Hunter College - CUNY
Dept. of Geography & Environmental Science
GEOG 101 Lecture Presentation Summary
Spring 2021

***NOTE**: In the absence of face-to-face lecturing and explanation of the material presented in the lecture slides, I will summarize the content of each lecture presentation stressing the concepts and interrelationships that are essential to an introductory geography course.*

If, after viewing the lecture presentation, the imbedded short videos and hot links to articles, and after reading this summary, you have any questions, would like to contribute a comment or two, need clarification by other examples or would like additional information on the topic, please do not hesitate to email me at agrande@hunter.cuny.edu.

LECTURE 23: Urban Geography 1 and 2

- **Slide 3** lists the major topics yet to be covered. **This is the last lecture presentation for this course.** This lecture looks at the principles of **Urban Geography.** Material is found in textbook chapter 10. **Political Geography,** as scheduled from the beginning of the semester, will be covered by readings and Atlas Extra Credit III. The final exam will be available from Friday, May 21 to Monday, May 24.

- **Slide 4: Settlement.** Before we can study urbanized areas, we need a basic understanding of human living arrangements on earth. Settlement is a place where a person or group of people decide to live and is differentiated by size, spacing and function. Function is the key factor as we shall see. These then fit into a hierarchy of settlement that exhibit different complexities.

- **Slide 5. Hierarchy of Settlement.** Rural is the lowest and least complex category of settlement. There is a low population density, dispersed pattern of houses and simple set of functions present (to be defined later). As we move up the hierarchy, there is an increase in density, pattern and function; new names are applied to the settlement types: from isolated dwelling and hamlet to megalopolis and conurbation.

- **Slides 6-7: Examples of Rural Settlement.** Included are nucleated villages where there is concentrated settlement pattern, denser grouping of people and the beginnings of specialized functions by people not directly engaged with the land.

- **Slides 8-9: Urban Geography.** Listed are the three categories of non-agricultural nucleated settlements. Know the difference between urban area, suburbia and exurbia. **Slide 9** illustrates several types of urban areas.

- **Slide 10: Mapping America's Settlement Pattern.** This is an interactive article from the *NYTimes* showing the results a project to map *every building* in the US. The black dots reflect the visible aspect of human building construction, not the cities per se, as there are many dots outside of the formal cities. The white areas have no buildings. *Looking at southeastern Pennsylvania on the right-hand map, we can see the crest lines of the ridges where there are no buildings. Also, the*

course of the Susquehanna River is visible as is Chesapeake Bay – again, no buildings. Philadelphia and Baltimore are portrayed by the greatest concentration of black dots, i.e., a densely built-up area: many buildings.

- **Slides 11-13: World Urbanization.**
  - **Slide 11** shows world urbanization as a quantitative choropleth map. Areas with non-agricultural economies or located in harsh climates tend to be more urbanized (see the color scale).
  - **Slide 12** illustrates the increase of urbanization since 1900. Look at the difference in percent of people living in rural areas and cities. In 2007, half the world's people lived in cities. Present estimates are 62% of 7.79 billion people live in cities – and they all need food, clean water, a place to live and a means to dispose of waste products.
  - **Slide 13** locates urbanized areas with more than 5 million people. Most of these areas contain more than one city.
  - ***For the final exam, know the location of the largest urban areas. See the Study Guide for names and the practice map.***

- **Slide 14: Rise of Urbanization**. Urbanization is tied to advances in civilization which changes economic activities and the number of people living off of the land. A food surplus is needed. This allowed for the development of social orders and the division of labor which is also studied in cultural geography.

- **Slides 15-16: Modern Legal City vs. Geographic City.** Know the definitions of legal city and geographic city. The *legal city* is enclosed by boundaries where rules and regulations apply and the *geographic city* is the area that we "see" or perceive to be city-like. For example, as we fly to another city, look out the window on the approach the airport, we think "there's the city." In reality, all we see is a concentration of buildings and roads that look city-like. We cannot see the legal boundaries of the city. The unique urban characteristics that we see can translate to urban functions. **Slide 16 illustrates this concept**. *Note that the geographic city and the legal city vary in size depending on local circumstances and land usage.*

- **Slides 17-30: Geographic City Explained.**
  - **Slide 17: Distinguishing Characteristics of a Geographic City:**
    - reason for being (function),
    - siting choice (why here),
    - economic viability (income earning)
    - spread or extent of the functional area (shape).

