



**Climate Crew Formative Evaluation:  
Personal Meaning Map Results**  
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During the Fall 2011 formative evaluation, youth completed a Personal Meaning Map (PMM) to measure their knowledge about climate change. The PMM method is sensitive to the experiences and knowledge that youth bring to a project. For a PMM, a word or phrase is written in the middle of a sheet of paper. Youth write words, ideas or images that they associate with the word or phrase. In the case of the Climate Crew, the phrase "Climate Change" was written in the middle of the paper. The evaluator gave the youth seven minutes to write words or draw images that came to mind when they thought of the phrase. After writing, the youth described what they wrote or drew and how it related to climate change. Youth's responses were coded into themes that emerged from the data. The themes and how they were defined within this data set are listed below:

- *Agriculture*: Agriculture, food production (both organic and industrial)
- *Alternative forms of energy*: Renewable energy, wind energy, solar power, hydropower, geothermal power.
- *Alternative transportation*: Car pooling, walking, biking, transit.
- *Animal habitats*: Killing animals, endangering them, or harming their habitat
- *Changing landscape*: Deforestation, glaciers melting
- *Educating Others/Speaking Out*: Teaching others about the environment, actions they can take to help the environment, speaking out about environmental issues.
- *Environmental justice*: Specifically talked about environmental injustices related to certain groups of people based on race, socioeconomic status, etc.
- *Fluctuating temperatures*: The Earth getting warmer or colder.
- *Fossil Fuels*: Oil, coal, gas
- *Gardening*: People growing their own gardens.
- *Government*: The role of the government, laws, funding for the environment
- *Going green/Being environmentally friendly*: Youth said "going green", personally taking actions to help the environment
- *Green Jobs*: Green jobs, green economy
- *Greenhouse gases*: Greenhouse gases, global warming
- *Natural disasters*: Fire, hurricane, tornado, natural disasters
- *People getting sick from pollution*: People getting sick from pollution, typically in relation to asthma. In some instances youth tie this to environmental justice by talking about people with lower SES tending to live next to factories and as a result getting sick, but other times youth just talk about people getting sick from pollution and don't tie it to the environmental justice aspect of it.
- *Pollution*: Water quality, causes of pollution, air pollution, waste, people littering.
- *Population increase*: Over population, population growth
- *Reduce, reuse, recycle*: Talk about any of these things
- *Other*: Anything that doesn't fit in any of the above themes

As illustrated in Table 1, youth included between 6-14 thematic areas on their PMM. Youth not only identified a range of topics, all of the youth discussed cause and effect relationships between ideas on their maps. When discussing their maps, all of the youth talked about how human's behaviors can lead to negative consequences as well as the positive impacts humans can have on the Earth.

**Table 1: Number of Youth Mentioning Specific Words/Concepts in Their Personal Meaning Maps In Relation to the phrase “Climate Change” (n=8)**

Concepts	Youth Number								Total Number of Youth
	2	6	7	10	11	12	13	14	
Pollution	0	1	1	1	1	1	1	1	7
Alternative forms of energy	1	1	1	0	1	0	1	1	6
Changing landscape	1	1	0	1	1	1	0	1	6
Go green & be environmentally friendly	1	1	0	0	1	1	1	1	6
Agriculture	1	1	0	1	1	0	0	1	5
Fossil fuels	0	1	1	0	1	0	1	1	5
Gardening	0	1	2	2	1	3	0	0	5
People getting sick from pollution	0	1	1	1	0	1	0	1	5
Reduce, reuse, recycle	0	1	0	1	0	1	1	1	5
Alternative transportation	0	1	1	1	0	1	0	0	4
Educating others & speaking out	0	1	0	1	1	1	0	0	4
Environmental justice	1	0	0	1	0	1	0	0	3
Fluctuating temperatures	0	0	1	1	0	0	0	1	3
Government	0	1	0	1	1	0	0	0	3
Greenhouse gases	0	1	0	1	0	0	0	1	3
Animal habitats	0	0	0	0	0	0	1	1	2
Natural disasters	0	0	0	0	0	0	1	0	1
Population increase	0	0	0	0	1	0	0	0	1
Other	1	1	0	1	1	1	0	0	5
<b>Total Number of Concepts</b>	<b>6</b>	<b>14</b>	<b>8</b>	<b>14</b>	<b>11</b>	<b>12</b>	<b>7</b>	<b>11</b>	