

The Value of EO Data

Although EO data is discussed briefly during the discussion of developing exposure data, additional emphasis will be placed on EO data due to the “space-based” nature of the project. This will include a discussion of specific uses of the data, with examples, as well as common challenges.

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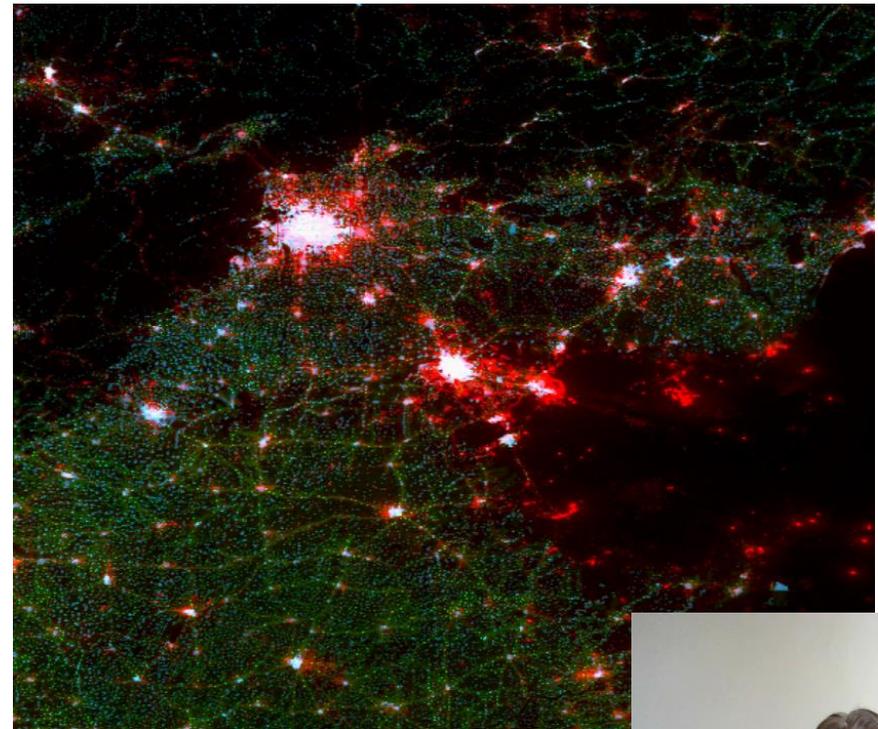


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What is the role of EO in developing exposure data?

- Global population datasets
- Global urban/rural or urban intensity datasets
- Segmentation of development patterns
- Building footprint extraction
- Average building size
- Challenges and emerging research



