

# RESOURCES FOR BUILDING RESILIENCE IN THE PUGET SOUND REGION, WA



From a workshop:

***Puget Sound Knowledge Exchange: Resources for Building Resilience***

January 26, 2018

Seattle, WA

Co-hosted by:

ResilientAmerica



Puget Sound Regional Council

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## Introduction

On January 26, 2018, the Resilient America Roundtable and the Puget Sound Regional Council (PSRC) co-hosted the workshop, *Puget Sound Knowledge Exchange: Resources for Building Resilience*. The goal of this event was to bring together community representatives, practitioners, and federal, state, and local agency and organization representatives to share information on resilience-building experiences, challenges, and successes, and to identify resources and funding opportunities available to communities in the region for resilience-building projects and efforts. The following information was assembled with the help of representatives from federal, state, and local agencies who participated at the event.

Resilient America has been working in the region since 2015, when the Roundtable welcomed Seattle as its third pilot community. The entire Central Puget Sound region experiences a variety of natural hazards including volcanos, earthquakes, floods, landslides, and sea level rise. In taking a regional focus, the Roundtable partnered with the PSRC, a metropolitan planning organization for the Central Puget Sound region that represents cities, counties, transit agencies, ports, tribal governments, and the state. PSRC works to ensure a thriving region through planning for regional transportation, growth management, and economic development.

In late 2016 through early 2017, the Roundtable and PSRC conducted a survey of PSRC member jurisdictions and held in-person meetings with seven jurisdictions to better understand:





- local climate risks and how future climate risks will impact communities;
- key community priorities and challenges in addressing these risks;
- the inclusion of climate resilience or adaptation policies in local planning processes and documents;
- ways that the PSRC could help local decision makers address their climate risks; and
- actions that could be taken at the regional level to mitigate climate impacts

This information gathering laid the foundation for the workshop held in Seattle, WA on January 26, 2018. This document provides an overview of resources highlighted at the workshop, as well as a sampling of other relevant resources available through federal, state, local, and nongovernment agencies. All of the resources included are organized according to their source: federal, state or local, and nongovernment. Additionally, each resource includes a link to the webpage and a short summary, followed by information and/or links to resources that may be of particular interest. This compilation of resources is not meant to be a comprehensive list;

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communities are encouraged to seek out other resources and funding opportunities that may be appropriate to their needs and/or community context.

Specific resources are denoted by the following:


-  = Written material such as publications, guidebooks, white papers, or instructional information.
-  = Funding opportunities such as grants, loans, and other funding assistance programs.
-  = In-person or online training opportunities.
-  = Online tools such as maps, models, visualization tools, databases, and self-assessments.

## Federal Resources

(Presented at the Puget Sound Knowledge Exchange)

### Environmental Protection Agency (EPA)

*Abby Hall, from the EPA's Office of Sustainable Communities*, shared the following information and resources:

- [Partnership between FEMA and the EPA](#)<sup>1</sup> which coordinates the activities of EPA's [Smart Growth](#) and [Technical Assistance Services for Communities](#) programs and FEMA's disaster recovery planning and hazard mitigation programs.
- Resources and strategies for [disaster resilience and recovery](#).<sup>2</sup> The EPA can help communities connect their disaster planning to other community goals and link mitigation and recovery over time.
-  The [Flood Resilience Checklist](#)<sup>3</sup> enables communities to understand whether their community is prepared for a possible flood.
- [Smart Growth Implementation Assistance Program](#) supports communities interested in implementing smart growth policies. [The Association of Bay Area Governments Resilience Program](#)<sup>4</sup> is an example of a community that received assistance.

**View Hall's presentation from the Puget Sound Knowledge Exchange:**  
[http://sites.nationalacademies.org/PGA/resilientamerica/pga\\_182395](http://sites.nationalacademies.org/PGA/resilientamerica/pga_182395)

**Contact Abby Hall**

- Email: [Hall.Abbey@epa.gov](mailto:Hall.Abbey@epa.gov).

### Federal Emergency Management Agency (FEMA)

*Steven Randolph, Senior Hazard Mitigation Programs Specialist at FEMA*, presented information about the Hazard Mitigation Assistance grant programs at FEMA: Hazard Mitigation Grant Program, Pre-Disaster Mitigation program, and Flood Mitigation Assistance program.

**The Hazard Mitigation Assistance (HMA) grant programs** provide funds for projects that reduce the risk to individuals and property from natural hazards. These programs enable mitigation measures to be implemented before, during, and after disaster recovery. There are three separate programs, each of which is administered as a pass-through program by state or territory Emergency Management offices, or tribal governments that are eligible to



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## Federal Emergency Management Agency (FEMA)

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serve as direct Applicants for FEMA funding. Individuals, property and business owners may not apply directly to the State, territory, or FEMA, but eligible local governments and State, territorial, or tribal agencies may apply on their behalf. A FEMA-approved hazard mitigation plan is a condition for receiving HMA grant program funding for mitigation projects.

All three HMA grant programs operate pursuant to the [Hazard Mitigation Assistance \(HMA\) Guidance Document](#),<sup>5</sup> and annual Notices of Funding Opportunity (NOFO) as noted below.

HMA project criteria:

- **A FEMA-approved hazard mitigation plan is a condition for receiving HMA grant program funding for mitigation projects.**
  - FEMA's Hazard Mitigation Planning portal: <https://www.fema.gov/hazard-mitigation-planning>.
  -  [Local Mitigation Planning Handbook \(Handbook\)](#)<sup>6</sup> is the official guide for local governments to develop, update and implement local mitigation plans, in compliance with the Code of Federal Regulations (CFR) Title 44 – Emergency Management and Assistance §201.6, Local Mitigation Plans. The Handbook provides guidance to local governments on developing or updating hazard mitigation plans to meet these requirements.
- The project must be:
  - “Cost-effective”
  - Have sound engineering and be technically feasible
  - Provide a long-term solution and be functionally independent
  - Comply with environmental regulations
- Other items that can be included in hazard mitigation projects include:
  - sea level rise (e.g.: elevating public buildings or retrofitting roads and utility systems)
  - green infrastructure (e.g.: rain gardens, bio-swales, or porous pavement)
  - wildfire mitigation (e.g.: retrofits for existing homes and neighborhoods, ignition resistant construction)
-  Resources for developing HMA project and planning subapplications are available at: <https://www.fema.gov/application-development-1>.

**View Randolph's presentation from the Puget Sound Knowledge Exchange:**  
[http://sites.nationalacademies.org/PGA/resilientamerica/pga\\_182395](http://sites.nationalacademies.org/PGA/resilientamerica/pga_182395)

**Contact Steven Randolph**

- Email: [Steven.Randolph@fema.dhs.gov](mailto:Steven.Randolph@fema.dhs.gov).
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## Federal Emergency Management Agency (FEMA)

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\$ The [Hazard Mitigation Grant Program \(HMGP\)](#)<sup>7</sup> provides funds to states, tribes, and local communities **after a disaster declaration** to protect public or private property through various mitigation measures. Hazard mitigation includes long-term efforts to reduce the impact of future events. This is FEMA's largest HMA grant program, providing funding based on 15% or 20% of Federal Disaster costs.

### Information:

- Projects may benefit public or private structures and facilities.
- Individual property and business owners may not apply directly to the state, territory, or FEMA, but eligible local governments and state, territorial, or tribal agencies may apply on their behalf.
- Qualifying Private Not-for-Profit (PNP) agencies are also eligible. Subapplications are submitted to the state, eligible tribe, or territory, which packages them in a Grant Application for funding by FEMA.
- FEMA provides up to 75% of the funds for mitigation projects. The remaining 25% can come from a variety of sources.

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\$ The [Pre-Disaster Mitigation \(PDM\) program](#),<sup>8</sup> assists states, U.S. territories, federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events.

### Information:

- PDM grants are **funded annually by Congressional appropriations** and are awarded on a nationally competitive basis. The Notice of Funding Opportunity is posted on [www.Grants.gov](http://www.Grants.gov)
  - PDM is prioritized to communities in states and to tribes that have not experienced a recent Disaster Declaration.
  - The Federal cost-sharing requirement is 75/25, with 90/10 available for "small and impoverished communities and tribes."
  - The following are eligible Subapplicants to the PDM grant program:
    - States, U.S. territories, federally-recognized tribes, and local governments. PNP agencies are not eligible.
    - Subapplications are submitted to the state, eligible tribe, or territory, which packages them in a Grant Application for funding by FEMA.
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## Federal Emergency Management Agency (FEMA)

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\$ The [Flood Mitigation Assistance \(FMA \) program](#)<sup>9</sup> “provides funding to States, Territories, federally-recognized tribes, and local communities for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the NFIP.” FMA funding is also available for management costs.

### Information:

- Funding is awarded on a nationally competitive basis. The Notice of Funding Opportunity (NOFO) is posted on <http://www.Grants.gov>.
- The FMA grant program is limited to communities and tribes that participate in the National Flood Insurance Program (NFIP), from which FMA funding is derived.
- The Federal cost-sharing requirement for Community Flood Mitigation Projects is 75/25. Projects that target repetitive loss or severe repetitive loss properties are eligible for up to 90/10 or even 100% federal funding depending on the proportion of these properties in the subapplication.
- Governments that can sponsor an subapplication include:
  - States, territories, federally-recognized tribes, and local governments. PNP agencies are ineligible.
  - Subapplications are submitted to the state, eligible tribe, or territory, which packages them in a Grant Application for funding by FEMA.


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## National Oceanic and Atmospheric Administration

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*Gwen Shaughnessy, Climate Adaptation Specialist at NOAA*, presented information about data, tools, and training.

