

Liberty Lake



LIBERTY LAKE – 2046

OVERVIEW OF CLIMATE ELEMENT

What is the “Climate Element”?

Washington State now requires planning for climate change in the Comprehensive Planning process.

Climate Element includes two sub-elements

- **GHG Emissions Reduction sub-element**
- **Resilience sub-element**

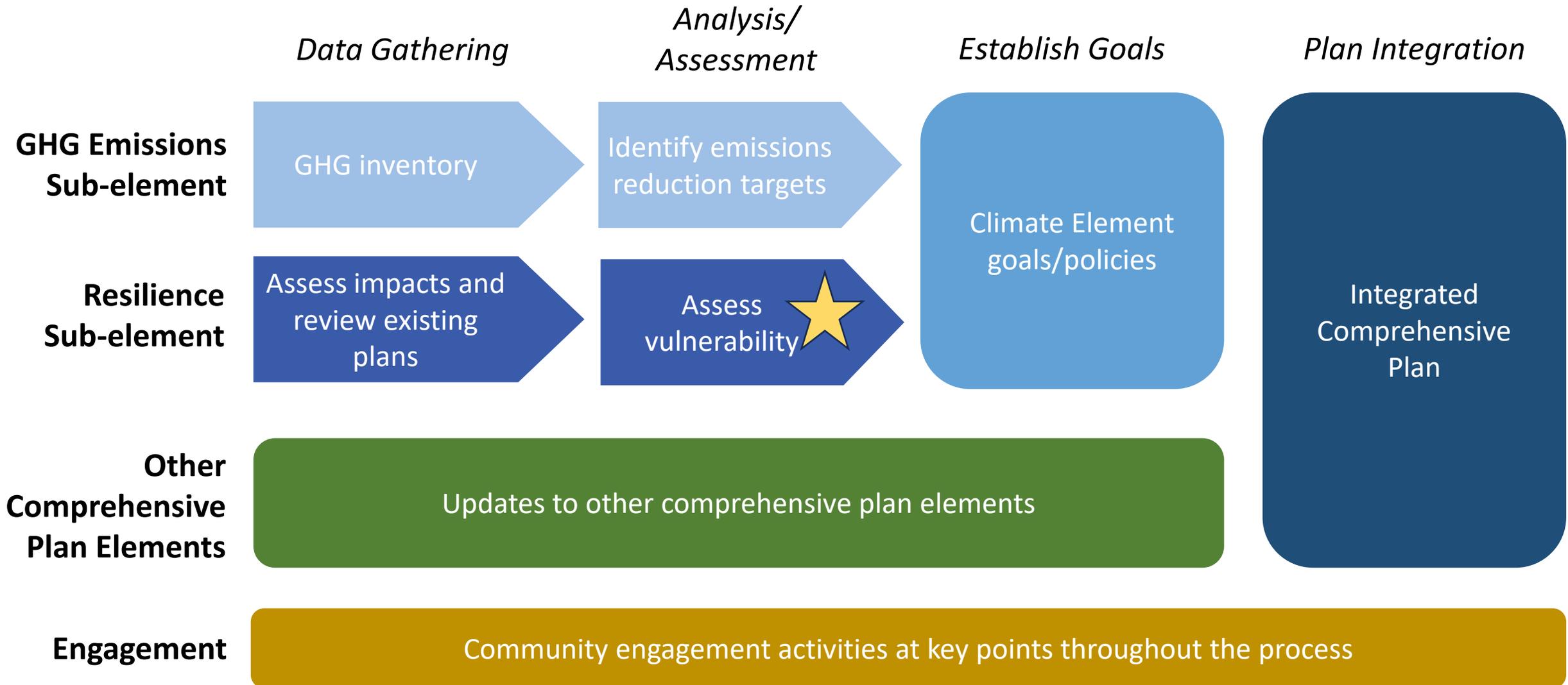
Communities are also required to advance environmental justice and avoid environmental health disparities.

