



SNS COLLEGE OF TECHNOLOGY

**An Autonomous Institution
Coimbatore - 35**

Accredited by NBA – AICTE and Accredited by NACC – UGC with 'A+ Grade
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

DEPARTMENT OF AGRICULTURE ENGINEERING

19AGT302 – GIS AND REMOTE SENSING

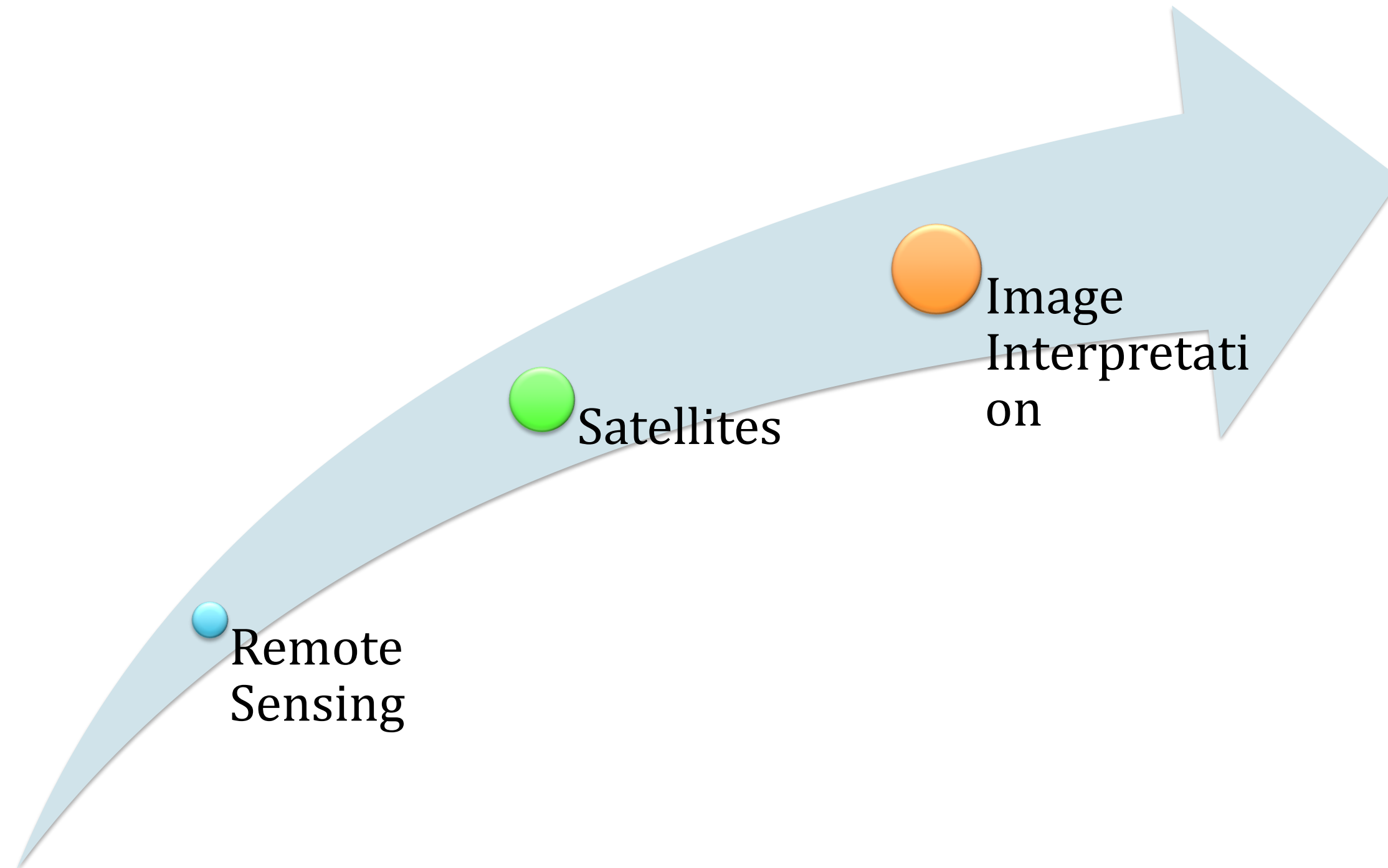
III – YEAR V SEMESTER

UNIT 3 – DIGITAL IMAGE INTERPRETATION AND PROCESSING

TOPIC 2 – ELEMENTS



Last Class Review





Elements

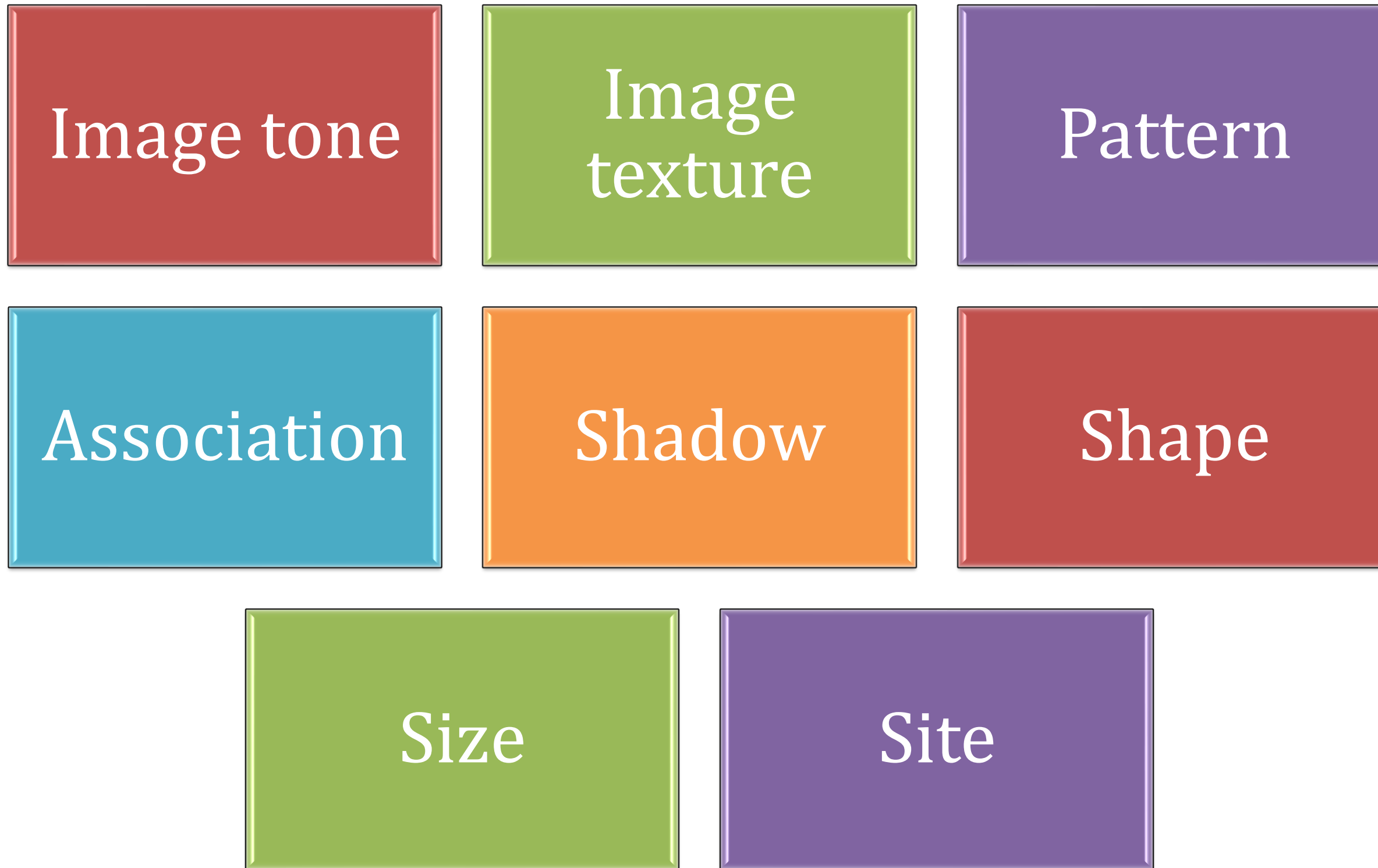




Image tone, grey level, or multispectral grey-level vector



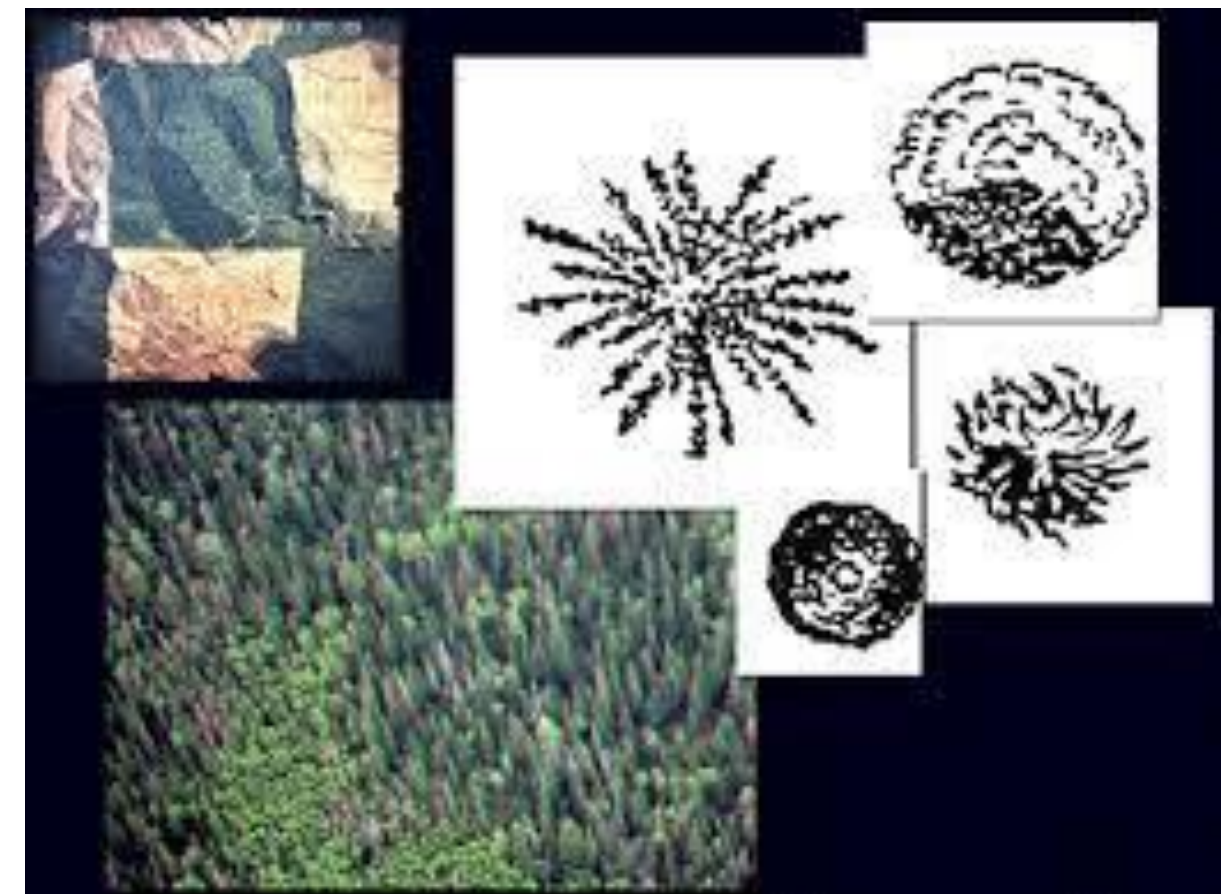
- ❖ Human eyes can differentiate over 1000 colours but only about 16 grey levels.
- ❖ Therefore, colour images are preferred in image interpretation. One difficulty involved is use of multispectral image with a dimensionality of over 3.
- ❖ In order to make use of all the information available in each band of image, one has to somehow reduce the image dimensionality.



Image texture



- ❖ Spatial variation of image tones.
- ❖ Texture is used as an important clue in image interpretation.
- ❖ It is very easy for human interpreters to include it in their mental process.
- ❖ Most texture patterns appear irregular on an image.

