Impacto de la Contaminación Atmosférica en los Casos de Asma en California

Grupo Morado

Enero 2026

Contenido

Motivación

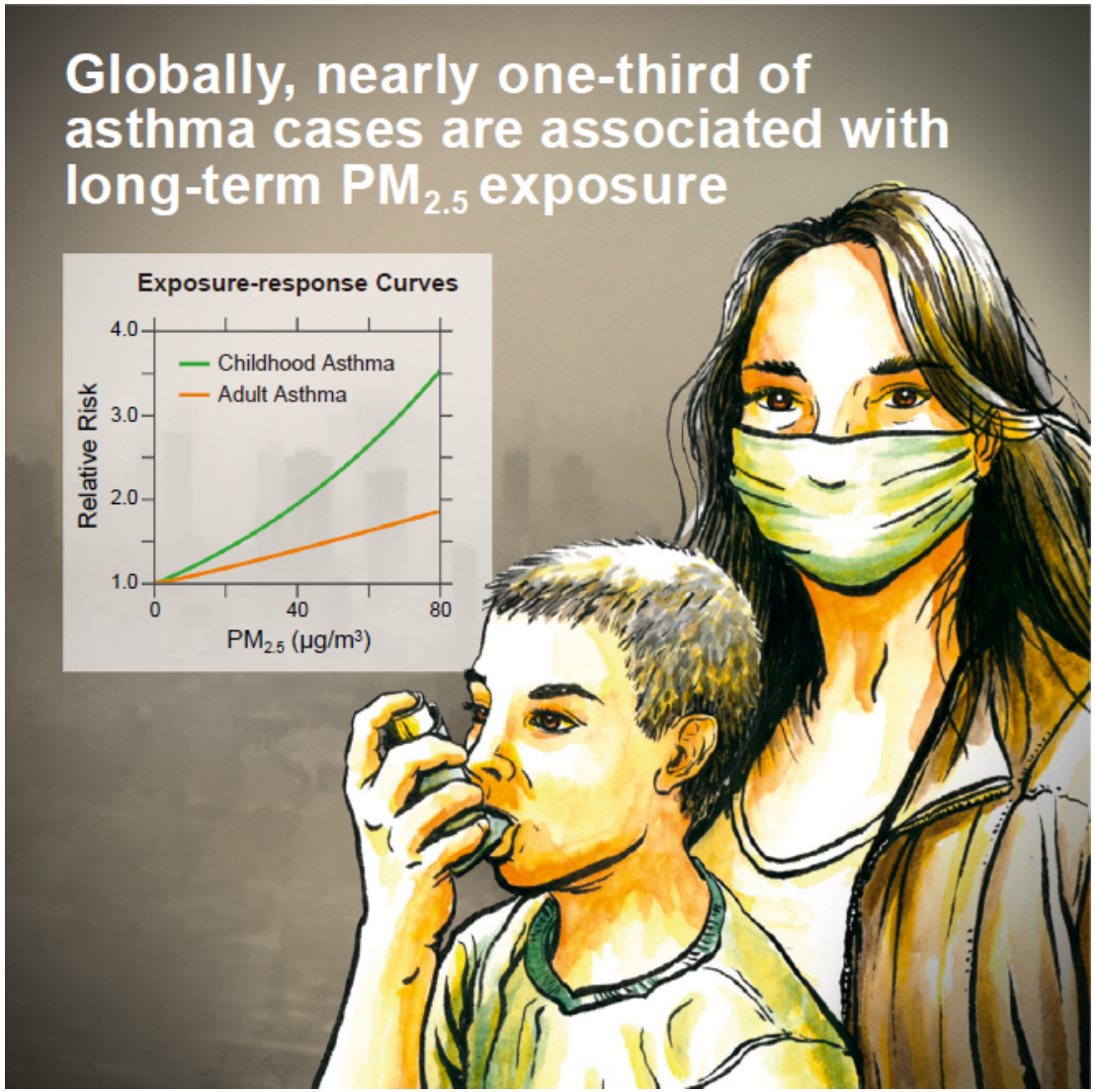


Figure: Portada del artículo de One Earth [4]

Motivación

- Negligencia de repercusiones ambientales
- Impacto sobre enfermedades respiratorias
- Aumento de la prevalencia del asma
- Intensificación de ataques de asma
- Caso de estudio: California

Objetivos

- Recopilar datos históricos
- Evaluar estado actual (*WHO guidelines* [7])
- Evaluar cobertura de estaciones de monitoreo
- Análisis en relación con la incidencia de asma
- Proponer medidas
- Modelo predictivo de ingresos hospitalarios