RCW 36.70A.070 Comprehensive plans—Mandatory elements.

“A climate change and resiliency element that is designed to result in reductions in overall greenhouse gas emissions and that must enhance resiliency to and avoid the adverse impacts of climate change, which must include efforts to reduce localized greenhouse gas emissions and avoid creating or worsening localized climate impacts to vulnerable populations and overburdened communities.”

<https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.070&pdf=true>

Process Overview



RESILIENCY SUB-ELEMENT

MINIMUM REQUIREMENTS

- **Requirement 1:** Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns
- **Requirement 2:** Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration
- **Requirement 3:** Identify, protect, and enhance community resilience to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice

METHODOLOGY & DATA

- Key data and information resources
 - UW Climate Impacts Group (CMR tool, data for Climate Vulnerability map)
 - Washington DNR WUI Maps
 - Washington Department of Ecology
 - US Geological Survey (USGS)
 - Spokane County
 - FEMA Risk Index
 - WA State Health Disparities Map
 - American Community Survey (Census Bureau)
 - Center for Disease Control (CDC)
 - Input from staff
- Following Commerce guidance for Climate Element

CLIMATE HAZARDS

	Climate Projection <i>(Key indicators from CMR Tool)</i>	By 2050s*	By 2080s*	Notes
	Total annual precipitation (percent change)	8% increase (5 to 14 %)	15% increase (7 to 24 %)	<ul style="list-style-type: none"> • Annual precipitation will change slightly, but less rain in the summer. • Less rain during warmer months
	Late summer precipitation	10% decrease (-25% - +8%)	8% decrease (-31% - +30%)	
	Change in 24-hour 25 –year precipitation	9% increase (0-24%)	18% increase (11-46%)	
	Change in Hot Days (<100 °F).	6 days (2 – 10)	24 days (12 - 40)	<ul style="list-style-type: none"> • Increase in summer temperatures impacts human health. • Ecosystem impacts (particularly outside of forested areas) • Increased energy demand for summer cooling
	90 Degree Max. Humidex (change in days) Historic 21 days	23 (11 - 34)	55 (34 - 77)	
	65 Degree Min. Humidex (change in days) historic 5 days	13 (7 - 21)	37 (17 - 59)	
	Wildfire – Change in high fire days – 53 days historical (1971-2000)	10 additional days (3 – 17 days)		<ul style="list-style-type: none"> • Potential for wildfire to damage infrastructure, disrupt business, and affect health and well-being



CHANGES IN PRECIPITATION

CLIMATE PROJECTION	2050	2080
Total annual precipitation (percent change)	8% increase (5 to 14 %)	15% increase (7 to 24 %)
Late summer precipitation	10% decrease (-25% - +8%)	8% decrease (-31% - +30%)
Change in 24-hour 25 –year precipitation	9% increase (0-24%)	18% increase (11-46%)

