


## DAILY ASSESSMENT FORMAT

<b>Date:</b>	<b>03-07-2020</b>	<b>Name:</b>	<b>BINDUSHRI</b>
<b>Course:</b>	<b>Satellite photogrammetry and its application</b>	<b>USN:</b>	<b>4AL17EC011</b>
<b>Topic:</b>	<b>Photogrammetric products DEM &amp; Orthophoto</b>		<b>6<sup>th</sup> A</b>
<b>Github Repository:</b>	<b>Bindushri</b>		

## FORENOON SESSION DETAILS



Live Session

Offline Session

Study Material

Attendance Status

Course Guidelines

Feedback

Dear participant, to mark your attendance properly, please do not frequently refresh this page or do not navigate to another menu or tab during the

Presenter: Dr. Anil Kumar

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Ask Question

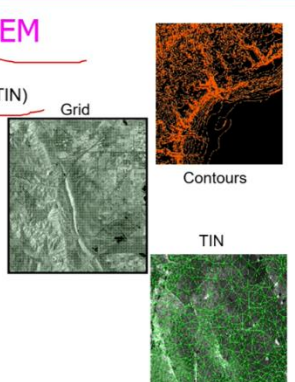
**DEM**

- Triangular Irregular Network (TIN)
- Grid (regular spaced)
- Contours
- Gray scale image
- Shaded relief image
- Perspective view
- 3-d view

Grid

Contours

TIN



Please rate this session:

## Photogrammetric products

3/06/2020

- DEM & Orthophoto

### DEM

- greyscale image
- shaded relief

### Uses of DEM

- Derivation of contour lines
- Orthophoto generation
- Production of visibility maps
- Profile determination
- Volume determination
- Generation of slope models
- Urban planning & utility planning
- Perspective presentations
- 3D-GIS

when DEM is imprecise on the surface will be smooth

### Automatic DTM point selection

- Image matching techniques
- Area based matching
- Feature based matching
- Relation based matching

→ Least square correlation  
when least squares correlation fits a search window to the reference window, both radiometric and geometric transformations are calculated

$$g_2(c_2, r_2) = h_0 + h_1 g_1(c_1, r_1)$$

$$c_2 = a_0 + a_1 c_1 + a_2 r_1$$

$$r_2 = b_0 + b_1 c_1 + b_2 r_1$$

### Feature Based Matching

Matching begins on level 4

↓

matching finishes on level 1

### Advantages of digital format

- product which can be readily interpreted like a photograph

- product on which true distance, angles & areas can be measured & mapped - in a digital format

### Inputs for generating an orthophoto

- focal length
- lens distortion
- Principal marks co-ordinates
- ground control points
- Digital elevation model