### Resources:

-  [Digital Coast](#)<sup>10</sup>: This NOAA-sponsored website provides coastal data and the tools, training, and information needed to make these data useful to communities. A great place to start is the [Topics page](#).<sup>11</sup>

### Contact Gwen Shaughnessy

- Email: [gwen.shaughnessy@noaa.gov](mailto:gwen.shaughnessy@noaa.gov)
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## United States Army Corps of Engineers (USACE)

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*Travis Ball, Hydraulic Engineer at the USACE*, facilitates the [Washington Silver Jackets program](#), an interagency group of federal and state agencies that identifies and prioritizes flood risk issues.

A recent partnership with the Climate Impacts Group at the University of Washington which produced a [workplan for the Washington Silver Jackets Team on integrating climate resilience into flood risk management](#).<sup>12</sup> A key point from the report was a need for capacity building and more coordination. The Silver Jackets group received funding to form a learning network or forum to share knowledge, successes, and build relationships.

### Contact Travis Ball:

- Email: [Travis.D.Ball@usace.army.mil](mailto:Travis.D.Ball@usace.army.mil)

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The [Continuing Authorities Program \(CAP\)](#)<sup>13</sup> is “a group of nine legislative authorities under which the Corps of Engineers can plan, design, and implement certain types of water resources projects without additional project specific congressional authorization.”

### Information:

- All projects have a feasibility phase and an implementation phase. The feasibility phase is initially federally funded up to \$100,000. Remaining costs are shared 50/50. Implementation costs are shared as specified in the legislation.

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\$ USACE provides [Flood Plain Management Services \(FPMS\)](#),<sup>14</sup> a full range of technical services and planning guidance to support effective flood plain management.

### Information:

- General technical assistance helps communities determine:
    - site-specific data on obstructions to flood flows, flood formation, and timing;
    - flood depths, stages or floodwater velocities;
    - the extent, duration, and frequency of flooding;
    - information on natural and cultural flood plain resources;
    - flood loss potentials before and after the use of flood plain management measures.
  - Examples of types of studies conducted under the FPMS program: flood plain delineation/hazard, dam failure analyses, hurricane evacuation, flood warning, floodway, flood damage reduction, stormwater management, flood proofing, and inventories of flood prone structures.
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### United States Army Corps of Engineers (USACE)

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- FPMS assistance is 100% federally funded unless the requesting party is another federal agency or private party.

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[Planning Assistance to States](#)<sup>15</sup> is a program that allows the USACE to provide “states, local governments, other non-Federal entities, and eligible Native American Indian tribes assistance in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources.”

#### Information:

- “Typical studies are only planning level of detail; they do not include detailed design for project construction. The program can encompass many types of studies dealing with water resources issues” (water supply/demand, flood damage reduction, coastal zone protection, etc.).
- Efforts under this program are cost shared on a 50% federal/50% non-Federal basis.
- These studies can provide a helpful stepping stone when requesting assistance under the Continuing Authorities Program (CAP).

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### United States Geological Survey (USGS)

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*Kristin Ludwig, Scientist at the USGS and Resilient America Roundtable member*, discussed some of the programs and products the USGS has available for communities.


#### **Contact Kristin Ludwig:**

- Email: [kaludwig@usgs.gov](mailto:kaludwig@usgs.gov)

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[The National Assessment of Coastal Change Hazards \(NACCH\)](#)<sup>16</sup> helps “identify areas that are most vulnerable to diverse coastal change hazards including beach and dune erosion, long-term shoreline change, and sea-level rise.” Community stakeholders can use the data, tools, models, and other products to enhance coastal resilience.

#### Resources:

-  The [USGS Coastal Change Hazards \(CCH\) Portal](#)<sup>17</sup>—an online tool used to interactively “see” past, present and future coastal hazards—can aid in decisions that involve emergency preparedness, ecosystem restoration, and where and how to
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## United States Geological Survey (USGS)

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develop coastal areas. The portal organizes products and information into discrete items within three specific coastal hazard themes: 1) extreme storms, 2) shoreline change, and 3) sea-level rise.



- The [sea-level rise component](#)<sup>18</sup> of NACCH assesses the potential impacts of sea-level rise and provides tools for coastal management decision-making.

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The [Northwest Climate Science Center](#)<sup>19</sup> (NW CSC) “combines academic expertise with federal resources to advance climate science development and delivery for managers and policy makers in the Northwest region.”



### Information:

- “The NW CSC works to identify and address the current and future climate science needs of managers and decision-makers in the Northwest.  A [NW CSC Science Agenda 2018-23](#)<sup>20</sup> was adopted in November 2017 to identify annual and long-term research priorities.”
- The NW CSC collects and secures climate data while providing timely access, analytical functions, and interpretive services. The NW CSC works with partners to organize, store and make accessible the rapidly increasing volumes of data relevant to NW climate scientists and natural and cultural resource managers.
-  Access the NW CSC projects and data [Story Map](#)<sup>21</sup> to learn about climate change impacts in the NW and explore, interact with, and access NW CSC-funded project datasets.

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[The Washington Coastal Hazards Resilience Network \(CHRN\)](#)<sup>22</sup> is a network of hazards and climate change practitioners who are “involved in coastal hazards management and/or producing risk and hazard assessments for marine shorelines in Washington State.” The CHRN seeks to “improve regional coordination and collaboration through effective partnerships among practitioners to make Washington’s coastal communities more resilient to natural hazards.”

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The [Puget Sound Coastal Storm Modeling System \(PS-CoSMoS\)](#)<sup>23</sup> is currently in development, and will provide “detailed predictions of coastal flooding due to future sea-level rise, storms, and river flooding driven by climate change.”

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## Other Federal Resources

### The Partnership for Sustainable Communities (PSC)

[The Partnership for Sustainable Communities](#) is an interagency effort by The Department of Housing and Urban Development (HUD), Department of Transportation (DOT), and Environmental Protection Agency (EPA) that “works to coordinate federal housing, transportation, water, and other infrastructure investments to make neighborhoods more prosperous, allow people to live closer to jobs, save households time and money, and reduce pollution.”<sup>24</sup>



#### **Resources:**

-  [The Sustainable Community Indicator Catalog](#)<sup>25</sup> helps communities identify indicators that can measure progress toward their sustainability objectives; indicators focus on topics such as land use, housing, transportation, human health, and the environment.
- [\\$ Partnership grants, assistance, and programs](#)<sup>26</sup>: HUD, DOT, and EPA offer periodic grants to support livable and sustainable communities.
- [\\$ Federal Resources for Sustainable Rural Communities](#): The Partnership for Sustainable Communities in collaboration with U.S..Department of Agriculture provides resources specific to rural communities on topics such as infrastructure planning and construction, economic development, pollution cleanup, and other sustainability issues.

### Environmental Protection Agency (EPA)

[Adaptation Resource Center \(ARC-X\)](#) is “an interactive resource to help local governments effectively deliver services to their communities even as the climate changes.”<sup>27</sup>

Information can be tailored to the specific needs of decision makers, and includes risks posed by climate change, relevant adaptation strategies, case studies, and relevant EPA funding opportunities. .

#### **Resources:**

- [\\$ EPA funding opportunities](#)<sup>28</sup>: These opportunities encourage climate resilient investments such as adaptation funding, and include the State Revolving Fund,





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## Environmental Protection Agency (EPA)

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Brownfield Revolving Loan Fund, Tribal General Assistance Program, Great Lakes Restoration Initiative, Environmental Justice Small Grants Program

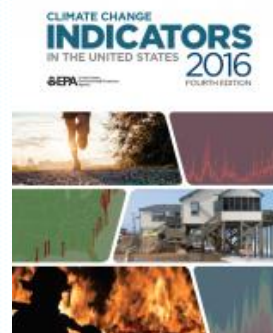
-  [Climate Change Adaptation Training](#)<sup>29</sup>: [training to increase the adaptive capacity of communities and decision makers](#)
-  [Example adaptation strategies](#)<sup>30</sup> for areas of interest

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[Climate Change Indicators in the United States](#)<sup>31</sup> features a key set of indicators on the causes and effects of climate change compiled from more than 40 data contributors from government agencies, academic institutions, and other organizations.

### **Resources:**

-  EPA's report, [Climate Change Indicators in the United States](#),<sup>32</sup> is available on the website and in print.



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\$ The [Water Infrastructure and Finance Innovation Action \(WIFIA\) program](#)<sup>33</sup> is a federal credit program administered by EPA for eligible water and wastewater infrastructure projects that accelerate investment in the nation's water infrastructure by providing long-term, low-cost supplemental loans.

### **Information:**

- Eligible borrowers are local, state, tribal, and federal government entities; partnerships and joint ventures; corporations and trusts; and Clean Water and Drinking Water State Revolving Fund programs.
- A list of eligible projects and activities, as well as FAQs and past webinar presentations, are available on the [program overview webpage](#).<sup>34</sup>

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The [Drinking Water State Revolving Fund \(DWSRF\) program](#)<sup>35</sup> is a federal-state partnership to help ensure safe drinking water. The program provides financial assistance to water systems and to state safe water programs.

### **Information:**

- [Types of assistance](#)<sup>36</sup> include loans, purchase of debt, and guarantees
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## Environmental Protection Agency (EPA)

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The [Clean Water State Revolving Fund \(CWSRF\) program](#)<sup>37</sup> is a “federal-state partnership that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects.” State CWSRF programs provide loans to recipients for a variety of water infrastructure projects

### **Information:**

- [Types of assistance](#)<sup>38</sup> include loans, purchase of debt, and guarantees
- [Project eligibility](#)<sup>39</sup> includes construction of publicly owned treatment works, national estuary program projects, stormwater projects, watershed pilot projects, etc.
-  [“How the fund works” infographic](#)<sup>40</sup>

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[Drinking Water and Wastewater Resilience](#)<sup>41</sup> program provides a suite of products and services to improve the resilience of the water sector to all types of hazards.