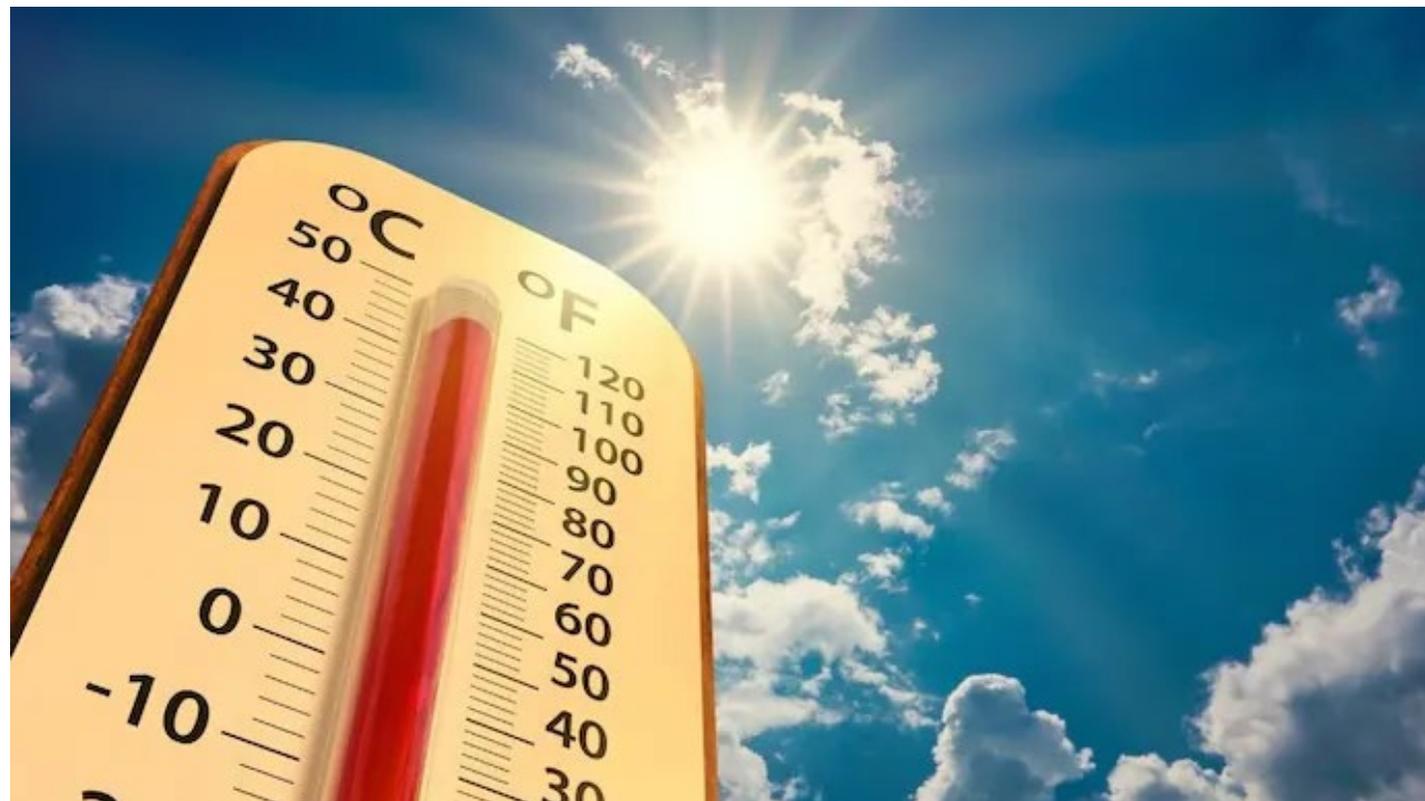


Compounding impacts include urban flooding during winter. Erosion concerns in fall post fire season. Aquifer recharge and long-term resiliency of aquifer.



HEAT

CLIMATE PROJECTION	2050	2080
Change in Hot Days (over 100 °F).	6 days (2 - 10)	24 days (12 - 40)
90 Degree Max. Humidex (change in days) Historic 21 days	23 days (11 - 34)	55 days (34 - 77)
65 Degree Min. Humidex (change in days) historic 5 days	13 days (7 - 21)	37 days (17 - 59)