  - **Slide 18: Urban Function.** This is what draws people together and differentiates a densely populated rural area from an urbanized area. Everything on the list and other unique reasons were the impetus of any urban place's formation. *Think about what is in the center of most old European cities.*

  - **Slide 19: Site and Situation.** The mainstay of geographic analysis looks at what is found at a particular location and how do those characteristics relate

to other places and areas. Paris, Athens, Singapore and Pittsburg are some examples.

- **Slide 20:** British industrial cities and their location on coal deposits. It was too difficult and expensive to move the coal, so they built the factories on top of the coal fields.

- **Slide 21: THE QUALITY OF LOCATION CHANGES WITH TIME.** Unfortunately, the quality of a location is not permanent, especially with changing technologies. What was great 150 years ago may not be great now. Telecommunications eliminates the need to be in close proximity to places. Remember this adage.

- **Slides 22-23. Economic Base.** Urban areas need to earn an income in order to survive. A mix of manufacturing and service which in money. Money is needed by residents and businesses to pay for needed things, including service. The economic base has two components: **basic sector** and **non-basic sector**. The basic sector earns money from selling products to other areas. The non-basic sector tends to the needs of the workers and other residents, as food, clothing education, medical care and the like. The **multiplier effect** of the economic base says that on average, TWO non-basic workers are needed for every ONE basic worker. Additionally, every non-basic worker needs TWO other non-basic workers to support that non-basic worker. That is why a city grows. But the reverse happens, too. As manufacturing operations close, leaving workers without a job and income, some will move away and others who stay but may not be able afford services (if they can find them). ***This is part of the life cycle of a city that we will discuss later.***

- **Slides 24-30: Shape.** The shape of an urbanize area will influenced by the following four factors: physical location, land use pattern, orientation and transportation.

- **Slide 25: Shape by physical location.** The terrain and topographic relief features of New York City are shown. Protected New York Harbor with gentle shorelines, and low tidal range was a plus in the days of sailing ships. In addition, there was ample fresh water, trees and animals onshore.

- **Slides 26-27: Shape by land use pattern**. Patterns established by people as zoning, political boundaries and cultural preferences will affect the shape of a city. The pattern of growth of Moscow and Paris reflect movements outward from an original focal point. A circular pattern results.

- **Slide 28: Shape by orientation.** Cities will tend to grow toward each other as people fill in the open space between areas (Megalopolis) or toward preferred physical features as the shoreline, mountains, up a river valley, etc. This nighttime view of the US shows city lights and how areas form large urbanized areas that merge into each other.

- **Slide 29-30: Shape by transportation patterns.** Cities grow along lines of transportation. This is logical, as people move from one place to another; the faster the transportation, the greater the distance people can move in the same amount of time ***(Time-Distance returns!).*** The pattern of cities and towns of Illinois is a result of the original railroad rights-of-way. Towns grew where passenger, freight and refueling stations were built. At the beginning, locomotives had to stop often for fuel and water (steam engines), thus the close pattern of passenger station/freight depot location. As the engines refueled, the train cars could be loaded and off-loaded at the same time. Thus, the depot areas became the focus of the local area. Another example is the I-95 corridor from Boston to Miami.

- **Slides 31-35: Urban Hierarchy.** We return to "hierarchy" and focus on the role of urban function.
  - **Slide 31: Urban Classification:** The hierarchy is created by classifying cities into a step-like series of urban places differentiated by both size of population and variety of function. Each lower rank has less people and less functions with less specialization. The lowest level of the hierarchy would be a small village providing one or two functions for its residents.

  - **Slide 32: Central Place.** Central places of the focus or nodes for the distribution of goods and services to an area. The more specialized a central place, the more functions it has to offer and the more people it will service. On the diagram "Central Place A" is least abundant while "Central Place D" is most abundant but their roles are opposite.