Products are organized into different categories:

- Assess (e.g., conduct a risk assessment)
- Plan (e.g., build relationships in your community)
- Train (e.g., develop a training and exercise plan)
- Respond (e.g., checklist to help with response)
- Recover (e.g., reimbursement tips)
- Surveillance (e.g., learn about water quality surveillance)

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The [Financing for Environmental Compliance](#)<sup>42</sup> guide is a step-by-step financial planning process that helps communities determine their capital asset technical and financial needs and find air, waste, and water resources to meet their compliance goals.

### **Resources:**

-  [Step-by-step guide](#)
- [LGEAN Assistance Center](#)<sup>43</sup> is a provides “environmental management, planning, funding, and regulatory information for local government elected and appointed officials, managers and staff”. EPA’s Office of Compliance provides direct assistance to local government officials through this center.

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The [Indian Environmental General Assistance Program \(GAP\)](#)<sup>44</sup> provides “grants to federally recognized tribes and tribal consortia for planning, developing and establishing environmental protection programs in Indian country, and for developing and implementing solid and hazardous waste programs on tribal lands.”

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### Environmental Protection Agency (EPA)

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#### Information:

- [Guidance on the award and management of Indian Environmental General Assistance Agreements](#)<sup>45</sup>

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The [Smart Growth program](#)<sup>46</sup> works "with local, state, and national experts to discover and encourage development strategies that protect human health and the environment, create economic opportunities, and provide attractive and affordable neighborhoods for people of all income levels."

#### Resources:

-  [Grants and other funding opportunities](#)<sup>47</sup>
-  [Tools](#)<sup>48</sup> such as "Smart Growth Fixes for Climate Adaptation and Resilience"
-  [Technical assistance programs](#)<sup>49</sup> such as the Building Blocks program that provides one-to-two-day targeted technical assistance to give communities tools to implement smart growth development approaches.
- [Examples of Smart Growth Communities and projects](#)<sup>50</sup>

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### Federal Emergency Management Agency (FEMA)


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[Preparedness \(non-disaster\) grants](#)<sup>51</sup> "provide state and local governments with preparedness program funding to enhance the capacity of state and local emergency responders to prevent, respond to, and recover from all types of hazards, including natural hazards, and weapons of mass destruction terrorism incident involving chemical, biological, radiological, nuclear and other explosive devices, and cyber-attacks."

#### Information:

-  Notice of funding opportunities for preparedness grants:  
<https://www.fema.gov/preparedness-non-disaster-grants>.

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 FEMA's [Public Assistance \(PA\) grant program](#)<sup>52</sup> provides federal assistance following a Presidential disaster declaration to government organizations and certain private nonprofit (PNP) organizations for debris removal, life-saving emergency protective measures, and the

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### Federal Emergency Management Agency (FEMA)

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repair, replacement, or restoration of disaster-damaged publicly-owned facilities, including buildings, roads, and infrastructure, and the facilities of certain PNP organizations.


#### Information:

- Eligible applicants and subapplicants include states, federally-recognized tribal governments, U.S. territories, local governments, and certain PNP organizations
- FEMA Regional Offices process PA grant funding according to the type of work the subapplicant undertakes. Eligible work must be required as a result of the declared incident, be located in the designated area, be the legal responsibility of the subapplicant, and be undertaken at a reasonable cost.
- Public assistance grants for damaged facilities incorporate upgrades to comply with current regulatory standards (building codes, stormwater management, etc.) and engineering standards. Higher levels of hazard resistance can often be incorporated into a repair or reconstruction project through Section 406 Hazard Mitigation, which is a part of Public Assistance.
-  [Public Assistance Fact Sheet](#)<sup>53</sup>

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The [Risk Mapping, Assessment, and Planning \(Risk MAP\) program](#)<sup>54</sup> “provides high quality flood maps and information, tools to better assess the risk from flooding, and planning and outreach support to communities to help them take action to reduce (or mitigate) flood risk.”

#### Resources:

- High quality [flood maps and information](#)<sup>55</sup>
-  [Tools to better assess the risk from flooding](#)<sup>56</sup> are searchable by jurisdiction.
- GIS database incorporating risk data from multiple other hazards
- [Planning and outreach support](#)<sup>57</sup> to communities to help them take action to reduce or mitigate flood and other natural hazard risk.

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### National Oceanic and Atmospheric Administration

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\$ [NOAA's Coastal Resilience Grant Program](#)<sup>58</sup> “funds projects that help coastal communities and ecosystems prepare for and recover from extreme weather events, climate hazards, and changing ocean conditions.” The FY2018 Federal Funding opportunity has ended; pre-proposals were due March 7, 2018.

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## National Oceanic and Atmospheric Administration

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\$ The [Coastal and Marine Habitat Restoration program](#)<sup>59</sup> “supports restoration projects that use a habitat-based approach to rebuild productive and sustainable fisheries, contribute to the recovery and conservation of protected resources, and promote healthy ecosystems and resilient communities.”

### Information:

- Funding amounts range, and the award period is one to three years
-  [Resources for Applicants](#)<sup>60</sup> including application guidance and priorities and budget guidance.



NOAA provides a variety of **training opportunities** for communities such as:

[Adaptation Planning for Coastal Communities Training](#)<sup>61</sup> is a comprehensive introduction to adaptation planning, including climate science and impacts, vulnerability assessments, and developing and implementing strategies.

- 2-day instructor-led training
- Audience: Municipal, county, and coastal program staff
- **Tip:** After this training, consider one of the risk communication trainings or green infrastructure 101 training.

[Seven Best Practices for Risk Communication Webinar](#)<sup>62</sup> is focused on risk communication best practices and examples of their use.

- 90-minute instructor-led webinar, quarterly offerings
- Audience: Planners, floodplain managers, extension agents
- **Tip:** Start here then host or attend *Building Risk Communication Skills Training*

[Building Risk Communication Skills Training](#)<sup>63</sup> - Practice using the risk communication best practices to better with specific audiences and frame risks that speaks to their interests.

- 1-day instructor-led training
- Audience: Planners, floodplain managers, extension agents

[Coastal Inundation Mapping Training](#)<sup>64</sup> provides information about coastal flooding data and products with instruction on mapping various inundation extents using a GIS.

- 2-day instructor-led training
  - Audience: Spatial analyst, floodplain managers
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## National Oceanic and Atmospheric Administration


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[Introducing Green Infrastructure \(GI\) for Coastal Resilience](#)<sup>65</sup> introduces green infrastructure and resilience, provides overview of GI types, and highlights local guest speakers discussing GI planning and implementation projects.


- 1-day instructor-led training
- Audience: Planners, floodplain managers, stormwater managers, conservationists, elected officials

[How to Map Open Space for Community Rating System Credit](#)<sup>66</sup> - Step-by-step approach to mapping open space preservation for FEMA's Community Rating System (CRS) program. Includes a GIS work plan using a real world example.

- Self-guided training
  - Audience: Planners, floodplain managers, spatial analysts
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 **NOAA tools** available to communities include:

- [NOAA Sea Level Rise Viewer](#)<sup>67</sup> - provides visualizations of coastal flooding or sea level rise impacts on communities and identifies people, places, and natural resources exposed to flooding.
    - Audience: Planners, floodplain managers, extension agents, residents, elected officials
  - [Green Infrastructure Effectiveness Database](#)<sup>68</sup> contains peer-reviewed and gray literature sources on the effectiveness of green infrastructure to reduce the impacts of coastal hazards.
    - Audience: Planners, floodplain managers, stormwater managers, conservationists
- 

 [Risk Communication Basics](#)<sup>69</sup> is a guidebook that provides an overview of risk communication best practices, information about how and why people perceive risks differently, how to learn more about the audience, ways to frame responses, and sample conversations to illustrate these techniques.

- Audience: Planners, floodplain managers, extension agents
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 **NOAA funding opportunities** available to communities.

- [Funding Opportunities](#)<sup>70</sup> - The Office for Coastal Management's competitive grant announcements.
  - [Coastal Resilience Grants](#)<sup>71</sup> fund projects that help coastal communities and ecosystems prepare for and recover from extreme weather events, climate hazards, and changing ocean conditions.
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## United States Department of Agriculture (USDA)

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[USDA Rural Development](#)<sup>72</sup> offers loans, grants, and loan guarantees to help create jobs and support economic development and essential services such as housing, health care, first responder services and equipment, and water, electric, and communications infrastructure. They also provide technical assistance to help communities undertake community empowerment programs.

### Information:


- \$ USDA RD operates numerous [financial assistance programs and services](#)<sup>73</sup> (e.g., loans, grants) for businesses, communities, nonprofits, individuals, tribes, etc.
-  [USDA Rural Development Program Guide](#) for Washington State<sup>74</sup> provides information about financial programs and technical assistance for rural communities.

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[USDA Climate Hubs](#)<sup>75</sup> is a web portal that helps stakeholders find information to manage climate change risks. USDA Climate Hubs develops and delivers science-based, region-specific information and technologies, and provides access to assistance to implement climate-informed decisions.



