

GEOG 204

LECTURE 7
Census Data

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Census Data

- Statistics Canada conducts the Census of Population to provide a snapshot of Canada one specific day
- Every five years
 - 2 questionnaires
 - Short form (100% of the population)
 - Longform (25% of the population)

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Census Data

• **Short Form**

- Sent to every household
 - mandatory to answer
 - provides information on people who live in that household such as:
 - Date of birth and age,
 - Sex,
 - Relationships with household members (ex: married or common-law),
 - Knowledge of official languages,
 - Language spoken most often,
 - Other language spoken regularly, and
 - First language spoken.

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Census Data

• **Long Form**

- Sent to 25% of Canadian households
- mandatory to answer
 - provides information on
 - Activities of daily living, such as location of work, mode of transportation to work, and other related information,
 - Sociocultural information, such as ethnicity and visible minority information,
 - Mobility,
 - Place of birth,
 - Education,
 - Labour market activities, and
 - Housing.

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Census Data

- The primary source of socioeconomic data
 - Population and dwelling counts
 - Families, households and marital status
 - Income
 - Minority groups
 - Housing
 - Mobility and migration
 - Education
 - Labour
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Census Data

- Census data is combined with income data from the CRA, and immigration data from the Immigration, Refugees and Citizenship Canada databases results in the Census data that is released.
- All the information collected is anonymized
 - cannot be linked to an individual or household

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Census Data

- Used by researchers across the country
 - Housing and real-estate
 - Social economic conditions
 - Immigrants
 - Minorities
 - Rural communities
 - Language
 - Public health
 - Economic outcomes of post secondary education
 - Commerce

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Census Data

- Real estate agents and businesses use neighbourhood level demographic data for target marketing
- Researchers use population statistics at the neighbourhood level to identify community vulnerabilities such as housing, poverty
- Social justice researchers and community development workers are able to conduct gender-based as well as minority population needs assessments

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Census Data

- The government uses the Census information to assess labour and market performance of various groups such as immigrants, youth, and women.
- School Boards can use the Census to understand the socio-economic, linguistic, and ethno-cultural diversity of the educational community to develop culturally responsive approaches to teaching and learning.

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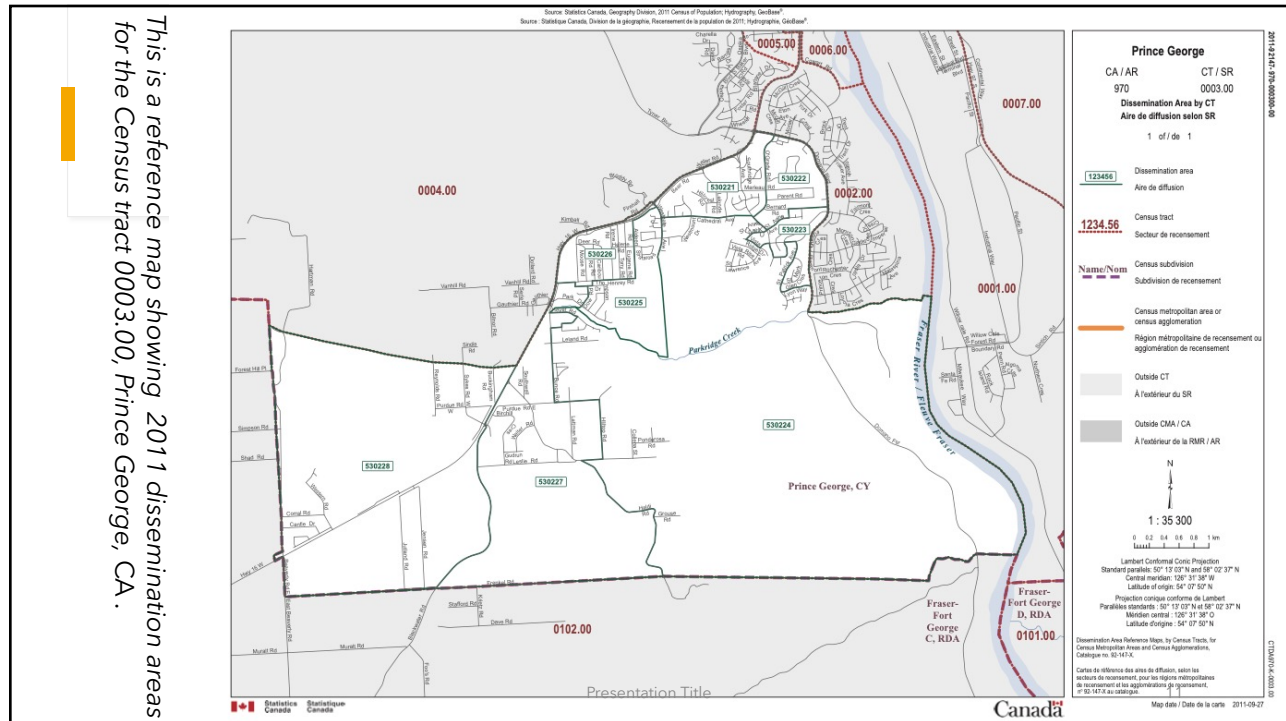
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Census Data

