



Meeting Summary  
September 25, 2013

**Council members present:**

Carlo Colella, Vice President for Administration and Finance (Chair)  
Linda Clement, Vice President for Student Affairs  
Steve Fetter, Associate Provost  
John Farley, Assistant Vice President for Administration and Finance  
Ann Tonggarwee, Assistant to President  
Scott Lupin, Associate Director, Environmental Safety, and Director, Office of Sustainability  
Susan Corry, Energy Conservation Manager, Facilities Management  
Bryan Quinn, Director of Technical Operation, Department of Electrical and Computer Engineering  
Jay Elvove, Manager, OIT  
Eric Wachsmann, Professor, Materials Science and Engineering, and Director, Energy Research Center  
Carol Rogers, Professor, Journalism  
David Lovell, Associate Professor, Civil and Environmental Engineering  
Margaret McFarland, Director, Colvin Institute of Real Estate Development  
Art Perez, Undergraduate Student, Landscape Architecture  
Scott Tjaden, Graduate Student, Environmental Science and Technology

Guests: Gerrit Knapp, Director, National Center for Smart Growth  
Ori Gutin, Director of Sustainability, Student Government Association

Meeting start time: 2:00 pm

Meeting Highlights

Carlo Colella introduced himself to the Council and members introduced themselves. Scott Lupin reminded everyone of the Council's mission and values.

**State of Maryland Climate Action Plan**

Sally DeLeon and Mark Stewart from the Office of Sustainability led a presentation about the state of Maryland Climate Action Plan (see Appendix A).

**Institute for a Sustainable Maryland**

Gerrit Knapp from the Center for Smart Growth gave a presentation on the Institute for a Sustainable Maryland (see Appendix B).

Questions from the Council regarding the presentation: Is there an ideal size of the community? For instance, could College Park be eligible for this program? Could it expand into other areas near College Park like Washington, DC, Virginia and Delaware? Gerrit said College Park is certainly a community that could be an area of focus. In developing the center, it is possible to structure the work so support may be given to communities outside the State, the current focus is on Maryland communities.

## **General Updates:**

- UMD ranked #13 in the Sierra Club greenest university listing.
- Office of Sustainability is considering applying for the STARS rating system. Various factors determine the certification level an institution receives. The Office of Sustainability will have three undergraduate interns working this semester on collecting and analyzing the data. A decision to apply will be made later in the semester.
- The 2 new energy policy recommendations from the Sustainable Buildings and Energy Sources Work Group are making their way to the Administrative Council for consideration. These policies focus on carbon neutral new development and energy reductions in existing buildings.
- The Sustainable Water Use and Watershed Work Group has drafted a report. It will be presented to the Sustainability Council at the November 6, 2013 meeting.
- The Education for Sustainability Work Group held its first meeting of the semester. The workgroup is creating a list of Sustainability Learning Outcomes that they think all students should learn by the time they graduate.
- The Office of Sustainability and several other Dept. of Environmental Safety units including Research Safety and Environmental Affairs are collaborating to develop a "Green Labs" program to promote safety and sustainability practices in labs. There are many diverse labs on campus with different activities. Significant research must be completed to determine the scope of the effort and the behaviors that should be focused on.
- The Green Office program, launched in fall 2011 has had great success to date. This fall, development of the program was completed with the release of the gold checklist. There are currently 150 participating offices.
- UMD is again hosting and managing the Smart and Sustainable Campuses Conference. Aynsley Toews informed the Council about this upcoming event taking place March 3<sup>rd</sup> & 4<sup>th</sup> at the Hyatt Regency Baltimore on the Inner Harbor. The call for proposals is open until October 18<sup>th</sup>. This year's theme is social sustainability. The keynote speaker is Frances Moore Lappe, author of Diet for a Small Planet.
- Mark Stewart provided the Council with an update on the Sustainability Fund. The application process is open. The deadline to apply is Friday, November 1<sup>st</sup>. Art Perez chairs the Student Subcommittee that will make project recommendations to the University Sustainability Council.
- Sally DeLeon provided an update on the university's greenhouse gases emission report, (now called the Progress Report) and it is currently being completed. This year's report will include fewer metrics and will be more fact-sheet oriented. It will be presented at the November 6, 2013 Council meeting.
- Scott Lupin updated the Council on a potential campus recognition event the Office of Sustainability and Council on the Environment would like to develop for fall 2014. We would like to do something to recognize people on campus who have made contributions.

