We will get started at 3:10

Accessibility

A Samuel Pottinger
Stat 198: IDSV
April 15, 2025

Today

> Introduction

Visual Accessibility

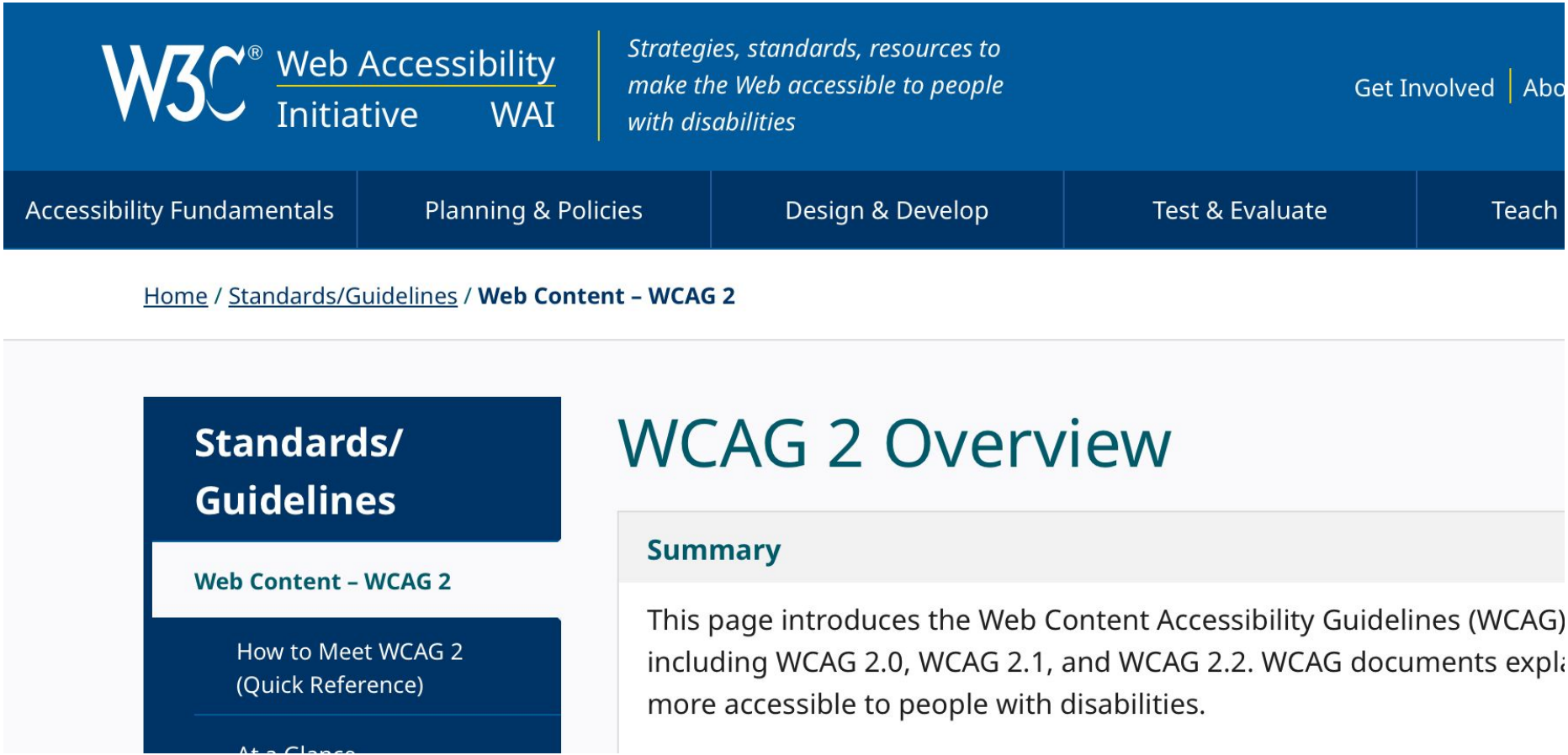
Group Activity

Motor Accessibility

Additional Resources

Starting with games

When working in web, there are clear guidelines



Accessibility is good for everyone

Civic Engagement

The Curb-Cut Effect

Laws and programs designed to benefit vulnerable groups, such as the disabled or people of color, often end up benefiting all of society.