- Geographic Units
 - Dissemination Block
 - An area bounded on all sides by roads and/or boundaries of standard geographic areas. The dissemination block is the smallest geographic area for which **population and dwelling counts** are disseminated.
 - Dissemination Areas
 - composed of one or more adjacent dissemination blocks with an average population of 400 to 700 persons. It is the smallest standard geographic area for which **all census data** are disseminated.
 - Enumeration Areas: term used for the same geographic unit prior to 2001
 - Census Tracts
 - Larger areas that have a population between 2,500 and 8,000 persons.
 - They are located in centres of 50,000 or more in the previous census.

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Working with Census Data

- An important point is to determine the area units meaningful to your research
- Estimates for small areas
 - Higher risk of suppression due to confidentiality concerns
 - More sensitive to
 - rounding
 - non-responses
 - Leads to greater margin of error in small area estimates

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Pros & Cons of Census Small Areas

Unit	PROs	CONS
<i>Block Face</i>	- very high resolution - entire country covered	households and population counts only
<i>Enumeration Areas</i>	- fairly high resolution - all Census questions - entire country covered	- inconsistent boundaries - higher risk of data suppression, influence of rounding
<i>Dissemination Areas</i>	- consistent boundaries - fairly high resolution - all Census questions - entire country covered	- risk of data suppression - influence of rounding
<i>Census Tracts</i>	- consistent boundaries - all Census questions - lower risk of data suppression	- lowest resolution - potential for boundaries to become "outdated" - only available for larger centres

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2011 Census Long Form Elimination

- "Long Form" Census form had been around a long time (the 8 question short form was introduced in 1971)
- Sections:
 - Demography; Labour markets & income; Transportation; Education; Language; Activity Limitations; Housing; Citizenship and immigration; Ethnicity/culture

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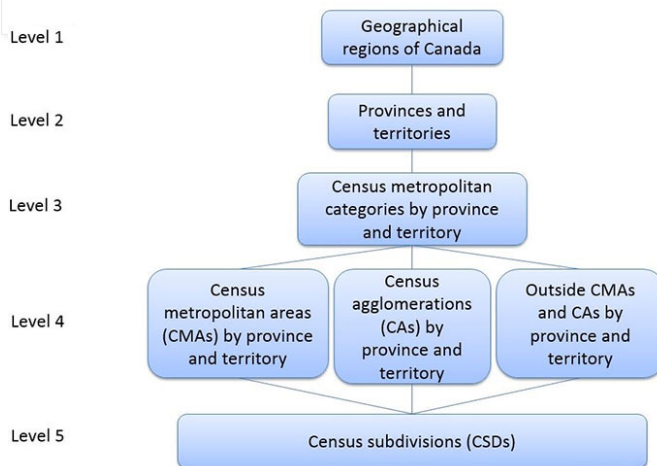
2011 Census Long Form Elimination

- Mandatory – fill it out or else fine or jail time!
- Up to 2006, sent to one in five households (20%) “random” sample
 - 2016 – now sent to one in four (25%) households
- 2010 – Federal government decided to cancel it
 - Replaced with a **voluntary** household survey (National Household Survey)
- The long form was reinstated in time for 2016 Census