### Information:

- ✂ The web portal provides several [tools](#)<sup>76</sup> ranging from “specialized calculators to maps, models and datasets estimating a variety of outputs (e.g., crop production, greenhouse gas flux, and species distribution).”
  -  USDA Climate Hubs [regional vulnerability assessments](#)<sup>77</sup> provide stakeholders with a baseline “snapshot” of their current climate vulnerabilities and specific adaptive management strategies to increase the resilience of working lands in their region.
  - The [Northwest Climate Hub](#)<sup>78</sup> encompasses Alaska, Idaho, Oregon, and Washington.
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## WASHINGTON STATE RESOURCES

(Presented at the Puget Sound Knowledge Exchange)

### Puget Sound Partnership

*Jennifer Lee, Director of Policy and Planning at the Puget Sound Partnership*, discussed the resilience of the Puget Sound ecosystem. Puget Sound Partnership's mission is to "accelerate and advance the collective effort to recover Puget Sound."

**View Lee's presentation from the Puget Sound Knowledge Exchange:**  
[http://sites.nationalacademies.org/PGA/resilientamerica/pga\\_182395](http://sites.nationalacademies.org/PGA/resilientamerica/pga_182395)

**Contact Jennifer Lee:**

- Email: [Jennifer.lee@psp.wa.gov](mailto:Jennifer.lee@psp.wa.gov).

\$ The [Washington Water and Salmon Fund Finder](#)<sup>79</sup> is a grant and loan search tool for natural resource funding opportunities in Washington.

[Puget Sound's National Estuary Program](#)<sup>80</sup> is a voluntary, place-based initiative that brings together regional leaders, experts and community members to protect, restore and maintain the ecological integrity of Puget Sound.

- \$ For information on solicitation and grants: <http://www.psp.wa.gov/NEP-solicitation-and-grants.php>.

The [Puget Sound Acquisition and Restoration \(PSAR\) fund](#)<sup>81</sup> supports projects that recover salmon and protect and recover habitat in Puget Sound. Funding is appropriated by the Legislature through the Salmon Recovery Funding Board. The Puget Sound Partnership works with local entities to identify and prioritize projects.


- \$ 2018 PSAR large capital projects request for proposals has been released. Pre-proposal materials due April 30, 2018. See materials [here](#).<sup>82</sup>

The [Estuary and Salmon Restoration Program](#) (ESRP) provides funding and technical assistance for nearshore restoration and protection efforts in Puget Sound.

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## Puget Sound Partnership


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-  [Grant Program](#)<sup>83</sup>: New project proposals are solicited through a Request for Proposals. For further information on how projects are funded, see the website.
- For other resources such as the Puget Sound Action Agenda, the Washington State Coastal Atlas, and funding opportunities from other agencies, see the [ESRP Resources webpage](#).<sup>84</sup>

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The [Floodplains by Design](#)<sup>85</sup> program, a public-private partnership with the Nature Conservancy, Puget Sound Partnership, and the Department of Ecology, supports projects that are built from the ground up by local community members.

### **Information:**

- An [animated explanation](#)<sup>86</sup> of the Floodplains by Design program.
- Entities eligible for funding include counties, cities, towns, federally recognized Indian Tribes, port districts, flood control zone districts, flood control and diking and drainage districts, conservation districts, municipal and quasi-municipal corporations, and non-profits that are recognized by the IRS as tax-exempt.
-  [Funding Guidelines](#)<sup>87</sup>

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## Washington State Department of Commerce

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*Steve Dunk, Outreach Program Manager at the Washington Department of Commerce,* discussed a few of the 110+ programs that support communities across the State of Washington. These programs are focused around 3 key areas:

- 1) Affordable Housing and Homelessness
- 2) Rural and Underserved Communities
- 3) Improving Community Resilience, namely helping the local and tribal communities build greater resilience to the hazards that affect them.

The programs listed below are a sample of the resources available through the Department of Commerce; for a full list see the [2018 Agency Resource Book](#).<sup>88</sup>

**View Dunk's presentation from the Puget Sound Knowledge Exchange:**  
[http://sites.nationalacademies.org/PGA/resilientamerica/pga\\_182395](http://sites.nationalacademies.org/PGA/resilientamerica/pga_182395)

**For more information, contact John Schelling, Emergency Management and Safety Administrator, Department of Commerce**

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## Washington State Department of Commerce

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- Email: [john.schelling@commerce.wa.gov](mailto:john.schelling@commerce.wa.gov)

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\$ The [Clean Energy Fund](#)<sup>89</sup> supports the “development, demonstration and deployment of clean energy technologies” that save energy, reduce energy costs, reduce harmful air emissions, and increase energy independence for the State of Washington.



### **Information:**

- On January 19, 2018, the Governor signed the capital budget bill which includes funding for the Clean Energy Funds 3 (CEF3) program.
- When the CEF3 program has been developed, information will be posted for the open application periods (at <http://www.commerce.wa.gov/growing-the-economy/energy/clean-energy-fund/>) for the following programs:
  - Grid Modernization
  - Electrification of Transportation
  - Research, Development and Demonstration
  - Solar

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[Growth Management Services](#)<sup>90</sup> assists and guides local governments, state agencies, and others to manage growth and development, consistent with the Growth Management Act (GMA).

### **Resources:**

- \$ [Grants](#)<sup>91</sup>
  -  Direct assistance, training and education, and [Guidebooks](#)<sup>92</sup>
  -  [A Short Course of Local Planning](#)<sup>93</sup> is free and open to the public. This three-hour workshop covers land use planning laws that work together to support land-use decision-making in Washington state and provides an introduction to comprehensive planning under the Growth Management Act.
  - [A Planners' Forum](#)<sup>94</sup> “offers a unique opportunity – at no charge – for planners, planning commissioners, elected officials, and community members to talk informally about local issues, to share ideas, and to receive updates from state and federal agencies whose work may impact land use. The Planners’ Forums also satisfy requirements for credentialed planners toward professional development through advanced-level presentations provided by professionals on an array of timely and relevant planning subjects. Registration is not necessary for this daytime training.”
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## Washington State Department of Commerce

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[Bond Cap Allocation Program](#)<sup>95</sup> is a federally-authorized program that regulates “tax-exempt private activity bonds.”

### **Information:**

- The Bond Cap allocation is the total amount of borrowing that qualifying types of private projects are allowed to do each year at less expensive tax-exempt rates under federal law.
- Projects are eligible if they fit into one of four categories: Small-issue manufacturing, housing (both multifamily and single family), exempt (capital) facilities, and student loans.
- A list of issuing authorities, statutes and rules, and application forms are available at <http://www.commerce.wa.gov/about-us/research-services/bond-cap-allocation-program/issuers-application-forms/>.

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The [Community Capital Facilities](#)<sup>96</sup> programs are reimbursement-style grants provided to local governments and nonprofit organization. All programs are funded by the sale of state bonds. Funding reaches the community through several competitive grant programs or capital projects introduced by the Governor or the Legislature.

### **Grant programs:**

- [Building Communities Fund](#)<sup>97</sup> State grants are available to nonprofit, community-based organizations to defray eligible capital costs to acquire, construct, renovate, or rehabilitate nonresidential community and social service centers.
  - [Building for the Arts](#):<sup>98</sup> Grants are awarded to nonprofit performing arts, art museums, and cultural organizations.
  - [Youth Recreational Facilities](#):<sup>99</sup> State grants are available to nonprofit organizations to help defray eligible capital costs for acquisition, construction and renovation of nonresidential youth recreational facilities.
  - [Energy Efficiency and Solar Grants](#)<sup>100</sup> for eligible projects in public higher education institutions, local government facilities, state agencies, and K-12 public school districts.
  - [Behavioral Health Facilities](#)<sup>101</sup> grants help pay for construction and equipment costs to support new or established behavioral health facilities.
  - **The next round of applications for some of these grants will be Spring 2018**
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## Washington State Department of Commerce

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The [Community Economic Revitalization Board \(CERB\)](#)<sup>102</sup> “is a state board focused on economic development through job creation in partnership with local governments. The Board has the authority to finance public infrastructure improvements that encourage new private business development and expansion.”



### **Information:**

- Eligible projects include domestic and industrial water, storm water, wastewater, public buildings, telecommunications, and port facilities.
- Applications for funding are considered on an ongoing basis. Application due dates are available at <https://deptofcommerce.app.box.com/v/cerb1719dates>.


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The [Public Works Board](#)<sup>103</sup> addresses local infrastructure needs through a dedicated local funding pool, existing as a revolving loan program, to be managed by a citizens’ board of local infrastructure representatives.



**WASHINGTON STATE  
Public Works Board**  
*Infrastructure is Fundamental*

### **Resources:**

- [Construction Loan Program](#)<sup>104</sup> provides low-interest loans for local governments to finance public infrastructure construction and rehabilitation. Eligible projects must improve public health and safety, respond to environmental issues, promote economic development, or upgrade system performance.
-  [Training and Education](#)<sup>105</sup>: Including Tech Team meetings, Infrastructure Assistance Coordinating Council meetings, and free trainings such as the Tools for Funding Future Infrastructure Projects.
- Access to program specialists and an online resource catalog which includes access to financial, technical, and training resources are available at <http://www.commerce.wa.gov/building-infrastructure/pwb-resources/>.

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\$ The Washington State [Community Development Block Grants](#)<sup>106</sup> program “improves the economic, social and physical environment of eligible, rural cities and counties to enhance the quality of life for low- and moderate-income residents, thereby strengthening the entire community.”