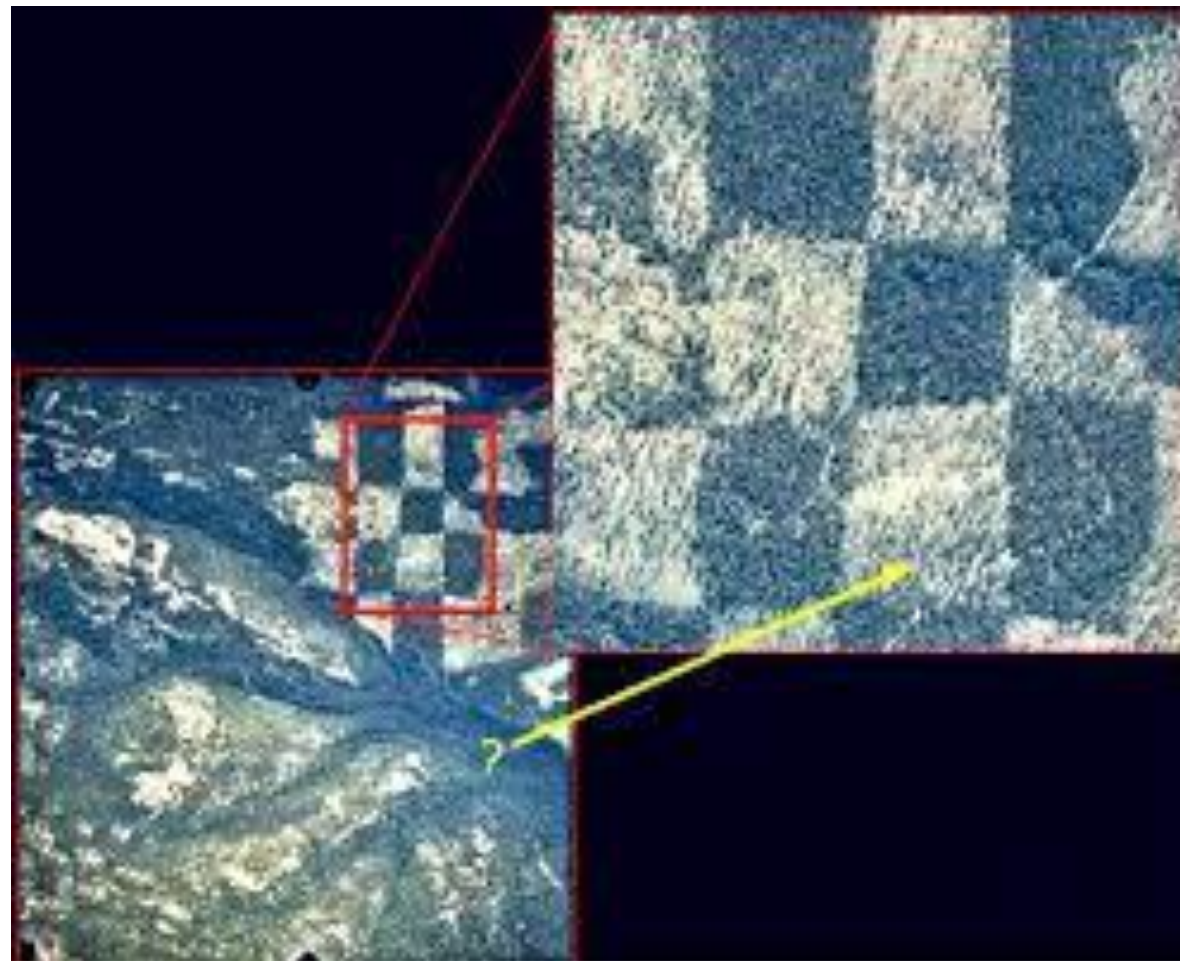




Pattern



- ❖ Regular arrangement of ground objects.
- ❖ Examples are residential area on an aerial photograph and mountains in regular arrangement on a satellite imagery.





Association



- ❖ A specific object co-occurring with another object.
- ❖ Some examples of association are an outdoor swimming pool associated with a recreation center and a playground associated with a school.

Tone



Texture



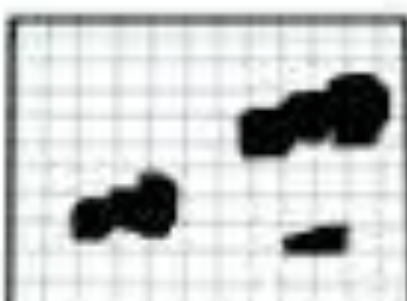
Pattern



Shape



Size



Association





Shadow



- ❖ Object shadow is very useful when the phenomena under study have vertical variation.
- ❖ Examples include trees, high buildings, mountains, etc.