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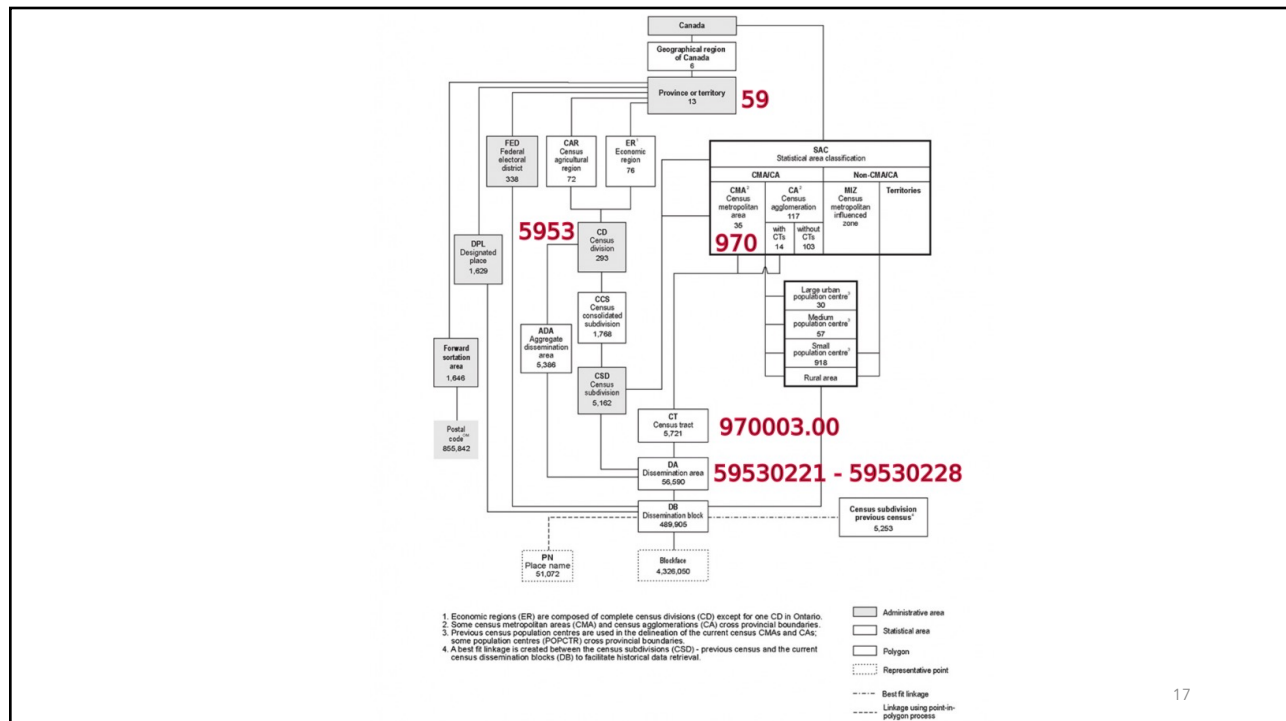
Hierarchy of standard geographic areas