CITE SHARE COMMENT DOWNLOAD PRINT ORDER REPRINTS

By Angela Glover Blackwell | Winter 2017

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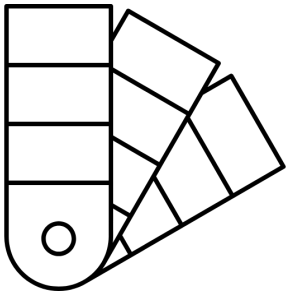
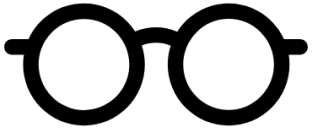
Visual accessibility at a high level



Color Deficiency

May have contrast settings enabled



Low Vision

May use magnifier or scaled resolution

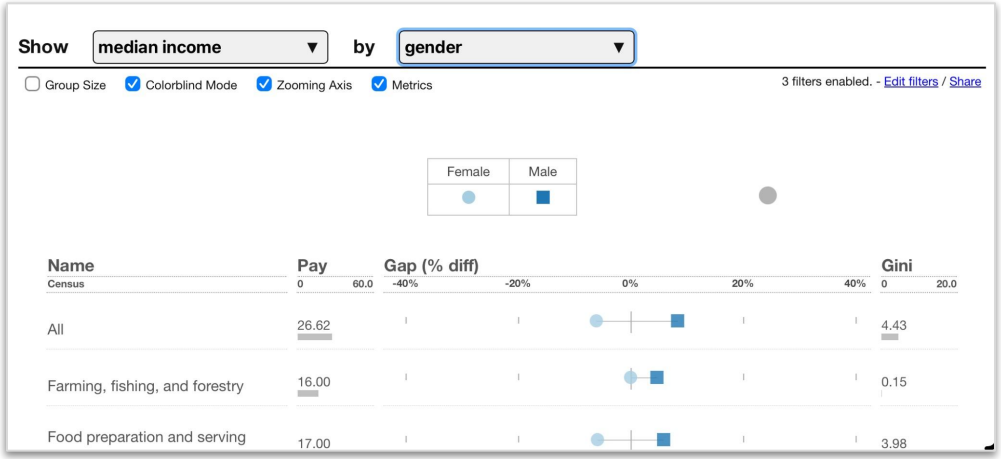
Blind or Partially Blind

May use screen reader / keyboard only

Designing for Color Deficiency (WCAG 1.4.1)

Color should not be the only way that elements are visually distinguished from each other.