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### Washington State Department of Commerce

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#### Information:

- Eligible applicants include:
    - Small, rural cities/towns and counties that are not entitled to receive CDBG funds directly from the U.S. Department of Housing and Urban Development (HUD).
    - Cities and towns with population less than 50,000 that are not participating in a CDBG Entitlement Urban County Consortium
    - Counties with populations less than 200,000.
  - Application deadlines are listed on the website. Public Services Grant applications are due April 6, 2018, and General Purpose Grant applications are due June 1, 2018.
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### Washington State Department of Health

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*Marnie Boardman, Climate and Health Coordinator for the Office of Environmental Public Health Sciences at the Washington State Department of Health*, talked about key public health resources available that are related to climate and public health: The Washington Tracking Network and the Drinking Water State Revolving Fund.

**View Boardman's presentation from the Puget Sound Knowledge Exchange:**

[http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga\\_185256.pdf](http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_185256.pdf)

#### **Contact Marnie Boardman**

- Email: [marnie.boardman@doh.wa.gov](mailto:marnie.boardman@doh.wa.gov)
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 The [WashingtonTracking Network \(Tracking Network\)](#)<sup>107</sup> helps “communities assess a wide range of factors that influence health outcomes and mobilize action to improve health.” It brings together health data and environment data from national, state, and city sources and provides supporting information to make the data easier to understand. The Tracking Network has data and information on [environments and hazards](#),<sup>108</sup> [health effects](#),<sup>109</sup> and [population health](#).<sup>110</sup>

#### Information:

- Use the [Query Tool](#)<sup>111</sup> to view interactive maps, tables, and charts
  - View [Info by Location](#)<sup>112</sup> for county level data snapshots
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## Washington State Department of Health

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- Visit [state and local tracking websites](#)<sup>113</sup>

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[Drinking Water State Revolving Fund \(DWSRF\)](#)<sup>114</sup> provides low-interest preconstruction and construction loans or grants to publicly owned (municipal) and privately owned drinking water systems. These loans or grants cover capital improvements that increase public health and compliance with drinking water regulations.

### **Information:**


- The emergency loan program<sup>115</sup> provides financial assistance to eligible communities that are experiencing the loss of critical drinking water services or facilities. These loans are open throughout the year.
  - A list of funding opportunities for Drinking Water and Wastewater projects is available at <http://www.infracfunding.wa.gov/>.
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## OTHER WASHINGTON STATE RESOURCES


### Washington State Department of Ecology

[Shorelines and Environmental Assistance](#)<sup>116</sup> programs helps communities manage shorelands, wetlands, and floodplains. Several activities/programs fall under the SEA Program (listed below).

[Shoreline Management](#)<sup>117</sup> program works “in partnership with communities, local and tribal governments, and state and federal agencies to meet state and national goals for protecting, restoring, and responsibly developing state shorelines.”

- [Shoreline Master Programs](#)<sup>118</sup> “are local land-use policies and regulations that guide use of Washington shorelines.” The Dept. of Ecology reviews and approves programs for local governments and provides technical assistance to help governments develop their programs.
-  [Shoreline Planners Toolbox](#)<sup>119</sup> is for local and state shoreline planners responsible for developing and administering Shoreline Master Programs.
- \$ [Shoreline Master Program Grants](#)<sup>120</sup> are available for towns, cities, and counties for the periodic review and update of their Shoreline Master Programs. **Applications are currently being accepted through June 30, 2019.**

[Wetland Management](#)<sup>121</sup> program works “in partnership to protect, restore, and manage wetlands and their important functions by providing technical assistance to local governments and other parties, reviewing development proposals to ensure potential wetland impacts are considered, developing mitigation policies that offset unavoidable impacts to wetlands, and helping organizations obtain funding for wetland conservation projects.”

-  [Wetland Tools and Resources](#)<sup>122</sup>
  - Credit/debit tool to calculate when a proposed wetland mitigation project “adequately replaces the functions and values lost when wetlands are impacted.”
  - National wetlands conservation grant program

[Floodplain Management](#)<sup>123</sup> provides “technical assistance and grants to local communities to help them better plan within a floodplain.”

- \$ Grants:
  - [Floodplains by Design](#)<sup>124</sup> grant program for floodplain projects.

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## Washington State Department of Ecology

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- The [Flood Control Assistance Account Program](#)<sup>125</sup> “provides grant funding to local governments for flood plain management planning and implementation actions.”
- Technical Assistance and Planning:
  - Assists local governments with the [National Flood Insurance Program](#)<sup>126</sup> managed by the Federal Emergency Management Agency (FEMA).
  - Works in partnership with FEMA to run the [Risk MAP program](#)<sup>127</sup> in Washington. For more information on the Risk MAP program, see the section on FEMA.

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[Washington Coastal Zone Management](#)<sup>128</sup> program protects, restores, and responsibly develops the coast. The program “applies to all the lands and waters in the 14 coastal counties, and extends seaward three nautical miles into the ocean.”

- Information on the program and policies and a link to the Coastal Zone Management Act: <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Coastal-zone-management/Programs-policies>



### [Education and Training](#)<sup>129</sup>:

- [Coastal Training Program](#)<sup>130</sup> “provides practical, science-based training to professionals who make decisions about shoreline management in Western and Eastern Washington.”
- [Wetland Education and Training Resources](#)<sup>131</sup> provides webinars, courses, guides, and other resources for local governments, developers, landowners, and educators.
- [Shoreline and Coastal Planners Group](#)<sup>132</sup> is a network for shoreline planning professionals. The group meets 2-4 times per year.

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\$ Visit the [“Find a Grant or Loan”](#)<sup>133</sup> webpage for a list of grants in a variety of topics areas (e.g., air and climate, water and shorelines, spills and cleanup, waste and toxics).

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## Washington State Emergency Management Division

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The Washington Emergency Management Division leads and coordinates Emergency Preparedness Grants, Hazard Mitigation Grants, and Disaster Assistance Grants from FEMA. For detailed information on these grants, see the FEMA section in this document.

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The Emergency Management Division leads a comprehensive [Training and Exercise program](#)<sup>134</sup> for first responders, emergency managers, government leaders, non-

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## Washington State Emergency Management Division

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governmental partners, and private citizens so they “have the knowledge, skills and abilities needed to perform key tasks when a disaster strikes.”

### Resources:

- Technical Assistance is available to assist cities, counties, tribal entities and state agencies in the design, conduct, and evaluation of their exercises for all hazards. This assistance can be provided in the form of planning conferences, workshops, site visits, and technical review of exercise documents, exercise design, control, evaluation and State EOC exercise play.
  -  In-state training: register for courses by using [this link](#).<sup>135</sup>
  - Online training and other resources available at <https://www.mil.wa.gov/training-and-exercise>.
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## NONGOVERNMENT ORGANIZATION RESOURCES

### Coastal Resilience Center

[Beyond the Basics](#) is a website that guides communities “through the process of developing or updating a local hazard mitigation plan that will meet the requirements for approval by the Federal Emergency Management Agency (FEMA).”<sup>136</sup> The website offers “practical approaches and examples for how communities can engage in effective planning to reduce long-term risk from natural disasters.”





#### **Information:**

-  [Links](#)<sup>137</sup> to FEMA’s Hazard Mitigation Planning resources and a list of state hazard mitigation officers.
-  [Example plans](#)<sup>138</sup> from communities that are considered best practices.

The [Disaster Recovery Tracking Tool](#) is a web-based resource that helps local government and other end users track the progress and quality of post-disaster recovery.<sup>139</sup> This tool supports the capability of federal, state, and local governments’ recovery from disasters and provides validated metrics to measure and monitor a community’s recovery over time.

#### **Information:**

-  The web-based tool providing 84 metrics, organized within 4 themes and 10 focus areas, for tracking progress towards recovery.
-  A [resource library](#)<sup>140</sup> containing National Preparedness Reports, examples of city disaster recovery plans, and more.

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### The Rockefeller Foundation & Chan Zuckerberg Initiative

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The [Communities Thrive Challenge](#)<sup>141</sup> is “a \$10-million funding opportunity open to organizations that are working to expand economic opportunity for low-income and financially insecure people and communities in the United States.”

#### Information:

- \$ Ten communities will receive a \$1 million grant and technical assistance.
  - ***To apply, you must register by June 12, 2018. The application is due by Tuesday, June 19, 2018, at 5:00 PM Pacific.***
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### EcoAdapt

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[EcoAdapt](#) is a non-profit organization based in Washington that provides consultations, workshops, and access to resources such as case studies, and other tools. They aim to create a “robust future in the face of climate change by bringing together diverse players to reshape planning and management in response to rapid climate change.



#### Resources:

-  [EcoAdapt Library](#)<sup>142</sup> features action plans, case studies, and vulnerability assessments
  - [EcoAdapt Climate Adaptation Starter Kit](#)<sup>143</sup> includes their top list of resources, tools, and adaptation examples to get you started.
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The [Climate Adaptation Knowledge Exchange \(CAKE\)](#)<sup>144</sup> is managed by EcoAdapt. Its purpose is to build a shared knowledge base for managing natural and built systems in the face of rapid climate change, and to build an innovative community of practice.




#### Information:

-  [Climate Change Adaptation through Local Comprehensive Planning: Guidance for Puget Sound Communities](#)<sup>145</sup> helps communities incorporate climate-informed decisions into their local comprehensive planning.
  -  [Case Studies](#)<sup>146</sup> that are searchable by an interactive map.
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## EcoAdapt

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-  A searchable database of [Tools](#),<sup>147</sup> such as the [Adaptation Database and Planning Tool \(ADAPT\)](#)<sup>148</sup>
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## National Fish and Wildlife Foundation

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[The National Fish and Wildlife Foundation](#)<sup>149</sup> is an independent nonprofit organization that “provides funding on a competitive basis to projects that sustain, restore, and enhance our nation’s fish, wildlife, and plants and their habitats.”