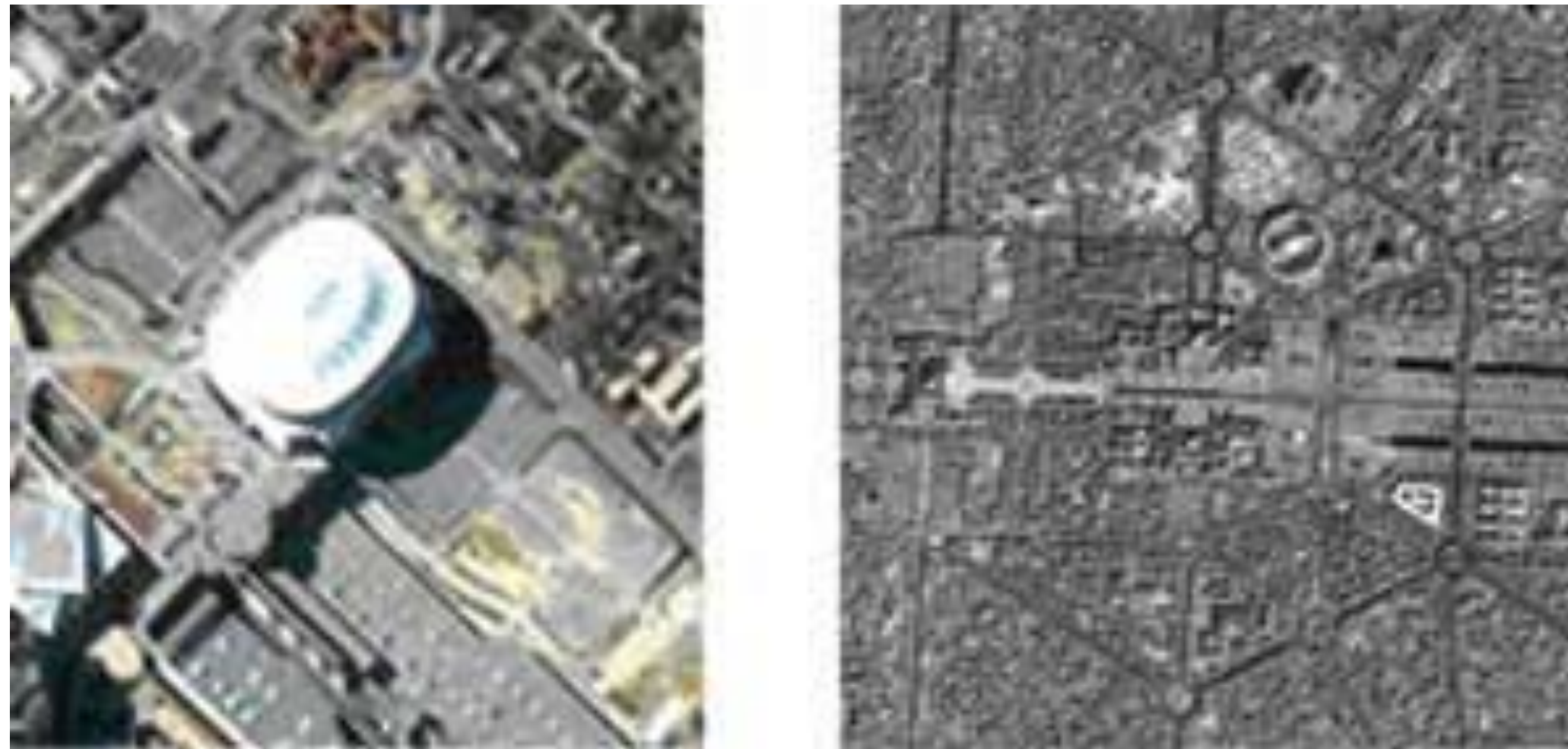




Shape



- ❖ Agricultural fields and human-built structures have regular shapes.
- ❖ These can be used to identify various target.





Size



- ❖ Relative size of buildings can tell us about the type of land uses while relative sizes of tree crowns can tell us about the approximate age of trees.

