

# Recharge the Rain: Community Resilience through STEM education

## Professional Development – Workflow

Year 1 - 2017

Recharge the Rain

Workflow Description

Grant Year 1: 2017 – 14 Training/PD days: \$500 stipend/teacher		
Spring Semester 2016-17 School Year	Summer 2017	Fall 2017-18 School Year
Theme: New Paradigms	Theme: Managing Extremes	Theme: Resilience
<p><u>4 days of training/PD (3/21/17, 3/22, 4/8 and 1 Saturday TBD)</u></p> <ul style="list-style-type: none"> <li>• Weather, climate and watersheds</li> <li>• Community threats</li> <li>• NOAA resources</li> <li>• Systems thinking</li> <li>• Integrated site design, processes, and principles</li> <li>• Teachers participate in               <ul style="list-style-type: none"> <li>○ 2 community water harvesting project installations</li> <li>○ A water harvesting tour and critique that includes WMG’s LLLC</li> </ul> </li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• CoCoRaHS data acquisition sites set up at schools</li> <li>• Site assessment maps of schoolyards produced by teachers</li> </ul>	<p><u>5 days of training/PD (6/26-6/30/17)</u></p> <ul style="list-style-type: none"> <li>• The atmosphere, hydrosphere and lithosphere in our community</li> <li>• NOAA resources</li> <li>• Systems thinking</li> <li>• Engineering design</li> <li>• Developing water resource budgets</li> <li>• Passive water harvesting systems design</li> <li>• Active water harvesting systems design</li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Science curriculum units</li> <li>• Monthly water budget and extreme rainfall event calculation summary of schoolyards</li> </ul>	<p><u>5 days of PD/training (TBD)</u></p> <ul style="list-style-type: none"> <li>• Future predictions and extreme weather events</li> <li>• NOAA resources</li> <li>• Site assessments/plan</li> <li>• Teacher developed water harvesting system designs for schoolyards</li> <li>• Begin outlining engineering design curriculum</li> <li>• Ongoing reflection science curriculum units</li> <li>• Project management</li> </ul> <p><u>Projects</u></p> <p>Teachers pilot science curriculum units</p> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Teacher design plans for schoolyard systems</li> <li>• Engineering design curriculum outline</li> </ul>

# Recharge the Rain: Community Resilience through STEM education

Professional Development – Workflow

**Year 2 - 2018**

**Recharge the Rain**

Workflow Description

Grant Year 2: 2018 - 5 PD/Training days: \$500 stipend per teacher		
Spring Semester 2017-18 School Year	Summer 2018	Fall 2018-19 School Year
Theme: Monitoring	Theme: Augmentation	Theme: Transference
<p><u>1 day of training/PD (TBD)</u></p> <ul style="list-style-type: none"> <li>• Systems thinking - Relationships</li> <li>• Monitoring of systems</li> <li>• Work on engineering design curriculum</li> </ul> <p><u>Projects</u></p> <ul style="list-style-type: none"> <li>• 2 schools implement pilot project teacher designs</li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Monitoring plans</li> <li>• Project management plans (teachers/WMG)</li> <li>• Implement 2 teacher designed pilot systems</li> </ul>	<p><u>3 days of training/PD (TBD)</u></p> <ul style="list-style-type: none"> <li>• Systems thinking - Perspectives</li> <li>• Develop engineering design curriculum</li> <li>• Assess &amp; refine science curriculum units</li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Engineering Design curriculum unit</li> <li>• Science curriculum unit – ready for publication</li> </ul>	<p><u>1 day of training/PD (TBD)</u></p> <ul style="list-style-type: none"> <li>• Reflection</li> <li>• Data review NOAA &amp; schoolyard systems</li> </ul> <p><u>Projects</u></p> <ul style="list-style-type: none"> <li>• Teachers teach science curriculum &amp; engineering design units</li> <li>• Students design systems                             <ul style="list-style-type: none"> <li>○ Present to WMG</li> <li>○ Project management</li> </ul> </li> <li>• Installation of student designs</li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Implement 2 student designed systems</li> </ul>

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## Professional Development – Workflow

### Year 3 - 2019 Recharge the Rain Workflow Description

Grant Year 3: 2019 - 3 PD/Training days: \$500 stipend/teacher		
Spring Semester 2018-19 School Year	Summer 2019	Fall 2019-20 School Year
Theme: Observations	Theme: Publication	Theme: Showcase
<u>Projects</u> <ul style="list-style-type: none"> <li>• Complete installation of student designed systems</li> <li>• Maintenance/care of systems</li> <li>• Evaluation of systems</li> </ul> <u>Products</u> <ul style="list-style-type: none"> <li>• Implement 4 student designed systems</li> <li>• Initiate citizen science data observations at participating schools</li> </ul>	<u>2 days of training/PD (TBD)</u> <ul style="list-style-type: none"> <li>• Refine engineering design curriculum</li> </ul> <u>Products</u> <ul style="list-style-type: none"> <li>• Publish engineering design curriculum unit</li> </ul>	<u>1 day of training/PD (TBD)</u> <ul style="list-style-type: none"> <li>• Service planning</li> </ul> <u>Projects</u> <ul style="list-style-type: none"> <li>• Teachers teach curriculum units                             <ul style="list-style-type: none"> <li>○ Science</li> <li>○ Engineering Design</li> </ul> </li> <li>• Student docents host community tour of completed schoolyard projects as part of WMG’s annual tour</li> </ul> <u>Products</u> <ul style="list-style-type: none"> <li>• Student “Changemaker” plans for community service campaign</li> </ul>

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## Professional Development – Workflow

### Year 4 - 2020 Recharge the Rain Workflow Description

Grant Year 4: 1 PD/Training day – \$1000 stipend/teacher		
Spring Semester 2019-20 School Year	Summer 2020	Fall 2020-21 School Year
Theme: Service		Theme: Next Generation
<p><u>1 day of training/PD (TBD)</u></p> <ul style="list-style-type: none"> <li>• Project assessment</li> </ul> <p><u>Projects</u></p> <ul style="list-style-type: none"> <li>• Student community service                             <ul style="list-style-type: none"> <li>○ Design systems for community</li> <li>○ Presentations</li> </ul> </li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Student designs for community</li> </ul>		<p><u>Projects</u></p> <ul style="list-style-type: none"> <li>• Teachers teach curriculum units                             <ul style="list-style-type: none"> <li>○ Science</li> <li>○ Engineering Design</li> </ul> </li> </ul> <p><u>Products</u></p> <ul style="list-style-type: none"> <li>• Student docents host community tour of completed schoolyard projects as part of WMG’s annual tour reaching 200-300 community members.</li> </ul>