Webinar and Demo of EPA's Community-Focused Exposure and Risk Screening Tool (C-FERST)

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What is C-FERST?

C-FERST is an online tool under development to empower communities with **information** and a **structured process** to clarify issues and develop options.

Making a Difference:

- Includes step-by-step guidance for community-based assessments
- Addresses challenges and needs identified by the National Research Council and others
- Provides a means to communicate and translate relevant science to communities

Why Did EPA Develop C-FERST?

Communities and decision makers face complex environmental issues...

- Numerous concerns, impacts and solutions
- Not enough experts to evaluate every situation
- Some communities have limited resources and access to information
- Disproportionate impacts

Intended Users and Uses

- State and local environmental and public health agencies
- Community involvement and Environmental Justice coordinators
- Community groups
- Federal agency community project leads
- Academic institutions
- General public

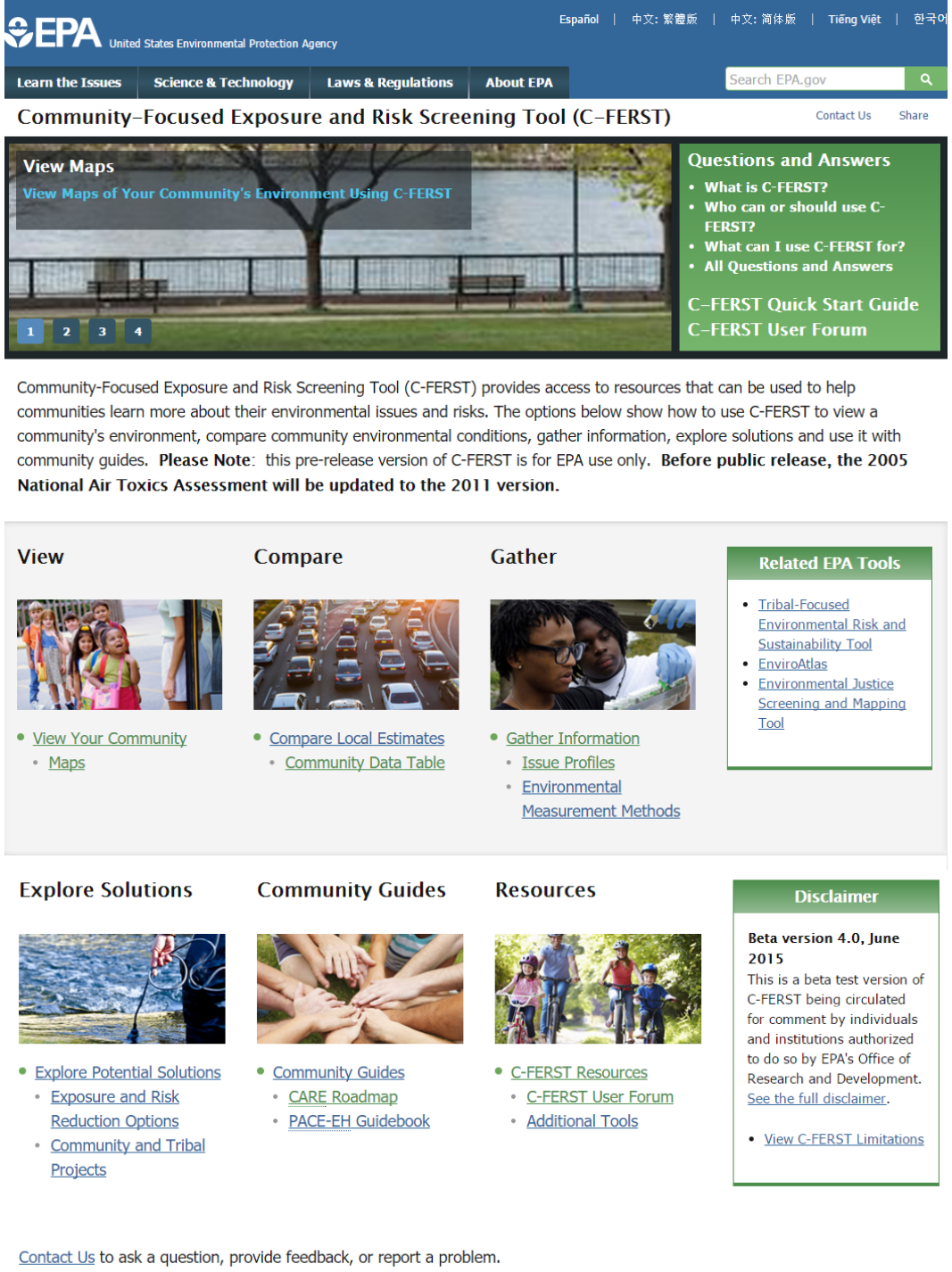
- Follow step-by-step guides for community assessments
- Help build partnerships, identify issues, collect information and develop options for solutions
- Environmental awareness and education

