**Report**

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| **Date:** | **29/06/2020** | **Name:** | **Safiya Banu** |
| **Course:** | **IIRS Outreach Program on Satellite Photogrammetry** | **USN:** | **4AL16EC061** |
| **Topic:** | **Introducing Photogrammetric Concepts** | **Semester & Section:** | **8th B** |
| **Github Repository:** | **Safiya-Courses** |  |  |

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| **AFTERNOON SESSION DETAILS** |
| **Image of session** |
| **Report:**  **Map**: It shows an area as seen vertically form above. Different symbols and colours are used to represent various objects on a map.  **Aerial Photo**: They are taken from an aircraft to show objects on the ground. They can be divided into vertical aerial photos and oblique aerial photos.   |  |  | | --- | --- | | **Map** | **Aerial photo** | | Orthogonal projection | Central projection | | Uniform scale | Variable scale | | Terrain relief without distortion | Relief displacement | | All objects represented on a particular scale | Only objects that are visible | | Abstract representation | Real representation |   **WHAT IS PHOTOGRAMMETRY**   * The science of quantitative analysis of measurements from photographs * Photos - light * Gramma - to draw * Metron - to measure   **Distinct Areas in Photogrammetry**  **Metric Photogrammetry**   * Making precise measurements from photos determine the relative locations of points. * Finding distances, angles, areas, olumes, elevations, and sizes and shapes of objects.   **Interpretative Photogrammetry**   * Deals in recognizing and identifying objects and judging their significance through careful and systematic analysis.   **Most common applications:**   * preparation of planimetric and Interpretation Sensing topographic maps * production of digital orthophotos * Military intelligence such as targeting   **BRANCHES OF PHOTOGRAMMETRY**  **Based on platform:**   * Ground Based * UAV/drone based * Aerial Photogrammetry * Satellite Photogrammetry   **Based on processing techniques:**  **Analogue System**   * Optical or mechanical instruments were used to reconstruct three-dimensional geometry from two overlapping photographs * The main product during this phase was topographic maps   **Digital System**   * Digital photogrammetry is applied to digital images that are stored and processed on a computer * Digital photogrammetry is sometimes called softcopy photogrammetry. * The output products are in digital form, such as digital maps, DEMs, and digital orthophotos saved on computer storage media.   **Analytic system**   * The computer replaces some expensive optical and mechanical components * Devices were analog/digital hybrids * Main developments- Analytical aerotriangulation, analytical plotters, and orthophoto projectors * Outputs - can be topographic maps, but can also be digital products such as digital maps and DEMs   **BASIC CONCEPT**   * The primary objective of the technique is to derive precise coordinates of a point * This is done by viewing the area from two different angles, thereby recreating the same conditions as it existed at the time of photography.   **TYPES OF AERIAL PHOTOGRAPHY**   * Vertical * Low oblique * High oblique   **Scale of Aerial Photography**  Before a photograph can be used as a map supplement or substitute, it is necessary to know its scale. On a map, the scale is printed as a representative fraction that expresses the ratio of map distance to ground distance, For example:  **RF=MD/ GD**  On a photograph, the scale is also expressed as a ratio, but is the ratio of the photo distance (PD) to ground distance. For example:  **RF PD/GD**  **scale = f / H**  **scale = photo distance + ground distance** |