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Global population datasets

POPGRID Viewer

GHS-Pop 2015 Count

GPW4.11 UN Adjusted 2020 Count

WorldPop 2020 Count

LandScan 2018 Population Count

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F T H O M

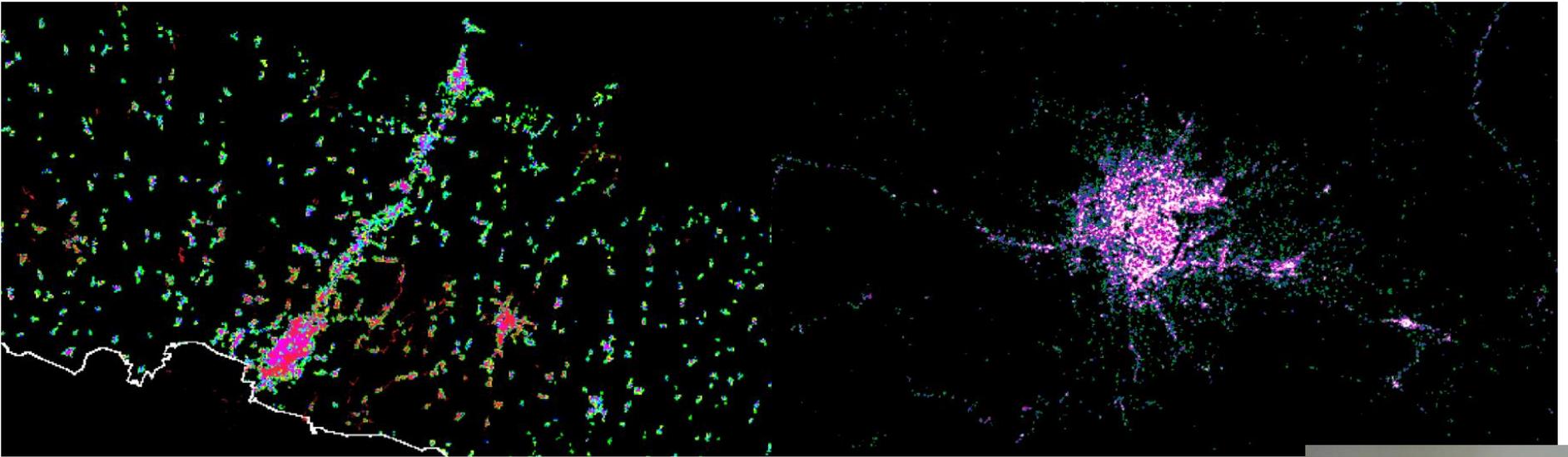
GEM

HOT ImageCat

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Global urban/rural or urban intensity datasets



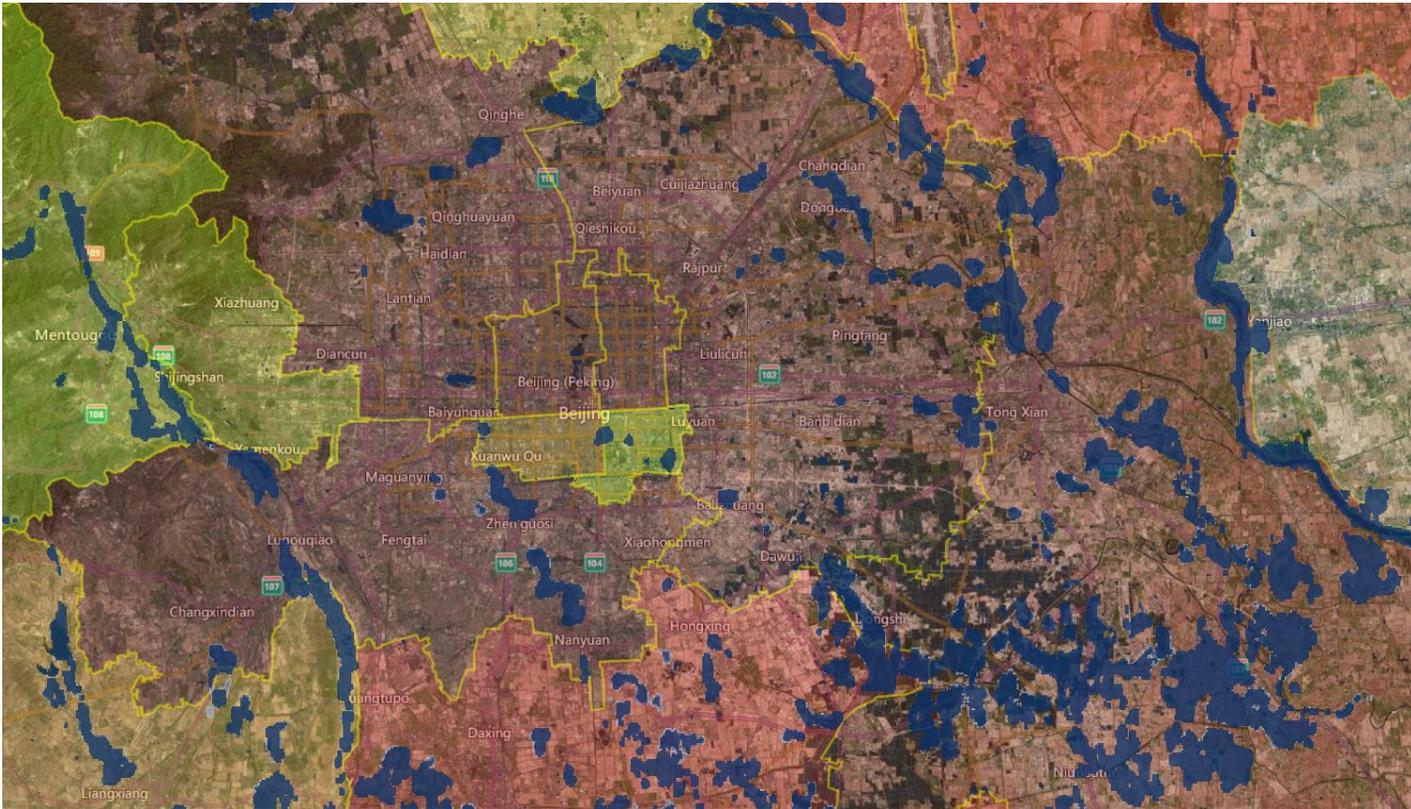
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Segmentation of Development Patterns