Limitations of C-FERST

- C-FERST is based on nationally available databases and models, which limits the
  - Environmental media (e.g., more for air than soil and drinking water)
  - Spatial coverage (e.g., more in large populated areas)
  - Accuracy and time frame
- C-FERST does not calculate or modify risk estimates
- Recommendations:
  - C-FERST is useful for “risk screening”
  - Additional data and information are needed to characterize risks or make decisions about environmental public health

What data are in C-FERST? What could be added?

Current Data Sources	Potential Future Data Sources
EPA Regulated Facilities, e.g., • ACRES (Brownfield) • CERCLA (Superfund) • RCRA (Solid Waste) • TRI (Toxics Release) • PCS (Permit Compliance) • & many more…	**EPA Sustainable and Healthy Communities Research, e.g.,** • Estimated concentrations of pollutants from vehicle emissions (census block level) • Estimated childhood blood-lead level (census tract level) • Sustainability & well-being indicators
National Air Toxics Assessment (NATA) 2011 • Concentration, exposure, and cumulative cancer & non-cancer risks for select outdoor air pollutants	**EnviroAtlas Ecosystems Services layers**
Water Quality, e.g., • Impaired Waters • Discharge points • STORET monitoring stations	**STOrage and RETrieval (STORET) and Water Quality Exchange (WQX); Leaking Underground Storage Tanks**
Particulate Matter (PM) & Ozone • Attainment • AIRNow Air Quality Index • Annual and summer averages (2012)	**PM & Ozone attributable health outcomes (Environmental Benefits Mapping and Analysis Program (BenMap))**
Neighborhood, Federal and Tribal Boundaries	**E-Enterprise for the Environment**
School Locations Database	**Children's Health**
Demographics	**Environmental Justice**
Federal Highway Administration (FHWA) Traffic Counts	**Health data, e.g.,** • **CDC or States' Environmental Public Health Tracking** • Health and Well-being Index
Smart Location Database	**Other publicly available datasets in the EPA Geoplatform?**