- NFWF supports more than [70 grant programs](#)<sup>150</sup> to protect and restore the nation’s wildlife and habitats.
  - A list of their conservation programs and associated funding can be found [here](#).<sup>151</sup>
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## NatureServe

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The [NatureServe Network](#)<sup>152</sup> collects, analyzes, and distributes scientific data about plants, animals, and ecosystems.

### **Resources:**

-  [“The Ecosystem-Based Management \(EBM\) Tools Network](#)<sup>153</sup> is a source of information and training for planning and management tools for coastal-marine ecosystem based management, marine protected area, and marine spatial planning, and integrated land-sea planning.
    - The EBM Tools Network offers [training and other services](#)<sup>154</sup> such as a webinar series, publications, and customized training and consulting.
  -  [Tools for Coastal Climate Adaptation Planning: A Guide for Selecting Tools to Assist with Ecosystem-Based Climate Planning](#)<sup>155</sup>
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## ResilientWest.org

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[ResilientWest.org](https://resilientwest.org) is a project of Resilient Communities and Watersheds, a joint-program of the Sonoran Institute and Lincoln Institute of Land Policy, that provides access to tools, resources, and case studies to empower communities to “plan, prepare, and adapt to uncertainty and a changing climate.”

### Resources:

- [Case studies](#)<sup>156</sup>
-  [The Resilient Communities Starter Kit](#)<sup>157</sup> is a guide for communities who are ready to build resilience to the impacts of climate change.
- The [Lincoln Institute of Land Policy](#)<sup>158</sup> offers free [datasets](#)<sup>159</sup> and [toolkits](#)<sup>160</sup> such as:
  -  [Regional Collaboration Toolkit](#)<sup>161</sup> includes “practical case studies, model representations, and best practices relating to planning and management, property taxation and valuation, and visualization.”
  -  [Visual Tools for Planners](#)<sup>162</sup> is a set of tools for communicating planning ideas that emphasize visual representation of planning information.



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## The Nature Conservancy

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The Nature Conservancy’s [Coastal Resilience](#)<sup>163</sup> program examines nature’s role in reducing coastal flood risk in order to “help communities understand their vulnerability from coastal hazards, reduce their risk, and determine the value of nature-based solutions.”

### Information:

-  [Learning Coastal Resilience Video Tutorials](#)<sup>164</sup> includes online tutorials such as an overview of the coastal resilience mapping tool and an introduction to scenario planning.
  -  [Coastal Resilience Mapping Portal](#)<sup>165</sup> provides tools “to explore the impacts of sea level rise as well as the role of natural habitat in risk reduction along marine and fresh water shorelines to inform local restoration projects and development planning.” The portal allows users to “explore data and spatial analysis results for the rivers and shorelines from Puget Sound to the outer coast.”
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## Appendix I: AGENDA

**ResilientAmerica** Roundtable, in partnership with  
The Puget Sound Regional Council

**Puget Sound Knowledge Exchange:  
Resources for Building Resilience to Hazards**

Friday, January 26, 2018  
Renaissance Hotel  
515 Madison St., Seattle, WA

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**Meeting goal:** To bring together experts and community representatives from across the Central Puget Sound to engage in an interactive discussion focused on solutions and actions for building resilience to climate risks and other hazards issues in the region.

The purpose of these discussions is for local jurisdictions to:

- Share their experiences building resilience to climate risks and other hazards
- Learn about and discuss initiatives and approaches happening in the region
- Learn about funding opportunities, ways to leverage resources, and creative solutions to funding resilience efforts.

9:00 – 9:10 a.m.	<b>Welcome and Introduction</b> <ul style="list-style-type: none"><li>- <i>Kelly McGourty, Senior Program Manager, Transportation Planning, Puget Sound Regional Council</i></li></ul>
9:10 – 9:30 a.m.	<b>Keynote Address: Setting the Stage for Resilience</b> <ul style="list-style-type: none"><li>- <i>Dave Somers, County Executive, Snohomish County, WA &amp; President, Puget Sound Regional Council</i></li></ul>
9:30 – 9:45 a.m.	<b>Survey Results of PSRC member jurisdictions on climate adaptation</b> <ul style="list-style-type: none"><li>- <i>Sherrie Forrest, Senior Program Officer, Resilient America Program, National Academies of Sciences, Engineering, and Medicine</i></li></ul>
9:45 – 11:00 a.m.	<b>Peer to Peer Knowledge Exchange: Initiatives and Approaches to Climate and Hazard Resiliency in the Central Puget Sound Region</b> <i>Moderator: Kelly McGourty, Senior Program Manager, Transportation Planning, Puget Sound Regional Council</i>

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## *Speakers:*

- *Ken Creager, Professor & Associate Chair, Earth and Space Sciences, University of Washington*
- *Ryan Dicks, Sustainability Manager, Pierce County*
- *Jennifer Sutton, Senior Planner, City of Bainbridge Island*

## Group Discussion

11:00 – 12:00 p.m.

## **Working Lunch**

12:00 – 1:15 p.m.

## **Funding Resilience: What is available and how can we work together to leverage resources and find creative solutions for resilience?**

### **Federal Resources**

*Moderator: Kris Ludwig, Staff Scientist, DOI Strategic Sciences Group, U.S. Geological Survey*

- *Travis Ball, Hydraulic Engineering Section 2, U.S Army Corps of Engineers*
- *Abby Hall, Office of Sustainable Communities (Bay Area), U.S. Environmental Protection Agency*
- *Steven Randolph, Senior Hazard Mitigation Program Specialist, Federal Emergency Management Agency*
- *Gwen Shaughnessy, Climate Adaptation Specialist in the Office of Coastal Management Engagement, Training, and Education, National Oceanic and Atmospheric Administration*

1:15 – 2:30 p.m.

### **State/Local Resources**

*Moderator: Steve Moddemeyer, Principal, CollinsWoerman*

- *Marnie Boardman, Climate Change Coordinator, Office of Environmental Public Health Sciences, Washington State Department of Health*
- *Steve Dunk, Community Outreach Program Manager, Washington State Department of Commerce*
- *Jennifer Lee, Policy and Planning Director, Puget Sound Partnership*
- *Guillaume Mauger, Research Scientist, Climate Impacts Group, University of Washington*

## Group Discussion

2:30 p.m.

## **Closing Remarks/Adjourn**

## Appendix II: SPEAKER BIOGRAPHIES

### **Marnie Boardman, Climate and Health Coordinator, Built Environment Program, Office of Environmental Public Health Sciences, Washington State Department of Health**

Marnie Boardman serves as Climate Change Coordinator in the Built Environment program in the Division of Environmental Public Health at Washington DOH. She works to foster cross sector partnerships to assess, prevent and respond to the broad array of threats climate change poses to the public's health and well-being. She and her colleagues in the Built Environment program are interested in community-based approaches to creating healthy, resilient neighborhoods for a low carbon and just future.

### **Travis Ball, Hydraulic Engineer, U.S. Army Corps of Engineers**

Travis Ball is a registered professional engineer and certified floodplain manager in the state of Washington. With a BS from Montana Tech and Masters in Water Resources from Oregon State, he has worked as a hydraulic engineer with the Seattle District Corps of Engineers for 10 years. He is currently the district's Flood Risk Manager, Floodplain Services Manager, and the Washington Silver Jackets Coordinator. Past projects include work on the Columbia River Treat Study and Howard Hanson Dam Modification Study. He has for the last two years chaired the Washington Post-Wildfire Flood Committee.

### **Ken Creager, Professor & Associate Chair, Earth and Space Sciences, University of Washington**

Ken Creager is a Professor of Earth and Space Sciences at the University of Washington. His current research projects include studies of slow-slip earthquakes in the Cascadia subduction zone and imaging the magmatic systems below Mount St Helens. He is also working on an Earthquake Early Warning (<https://www.shakealert.org>) project in collaboration with the University of Washington, University of Oregon, University of California at Berkeley, Caltech and the US Geologic Survey. The goal of that project is to detect, locate and determine the size of earthquakes using the fast traveling P waves to seismometers near an earthquake and then send out warnings that can be received before the stronger shaking associated with the slower traveling S waves. This information can be used automatically for a number of purposes such as slowing down trains and shutting off valves. Ken holds a Bachelors degree in Physics from Pomona College and a PhD from the Scripps Institution of Oceanography.

### **Ryan Dicks, Sustainability Manager, Pierce County**

Ryan Dicks is the Sustainability Manager for Pierce County. In his role, he has helped Pierce County to reduce energy and paper use, increase recycling and reduce county fossil fuel use by over 15%. Ryan has been involved in the environmental field for the last 15 years working for

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non-profit, business, local and federal governments. He lives in Tacoma with his wife and two children.

### **Steve Dunk, Community Outreach Program Manager, Department of Commerce**

Stephen Dunk works for the Washington State Department of Commerce as the Community Outreach Program Manager. The Outreach Program is charged with creating a presence and ongoing relationship with rural, disadvantaged communities throughout Washington State. Stephen has been working for the Department of Commerce since 2007. Prior to Community Outreach, Stephen worked for the Public Works Board as a Regional Services Coordinator helping local governments build and retain local capacity and coordinating with state, federal and local funders to assist in financing critical infrastructure needs. From 2001 to 2007 Stephen worked for the Skokomish Indian Tribe as the Manager for Housing & Infrastructure Development. He has a Masters Degree in Public Administration from the University of Colorado. Stephen was a Peace Corps Volunteer in Paraguay, South America and has a passion for travel, culture, rural communities and fly fishing!

