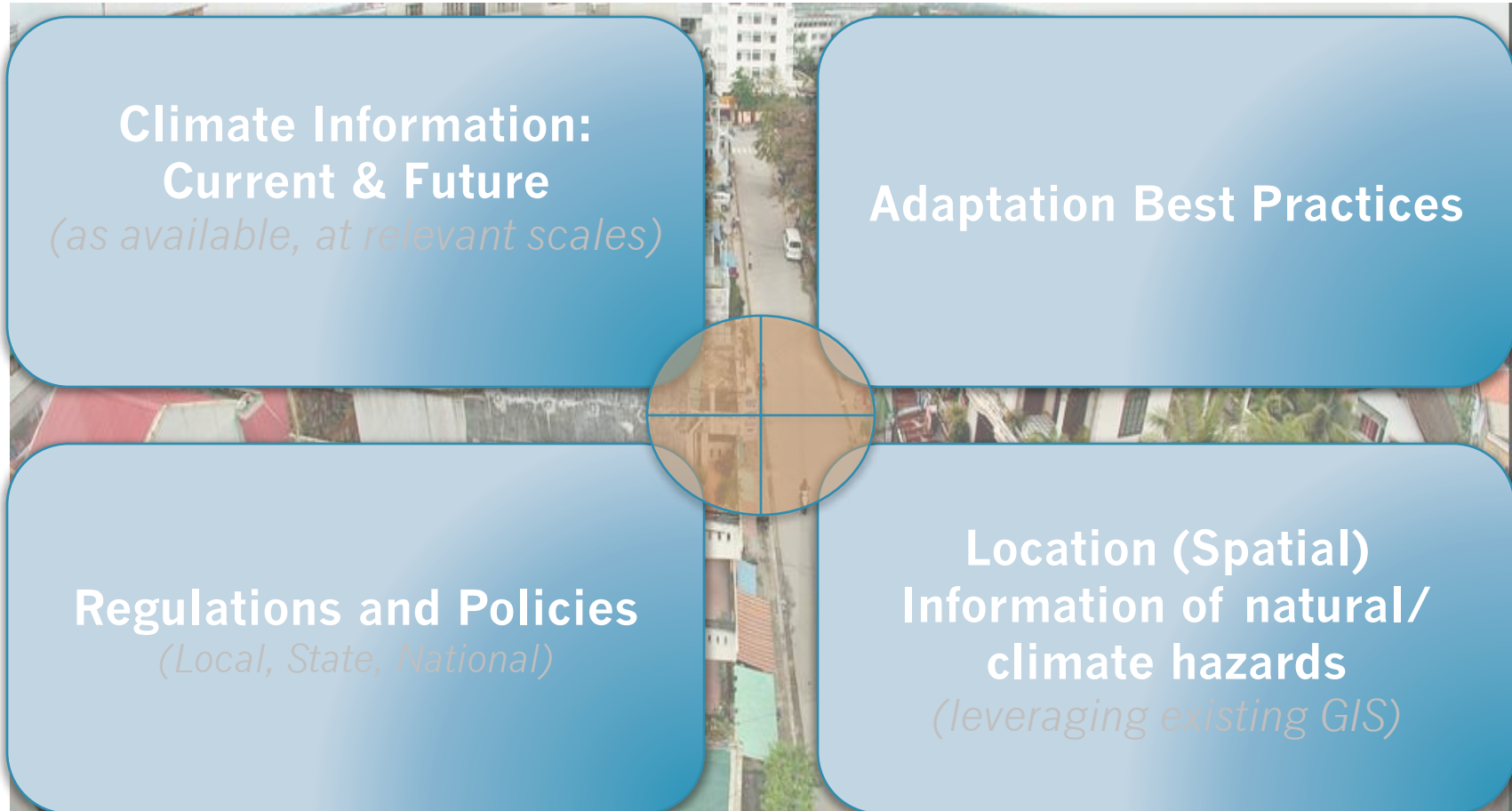


Integrating Key Factors in the CIMPACT-DST



Key Benefits of Tool

- ✓ Quick
- ✓ Consolidated
- ✓ Consistent


Seattle Climate Impacts Planning Tool




Impacts to Seattle's physical environment resulting from a changing climate will pose challenges for capital projects. The **Climate Impacts Planning Tool** will assist you in identifying key factors to be considered in the design and implementation of a project. It will also provide information and guidance on assessing risk and possible adaptation strategies.

System Requirements: Windows Excel 2007/2010, macro-enabled.


Note: For projects whose overall budget exceeds \$5 million, a more detailed business case analysis should be used.

Enter information about your project and select from the drop-down menus. The climate impact buttons and map below show where in Seattle significant impacts are expected. Please allow 10-20 minutes to complete the Climate Impacts Planning Tool. Click the  icons for help.

Project name:

Site street address: 

City department:

Project type: 


[select project type]
Bridge
Building - new
Building - remodel/retrofit
Drainage system
Electricity distribution/transmission
Park/open space
Right-of-way

Climate Impacts

Higher Temperatures

Sea Level Rise

Precipitation & Streamflow



Climate Impact Overview:

PRECIPITATION AND STREAMFLOW

Regional climate projections indicate that total precipitation will remain highly variable from year-to-year.

Potential changes in seasonal precipitation could be significant, for example:

- In winter, models suggest increases in rainfall and a shift in mid-elevation precipitation from snow to rain, leading to higher winter streamflows.
- In summer, models suggest the reverse trend, with lower rainfall in June to August.

Also, although current climate models are unable to project such changes, anticipated increases in local precipitation intensity would result in increased urban surface water, erosion and an elevated risk of landslides.