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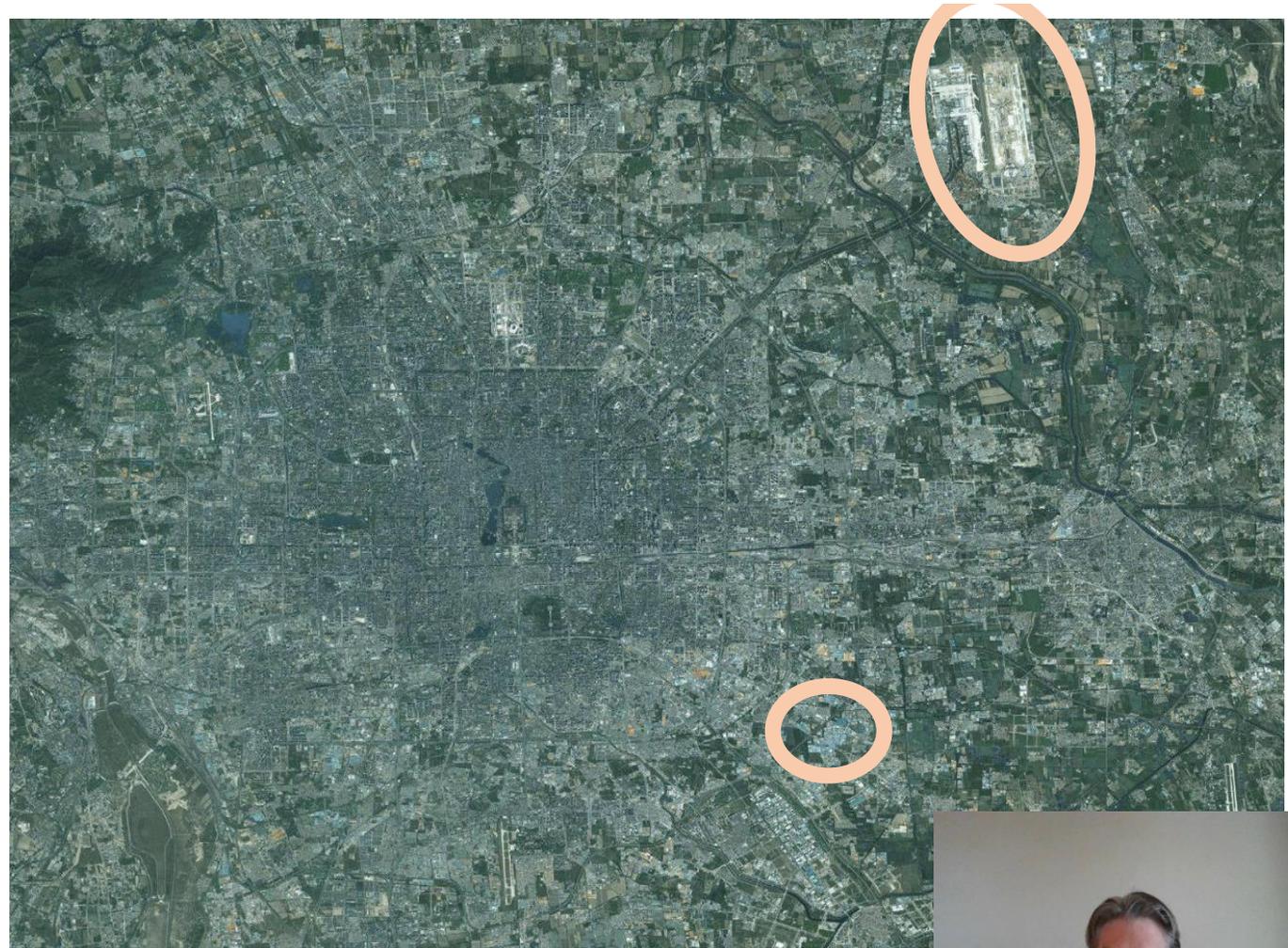