### **Sherrie Forrest, Senior Program Officer, Resilient America Program, National Academies of Sciences, Engineering, & Medicine**

Sherrie Forrest is a senior program officer for the Program on Risk, Resilience and Extreme Events in the Division of Global and Policy Affairs at the U.S. National Academies of Sciences, Engineering, and Medicine. Currently she leads the community pilot partnership program of the Resilient America Roundtable, a set of activities that uses science, analysis, and technology in combination with community engagement to build resilience to disasters and other disruptions. This program currently works with four U.S. communities: Cedar Rapids/Linn County, Iowa; Charleston, South Carolina; Central Puget Sound, Washington; and Tulsa, Oklahoma. Previously, she worked on diverse studies and activities at the Academy, including the National Research Council's (NRC) Disasters Roundtable, the Ocean Studies Board, and the Board on Science Education on projects that include the Roundtable on Climate Change Education, the Conceptual Framework for New Science Education Standards, and the Effects of the Deepwater Horizon Mississippi Canyon-252 Oil Spill on Ecosystem Services in the Gulf of Mexico. She joined the full time staff of the NRC in the summer of 2010 following a Christine Mirzayan Science & Technology Graduate Fellowship in the Fall of 2009. She obtained her M.S. in biological oceanography from the Institute of Marine and Coastal Sciences at Rutgers University, and a B.A. in English from Pepperdine University.

### **Abby Hall, Office of Sustainable Communities, U.S. Environmental Protection Agency,**

Abby Hall works for U.S. EPA's Office of Sustainable Communities and is based in San Francisco. Abby manages the Greening America's Communities program, which provides green



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infrastructure design assistance to cities across the country. Abby also works on issues of disaster resilience and manages a partnership between EPA and the Federal Emergency Management Agency (FEMA) to support better disaster recovery and long-term resilience planning. Abby earned a Master's degree in Anthropology from Stanford University with a focus on land use and environmental policy.

### **Jennifer Lee, Policy and Planning Director, Puget Sound Partnership**

Jennifer Lee serves as Director of Policy and Planning for Puget Sound Partnership, an agency of the Washington State government. Jennifer oversees salmon recovery planning and manages the Action Agenda, the shared roadmap to protect and restore Puget Sound. Before joining the Partnership, she served in the White House for seven years under Presidents Obama and Trump, most recently as Deputy General Counsel and Senior Policy Advisor for Oceans and the Environment in the Office of Science and Technology Policy. Jennifer co-chaired the federal subcommittee charged with coordinating federal policy and programs related to ocean science and technology. Previously, Jennifer served as a policy advisor for the U.S. Environmental Protection Agency and the U.S. Department of Homeland Security. She is a registered patent attorney, a member of the U.S. Supreme Court Bar, and is admitted to the bar in California and Washington State. Jennifer received her J.D. and Master of Public Policy from Georgetown University, where she focused on environmental law and regulatory policy. Jennifer holds a B.S. in Neurobiology and a B.A. in International Studies from the University of Washington in Seattle, Washington.

White House biography: <https://obamawhitehouse.archives.gov/blog/author/jennifer-lee>

### **Kristin Ludwig, Staff Scientist, DOI Strategic Sciences Group, Natural Hazards Mission Area, U.S. Geological Survey (USGS)**

Kris Ludwig is a Staff Scientist in the Natural Hazards Mission Area of the U.S. Geological Survey (USGS) where she contributes to multiple efforts in hazard preparedness, response, and recovery. She staffs the Department of the Interior Strategic Sciences Group (SSG), which rapidly assembles multidisciplinary teams of scientists to assess environmental crises and deliver actionable results to decision makers. The SSG has responded to Hurricane Sandy and has conducted exercises relevant to Zika virus, climate resilience, and invasive species. Most recently, Ludwig has contributed to the USGS Subduction Zone Science Plan (published in 2017) and the forthcoming plan for advancing USGS risk research and applications. Prior to her current position, Ludwig served as a AAAS Science & Technology Policy Fellow at both the National Science Foundation and USGS; managed communications for the Integrated Ocean Drilling Program; and developed education programs and exhibits for Seattle's Pacific Science Center. Ludwig has taught earth science policy at George Mason University and is an affiliate faculty member of the University of Washington's Department of Earth and Space Sciences.



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Ludwig holds a Ph.D. in Oceanography from the University of Washington and a B.S. in Earth Systems from Stanford University.

## **Guillaume Mauger, Research Scientist, Climate Impacts Group, University of Washington**

Guillaume Mauger is a research scientist at the UW Climate Impacts Group. Specializing in Climate Science, his work focuses on understanding and adapting to the impacts of climate change on flooding and stormwater in the Pacific Northwest. Guillaume has worked on projects that assess hydrologic changes across a variety of Northwest watersheds, worked to apply climate information in habitat connectivity planning and collaborated with floodplain managers to integrate climate change into their work. In addition to his research, Guillaume serves as a resource to stakeholders that are interested in obtaining and understanding the numerous climate and hydrologic projections that are now available.

## **Kelly McGourty, Senior Program Manager, Transportation Planning, Puget Sound Regional Council**

Kelly McGourty is a Senior Program Manager at the Puget Sound Regional Council (PSRC), the metropolitan planning organization (MPO) for the Seattle/Central Puget Sound region. Kelly manages the Transportation Planning Department at PSRC, which encompasses the development of the region's long-range metropolitan transportation plan and the distribution of PSRC's federal transportation funds. Kelly also manages the agency's air quality and climate change work program, and works closely with the region's federal, state and local air quality partner agencies. Prior to joining PSRC in 1999, Kelly was with the MPO in Spokane, Washington, where she performed transportation and air quality modeling and analyses. Her background also includes experience with environmental consulting and urban renewal agencies, performing environmental assessments and inspections on commercial and residential properties. Kelly has an undergraduate degree in Environmental Policy and Assessment from Western Washington University and a graduate degree in Environmental Science from the University of Texas at San Antonio. Kelly has been a member of the Puget Sound Clean Air Agency's Advisory Council since 2012 and served on the Leadership Council for the American Lung Association of Washington between 2013-2017.

## **Steve Moddemeyer, Principal, CollinsWoerman**

Steve Moddemeyer is a thought leader with more than 23 years of experience leading governments, land owners, and project teams towards increased sustainability. He creates tools and policies that implement resilience principles into planning for land use and urban infrastructure. He works on climate change adaptation, sustainability strategies for large urban redevelopments, and advanced sustainability strategies for land owners, cities, counties, utilities, and tribes. Moddemeyer helped to guide development of the Resilient Design

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Performance Standard for Infrastructure for Boulder County and cities; and advises the National Academy of Sciences' Resilient America Pilot Project in Seattle. Moddemeyer has a Bachelors Degree in Landscape Architecture from the University of Washington.

### **Steven Randolph, Senior Hazard Mitigation Specialist, Mitigation Division / Hazard Mitigation Assistance (HMA) Branch, Federal Emergency Management Agency**

Steven Randolph serves as the Regional Program Lead and Policy Analyst for FEMA's non-disaster hazard mitigation assistance (HMA) grant programs: Pre-disaster Mitigation Competitive grant program (PDMC); and Flood Mitigation Assistance program (FMA). This responsibility includes: program guidance and interpretation, policy development, coordination with National Office, status reporting, problem resolution regarding FEMA grants management software systems, and handling financial details for approved projects. Randolph has direct State Lead responsibilities for assisting Idaho, Oregon, and Washington with development and implementation of PDMC and FMA projects and planning subgrants. This includes life-cycle grants management responsibilities. He also participates in "Floodplains by Design" programs sponsored by The Nature Conservancy and Washington Dept. of Ecology.

Prior to relocating to Region 10 in March 2007, Randolph served in FEMA Region 4 – Atlanta, for 16 years, in various capacities: Non-Disaster Hazard Mitigation Assistance Lead, Project Impact Coordinator, and Floodplain Management Specialist. Project Impact was FEMA's original program fostering grass-roots community disaster resilience. For 13 years, Randolph served as a Zoning Administrator, Small Cities Planner, Historic Programs Coordinator, and Floodplain Manager for Umatilla County in Pendleton, Oregon. He was also a Reservist for Region 10. Steven is a professional City Planner, Certified Floodplain Manager, and Certified Grants Manager. He graduated from Cal Poly, San Luis Obispo, California, pursued graduate studies at the University of British Columbia, and obtained a Professional Certificate in Decision-Making for Climate Change through the University of Washington. In 2017, he received training in Low-Impact Development techniques and Green Infrastructure. He lives in Bothell with his husband Raymond and Tibetan Spaniel Amber. Steven's hobby is landscape gardening. His interests include natural history, design, and architecture.

### **Gwen Shaughnessy, Climate Adaptation Specialist in the Office of Coastal Management Engagement, Training, and Education, National Oceanic and Atmospheric Administration**

Gwen Shaughnessy brings a background in marine biology and non-traditional education to NOAA's Office for Coastal Management (OCM), where she joined in February of 2011. In her current role as the Climate Adaptation Specialist in the OCM Training and Engagement Program, Ms. Shaughnessy is the national coordinator and lead trainer for a multi-day climate adaptation training course. The focus of Ms. Shaughnessy's work is building capacity in local communities to better understand the risks, strategies, and choices for how to adapt to the impacts of a changing climate. She holds a Bachelor's degree in Marine Biology and Chemistry

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from California State University, Long Beach, and a Master's degree in Marine Science from the University of North Carolina, Wilmington.