## **Updates from Carlo Colella:**

- Planning for the Purple Line is continuing. The state's efforts are on track.
- Concept plans will be submitted to UMD within the next month for a hotel development on Route 1.
- A developer has presented a concept for building a mixed use development at the golf course but a formal proposal has not been submitted to UMD. President Loh will seek community input if a proposal is submitted.

**Motion**

Steve Fretter made a motion for the Council to endorse Institute for a Sustainable Maryland proposal, however, it was not clear what exactly Gerrit wanted the Council to endorse since some of the programs that would become part of the Institute already exist. Scott Lupin will follow up with Gerrit.

Next meeting will be Wednesday, November 6<sup>th</sup>.

Adjourn: 3:45 pm

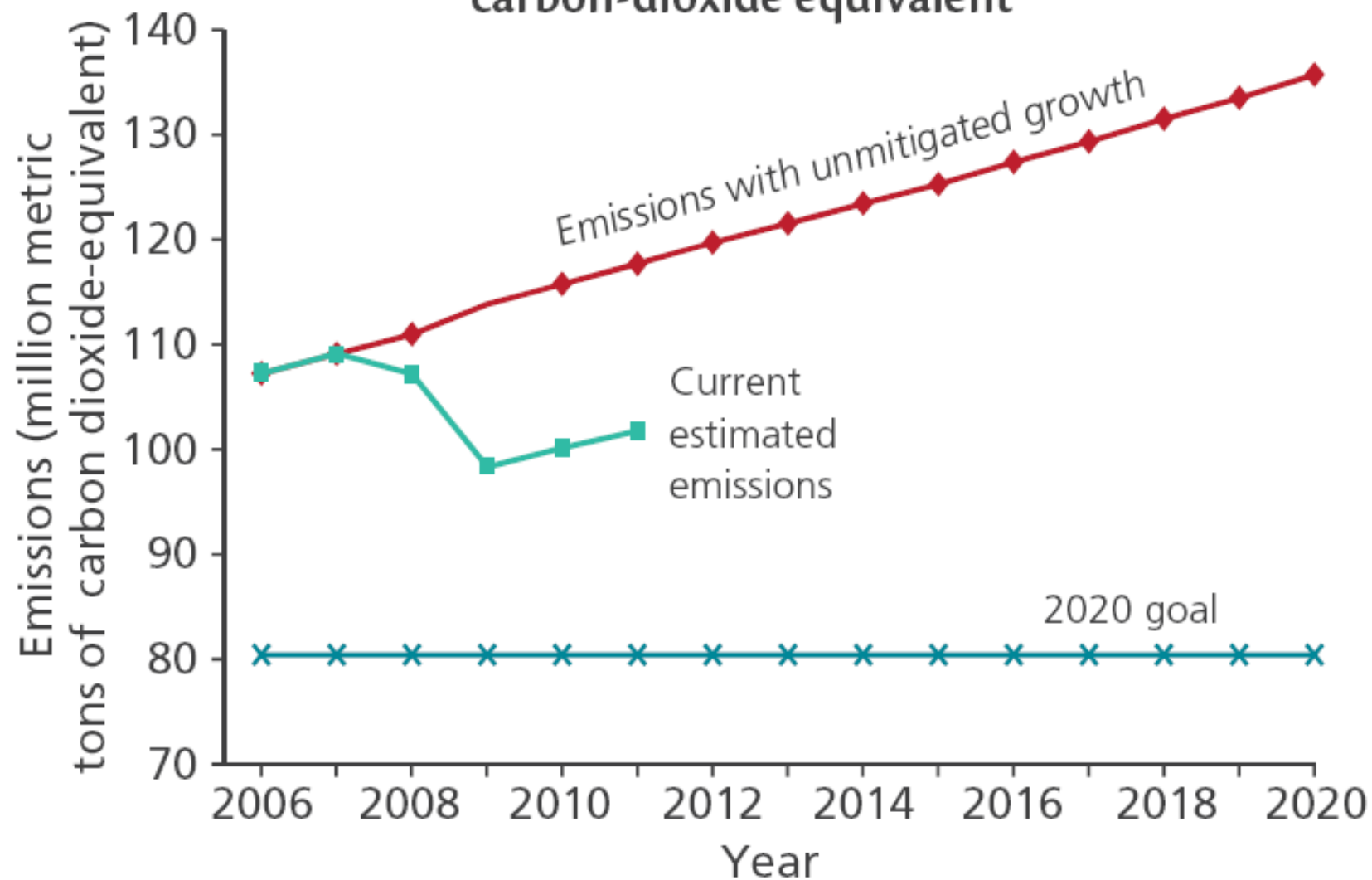
# Maryland's Greenhouse Gas Reduction Plan