  - **Slide 33: Walter Christaller and Central Place Theory.** Developed in Germany during the 1930's, this is an attempt to rationalize the relationship between urban places and their surrounding areas. Note the assumptions. Market towns were the focus of people and business. The larger the town, the more area it serviced.

  - **Slide 34: Threshold Population.** This takes the central place analysis one step further and looks at the number of people needed to sustain services and economic activities. Think about declining cities of late 20th century/early 21st century. Look at the hierarchy in this diagram. Now we throw in transportation. Faster transportation allows people to travel longer distances in the same about of time (Time-Distance again!) and can eliminate the middle portion of the hierarchy as people can easily get to the top of the ladder. This is what is happening in developing countries around the world and is causing severe problems in urban areas.

  - **Slide 35: Sphere of Influence. "**Spheres of influence" radiate from the central place but are closely tied to it: both by needing the goods and services available in the city and also being a *"tributary"* to the city by providing for its

needs as labor, income (from purchases made) and products needed by the city to survive (food and raw materials). The illustration shown is for financial/banking areas spheres of influence. Actually, NYC has a nationwide influence but is not shown on this map.

- **Slide 36: Zones of Urbanization.** As we mentioned earlier, cities tend to grow toward each other. As a number of cities expand in area, the space between them fills up, creating a *metropolitan area*. As metropolitan areas grow toward each other, a *"conurbation"* is created. The map shows these areas in the US. *Recall the nighttime map on Slide 28.*

- **Slides 37-44: Growth and Decline of Urban Areas.** This sequence looks at the cycle cities go through over time, based on location, function and economic base.
  - **Slide 37: These maps show U.S. cities that have experienced population growth and decline.** As change happens, the city's urban characteristics change, too, as do the socio-economic make-up of the urban areas.

  - **Slide 38: Urban Landscape Cycle.** This diagram looks at the five stages of the cycle. The cycle repeats itself over time, with new players and circumstances. The box on the right side lists a fictional series of events which can be seen in many New England towns today.

  - **Slides 39-43: Urban Landscape Cycle Explained.**
    1. **Creation.** There has to be an initial reason for settlement. If circumstances are good, development begins. Functions (services) needed by people are brought to the site which may act as a **pull factor**, drawing other people to the location.
    2. **Growth.** Pull factors bring more and more people to the site, increasing its size and diversity and also requiring more functions (services). More job positions need to be filled; workers are needed. Families establish themselves. The wealth generated by businesses, plus the taxes collected, create the foundation for infrastructure development and upgrading.
    3. **Stagnation.** Growth slows down as the economic situation no longer brings in new people and no longer produces as much profit. If there is a manufacturing or industrial base, it may become obsolete and/or too costly to update to modern technology/procedures. The area is no longer selected by those seeking to relocate. A reason could be that *the quality of the original location is no longer up to par.* Infrastructure begins to be neglected and a shabby appearance is presented dissuading people/businesses from locating there.
    4. **Demise.** The urban area goes into a tailspin. Population and opportunities decrease. Those who can, leave for a better setting. Urban functions begin to disappear (no longer needed or are no longer profitable). <u>Push factors and the negative stay factors outweigh any remaining pull factors.</u> Only those who cannot move away remain and live with deteriorating conditions.

5. **Resurgence.** The area begins to change when someone or some action is taken to re-imagine it and bring in new functions, as a change in manufacturing to hi-tech or an urban renewal program or historical restoration to lure tourists. This is usually done by higher income groups for higher income groups, putting lower income groups in a perilous situation that they not be able to afford. Resurgence stimulates new growth and increases the tax base *(pull factors have been added)* and draws new people to the area. **Gentrification,** a term with both good and bad implications, is applied to this process.

- **Slide 44: The Urban Landscape Cycle diagram: Providence, RI example.**

- **Slides 45-52: Patterns within a City.**
  - **Slide 45: Urban Spatial Patterns:** Physical patterns (human impact within an urbanized area) and social patterns (the way people organize space) are identified, and are unique to the urbanized area of which they are part.