### **Dave Somers, County Executive, Snohomish County, WA & President, Puget Sound Regional Council**

Dave Somers took office as the Fifth Snohomish County Executive on January 1, 2016. Having served for 14 years on the Snohomish County Council, Dave is focused on developing policies to make our community safer, healthier, and more prosperous. He has championed fiscal accountability and being a responsible steward of the public's resources. Dave manages the 12 diverse departments that comprise the Snohomish County government, including Public Works, Paine Field Airport, Emergency Management, Human Services, Medical Examiner, Parks, and Planning and Development Services. County government touches every family in Snohomish County, whether getting a permit, licensing a pet, engaging with the justice system, voting, or enjoying the Evergreen State Fair. Dave believes more needs to be done to create regional partnerships, improve customer service, and build sustainable finances for Snohomish County. He is committed to improving the delivery of services to the public and ensuring everything possible is being done to protect the most vulnerable members of our community. Dave has championed agriculture and sustainable development as the smartest way to preserve what makes Snohomish County great. Dave is Chair of the Sound Transit Board, focusing on reforming the agency for achieving greater efficiency, and he is also President of the Puget Sound Regional Council. He is on the Board of the National Association of Counties and the County Executives of America, giving Snohomish County a voice in regional and national policy-making. Dave is a strong proponent for mass transit in general and light rail in particular, looking forward to the day when it reaches Lynnwood, Everett, and Paine Field. Dave is a proud graduate of the University of Washington where he earned a master's degree in forest ecology and a BS in fisheries science.

### **Jennifer Sutton, Senior Planner, City of Bainbridge Island**

Jennifer Sutton joined the Department of Planning and Community Development at the City of Bainbridge Island in 2004. Her workload was originally split between current planning permit review and long range planning. Since becoming the Senior Planner in Long Range Planning, she managed the 2016 Comprehensive Plan Update project, while also leading ordinance development work on a variety of topics such as marijuana uses and accessory dwelling units. Jennifer has been a member of the American Institute of Certified Planners since 2008. She holds a Bachelor's degree in Politics from Mount Holyoke College, and a MS in Environmental Studies from the University of Montana.



## Appendix III: THE RESILIENT AMERICA ROUNDTABLE

<http://ResilientAmerica.nas.edu>

### Origin

Weather and other extreme events are increasing and becoming more destructive throughout the U.S. and around the world. The academic, public, and private sectors share a need to increase understanding of risk and extreme events; to better communicate, manage, and mitigate exposure associated with extreme events; and to develop strategies that build resilience to such events. Over the past few years, the National Academies have begun to address this need. In 2011, the National Academy of Sciences convened *A Summit for Managing Extreme* events to foster long-term collaboration among the public, private, and academic sectors to harness research, policy, and private sector expertise to better understand risk and mitigate the impacts of extreme events. In August 2012, the National Research Council (NRC) released a report, *Disaster Resilience: A National Imperative* ([http://www.nap.edu/catalog.php?record\\_id=13457](http://www.nap.edu/catalog.php?record_id=13457)), about critical issues and strategic steps the United States can take to reduce impacts on the nation's communities from natural and human-induced disasters. And, in January 2014, the NRC Executive Office convened a cross-institutional Resilience Working Group to foster communication and collaboration across all of the NRC program units that now work on resilience issues. The Program on Risk, Resilience, and Extreme Events in the Office of Special Projects grew out of the 2011 and 2012 activities and launched in January of 2014; it also leads the cross-institutional Resilience Working Group.

### Mission

The Resilient America Roundtable convenes experts from the academic, public, and private sectors to design, catalyze, or facilitate activities that build resilience to extreme events with community, regional, national, and international partners. The Roundtable provides the venue for current research, science, and evidence-based foundations to inform whole community strategies for building resilience. The 2012 NRC report defines resilience *as the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events*. The report articulated four key actions for building community resilience. All of the work of the Resilient America Roundtable is founded on these four key recommendations:

- Understand and communicate risk
- Measure resilience in communities
- Build or strengthen partnerships with stakeholders vested in building community resilience

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- Share and get access to information, tools, data, and experts needed to build community resilience

## Workstreams of the Resilient America Roundtable

The Resilient America Roundtable has organized its program around the following efforts:

- **Community Pilot Program:** The Roundtable is partnering with four communities – Charleston, South Carolina; Cedar Rapids/Linn County, Iowa; Central Puget Sound, Washington; and Tulsa, Oklahoma – to build or increase resilience to extreme events. Other U.S. communities are included in the Roundtable’s activities as part of its broader network of communities.
- **Measures of Resilience:** The Roundtable’s work in measures of resilience helps communities develop ways to answer these hard questions: How resilient is your community? How would you go about determining how resilient you are or how resilient you should be? And how do you measure progress towards becoming resilient?
- **Expert Meetings and Workshops:** The National Academy of Sciences has tremendous convening power that the Roundtable uses to bring together the world’s experts on a given topic or complex set of questions. For its first two expert meeting topics, the Roundtable tackled Resilient Power Systems and the Role of Insurance in Building Resilience. Our next workshop focuses on the role of emerging technologies and the built environment in building resilient communities.

## Pilot Community Program

The centerpiece of the Resilient America Roundtable is its community pilot program that fosters partnerships with local stakeholders. Its purpose is to help decision makers in US communities to identify key priorities of the community; tie those priorities to risks that the community faces; and identify actions that the community can take to build resilience to those risks. Communities will develop a community resilience strategy, plan, or other deliverable that is a culmination of those actions. The RAR’s role is to convene diverse community stakeholders, facilitate stakeholder discussions to identify priorities, risks, and actions, and provide access to experts; the community is author, owner, and implementer of the strategy.

The first two pilot communities were named in September 2014: Charleston, South Carolina which experiences several natural hazards including coastal storms, hurricanes, riverine flooding, coastal surge, and earthquakes; and Linn County/Cedar Rapids, Iowa which experiences floods, extreme weather, and tornados. Central Puget Sound, Washington, which faces risk from a variety of hazards – including volcanos, earthquakes, floods and landslides, and sea level rise – was added as a third pilot in 2015. And Tulsa, Oklahoma, became the Roundtable’s newest community partner in the spring of 2016; Tulsa experiences a range of hazards such as floods, wildfire, tornados, and seismicity; it also has a particular focus on



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economic resilience. Each pilot community partnership has an initial two-year timeframe, and a local team that will build and implement the resilience work.

The Roundtable work in each community is designed around the four key recommendations as a common foundation, and is tailored to reflect the respective risks and priorities specific to each community. In Seattle/Puget Sound, the Roundtable is working with diverse stakeholders to look at climate adaptation, equity, transportation, and integrating issues of resilience into the regional planning. One of the Roundtable's main partners in the region is the metropolitan planning organization for the Central Puget Sound region, the Puget Sound Regional Council (PSRC). PSRC is collaborative body representing cities, counties, transit agencies, ports, tribal governments and the state that is working to ensure a thriving region through planning for regional transportation, growth management, and economic development. To begin tackling the intersection of climate adaptation, equity and transportation, the Roundtable partnered the PSRC to host a workshop in August 2016, *Building Resilience in the Puget Sound Region*, that brought together diverse stakeholders from multiple jurisdictions in the Central Puget Sound region in addition to cities and counties in other states to share lessons learned and explore solutions for building resilience.

At the end of 2016, and throughout 2017, the Roundtable and PSRC worked to identify actions that could be taken on a local, county, and or regional level to address future climate impacts in the region. Information was gathered from local jurisdictions through a survey and in-person meetings to learn what climate impacts communities are concerned about; whether they include climate resiliency or adaptation policies in their planning documents; what challenges they face incorporating climate resiliency into their planning; how PSRC could help them address their future climate risks; and what actions they think could be taken at the regional level to mitigate climate impacts.

In 2018, the Roundtable and PSRC co-hosted the workshop, *Puget Sound Knowledge Exchange: Resources for Building Resilience*, which was organized based on the feedback and input received during the information gathering. The workshop brought together community representatives, practitioners, and federal, state, and local agency representatives to have a discussion and share information about resilience-building experiences, challenges, and successes. Three panels highlighted resources and funding opportunities available to communities in the region for resilience-building projects and efforts.

# Appendix IV: PUGET SOUND REGIONAL COUNCIL

[The Puget Sound Regional Council \(PSRC\)](#)<sup>166</sup> is a regional planning organization that “develops policies and coordinates decisions about regional growth, transportation and economic development planning within King, Pierce, Snohomish and Kitsap counties.” Over 80 jurisdictions are members including cities and towns, ports, state and local transportation agencies, and tribal governments.

[VISION 2040](#)<sup>167</sup> is the regional guide for managing growth over the coming decades. It “helps coordinate state and regional initiatives and support local decisions to help fulfill the goals of the state Growth Management Act.” However, “the region continues to face significant issues. The climbing cost of housing is a major challenge. Congestion from rapid growth is reducing access to jobs, services, and housing.” PSRC is now accepting comments on VISION 2050 scoping through March 19, 2018. The VISION 2050 engagement timeline can be found [here](#).<sup>168</sup>

Additionally, PSRC updates the Transportation Plan, [Transportation 2040](#)<sup>169</sup>, every 4 years. The current [draft Regional Transportation Plan 2018](#)<sup>170</sup> “describes how the region is planning to catch up and keep up on transportation over the next two decades, while the region’s population is expected to swell to nearly five million people.” The formal comment period has ended, but thoughts can still be shared with policy makers through May 31, 2018, when the plan is scheduled for adoption.

PSRC also provides [data and other resources](#)<sup>171</sup> on their website to “help local planners and decision-makers better understand the region and visualize its future.”

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