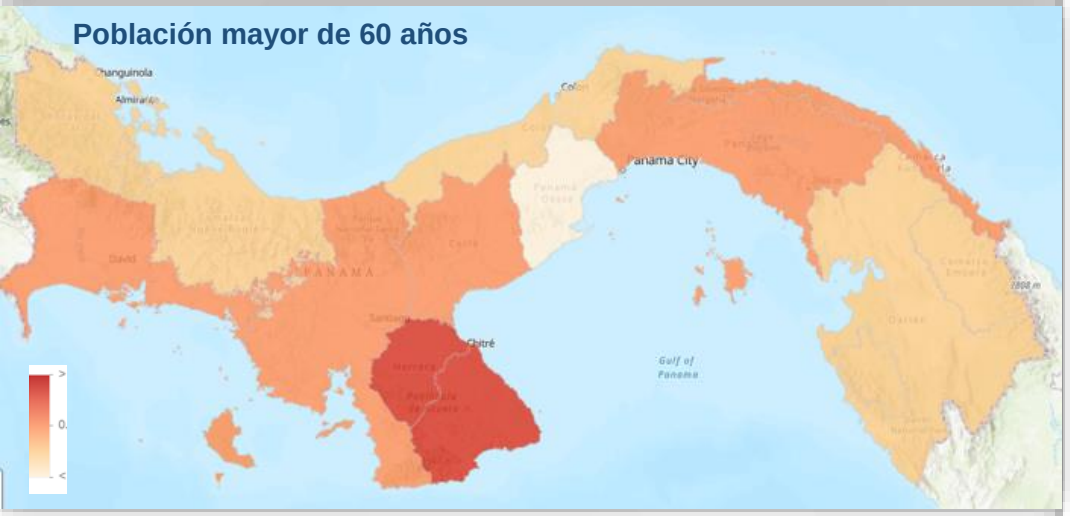
NOTEBOOK TOOLBOX



In [13]:

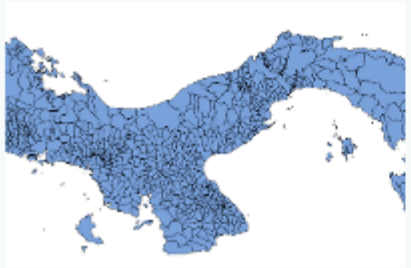
```
# STEP 1: Load the necessary Python packages
from arcgis.gis import GIS
gis = GIS("home")

import os
import datetime
import arcpy
import numpy
import pandas
import sklearn
from copy import deepcopy
import ipywidgets as widgets
from sklearn.cluster import KMeans
from arcgis.features import GeoAccessor, GeoSeriesAccessor
from ipywidgets import interact, interactive, fixed, interact_manual
import warnings
warnings.filterwarnings('ignore')
```

In [14]:

```
# Item Added From Toolbar
# Title: Nivel _4_ Panamá | Type: Feature Service | Owner: iztejada
item = gis.content.get("89d2e239b0f04ef39303a8f8a7b2d0f5")
item
```

Out[14]:



Nivel _4_ Panamá

Feature Layer Collection by iztejada
Last Modified: August 12, 2020
0 comments, 5 views