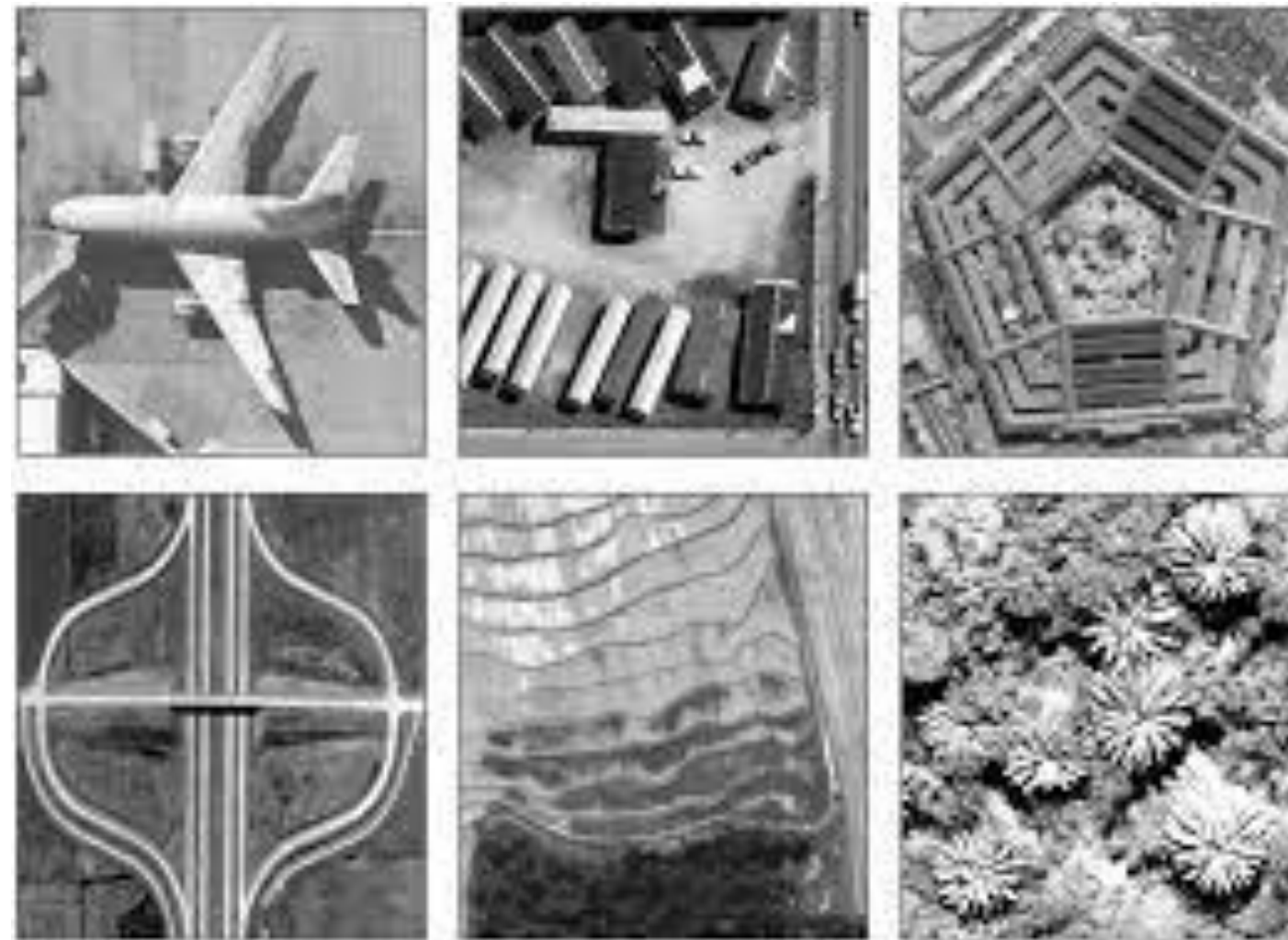




Site

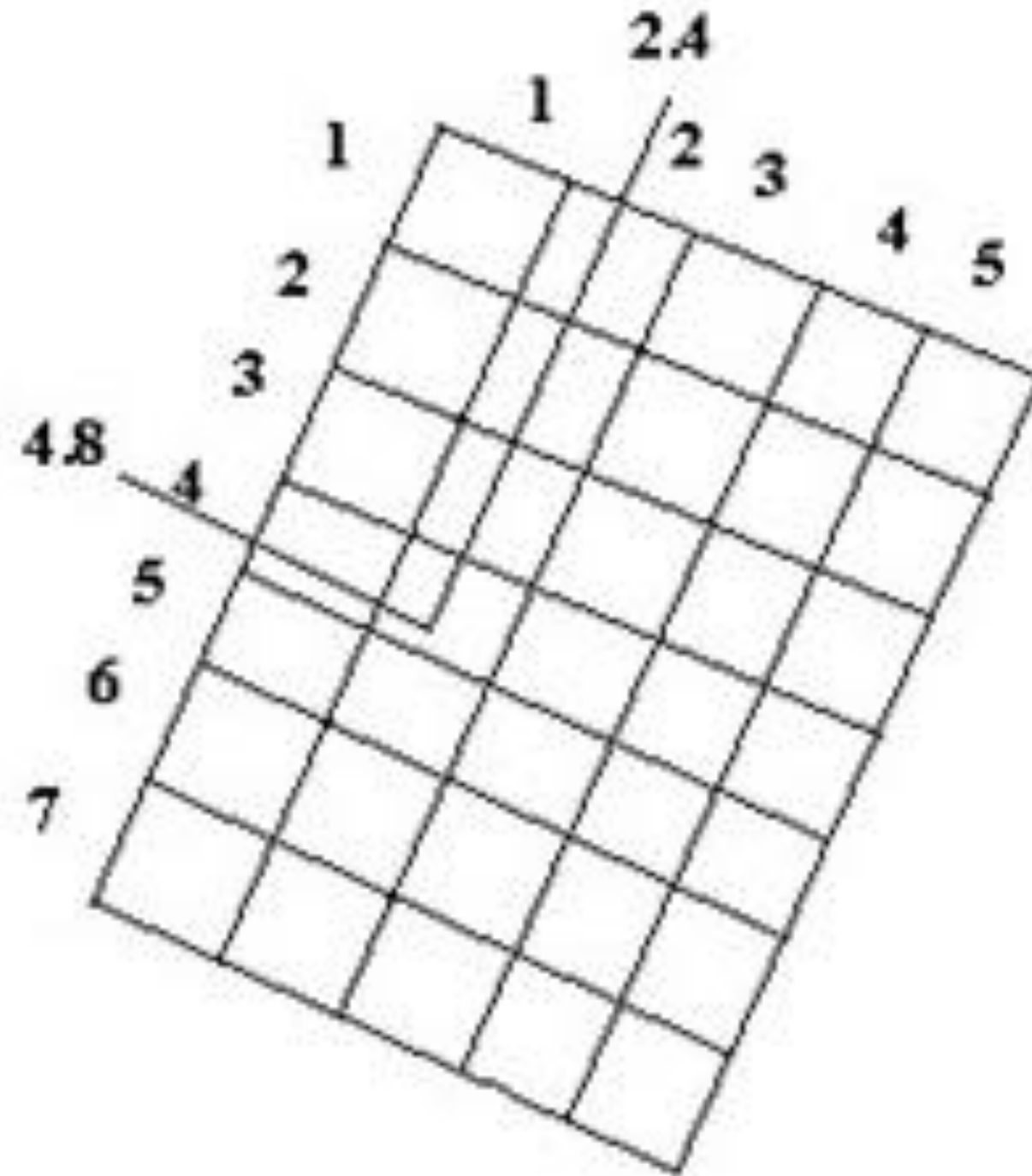


- ❖ Broad leaf trees are distributed at lower and warmer valleys while coniferous trees tend to be distributed on a higher elevation, such as tundra.
- ❖ Location is used in image interpretation.





