The GIS Community is Responding to the COVID19 Crisis

Collaborating and Sharing Approaches, Models, Apps & Data…

COVID – 19

https://coronavirus-resources.esri.com/
Enterprise GIS For Pandemic Response

Organizing Content and Applications
. . . Providing Mapping and Analysis
. . . Enabling Sharing and Better Decision Making
Integrating All Types of Relevant Data

- Facilities (Hospitals, Alternatives, and Testing Sites)
- Population & Demographics
- Mobility Data (Cell phones)
- Hospital Resources
- Shared Data & Services
- Tabular (Cases)
- Models (Disease Spread)
- Social Distancing Restrictions (Interventions)
Delivering Powerful Capabilities Across Organizations

- Data Science
- Dashboards
- Data Visualization
- Analysis
- Mapping
- Data Exploration
- Situational Awareness
- Disease Spread
- Resource Allocation
- Site Selection
- Intervention Analysis
- Surveys
- Data Collection
- Infographics
- Shared Data & Services
- Building Blocks . . .
- For a Responsive System
Applications

Providing Situation Awareness

Dashboards
Models incorporated into Analytics

Predicting Spread and Impacts on Hospitals
Modeling & Spatial Analysis

Pattern Detection
Finding Statistically Significant Clusters & Patterns

Modeling Prediction
Predicting Geospatial Events/Phenomena

Site Selection and Resource Allocation

Helping Understand, Predict and Make Decisions . . .
. . . at Many Scales
Specific Approach to Answer Vital Questions

Helping Understand, Predict and Make Decisions . . .
. . . at Many Scales
Summary of Actions underway in GIS context

- Implement COVID-19 Information Model (prepare GIS data layers)
- Analyze health and demographic data (understand community risk)
- Model the Spread Of Disease (Spatial / Temporal modeling)
- Measure social distancing effectiveness (leveraging mobility data)
- Determine When and Where Hospital System Capacity is Exceeded
  - Forecast Impacts on Hospital Bed, ICU, and Ventilator Capacity
- Perform location analytics to
  - Identify optimal testing and treatment sites
  - Allocate resources (beds, equipment, personnel, ...)

Coronavirus COVID-19 Global Cases by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)
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