56 Layers
18 Variables

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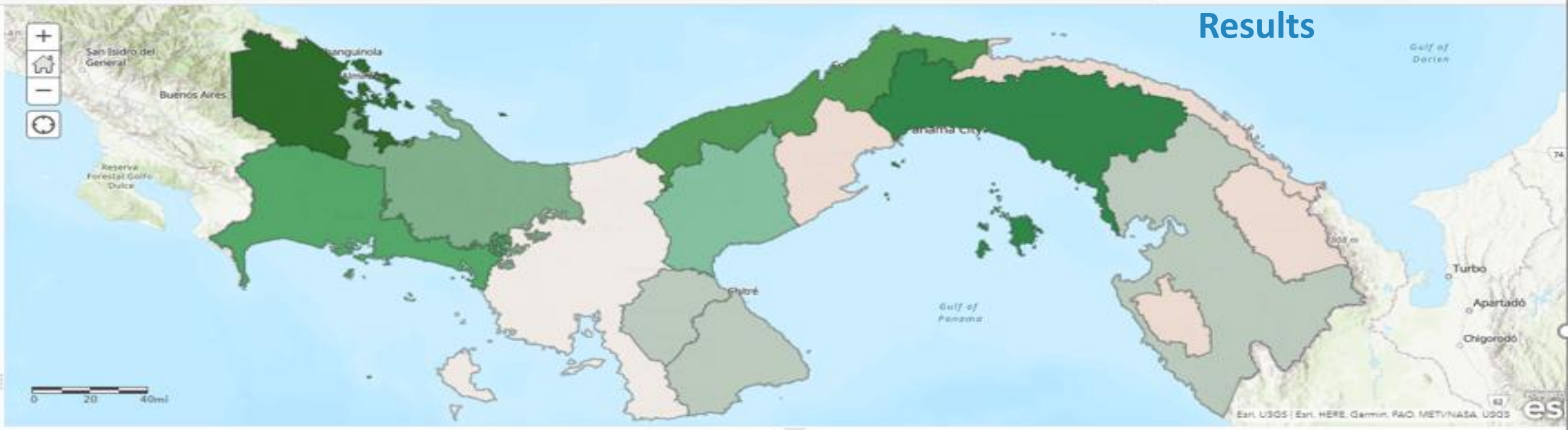
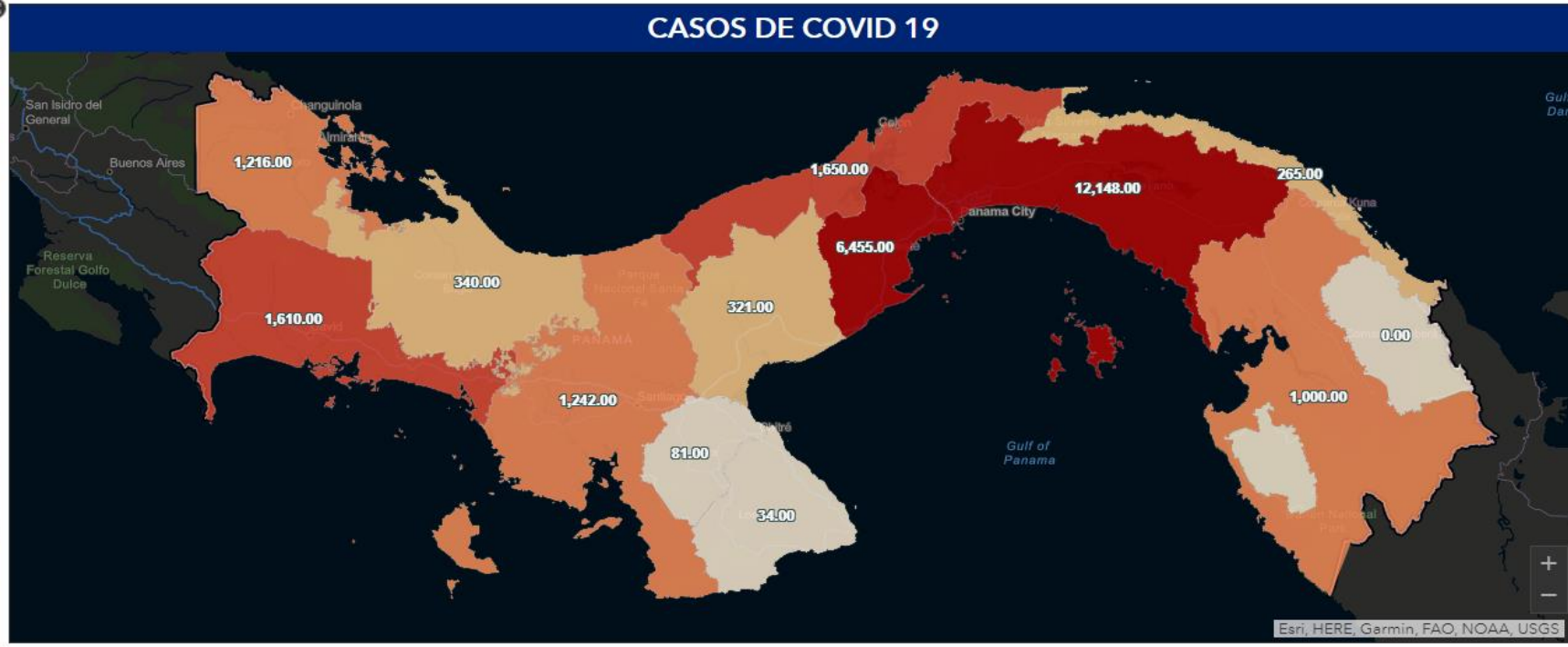
Results