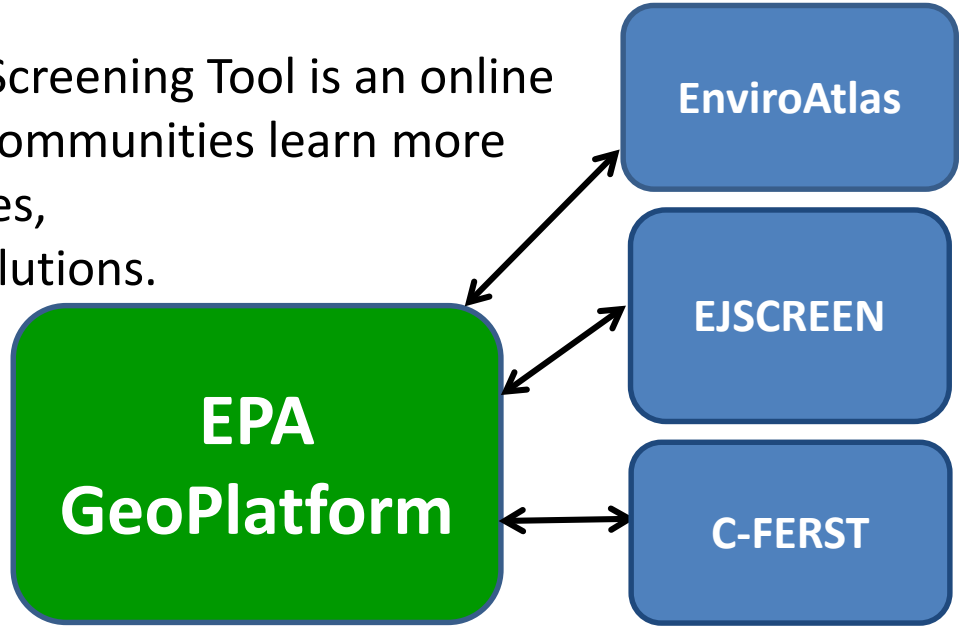
http://www.epa.gov/c-ferst

EnviroAtlas, EJSCREEN and C-FERST

EnviroAtlas – a web-based resource giving users ability to view, analyze and download information related to natural capital (i.e., ecosystem services) for the US. Includes drivers of change and demand/beneficiaries. Can inform many different types of decisions at multiple scales. http://enviroatlas.epa.gov/enviroatlas/atlas.html

EJSCREEN highlights places for further review; a starting point for further dialogue, engagement and examination. EPA uses include outreach and engagement, many aspects of environmental programs and geographically-based initiatives.
http://www2.epa.gov/ejscreen

C-FERST – the Community-Focused Exposure and Risk Screening Tool is an online tool which provides access to resources that can help communities learn more about their environmental issues, compare communities, gather information and develop options for possible solutions.

