CSS for Geographers

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Slides | http://bit.ly/2CF5kQw
This talk is all fundamentals.
First Some Notes

Lots of supplemental info in these slides.

Designed to help you keep learning beyond this talk.
CSS is Hard

- Closer to art than computer science
- Lots of hard, unintuitive concepts
- It has taken me years to amass this knowledge
Let's do stuff with CSS!

- Customize Esri Apps
- Use Frameworks
- Build Web Pages
- Make Apps
Basics
Where does CSS go?

- Inside a `<style>` tag.
- Inside a `.css` file that is loaded with a `<link>` tag.
- In the `<head>` tag of your `.html` files.
What does CSS look like?

```css
html, body, #map {
  margin: 0;
  width: 100%;
  height: 100%;
}
```
Selector

html, body, #map
Declaration

html, body, #map {
}

html, body, #map {
  margin:
}

html, body, #map {
  margin: 0;
}

html, body, #map {
    margin: 0;
    width:
}

html, body, #map {
  margin: 0;
  width: 100%;
}
html, body, #map {
  margin: 0;
  width: 100%;
  height: 
}
Value

```css
html, body, #map {
  margin: 0;
  width: 100%;
  height: 100%;
}
```
A CSS Rule

```html
html, body, #map {
  margin: 0;
  width: 100%;
  height: 100%;
}
```
How does CSS work?

The "C" is for Cascading
Cascading Style Sheets

Styles from different sources *cascade* and coalesce into the final styles for the HTML tags that match their selectors.
A Typical Cascade

- Browser default stylesheet
- User defined stylesheets
- Stylesheets you include with `link`
- `style` tags
- Inline `style` attributes `<div style="...">
- CSS values with `!important`
CSS Specificity

When properties collide specificity determines which property wins.

1. Rules with !important
2. Inline styles `<div style="...">`
3. `<style>` and `<link>` tags
4. Selector specificity
Selector Specificity

1. #foo - <div id="foo">
2. .foo - <div class="foo">
3. tag - <div>

CSS Explain
In a specificity tie the last loaded rule wins.
In Practice

Right click on something you want to change click "Inspect Element"

Explore a Storymap
Lets Build an App!

Alternate Fuel Stations

What?
This dataset represents the locations of non-gasoline alternative fueling stations which provide biodiesel, CNG, electric, ethanol, hydrogen, LNG, and/or propane.

Why?
More than 250 million vehicles consume millions of barrels of petroleum every day in the United States. On-road passenger travel alone accounts for more than 2.6 trillion vehicle miles traveled each year. Vehicle fleet managers and drivers, corporate decision makers, and public transportation planners can use this data to develop strategies to conserve fuel.

How?
Through a nationwide network of local coalitions, Clean Cities (https://cleancities.energy.gov/) provides project assistance to help stakeholders in the public and private sector deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies. Department of Energy collects this data as part of the Projects undertaken by Clean Cities coalitions and stakeholders to ensure customers access to clean alternative fuels. The Esri plugin was developed in ArcGIS and can be used in any supported GIS platform.

Data from the OpenStreetMap Foundation - Open Data Site.
Block vs Inline

- The Difference Between “Block” and “Inline”
- Block-level elements
- Inline elements
- Learn CSS Layout: the "display" property
Units

- Full unit reference
- The Lengths of CSS
- Unit and Values - QuirksMode
Floats

- All About Floats
- CSS Floats 101
- Learn CSS Layout: float
Problems with Floats
Clearing Floats

- Learn CSS Layout: clear
Clearfix

- Learn CSS Layout: clearfix
The Box Model

- The CSS Box Model
- Introduction to the CSS box model
- Learn CSS Layout: the box model
Box Sizing

- Learn CSS Layout: box-sizing
- * { Box-sizing: Border-box } FTW
- Box Sizing
- box-sizing
Flexbox

- Flexbox Froggy
- A Visual Guide to CSS3 Flexbox Properties
- Learn CSS Layout: flexbox
- Can I Use: flexbox
- A Complete Guide to Flexbox
- Using CSS flexible boxes
CSS Grid

- Grid Garden
- A Complete Guide to Grid
- Grid by Example
- Debugging Grid Layouts

Bonus Demo: CSS Grid Template Areas
Margin, Padding and Borders

- Mastering margin collapsing
- What You Should Know About Collapsing Margins
- Compare block elements to pictures hanging on a wall
Media Queries and Responsive Design

- Responsive design gallery
- Using media queries
- Media Queries for Standard Devices
- Learn CSS Layout: media queries
Positioning

- Learn CSS Layout: position
- position
Typography (Choosing Fonts)

- Google Fonts
- Google Web Fonts Typographic Project
- Font Pair
- Font tool roundup
Typography (Sizing Type)

- TypeScale
- A More Modern Scale for Web Typography
Adding Color

- Flat UI Colors
- Calcite Web Colors
- Color Pairing Matrix
- Adobe Kuler
- Color Lovers
Adding JavaScript
Browser Compatibility

Sometime browsers will add experimental or early support for a new standard. They will often add a prefix like `-webkit-`, `-moz-` or `-ms-` to a property or value.

Sites like Can I Use? or MDN to check if browsers support a specific property.

Tools like Autoprefixer to add prefixes automatically.

@supports was introduced with CSS grid to check for support of new features.
More Browser Compatibility

Remember Microsoft only supports IE 11 officially now. All other versions are not supported and might have security bugs.

Scary!
Best Practices

- Keep selectors as simple as possible
- Don't use tools until you are familiar with the basics
- Watch out for the size of web fonts
• Slides at http://bit.ly/2CF5kQw
• Leave a Review:
  ▪ Esri Events App
  ▪ Dev Summit
  ▪ CSS for Geographers