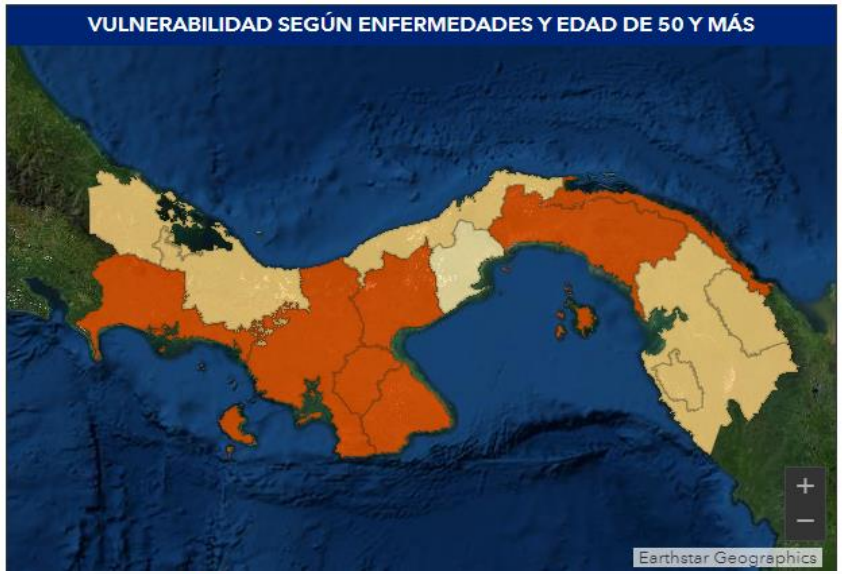


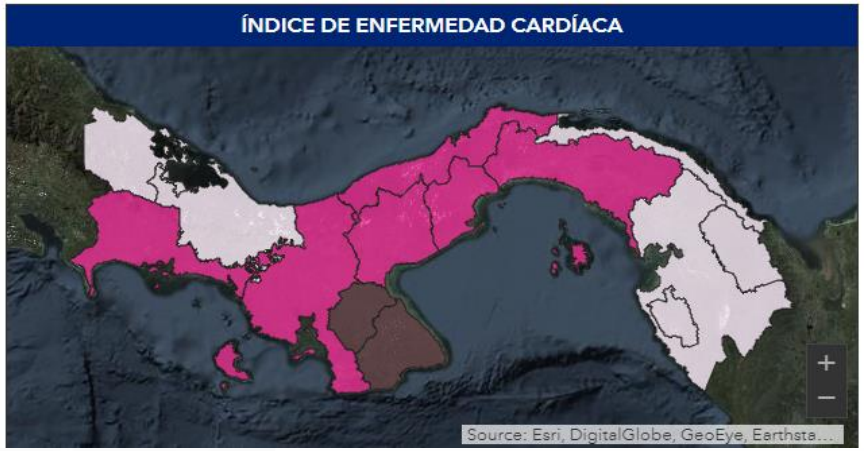
Nivel 2 Panamá (Features: 13, Selected: 0)

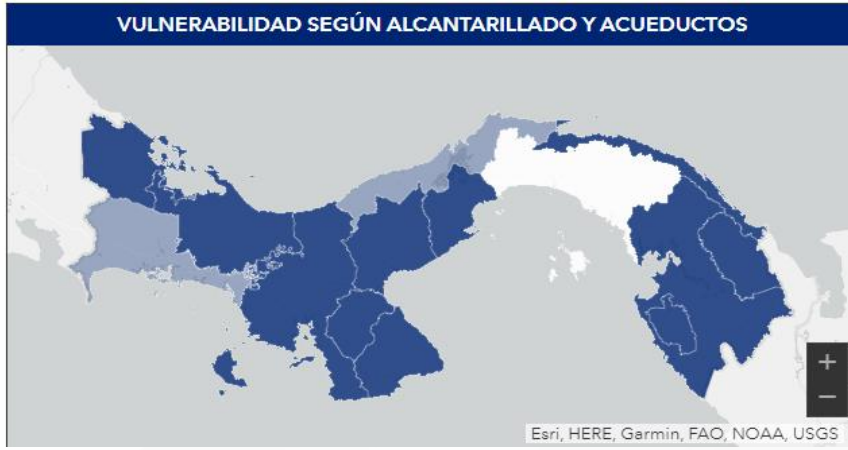
NV2_NBRE	NV2_AREA	VB_ACU	VC_ALC	P_DISC	P_GRU_1	P_GRU_2	P_GRU_3	P_GRU_4	P_GRU_5
Bocas del Toro	4,646.97	11,500.00	3,093.00	3,425.00	0.00	0.00	0.00	0.00	0.00
Coclé	4,941.89	24,608.00	4,771.00	8,319.00	0.00	0.00	0.00	0.00	0.00
Colón	4,866.48	48,747.00	15,096.00	4,505.00	0.00	0.00	0.00	0.00	0.00
Chiriquí	6,588.70	63,704.00	8,615.00	14,663.00	0.00	0.00	0.00	0.00	0.00
Darién	12,191.54	2,312.00	247.00	2,165.00	0.00	0.00	0.00	0.00	0.00
Herrera	2,364.00	20,414.00	10,013.00	4,980.00	0.07	0.02	0.00	0.00	0.00
Los Santos	3,810.39	18,021.00	6,308.00	4,193.00	0.18	0.00	0.00	0.00	0.00
Panamá	8,779.69	420,837.00	241,519.00	41,536.00	0.01	0.01	0.00	0.00	0.00
Veraguas	10,592.18	24,637.00	7,041.00	8,133.00	0.00	0.00	0.00	0.00	0.00
Comarca Kuna Yala	2,296.21	0.00	0.00	597.00	0.00	0.00	0.00	0.00	0.00