Requisitos

- Datos
- Herramientas y Software
- Recursos humanos
- Recursos materiales
- Organización temporal

Paquetes de trabajo

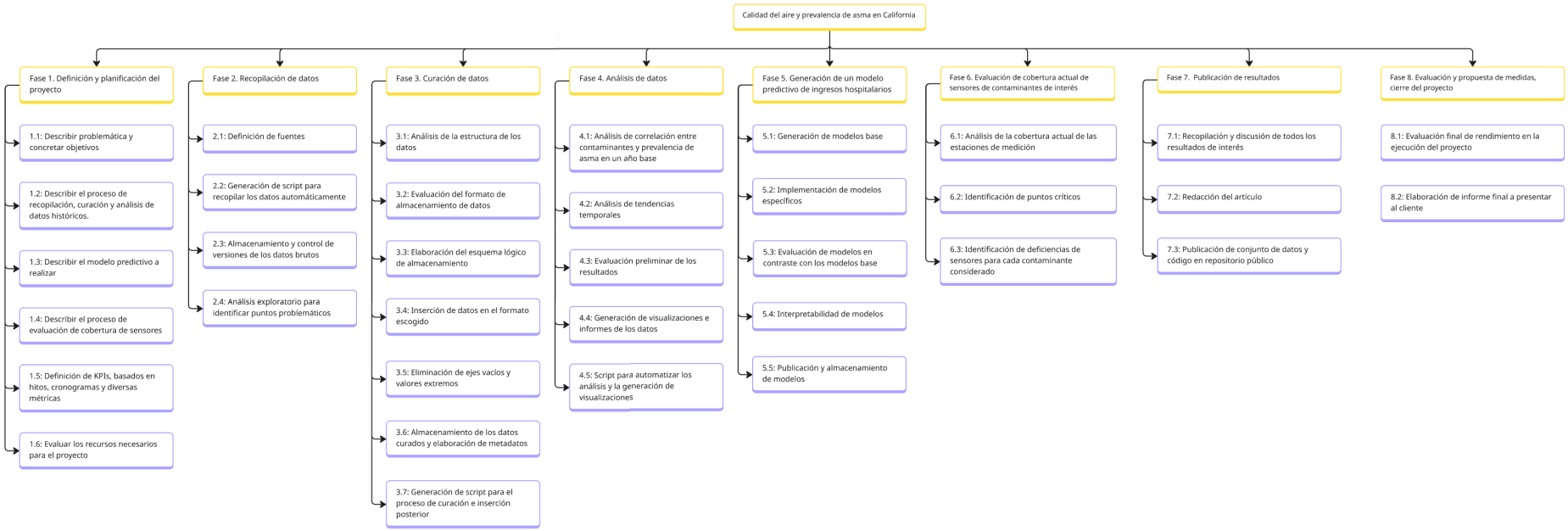
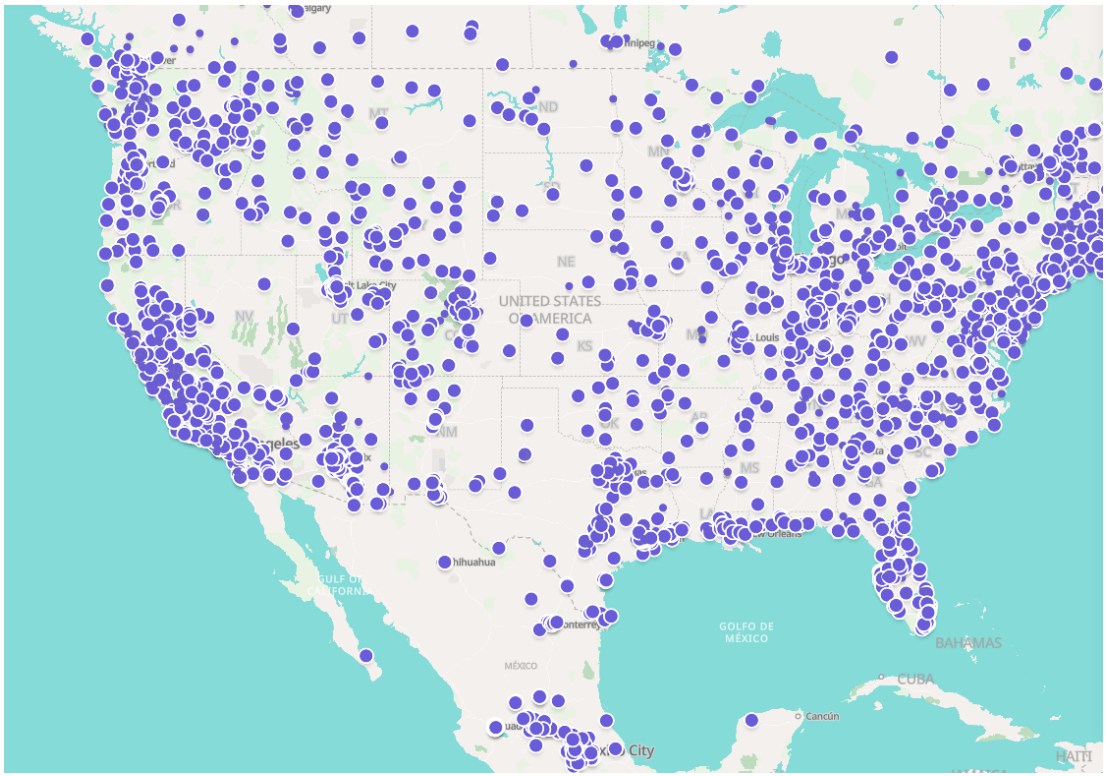