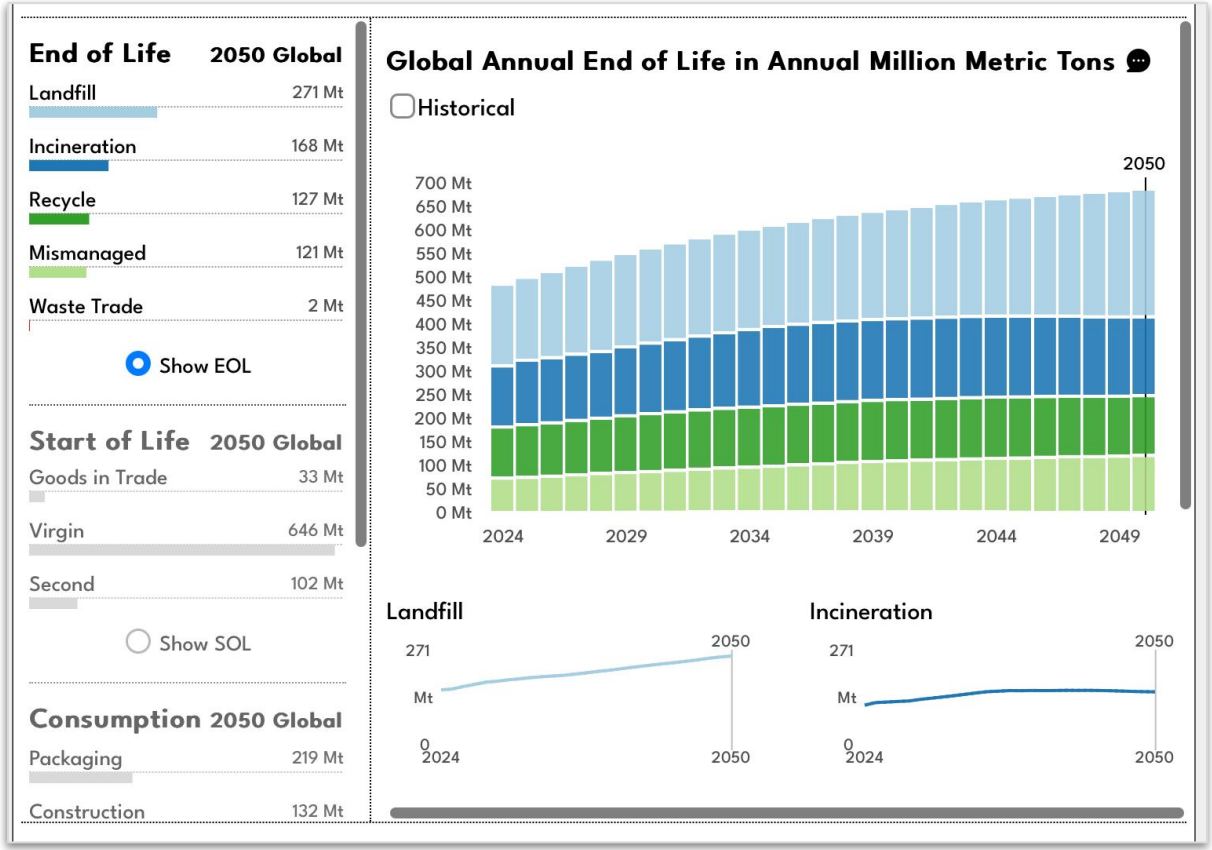
This is sometimes called “double encoding” as color is redundant.



Designing for Color Deficiency (WCAG 1.4.1)

Another option is to offer alternative visualizations.

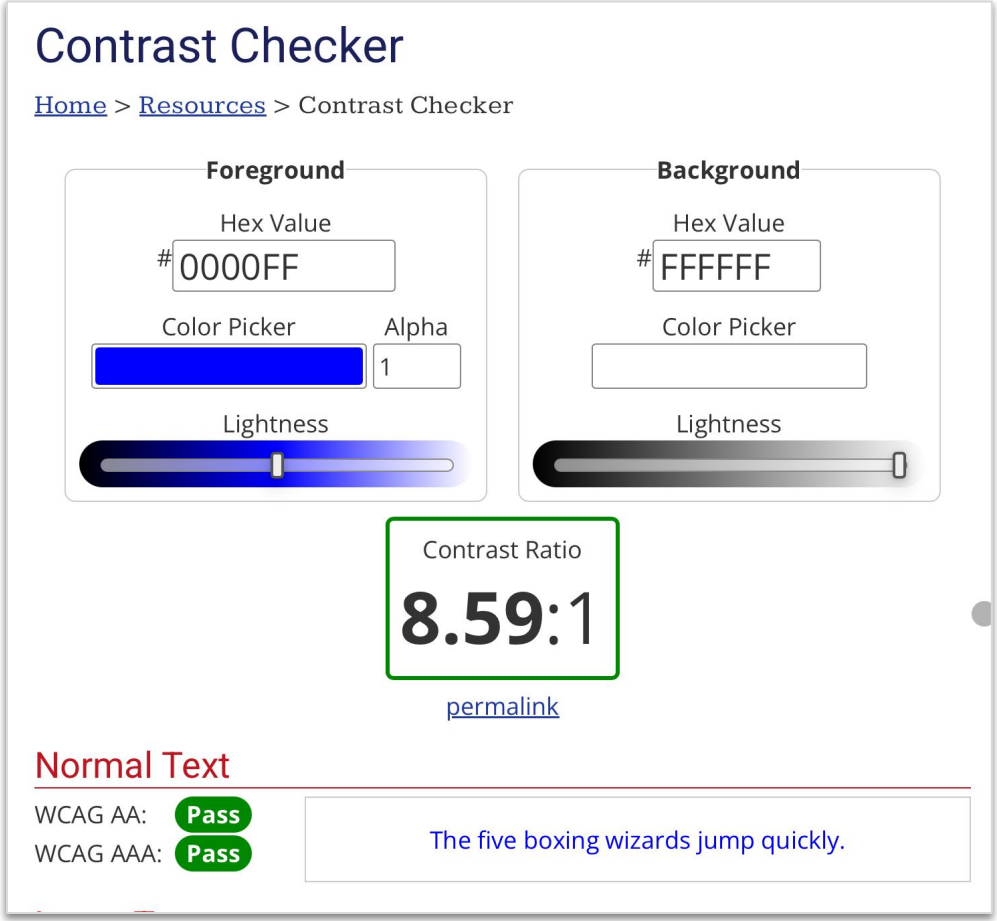
Be careful with semantic association.