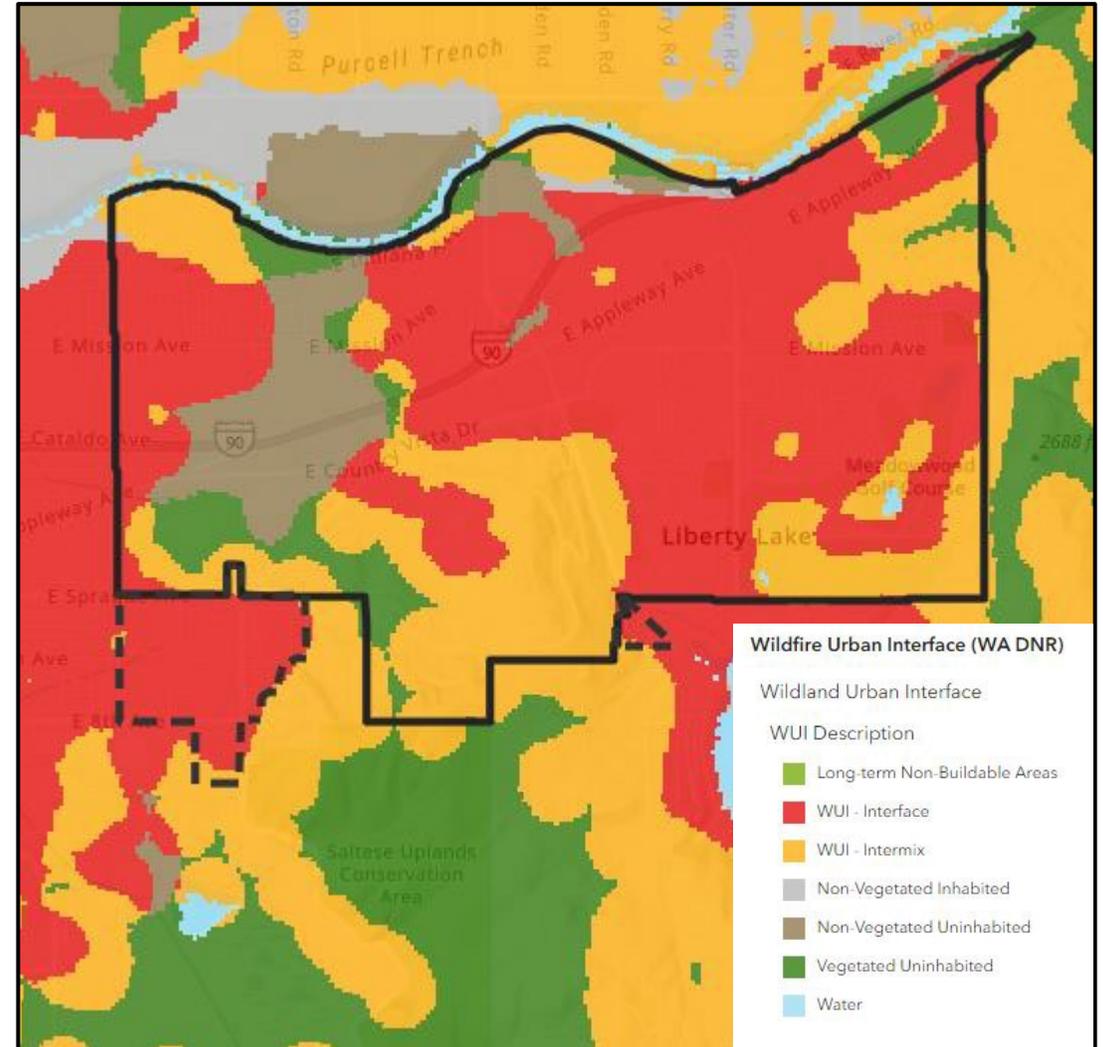


An increase in the number of days with a maximum humidex above 90°F will increase heat-related deaths, illness, and hospitalizations.