**Achieving a 25% Reduction by 2020**

**Recommended Longer Term  
Reduction Targets coming in 2015**



## Projected emissions of carbon-dioxide equivalent



## Multiple benefits of the Greenhouse Gas Reduction Plan



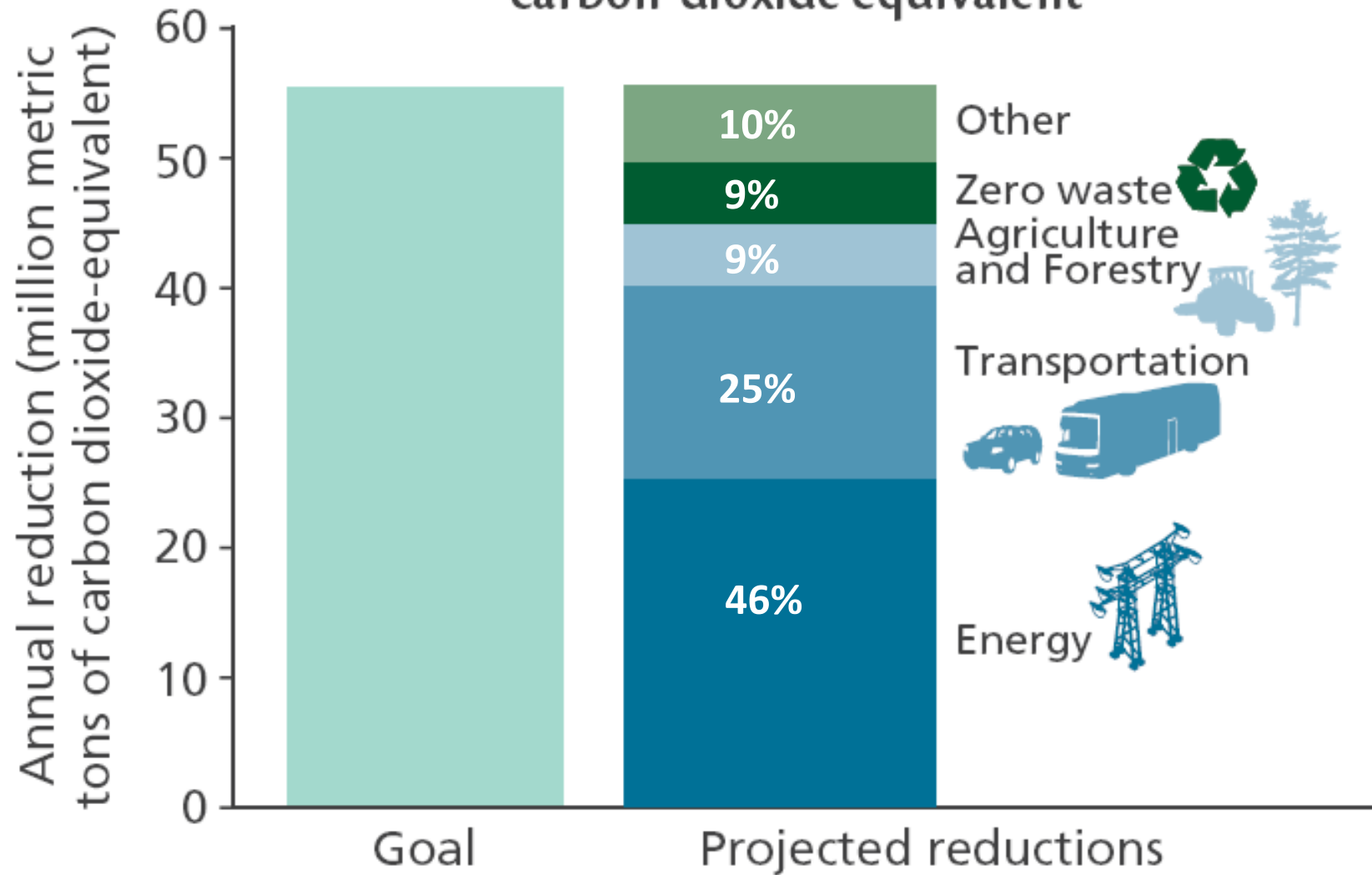
Low impact development (high density housing near stores and jobs) is designed to minimize the impact of sprawl on the environment. It reduces emissions by contributing to lower vehicle miles traveled and stimulates the economy.