Low Vision: Minimal Contrast (WCAG 1.4.3)

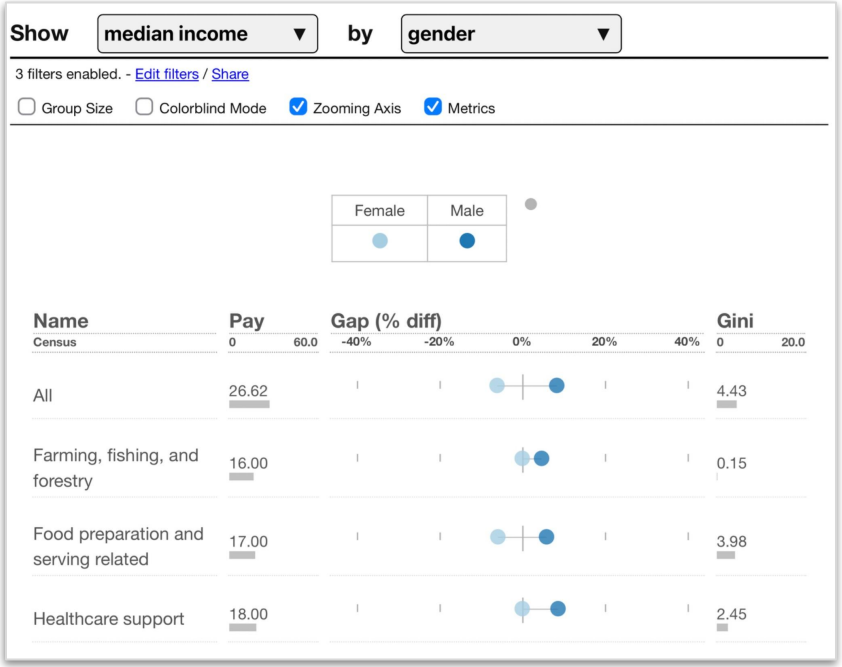
We should ensure that a color is sufficiently different from its background to be perceived.

Also, ensure sufficient contrast between elements as well.



