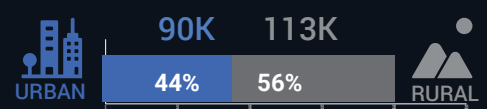
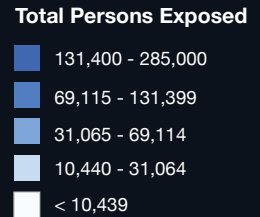
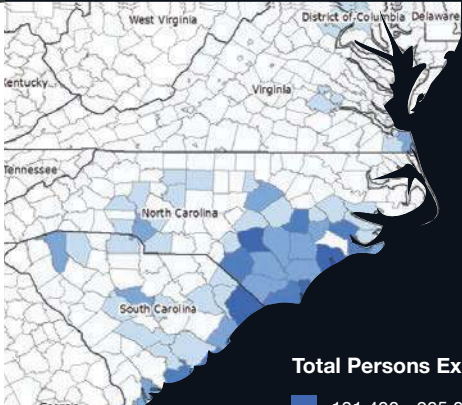


## All-hazards Impact Model (AIM)

### Unique Capabilities

PDC's All-hazard Impact Model (AIM) is a tool that **helps facilitate disaster planning, preparedness, and response**. Using advanced algorithms and superior scientific data sources, AIM helps estimate the exposure of populations, assets, and infrastructure to natural hazards. AIM also provides the unique capability of estimating capital exposure by calculating the replacement value of the building and infrastructure exposed.

- ★ **Estimates population and capital exposure** leveraging multiple data sources including LandScan, Global Exposure (GAR), and more.
- ★ **Supports estimation of peak day and night exposure**, accounting for population distribution and movement at different times of day.
- ★ **Provides exposure estimates with breakdowns by sector** including estimates for schools, hospitals, service and industrial sectors, urban and rural breakdowns, and more.
- ★ **Can be easily combined with other data** such as SPHERE guidelines to estimate key humanitarian assistance needs and other information.
- ★ **Can be used in data-poor environments anywhere in the world** where access to information is extremely limited.



### What kind of questions can AIM help answer?

- + How many people might be impacted by a disaster?
- + What is the demographic makeup of the exposed population (e.g. children, elderly, adults)?
- + What is the value, or replacement cost, of exposed capital (e.g. cost to replace all buildings and infrastructure)?
- + Which sectors of society are most exposed?



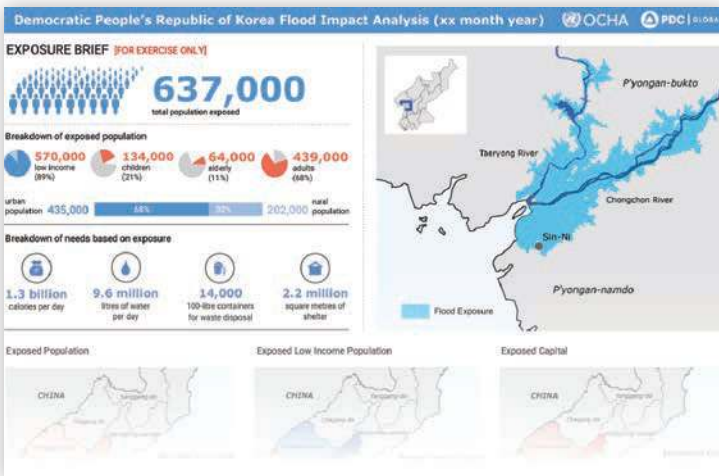
## How does the AIM model work?

Using scientifically verified global data sources, analyzes population distribution across residential, commercial, industrial, and other sectors. AIM provides more than 20 attributes that breakdown exposure by demographics and sector for any location around the globe. AIM also provides the distribution of the built environment in rural and urban

locations and estimates building construction types helpful in loss modeling. It offers fine resolution exposure information at a global scale of 1 x 1 km supporting national and subnational estimates. AIM is a multi-hazard model, allowing for the estimation of any hazard that has an associated polygon.

## Example Use Cases for AIM

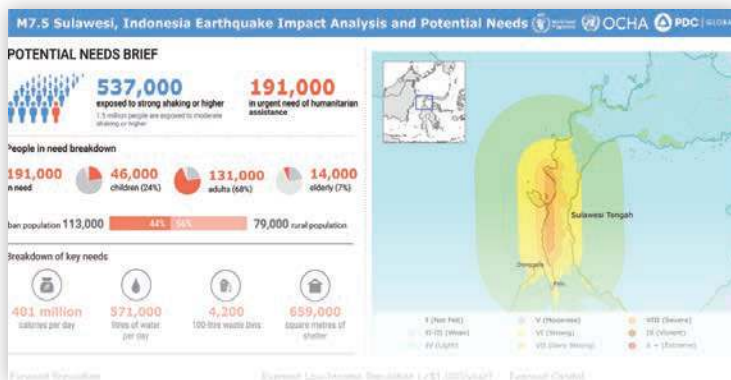
### Democratic People's Republic of Korea: Flood Exercise



### SYNOPSIS

Working together with United Nations Office for the Coordination of Humanitarian Affairs (OCHA), PDC used its AIM model to assist with a flood exercise scenario concentrated on the Democratic People's Republic of Korea—a geographic area for which little data is available. The exposure outputs from the model were then combined with SPHERE guidelines to quickly inform government and the international preparedness community about the potential impact and needs arising from a potential future major flood disaster.

### Sulawesi, Indonesia: Earthquake Response



### SYNOPSIS

Immediately following the M7.5 earthquake and tsunami that struck Sulawesi, Indonesia in 2018, PDC developed a situational awareness product that was derived by combining its AIM exposure model with vulnerability data provided by OCHA and World Food Programme (WFP) to help better estimate exposure, impacts, and needs. The product—made available quickly following the event—was used by key responding agencies including Indonesia's disaster management authorities, regional (ASEAN) actors, and the nongovernmental humanitarian community to inform response operations on the ground.

**COST TO REBUILD IN WORST AFFECTED AREAS BY SECTOR (US\$MILLIONS)**

	Residential	Service Sector	Industrial	Schools	Hospitals
Sulawesi Barat	8.21	10.7	7	6.3	.01
Sulawesi Tengah	1,535	2,088	1,400	1,246	2.2