Results









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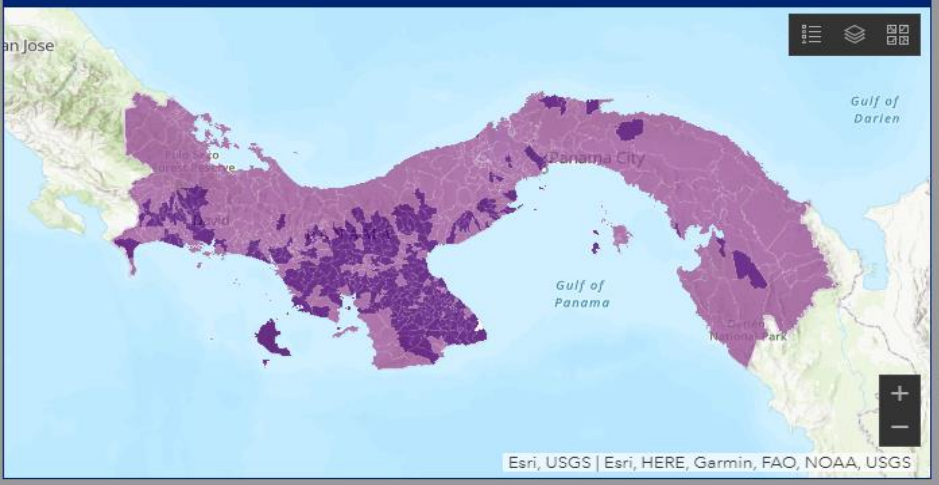
https://unggimamericas.maps.arcgis.com/apps/opsdashboard/index.html#/52cceeba5b4e4af3a1b708f00bfc7625

unggimamericas.maps.arcgis.com/apps/opsdashboard/index.html#/c782b51561be499b9546852737294ce8