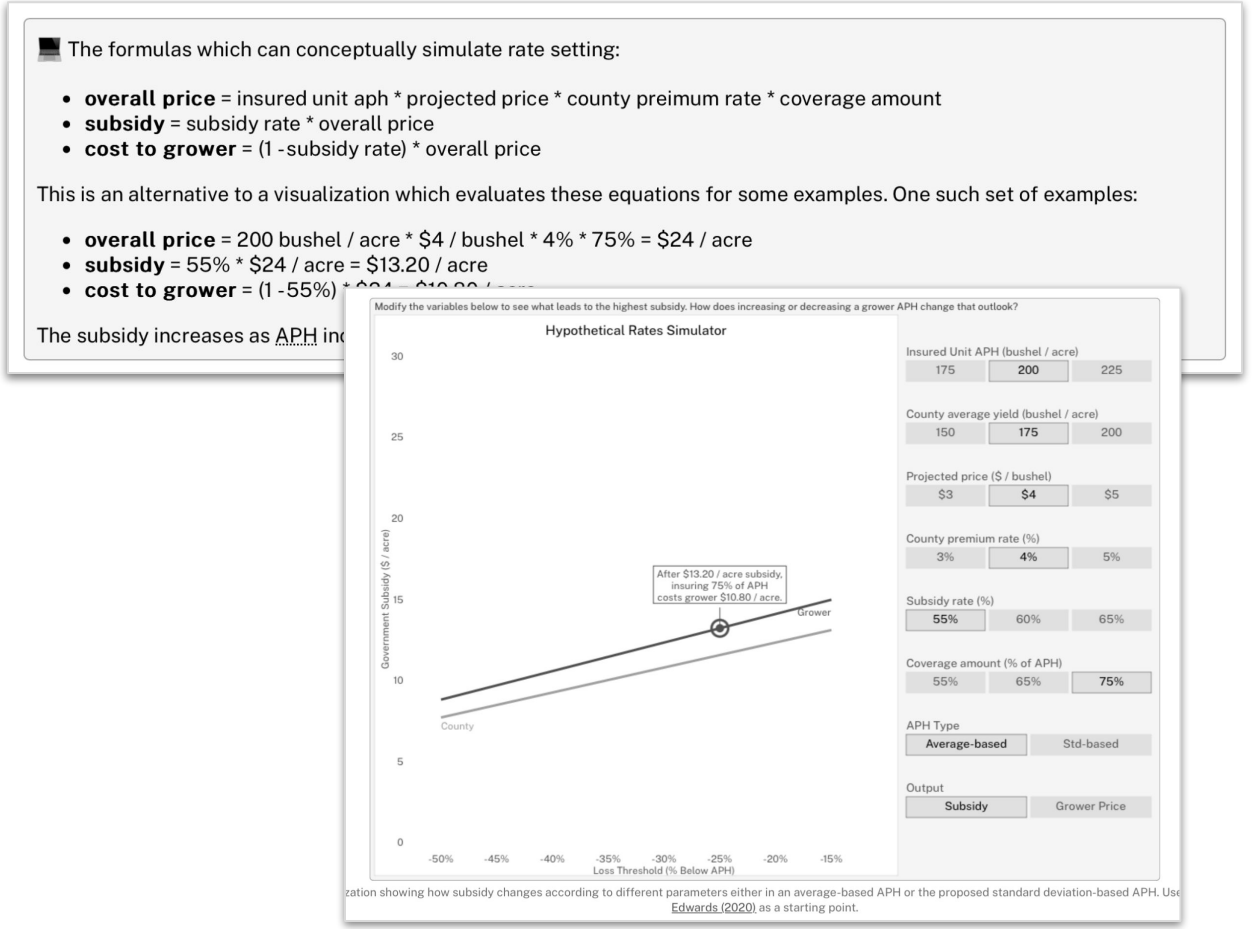
Low Vision: Resize (WCAG 1.4.4)

The application should still work when zoomed to 200%



Low Vision: Supporting Screen Readers (WCAG 1.1.1)

Typically this comes in the form of a non-visual alternative such as a table or data download.



The formulas which can conceptually simulate rate setting:

- **overall price** = insured unit aph * projected price * county preimum rate * coverage amount
- **subsidy** = subsidy rate * overall price
- **cost to grower** = (1 -subsidy rate) * overall price

This is an alternative to a visualization which evaluates these equations for some examples. One such set of examples:

- **overall price** = 200 bushel / acre * $4 / bushel * 4% * 75% = $24 / acre
- **subsidy** = 55% * $24 / acre = $13.20 / acre
- **cost to grower** = (1 -55%) *

The subsidy increases as APH in

Modify the variables below to see what leads to the highest subsidy. How does increasing or decreasing a grower APH change that outlook?

Hypothetical Rates Simulator

Government Subsidy ($ / acre)

30
25
20
15
10
5
0

After $13.20 / acre subsidy, insuring 75% of APH costs grower $10.80 / acre.