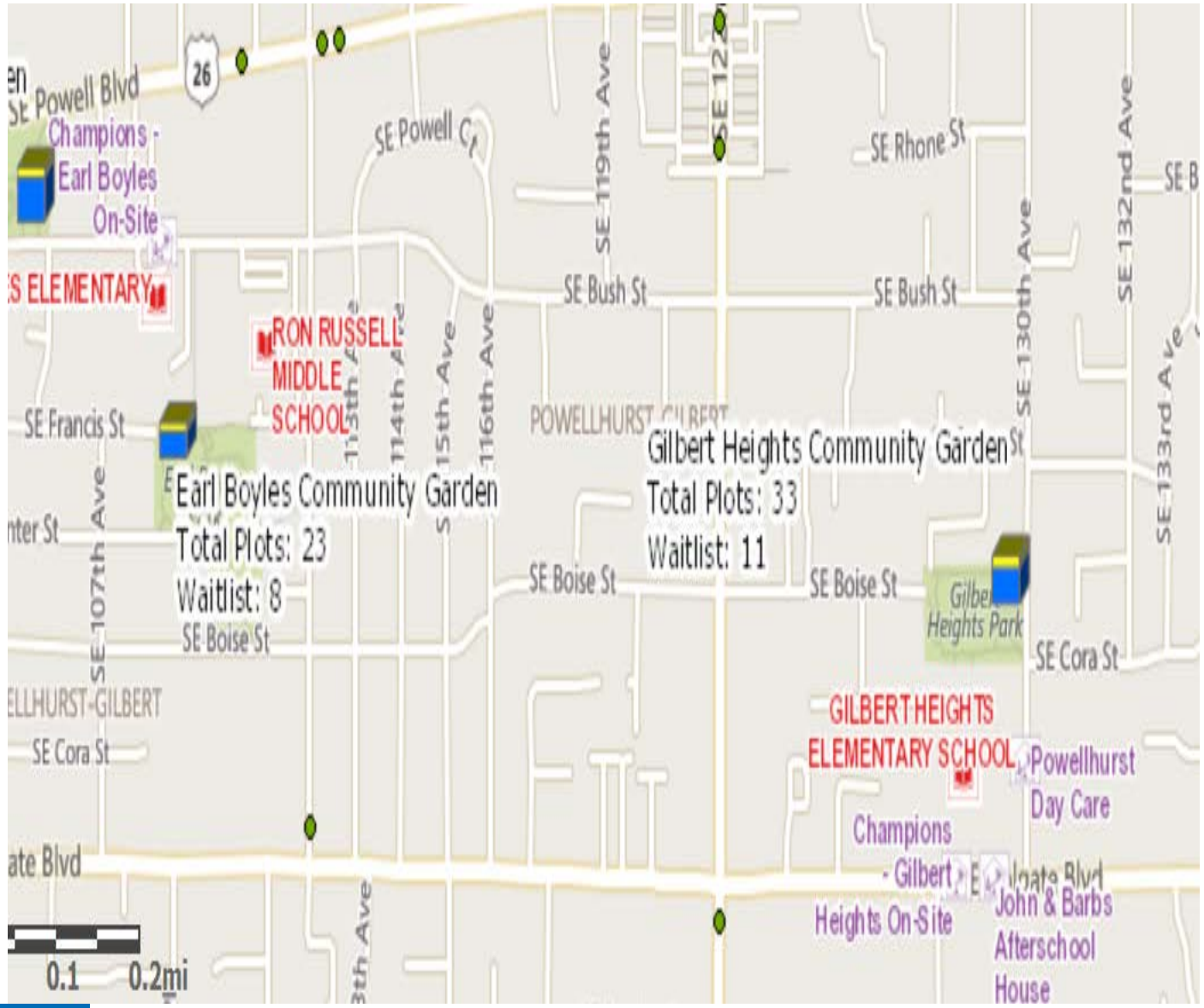


Supporting Communities using EPA Science Tools

EPA Region 10 (Pacific Northwest)

- **First Look** – **EJSCREEN**
- **Local Partnerships** (health department, nonprofit and schools)
- **Closer Look** – **C-FERST** and **EnviroAtlas**
- **Ground Truthing** – Local knowledge, Citizen Science
- **Decision Making** – Decision support tools

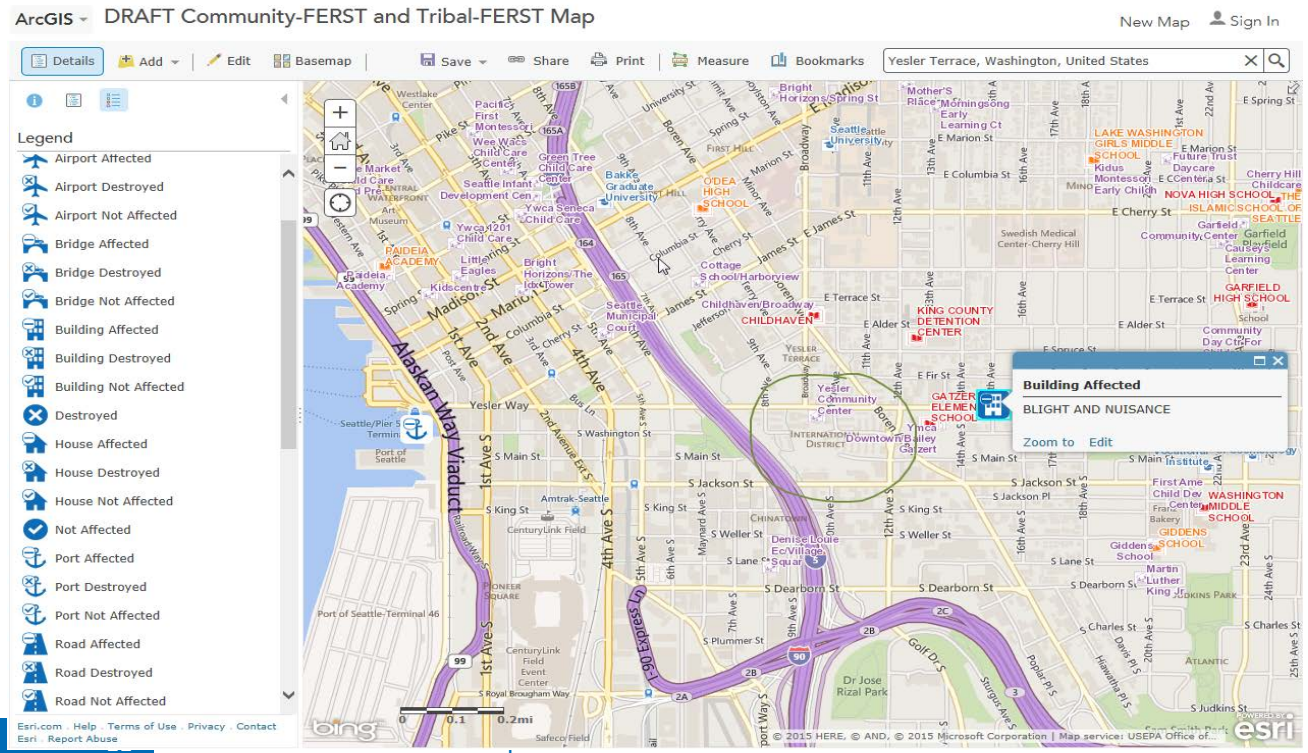
Groundwork Portland: C-FERST Livability Study