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Segmentation of Development Patterns

- Urban
- High Rise Residential
- Mid Rise Residential
- Single Family Residential
- Open Spaces
- Industrial
- Water



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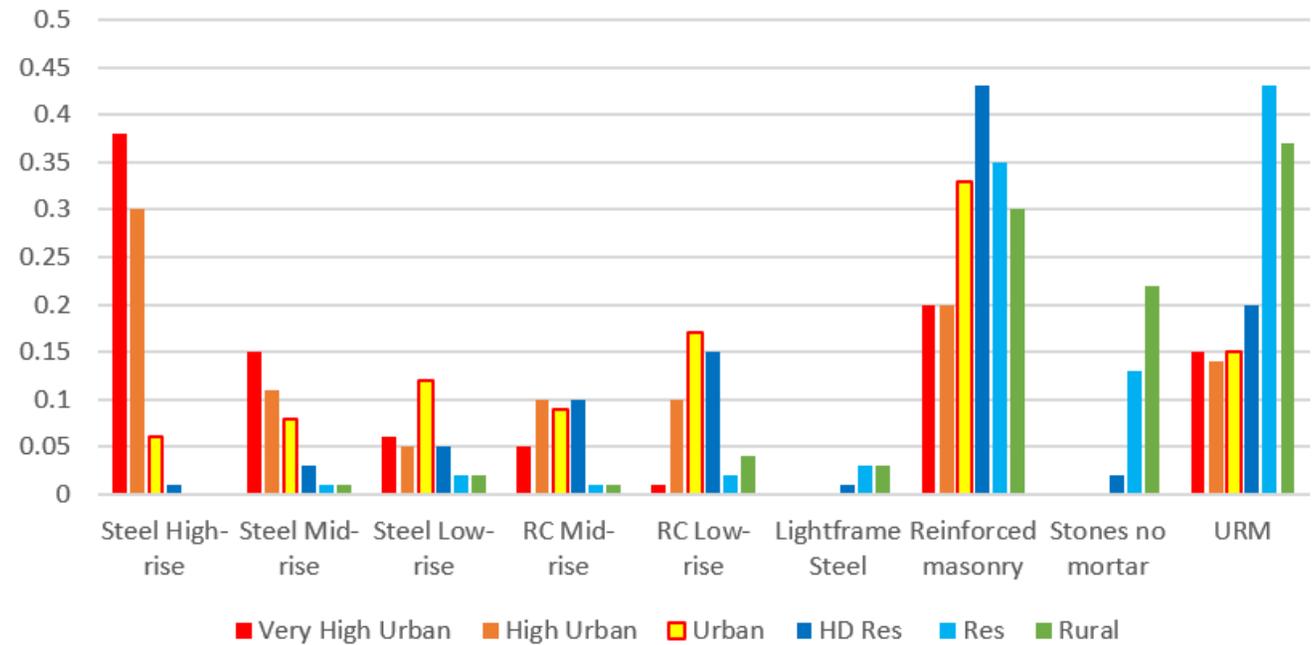