Investing in green energy will reduce emissions and stimulate the economy.

Reduced air pollution from factories and traffic improves public health (respiratory illnesses like asthma) and supports Bay restoration. This improves tourism and our economy.

Preserving forests, agricultural lands, and wetlands improves quality of life, and removes carbon dioxide from the environment.






## Projected annual reduction of carbon-dioxide equivalent





## Top ten strategies and programs

The enhanced reductions are the result of measures to strengthen the listed programs as initially drafted in February 2012. Reductions are measured in million metric tons of carbon dioxide-equivalent and are an annual amount.









Sector	Program	Program description	Initial reductions	Enhanced reductions
	Maryland Renewable Energy Portfolio Standard	The intent of this law is to establish a market for new sources of mostly in-state renewable electricity generation by requiring that Maryland power providers supply 18 percent of electricity from renewable sources by 2020, increasing to 20 percent renewables by 2022. Eliminating "black liquor" and other carbon-emitting fuels as qualified sources, and increasing the State's Portfolio Standard beyond 20 percent could drive additional reductions.	6.86	10.96
	EmPOWER Maryland	Enacted in 2008, the EmPOWER Maryland Energy Efficiency Act set a target to reduce both Maryland's per capita total electricity consumption and peak load demand by 15 percent by 2015. EmPOWER includes numerous State- and utility-managed energy efficiency and conservation programs. The optimization of these programs should allow the State to increase its per capita electricity consumption reduction target above 15 percent and enable Maryland to achieve additional reductions.	8.42	10.52
	Zero waste	Zero waste is a concept that calls for the near elimination of solid waste sent to landfills or incinerators for disposal; instead the vast majority of Maryland's solid waste will be reused, recycled, composted, or prevented through source reduction.	2.80	4.80
	Maryland Clean Cars	The Maryland Clean Cars Program adopts California's stricter vehicle emission standards and directly regulates carbon dioxide emissions. These standards became effective in Maryland for model year 2011 vehicles, significantly reducing a number of emissions including volatile organic compounds and nitrogen oxides.	4.33	4.33
	Regional Greenhouse Gas Initiative	The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by nine Northeast and Mid-Atlantic states to design and implement a regional power plant emissions cap-and-trade program. Revenues from the program support energy efficiency programs and augment EmPOWER Maryland and the Renewable Energy Portfolio Standard. The recent agreement to lower the RGGI cap from 165 to 91 million metric tons of carbon dioxide-equivalent will directly contribute to emissions reductions by 2020.	0.00	3.60



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### Transportation Initiatives

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### Transportation Initiatives