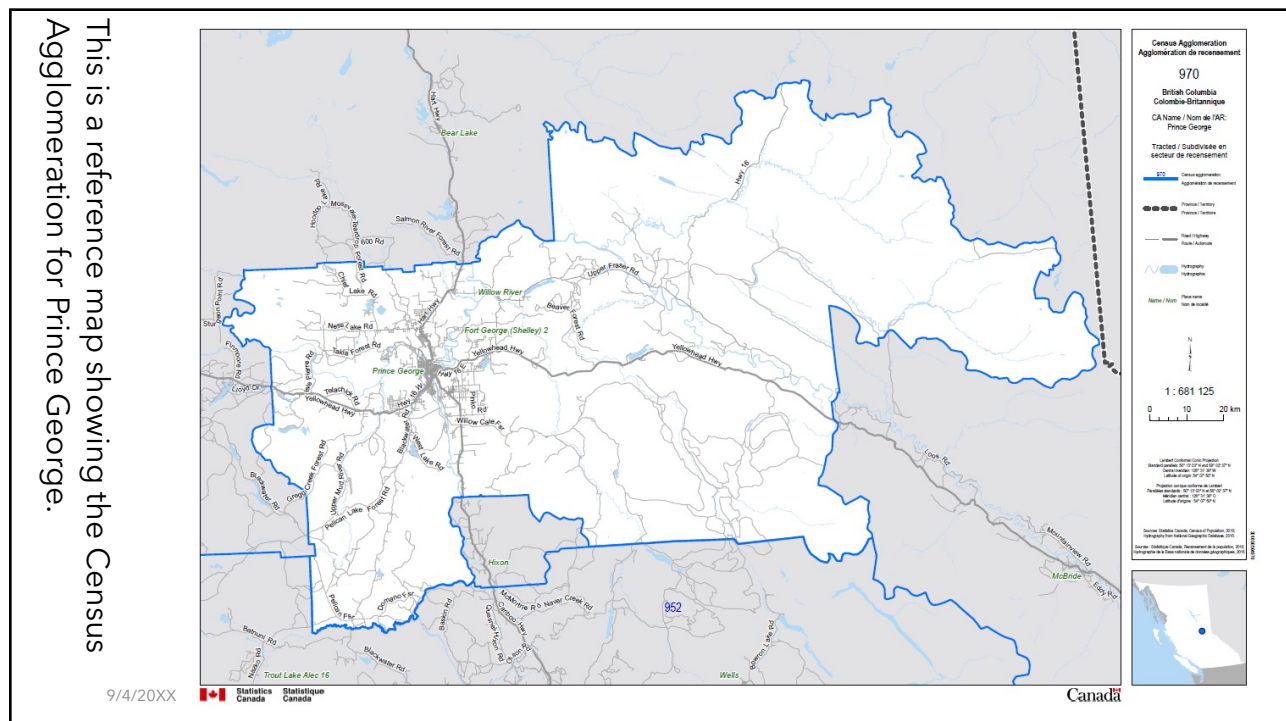
- A chart used to explain the types of geographic regions that are used for interpreting Statistics Canada data.