Grower

County

-50% -45% -40% -35% -30% -25% -20% -15%

Loss Threshold (% Below APH)

Insured Unit APH (bushel / acre)
175 | 200 | 225

County average yield (bushel / acre)
150 | 175 | 200

Projected price ($ / bushel)
$3 | $4 | $5

County premium rate (%)
3% | 4% | 5%

Subsidy rate (%)
55% | 60% | 65%

Coverage amount (% of APH)
55% | 65% | 75%

APH Type
Average-based | Std-based

Output
Subsidy | Grower Price

zation showing how subsidy changes according to different parameters either in an average-based APH or the proposed standard deviation-based APH. Use
Edwards (2020) as a starting point.

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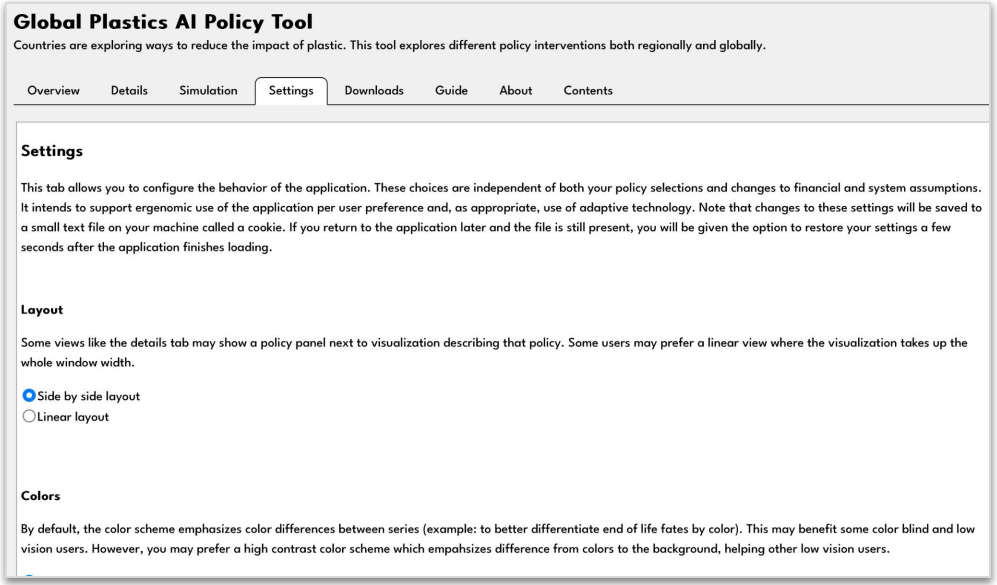
Let’s try some accessibility options

Try out the different accessibility options at:

https://global-plastics-tool.org

What kind of impairment might each option be trying to address?



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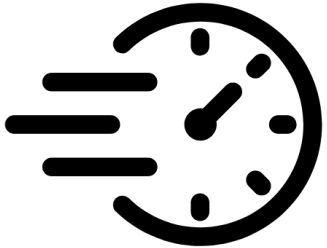
Interactive visualization has some motor concerns

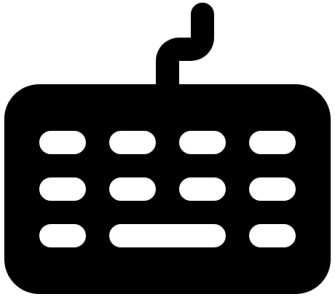
Fine Motor Control

May use alternative input devices.



Timed Inputs

May require additional time.