  - **Slide 46: Urban Physical Patterns**. Concrete and asphalt along with brick and mortar replace soils, plants, trees, rock outcrops and open space. Natural patterns that have been altered by people result in the creation of microclimates (unique local weather and climate averages) within the geographic city and an altered hydrology from landscaping. Both impart the geographic city with different physical characteristics than the surrounding areas and may turn a natural process into a natural hazard by preventing natural controls from working. *(For example, without soil to absorb heavy rainfall and with paved surfaces channeling water quickly into storm sewers and streams, urban flooding becomes a greater danger).*

  - **Slide 47: Social Patterns.** This slide lists the five components used to assess urban spatial patterns created by people.

  - **Slide 48: Urban Models - Divisions within a City.** These four models attempt to rationalize the land use patterns found within a geographic city. **DO NOT worry about the details** but rather know that there are different influences as: (a) equal movement way from city center; (b) the sector approach to land use; (c) multiple-nuclei model which sees separate pull factors coming together to create one urban unit; and (d) peripheral model that looks at activities outside of city center that are tributary to the main city but act as independent satellites in the regional scheme.

  - **Slide 49: Population Density as a Matter of Distance.** Population density within the geographic city will vary with land use and distance from key areas. Usually, the central business district or CBD has low density because there tends to be less housing available among the office buildings (this is changing in the older cities including NYC). The multistory apartment houses outside of the CBD house the workers. With increased wealth and faster transportation workers can live at a greater distance from their jobs. Density

then decreases with single family houses, houses with land and finally to the suburbs and far suburbs where density is lowest but travel distance the greatest. *Think of why the Long Island Expressway was built in the 1950s: To quickly move commuters between their suburban homes and Manhattan jobs. It worked too well, was overused, had to be widened many times, and is still a slow ride most of the time.)*

- **Slide 50: Mapping Land Use within the City.** Each component can be individually mapped and studied. Notice how industry is located along the railroad.

- **Slide 51: Social Patterns with a City.** We can map and study the social geography of any urban area. Census data is essential to know who is there and what their situation is. You start with the physical structure (topography and street pattern), add neighborhoods characteristics, family status and social status. Social patterns within a city change over time; neighborhoods change; employment changes; and gentrification will have an impact in some areas.

- **Slide 52: Social Residential Clustering.** This is the spatial grouping of people within a city. This can lead to income and ethnic neighborhoods. *Congregation* and *segregation* are terms that have been used to describe groupings of people. Each one conveys a specific meaning.

- **Slide 53: Government Role in Urban Pattern Development.** The three ways government influences the development and change in land use and social patterns within the geographic city are *zoning*, *eminent domain* and *planning*. Know the difference between them.

- **Slides 54-55: Urban Problems.** When there is a large concentration of people within a small area who are dependent on the basic necessities being brought into the area, there are going to be problems. These are definitely spatial in nature: site and situation, characteristics of place, movement/diffusion, regions (neighborhoods; commercial districts); and human-environment interactions.
  - **Congestion Issues:** large numbers of people, accessibility, local transportation; housing
  - **Health Issues:** food, water supply, sanitation, controlling disease, dealing with dead people
  - **Quality of Life Issues:** crowding, crime, poverty, health care, waste management
  - **Environmental Quality Issues:** pollution - air, water, land, noise, odor
  - **Hazard Issues:** natural and man-made hazards as storms, earthquakes, urban flooding, fire, terrorism
  - **Global Climate Change:** sea-level rise, storms, drought, extreme temperatures

- **Slide 56: Majoring in Geography or Environmental Science.** For those of you interested in furthering your studies in geography and environmental science, there is information at the last tab on the Course Home Page about the requirements for these majors. You may also what to consider these programs as minor concentrations.

- **Slide 57: Wrap Up.** Always remember the **Five Fundamental Themes of Geography.** Geography is the study of location analysis, not a rote memorization of place names and country products, where every spot on the Earth has a unique combination of factors affected by natural processes and by the decisions of people: human impact.

❖ **The Final Exam is available on BlackBoard from Friday, May 21 to Monday May 24. It covers just the material in Part III.** Look over the Study Guide and Place Name lists with the practice maps. Review the textbook pages listed on the Study Guide. Go over PowerPoint lecture slides and read my detailed summaries.

➢ **I am available by email for questions as you study for the exam.**
Good luck on the exam. Stay safe. Be well. Hope to see you in other courses!