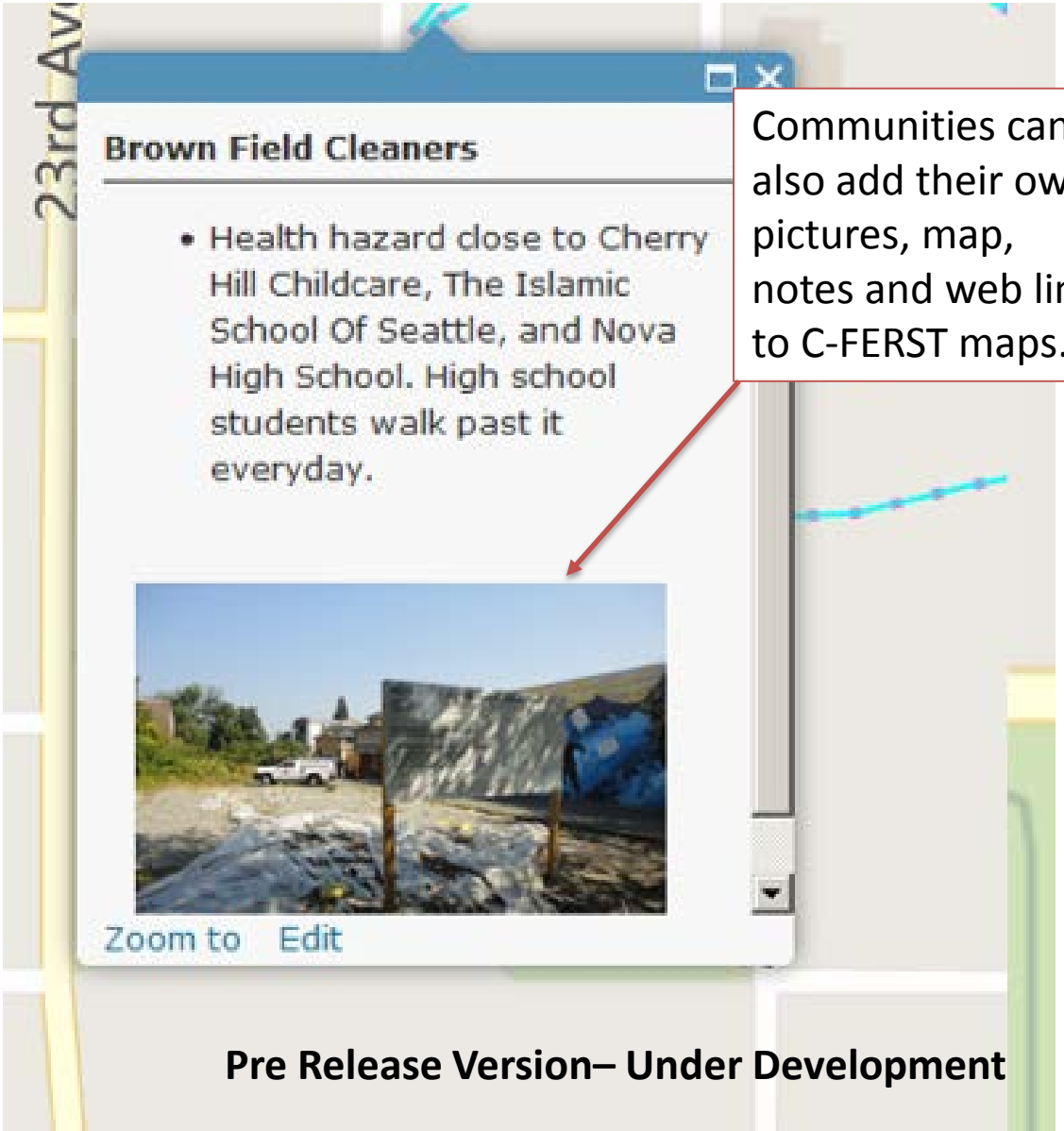


C-FERST (Under Development)