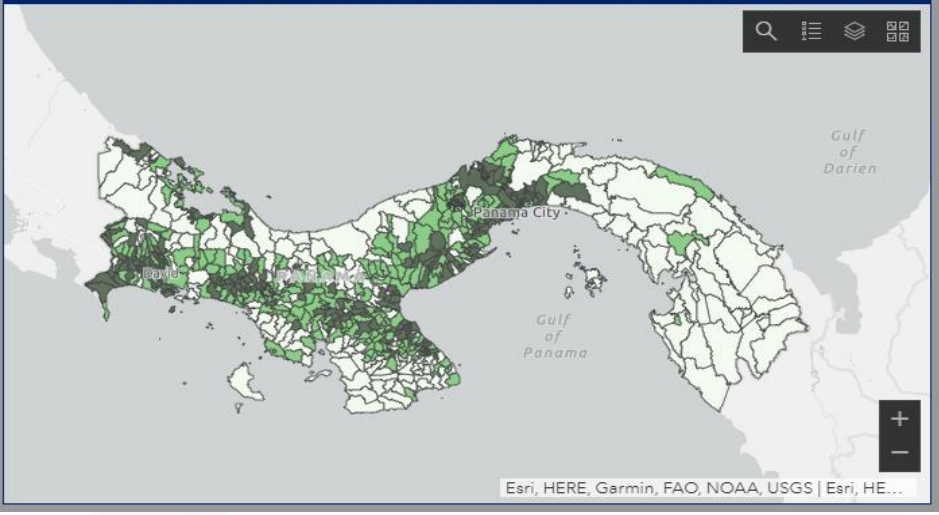
Results

ÍNDICE DE VULNERABILIDAD POR CORREGIMIENTO

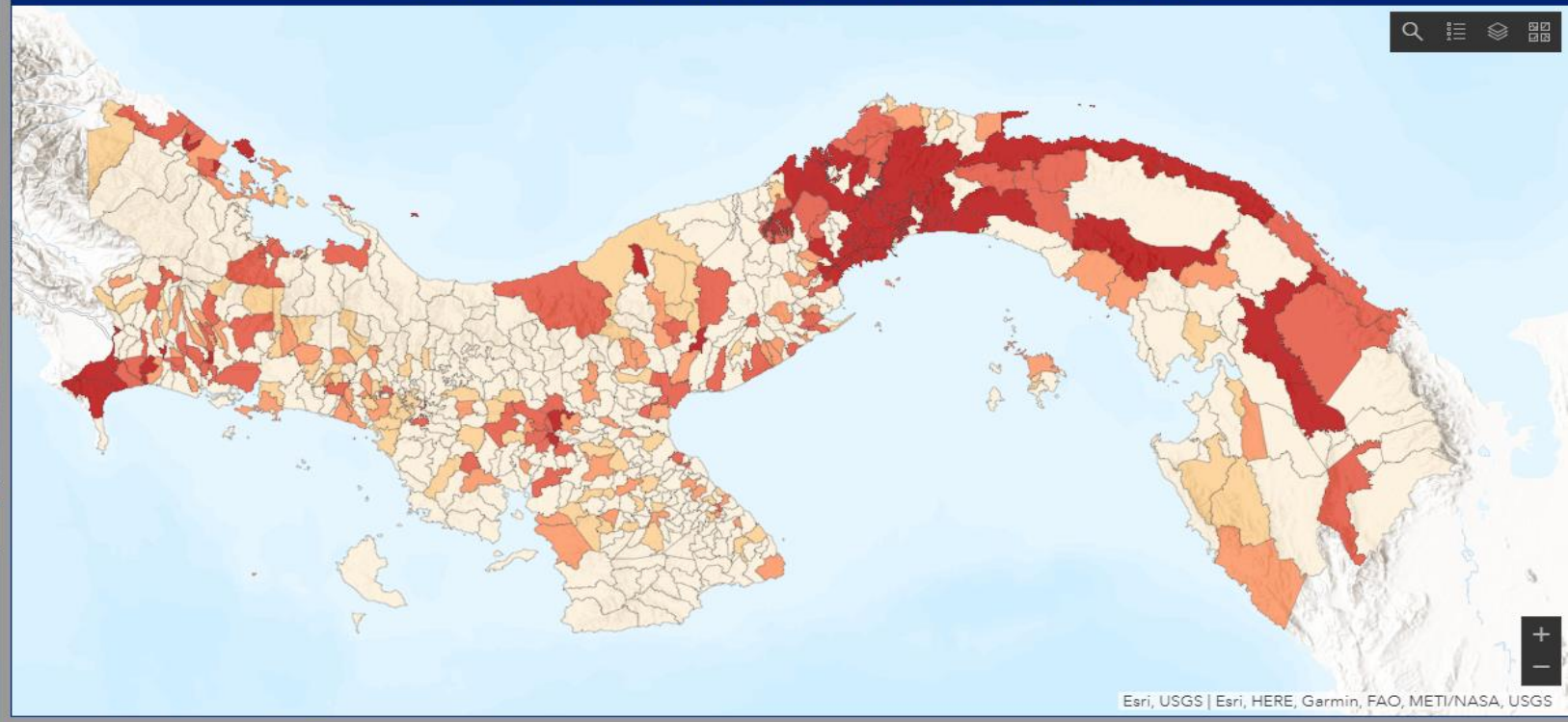
VULNERABILIDAD DE CORREGIMIENTO SEGÚN EDAD DE 40 A MÁS



RELACIÓN ENTRE EL NÚMERO DE POBLACIÓN CENSAL Y EL ÁREA EN METROS CUADRADOS



NUMERO DE CASOS DE COVID19 POR CORREGIMIENTO



CORREGIMIENTOS CON MÁS CASOS

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Thank You

for your attention!

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