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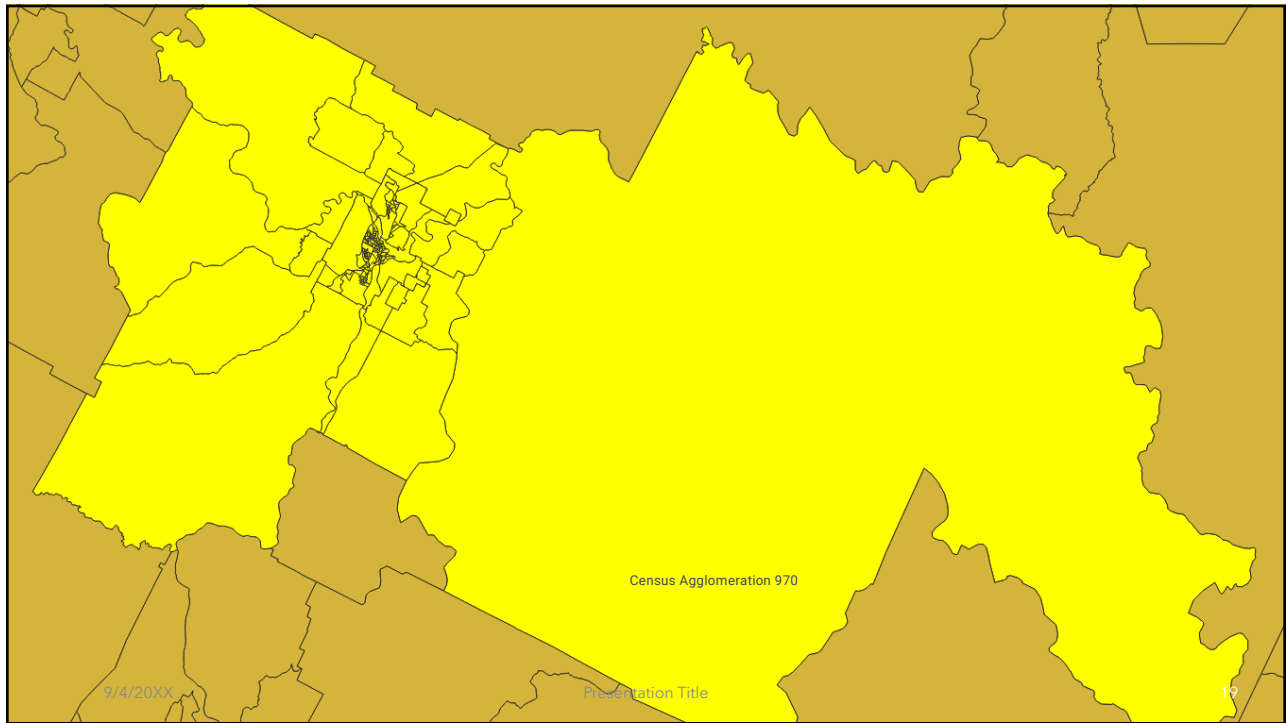
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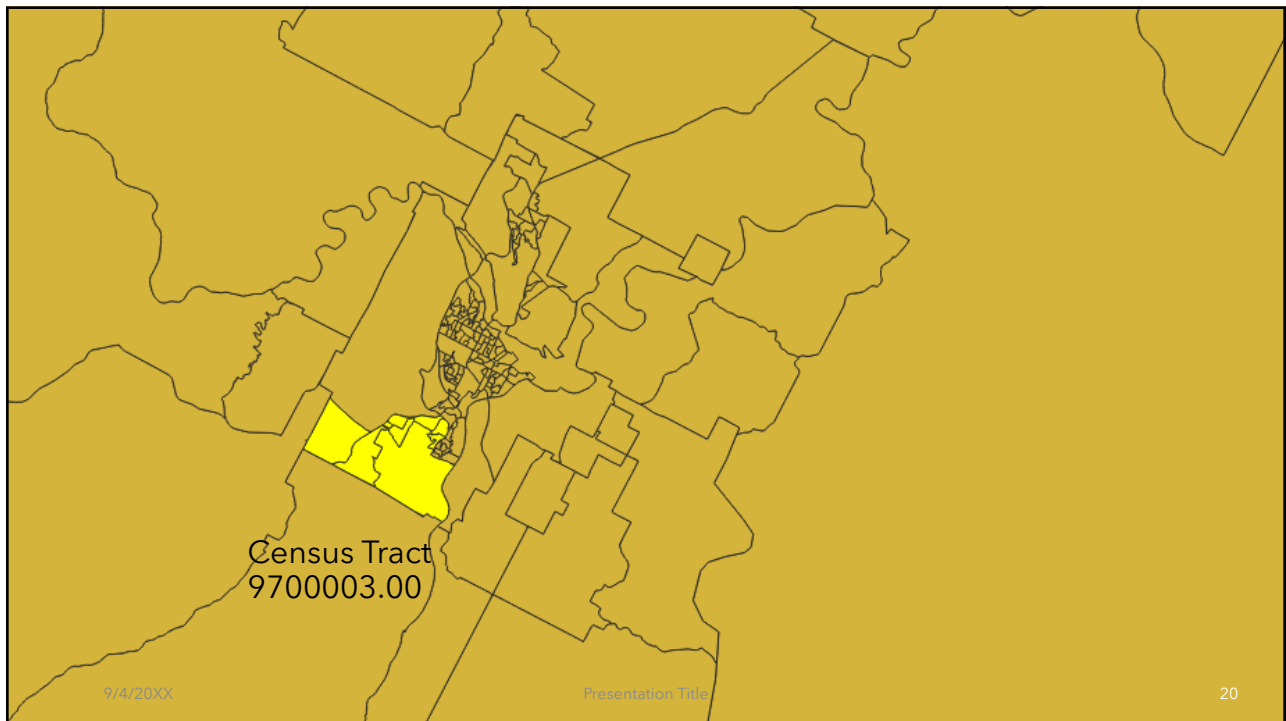
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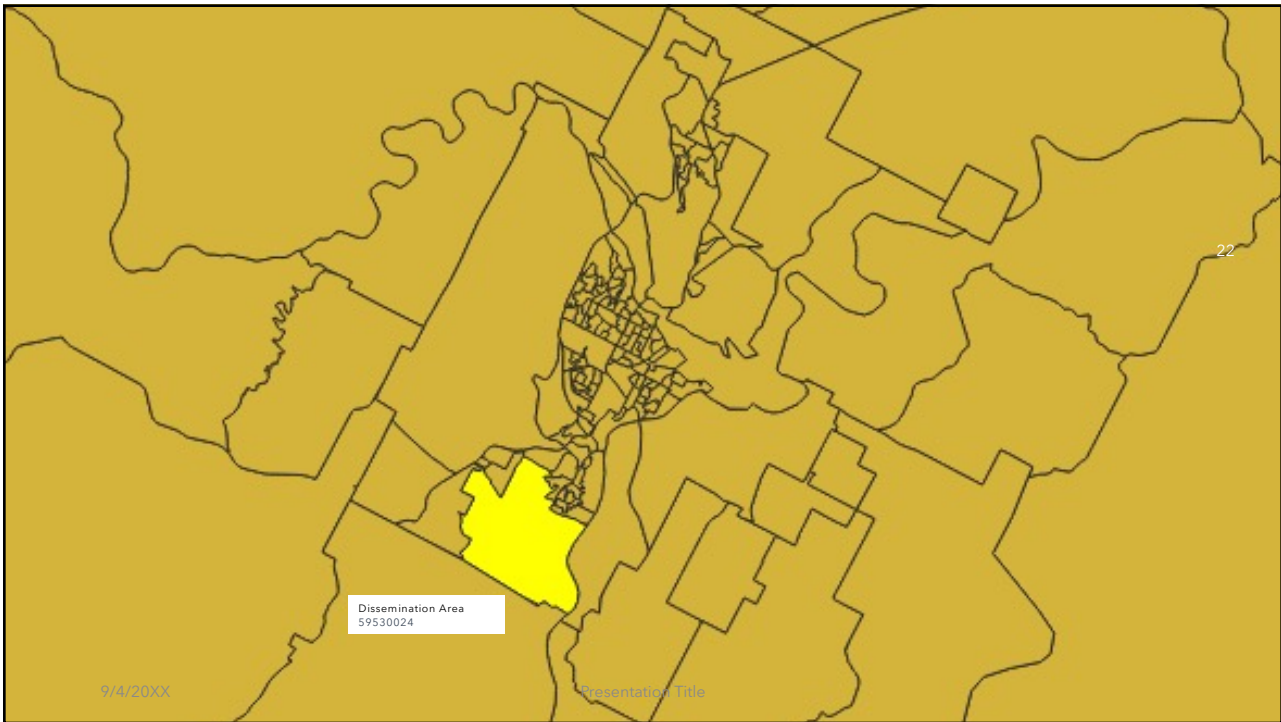


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Attributes associated with the Census Tract

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Data Products and Boundary Files

- Data Products
 - <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/index-eng.cfm>
- You can download census boundary files from the Statistics Canada website
 - <https://www.statcan.gc.ca/en/geography?MM=1>

Presentation Title

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Census Data

- Working with census data usually implies joining tabular data with spatial data representing the statistical boundaries.
 - The tabular represents variables of interest
 - population, education, housing
 - Spatial data represents boundaries of the census geography
 - dissemination areas, census metropolitan areas
 - After joining the census boundary data to the tabular data, the tabular data become the attributes of the spatial file.

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Census Data

Main types of errors:

Coverage errors occur when dwellings and/or persons are missed or incorrectly counted

Non-response errors occur when some or all information in the questionnaire is not provided.

Response errors occur when a question is misunderstood or the answer is inaccurate

Processing errors include errors that can be made at data capture (e.g a wrong code coding operations), during data entry when trying to remove invalid or missing data points

Sampling errors apply only when answers to questions are obtained from a sample.

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