Youth Skills Development and Career Training

Zipcode	Address	Name	Notes	Articles
98405	2106 South Cushman Avenue	Peace Lutheran Church and Community Center	homeless from MLK Way come here for meals	http://www.peacecommunitycenter.org/what-we-do/community/community-meals/
	1965 S Union Ave	Walmart	many cramped apartments near this redeveloped area	http://tacomaunitedagainstwalmart.com/tacoma-voices/



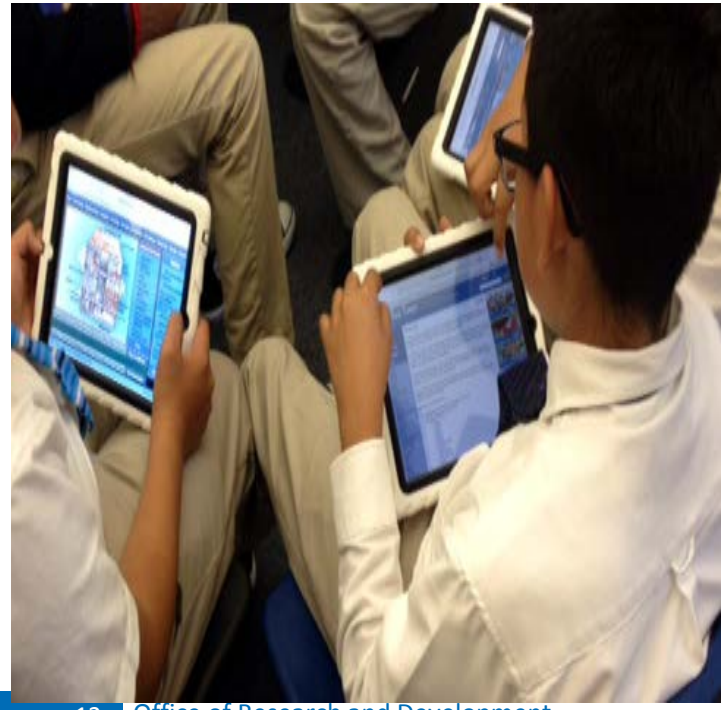


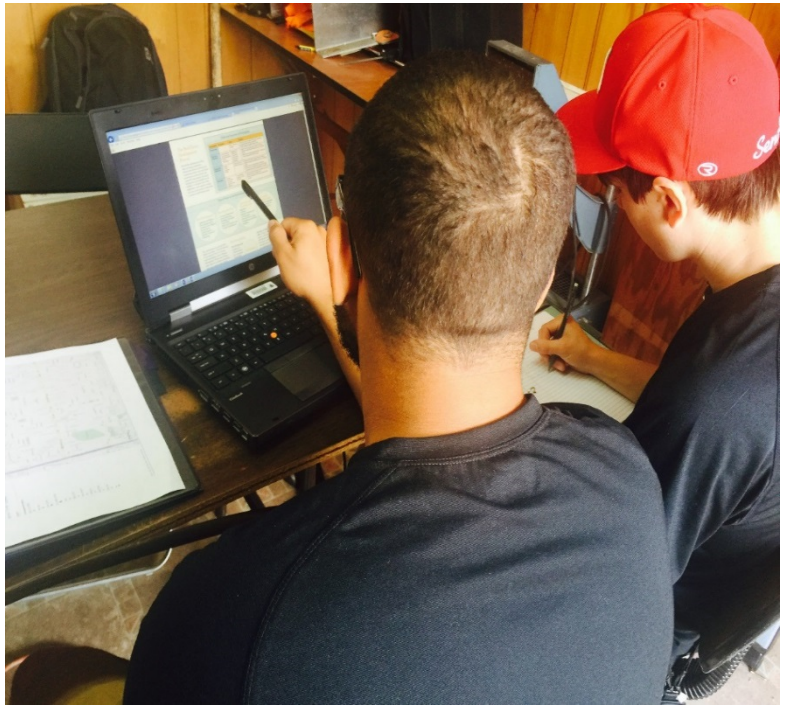
Communities can also add their own pictures, map, notes and web links to C-FERST maps.