Figure: Esquema de Paquetes de Trabajo (WBS)

OpenAQ

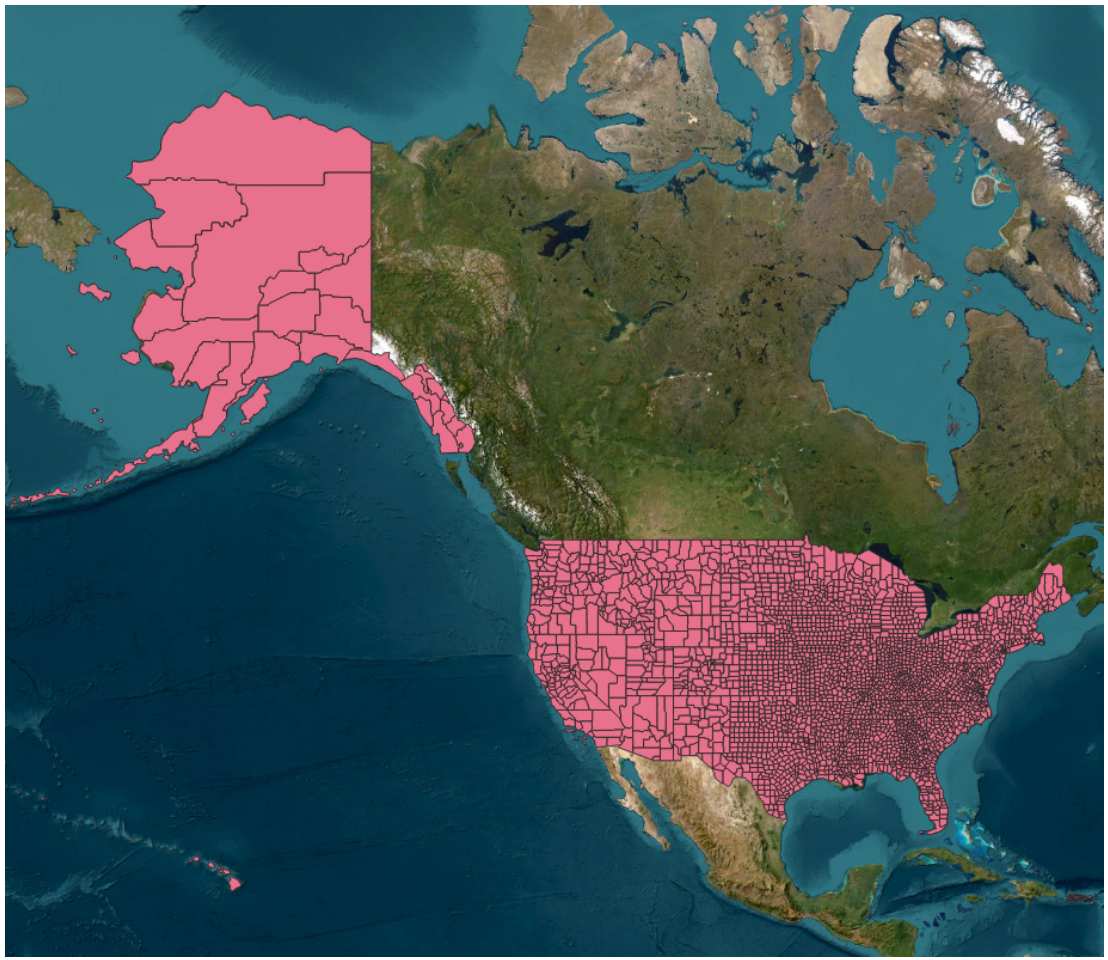

UNITED STATES
OF AMERICA
GOLFO DE
MÉXICO
BAHAMAS
CUBA
Cancún
HAITI
MÉXICO

Contaminantes

- $PM_{2.5}$ [2]
- PM_{10} [2]
- NO_2 [2, 3]
- O_3 [6]