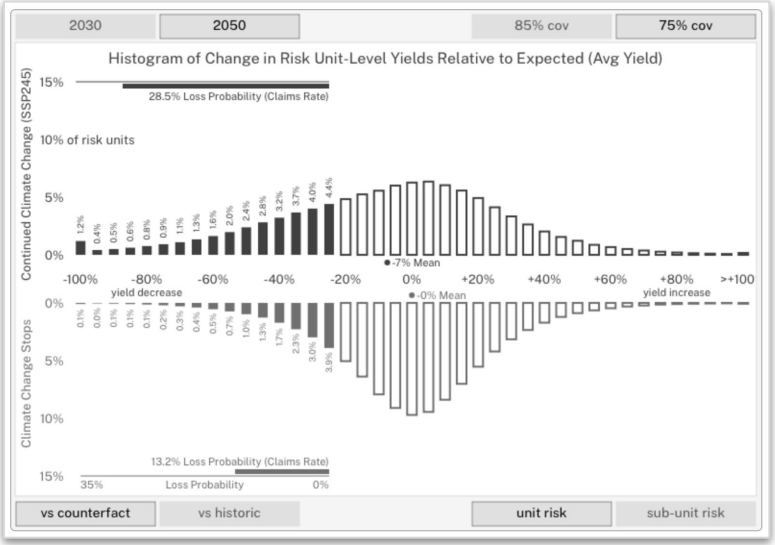


Keyboard-only

May not have a pointing device.

Provide non-keyboard controls (WCAG 2.1.1)

If doing custom drawing, consider adding keyboard alternatives to main controls.



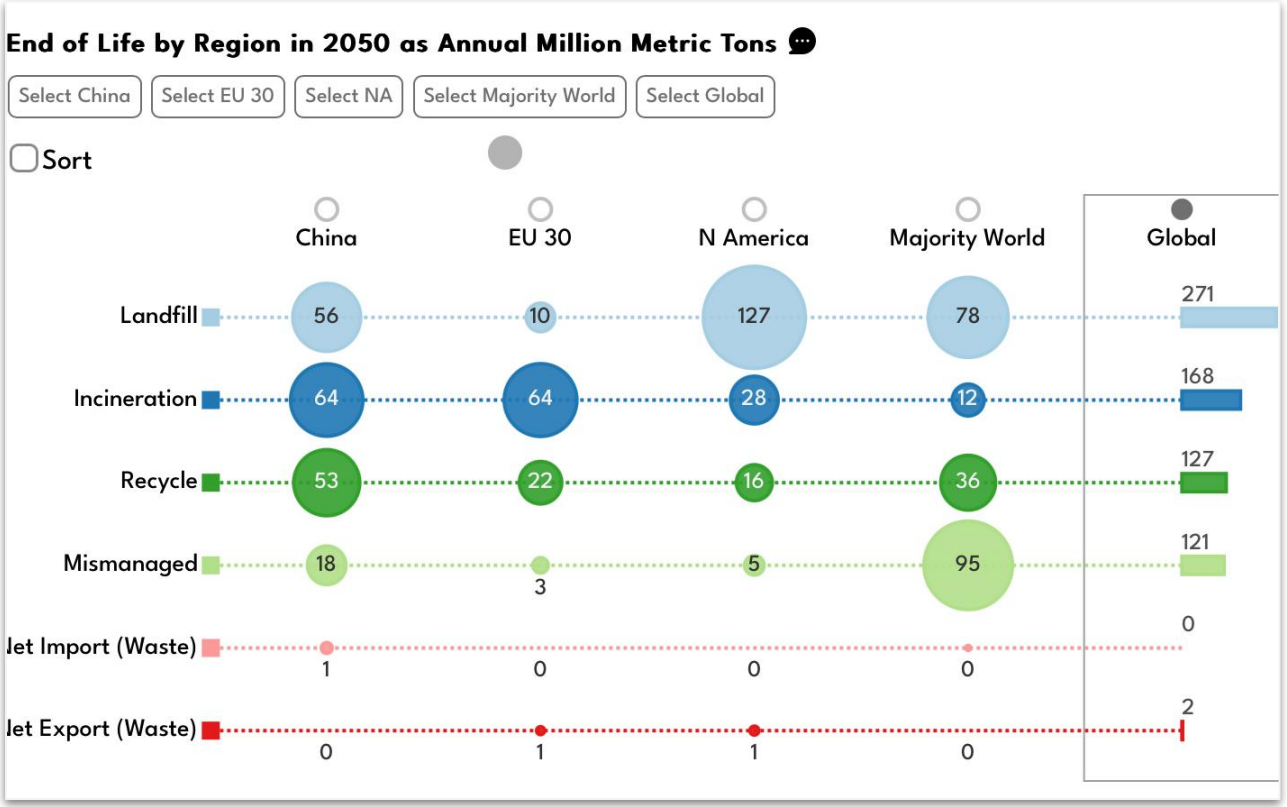
The distribution visualization has the following controls:

- **Esc**: Exit the visualization
- **y**: Change year
- **c**: Change coverage
- **v**: Change vs historic or counterfactual
- **u**: Change unit size

The visualization will need focus in order to recieve keyboard commands.

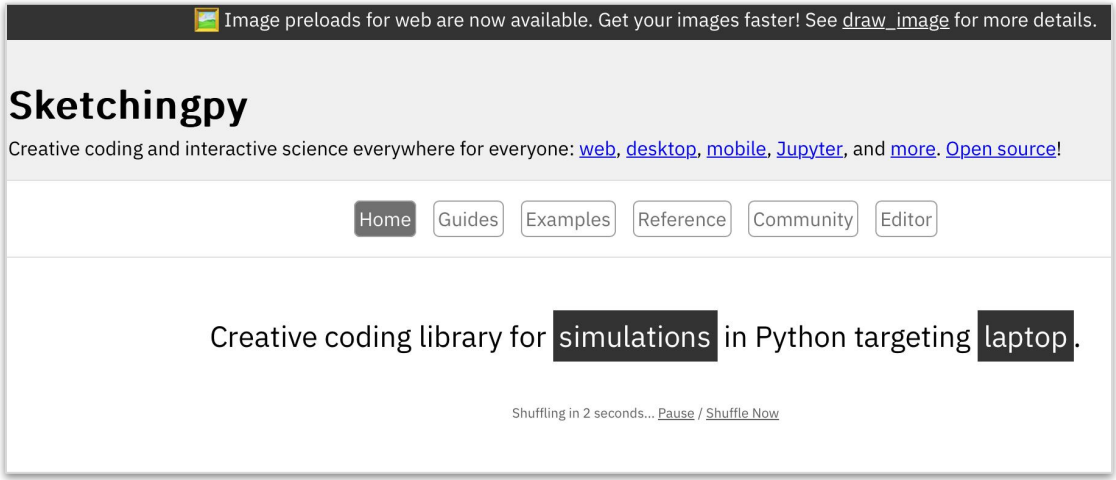
Use tab order and focus (WCAG 1.3.2)

For those using standard HTML elements, consider tab and tab focus.



Adjustable timing (WCAG 2.2.1)

Allow modification of timing or pausing of timed actions.



Reading

The reading for this lecture will include more info about motor impairment.

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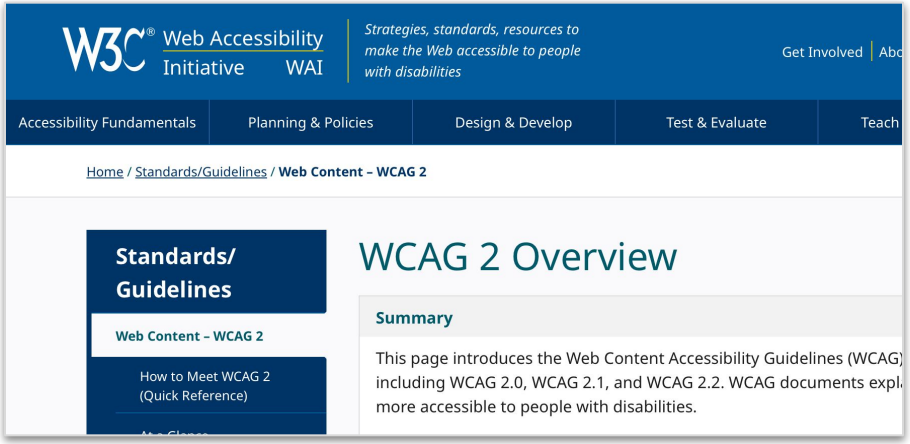
Accessibility is a deep topic



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