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	Buildings codes	Given the long life of most buildings, upgrading State and local building codes to include minimum energy efficiency requirements provides long-term emissions savings. Maryland's Building Performance Standards are updated by regulation every three years following the three-year cycle of the International Code Council.	3.15	3.15
	Public transportation initiatives	For several decades, vehicle miles traveled have risen faster than the increase in population in Maryland and nationwide, and land use development over the past 40 to 50 years has put more people living beyond the reach of easy access to transit facilities. Planned transit and Transit Oriented Development expansions in Maryland should lessen vehicle miles traveled in the State.	2.00	2.89
	Corporate Average Fuel Economy (CAFE) Standards	First enacted by Congress in 1975, the purpose of the CAFE standard is to reduce energy consumption by increasing the fuel economy of cars and light trucks. Since introduction in 1975, CAFE standards have increased from the initial 18 miles per gallon standard to 35 miles per gallon by 2020, as established in the Federal Energy Independence and Security Act of 2007.	2.27	2.27
	Managing forests to capture carbon	Managing forests to capture carbon will promote sustainable management practices in existing Maryland forests on public and private lands. The enhanced productivity resulting from enrolling unmanaged forests into management regimes will increase the amount of carbon captured in forest biomass, amounts of carbon stored in harvested, durable wood products, and availability of renewable biomass for energy production.	1.80	1.80
	Planting forests in Maryland	Planting trees expands forest cover and associated carbon stocks by regenerating or establishing healthy, functional forests through practices such as soil preparation, erosion control, and supplemental planting to ensure optimum conditions to support forest growth. The implementation goal is to achieve the afforestation and/or reforestation of 43,030 acres in Maryland by 2020.	1.79	1.79

# Leadership by Example – Maryland Colleges & Universities

## Overall Carbon Reduction Goals

- State aims for 25% by 2020 (relative to 2006 baseline)
- UMD aims for 25% by 2015 and 50% by 2020 (relative to 2005 baseline)

Strategy	State of Maryland	University of Maryland
Renewable Energy Supply	25% by 2020	28% by 2020
Reductions from Energy Efficiency	15% by 2015	20% by 2020
Waste Diversion	65% by 2020	75% by 2013
Increase in Transit Ridership	50% by 2020	Eliminate 2,500 commuter parking permits by 2015



## Climate Resilience: Mitigation + Adaptation

### Mitigation

Reducing greenhouse gas emissions in order to slow or stop global climate change.

### Adaptation

Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

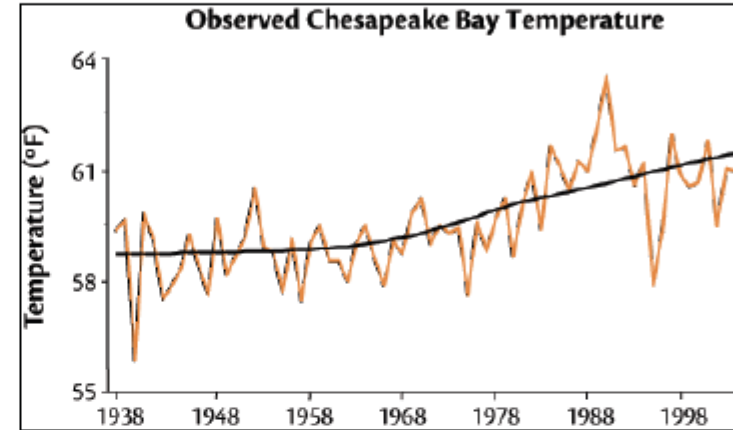




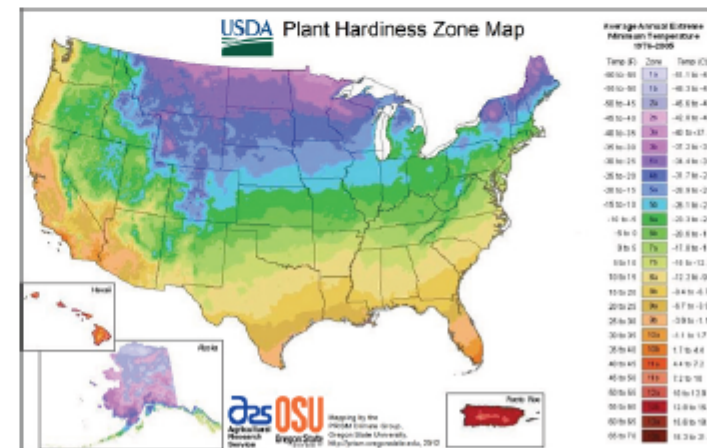
# Global Climate Change: Real Consequences