Distorted image





Corrected image

	1	2	3	4	5	6	7
1							
2							
3							
4							
5			■				
6							
7							

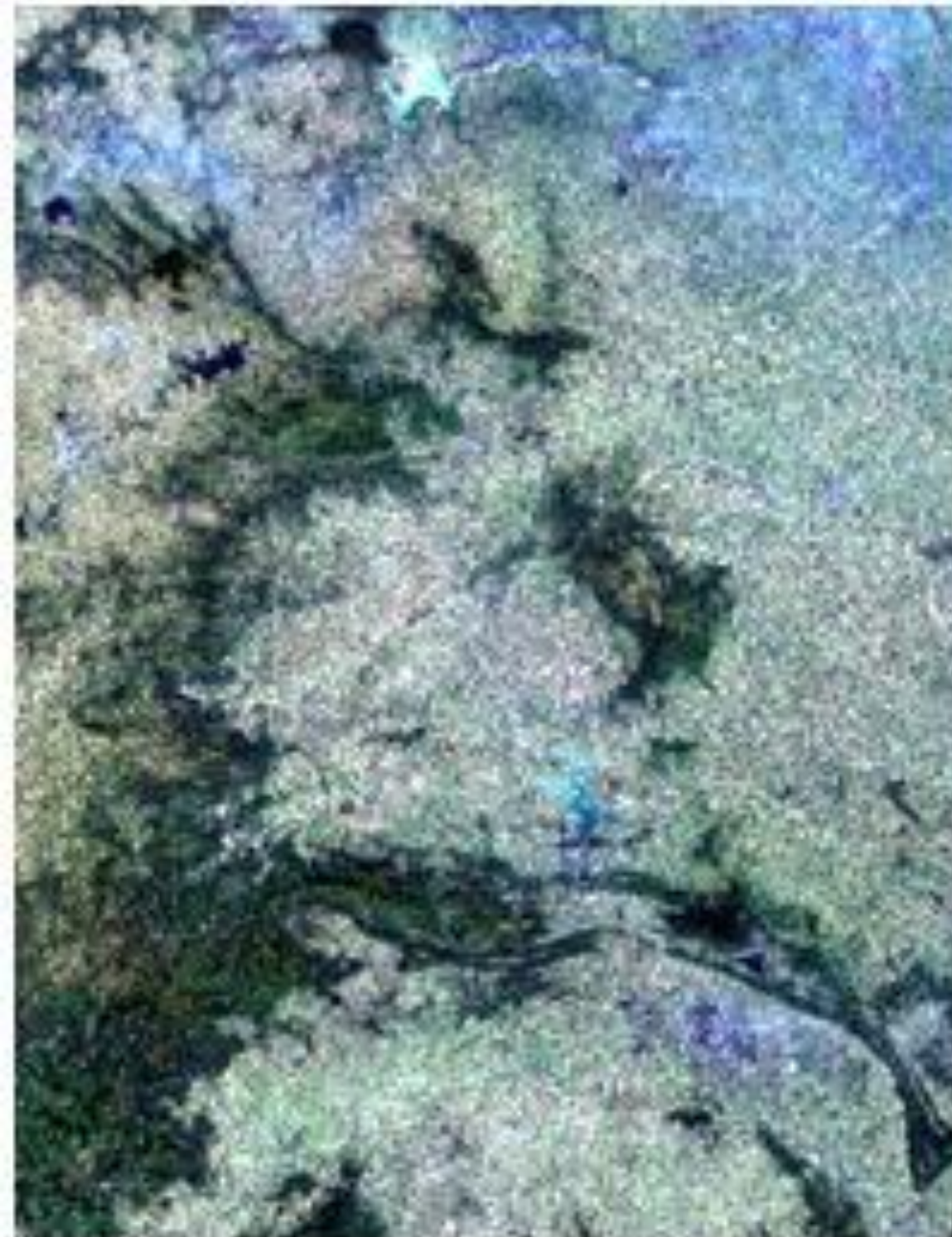