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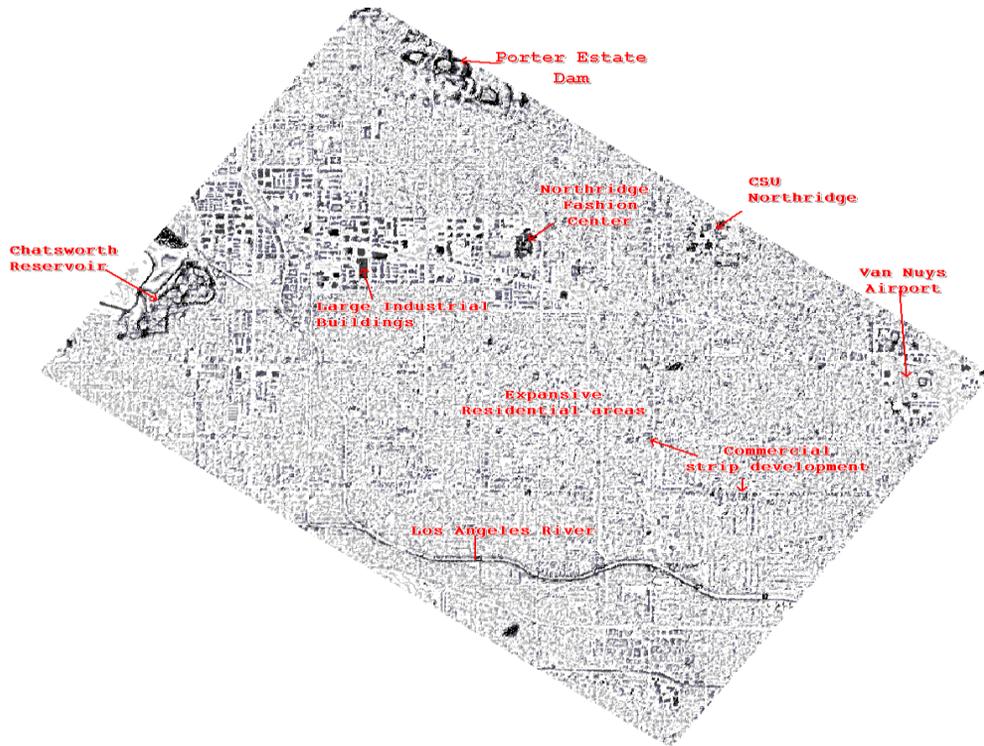
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Building footprint extraction



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Rural



Residential



High Density Residential



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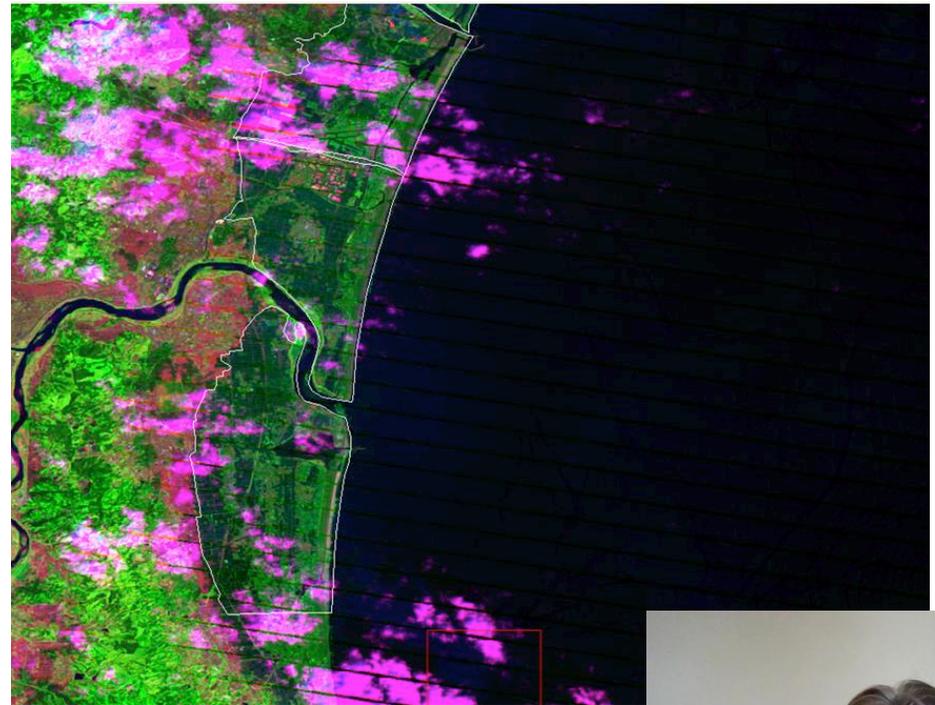
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Challenges and emerging research

- Challenges:
 - Low lights
 - Under tree canopies
 - Cloud cover
 - Mountainous regions
 - Indigenous material
- Upcoming:
 - New sensors
 - AI
 - Data from streetview and UAVs



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