Clear All Project Inputs Clear Selections on This Page

Project Type: (select project type)

(enter project name)



Enter information about your project. Use the map link below on the right to obtain the necessary location information about the project's proximity to climate impact hazard zones. This information is needed for three of the dropdown menus on the left side of the page.

Expected lifespan of project: ?

(select lifespan)

(select lifespan)

- up to 2030
- up to 2050
- up to 2090
- beyond 2090

Potential or known slide area: ?

(select area)

Sea level rise area: ?

(select area)

Seattle Sea Level Rise and Critical Areas Map

Use the above link to view the sea level rise and critical areas map. To identify whether your project is in a climate impact hazard zone, select the sea level rise layer corresponding to the lifespan of your project and the flood and landslide critical areas layers.

Note: You must be logged into the City's network to view the map of climate hazard zones.

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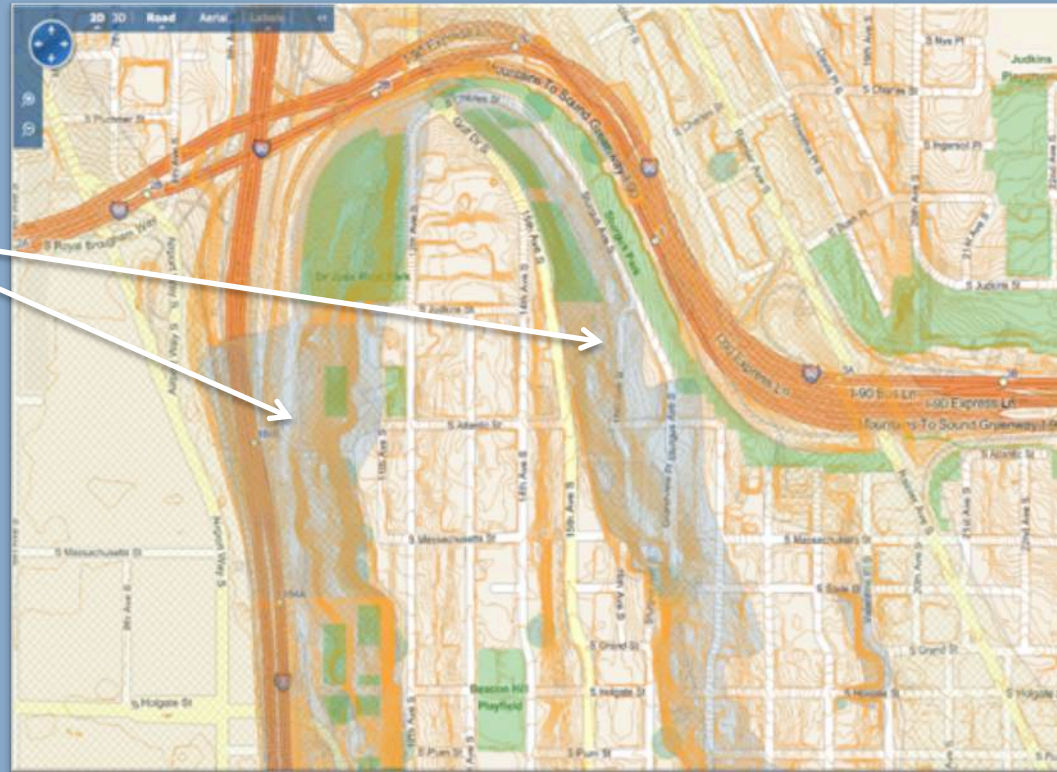
CONTINUE >

Clear All Project Inputs

Clear Selections on This Page

Hazard Location identified with City's GIS

Flood prone areas





Project Type • Park/open space

Projected Impacts & Exposure

Projected Range of Impact

+1.5°F to +5.2°F annual average temperature increase during the 2040s.

Summer temperatures during the 2040s are expected to increase an average of +4.9°F (+2.9°F to +6.1°F).

Winter temperatures during the 2040s are expected to increase an average of +3.1°F (+2.4°F to +6.9°F).

Potential Exposure - Temperature

MODERATE potential for significant increased thermal stress for this project. Extended summer heat waves are more likely.

Sensitivity

Project Sensitivity

(select sensitivity) dropdown menu

Other factors to consider in determining sensitivity:

When determining the sensitivity of your project to each climate impact, it is also worth considering the related financial, environmental, and social consequences. The example questions listed below can assist as you determine how sensitive your project might be to higher temperatures, sea level rise, and changes in precipitation and seasonal streamflow.

Financial:

- What is the cost tradeoff of a design improvement or modification now versus a retrofit later?
Is a retrofit possible, or will complete re-design or replacement be required?

Environmental:

- How might the project's design, subjected to future climate conditions, affect nearby ecosystems?

Human Health and Social Justice:

- If the project does not adequately accommodate future climate conditions, how might this affect under-served communities or at-risk segments of the population, like the very young or elderly?

Impact Overview

- Increased summer temperatures and a higher frequency of heat waves will adversely affect heat/drought-sensitive vegetation. Invasive species may be more challenging to manage.
For infrastructure, performance and lifespan of surface materials (e.g., asphalt cracking and buckling) and certain structural materials will be affected.
Summertime thermal expansion of buildings and other infrastructure could interfere with function and safety.
Higher operating temperatures could affect electrical system performance and safety.
HVAC systems may be unable to adequately cool building space, creating a public safety and health concern.
Increased reliance on green space by the public to escape urban heat stress is expected.

Guidance Information

- Landscaping and infrastructure design and maintenance need to consider how to accommodate higher summer and winter temperatures.
Plan for higher public use of green spaces and other public facilities for summer heat relief, especially for city parks near economically disadvantaged communities.
Consider increased planting of shade trees.
Consider increased construction of shaded picnic shelters.

< BACK

CONTINUE >

GO TO OVERALL SUMMARY

Thank You!

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