Nearest-neighbour interpolation



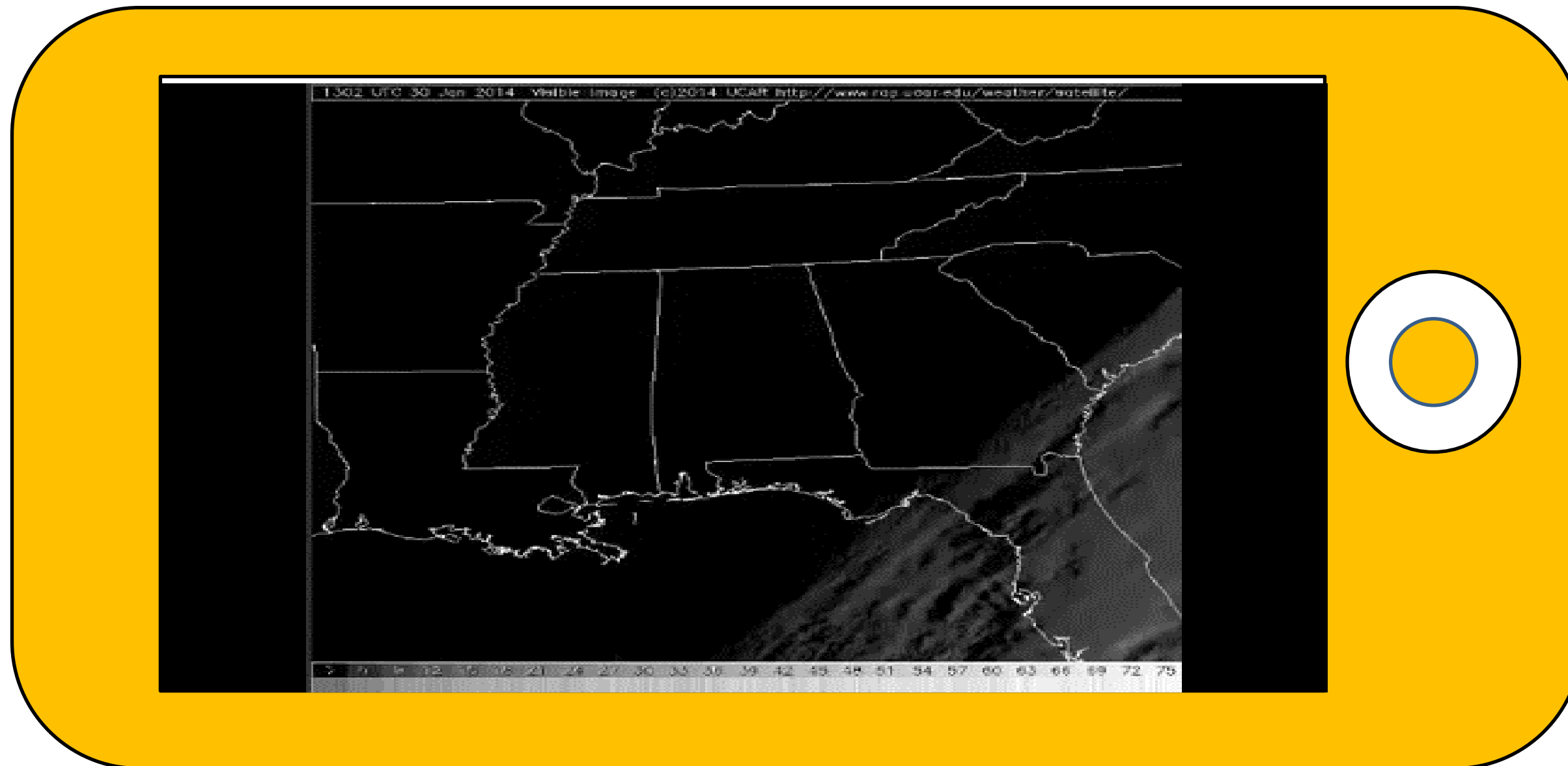


Bilinear interpolation





Reference Videos





See You at Next Class!!!!