Geometría de los condados

Shapefiles de los condados de California [5]



Geometría de los condados

API de OpenAQ

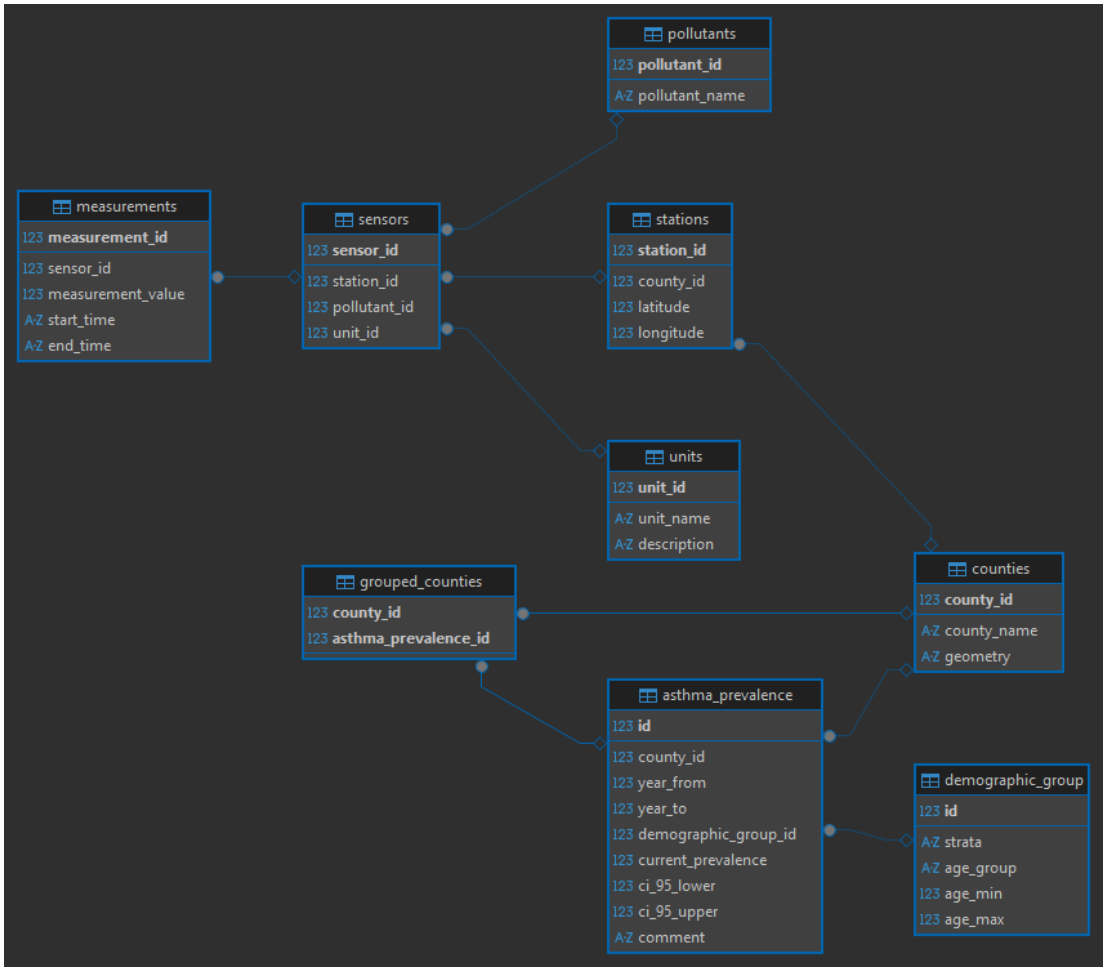
- *Bounding Box* de California
- Límite de peticiones por minuto: 60
- Límite de peticiones por hora: 2000
- Número de peticiones a realizar: 5333

¡2 a 3 horas de ejecución!

data.gov

- Prevalencia de asma (CHIS, *California Health Interview Survey* [1])
- Agregaciones
  - Grupo demográfico
  - Condado
  - Anual

Base de datos integrada



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