Pre Release Version– Under Development

Lessons Learned

- Environmental awareness/education (language)
  - Tools/GIS training needs
  - Community sharing network
    - Citizen Science liaison





Example Uses: State and Local Agencies

EPA Region 10 (Pacific Northwest)

- Oregon Health Authority Public Health Tracking Unit identified potential uses to identify:
  - populations impacted by expanded transit/light rail
  - climate change/pollution exposure for populations near Superfund sites
  - mapping possible Environmental Justice concerns and assessing populations/needs
- Oregon Department of Environmental Quality partnership
  - with Portland Business Bureau, Portland Ops Office to assess property owners concerns for cleaning up/redeveloping brownfields
- Multnomah County, Oregon
  - Community outreach, engagement and education
  - Brownfields program assessments and outreach

We may use this tool to help "tell a story" visually and conceptually to the targeted community.

Example Uses: State and Local Agencies

EPA Region 3 (Mid-Atlantic)

- EPA Region 3 is working with C-FERST to train and provide access to community members in Dover, Delaware
- Delaware State University seeks to develop a course on environmental health and plans to incorporate C-FERST
- Department of Public and Allied Health plans to include C-FERST training in their public health courses in collaboration with EPA Region 3
  - Students to pursue local risk assessments on various topics, like asthma, cancer, lead, toxics and more
  - Develop use case examples for C-FERST
- This collaboration demonstrates the value of reaching out to academic partners and training future environmental leaders

C-FERST Next Steps

- Planning for roll-out and communications
  - Provide additional training
  - Identify points-of-contact for questions
- Engagement with state and local agencies and communities
  - Opportunity to use pre-release version
  - Provide comments, concerns and recommendations
  - Potential to provide training for local communities/groups
- Public release after updating datasets and providing training
  - Expected by Fall 2016

Contacts

Technical questions:

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Non-technical questions:

- David Kryak: kryak.david@epa.gov
- Michael Slimak: slimak.michael@epa.gov

For access to the pre-release version of C-FERST, please send email to: CFERSTMAIL@epa.gov

ACKNOWLEDGEMENTS

Nonprofit Partners:
Groundwork Portland - Greenteam
Right 2 Survive - (Ibrahim and Ptery)
Solutions HCE

State and Local Government Partners:
Tacoma Pierce County Health Department
Oregon Health Authority Environmental Public Health Tracking Unit Staff
Multnomah County Staff
Oregon Department of Environmental Quality
Delaware State Health and Social Services/Division of Public Health, and Department of Agriculture

Academic Partners:
Concordia University
Portland Community College
Evergreen State College Tacoma Campus
Antioch University
Delaware State University

EPA Partners:
EPA Region 10 Staff - Seattle
EPA Region 10 Staff - Portland Operations Office
EPA MVD Leads/ EJ Coordinators
EPA Region 3 Staff – Philadelphia
EPA Region 1

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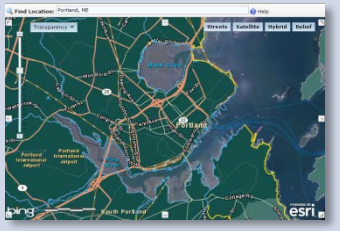
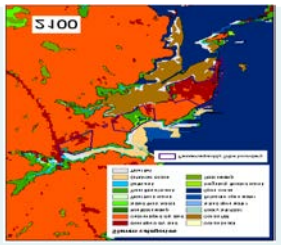
C-FERST Development Pilots

	Portland, ME CARE* pilot	Springfield, MA CARE* pilot	Passamaquoddy Tribe (ME) pilot
Community Issues of Concern	 • outdoor air pollution • water quality • lead in soil, old homes • elevated BLL children • bike/pedestrian safety • waste/litter • brownfields • public housing conditions • exposure to common chemicals	• ambient air quality • near roadway exposures • home & school IAQ • lead • health disparities • debris/waste/litter • abandoned homes/ brownfields • violence • tornado damage	 • solid waste management • sea level rise • heritage diet • softwood forestry change • invasive species • water quality: wetland s and drinking water • air pollution: indoor and ambient • ocean acidification • energy self-sufficiency • health outcomes
Local Data	• turnpike traffic • ozone • green space • blight • waste collection	• school asthma rates • air pollution • water quality • brownfield sites	• solid waste data • radon, mold monitoring • home energy audits • ambient air monitoring • local water quality

*Community Action for a Renewed Environment