POLYGONS (CONTINUED)

16 Random fill

Random arrangement of individual marks within a pattern contrasts with regular spacing

- Symbol Property Editor > Type: Marker Fill Symbol > Marker Fill tab > Random option and set marker properties; Fill Properties tab > set average marker separation
- Mapping Center > Blog tab > enter search keyword **vegetation**

2A	3A
	
Random fill of simple marker symbol	Random fill of picture symbol

17 Hatched fill

- Symbol Property Editor > Type: Line Fill Symbol > select line width > adjust line color, angle, offset, and separation
- For an opaque background behind the line pattern, create a multilayer fill (+ button at lower left) and place a Simple Fill symbol below hatched fill symbol

4A	4C	5D
		
Hatch of gray lines at 45 degrees with area fill color behind	Buffer polygon with widely spaced line fill	Two line fill layers both hatched, at 45 and –45 angles

18 Picture fill

- Symbol Property Editor > Type: Picture Fill Symbol > add vector picture (EMF) or bitmap picture (BMP) > adjust settings
- Include a rectangle that has no color or width within an EMF drawing to set spacing between pictures in the ArcMap fill

2D	4A
	
Five EMF picture fill layers, each with a different leaf size, angle, spacing, and color, produces pattern combination that does not obviously repeat	Mottled BMP picture fill tiles area for vegetation effect

19 Gradient fill

- Symbol Property Editor > Type: Gradient Fill Symbol > adjust settings
- Mapping Center > Blog tab > enter search keyword **gradient**

4A	6C
	
Very subtle circular or buffered gradient for each area fill	Water glint is a light-to-medium blue linear gradient at angle

20 Four-color fill

Four colors are the minimum needed to distinguish adjacent polygons (if an attribute is not being mapped)

- Convert to Graphics > individually select polygons and apply fill color to each
- Or, use the script at Mapping Center > ArcGIS Resources tab > Tools, Models & Scripts tab > **Four Color a Map**

4B


21 Hillshade colors

- Layer Properties > Symbology tab > click on Color Ramp and select from drop-down menu of choices
- Prepare custom ramps from Tools menu > Styles > Style Manager > Color Ramps folder > right-click in list area to create new two-color Algorithmic ramp or Multi-part series of algorithmic ramps
- Adjust position of ramp colors in hillshade using Layer Properties > Symbology tab > Histogram button > move position of diagonal line in graph
- Mapping Center > Blog tab > enter search keyword **hillshade**

2C	6C
	
Warmer hillshade with ramp from light to brown rather than to black or to gray	Multi-part ramp of white to yellow ramp continued by yellow to dark brown

22 Transparent fill

Adjust layer order in TOC and set fill colors transparent over hillshade, or set hillshade transparent over fill color layers

- Effects toolbar > select Layer > Adjust Transparency tool
- Or, Layer Properties > Display tab > set Transparency

5A	6A
	

POLYGONS (CONTINUED)

23 Transparent legend

Create legend boxes that show the same combinations of transparency and color fills as seen on the map

- Mapping Center > Blog tab > enter search keyword **hypsometric legend**

5A

24 Centerline

Well-structured cartographic data has centerlines for linear polygons (e.g., polygons with lines along river banks or street curbs), which may be used with no line symbol to position labels or may replace the polygon at smaller scales.

- Mapping Center > Blog tab > enter search keyword **centerline**

2C

25 Eliminate by size

Remove the clutter of small features by removing those below an area threshold

- Toolbox > Data Management Tools > Generalization > set minimum area within either Aggregate Polygons or Simplify Polygon
- To better use generalization tools, structure hydrographic data with islands as a separate class, rather than using interior polygons

2A

2B

LABELS AND POINT SYMBOLS

26 Halo

Halo on label

- Layer Properties > Labels tab > Symbol > Properties > Mask tab > choose Halo > adjust settings
- Use Label Manager on the Labeling toolbar for quick access to all the layers in the data frame

Halo on symbol

- Symbol Property Editor > Mask tab > choose Halo > adjust settings,
- Or, set thin outline of marker to a contrasting color

5C

White halo contrasts with background

6D

Halo similar to, or same as, background color for subtle breaks

27 Label hull

Label hulls are an alternative to halos

- Right-click frame > Convert Labels to Annotation;
  Toolbox > Cartography Tools > Masking Tools > Feature Outline Masks > set input layer and parameters;
  choose Mask Kind of Exact Simplified for a close fitting hull and set Fill Color for mask
- A transparency setting for a mask fill improves contrast without eliminating background features

4B

28 Variable-depth masking

A variable-depth mask that blocks some layers is transparent so other underlying layers (e.g., terrain or land cover) are visible through the gaps in the masked layers (e.g., where contours break at elevation labels)

- Right-click frame > Convert Labels to Annotation;
  Toolbox > Cartography Tools > Masking Tools > Feature Outline Masks > set input layer and parameters;
  Layer Properties for new feature outline mask layer > Symbol Selector > Fill color > No Color;
  Data Frame properties > Advanced Drawing Options > check Draw using masking options specified below > choose masking layer (e.g., feature outline mask layer) and masked layer (e.g., isoline layer)

1C

6D

29 Label shadow

Use small shadow offsets, such as 0.4 points, to raise a label slightly above the map surface and provide contrast

- Layer Properties > Labels tab > Symbol > Properties > Advanced Text tab > adjust Shadow offsets and color

6B