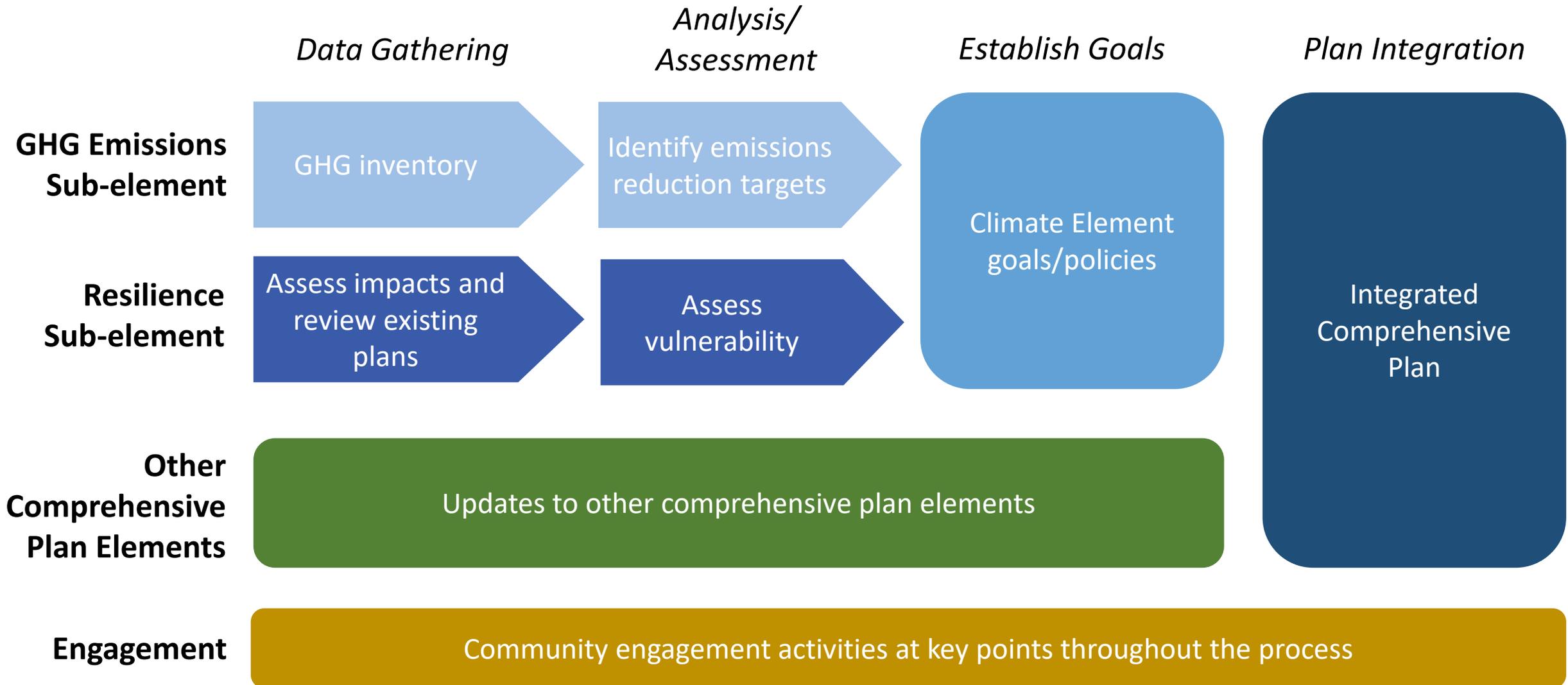
WILDFIRE

- Regional impacts from wildfire smoke and increase in high-fire danger days
- DNR maps show Wildland Urban Interface (WUI) Areas within the city-limits of Liberty Lake
- The WILDLAND-URBAN INTERFACE, or WUI, for short, are those areas where wildlands and human development (i.e. structures we create) MEET (i.e., neighbors these wildlands) or INTERMINGLE (is found within these wildlands). Wildlands can be forests, but also grasslands, or shrub steppe.
- Increase days of smoke exposure, coinciding with increased number of days of wildfire days



Next Steps

Process Overview



Set Goals, Develop Policies

Develop goals and policies to support the following:

- Drought and water scarcity
- Wildfire
 - Smoke
 - Building
- Heat and heatwaves
- Complete comprehensive plans (water, sewer, stormwater)

THANK YOU!