Sea level has risen approximately one-foot in the last century



Chesapeake Bay has warmed by more than 2°F



Shift in Plant Hardiness Zones  
USDA (2012)



## Climate Change in the Maryland *A 2100 Snapshot*

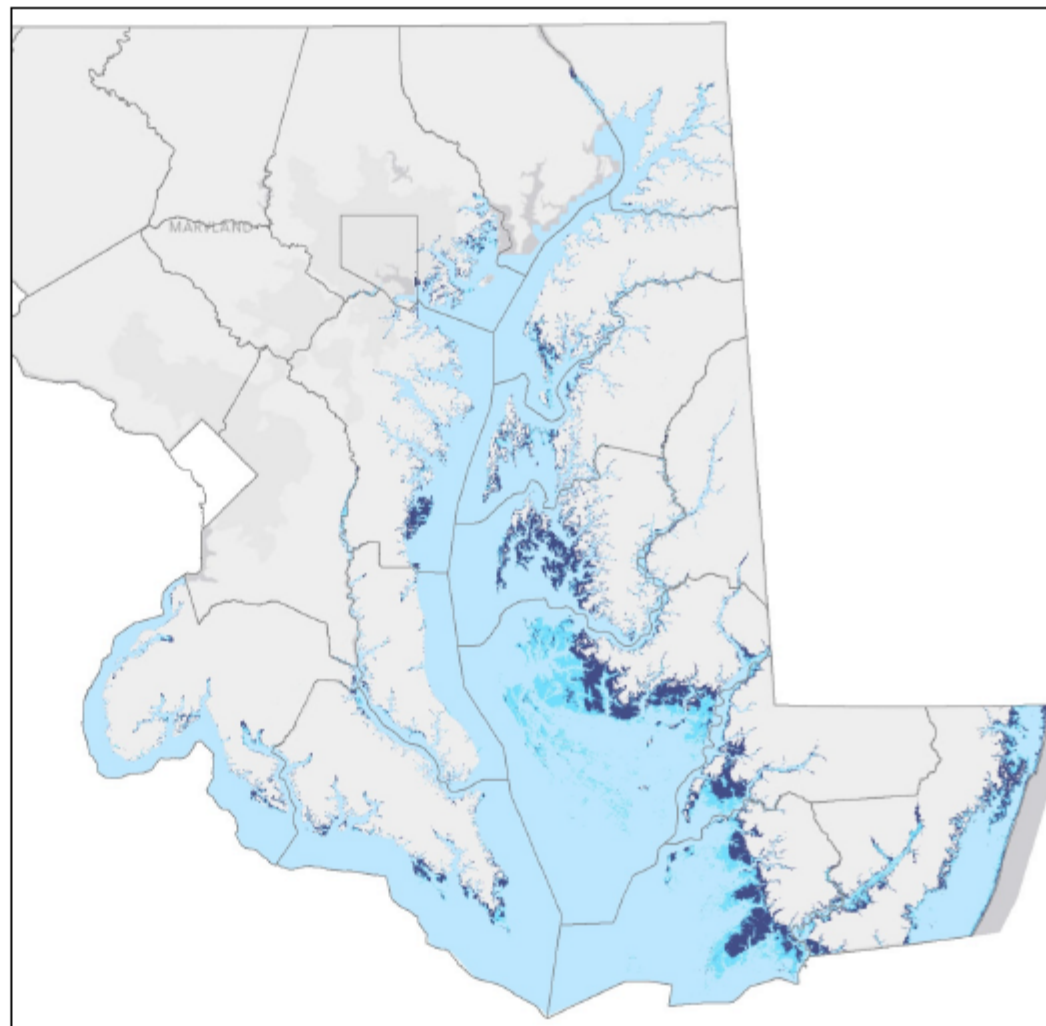
- ✓ Sea Level Rise: 2.1 – 5.7 feet (Best Estimate 3.7 ft.)
  - ✓ Temperature: +2 to > 8 degree C
  - ✓ Annual Precipitation: -10% to +20%
    - ✓ Spring Runoff: Higher
    - ✓ Summer Runoff: Lower

*Global Climate Change = Real Consequences  
for the Chesapeake Bay & its Resources*



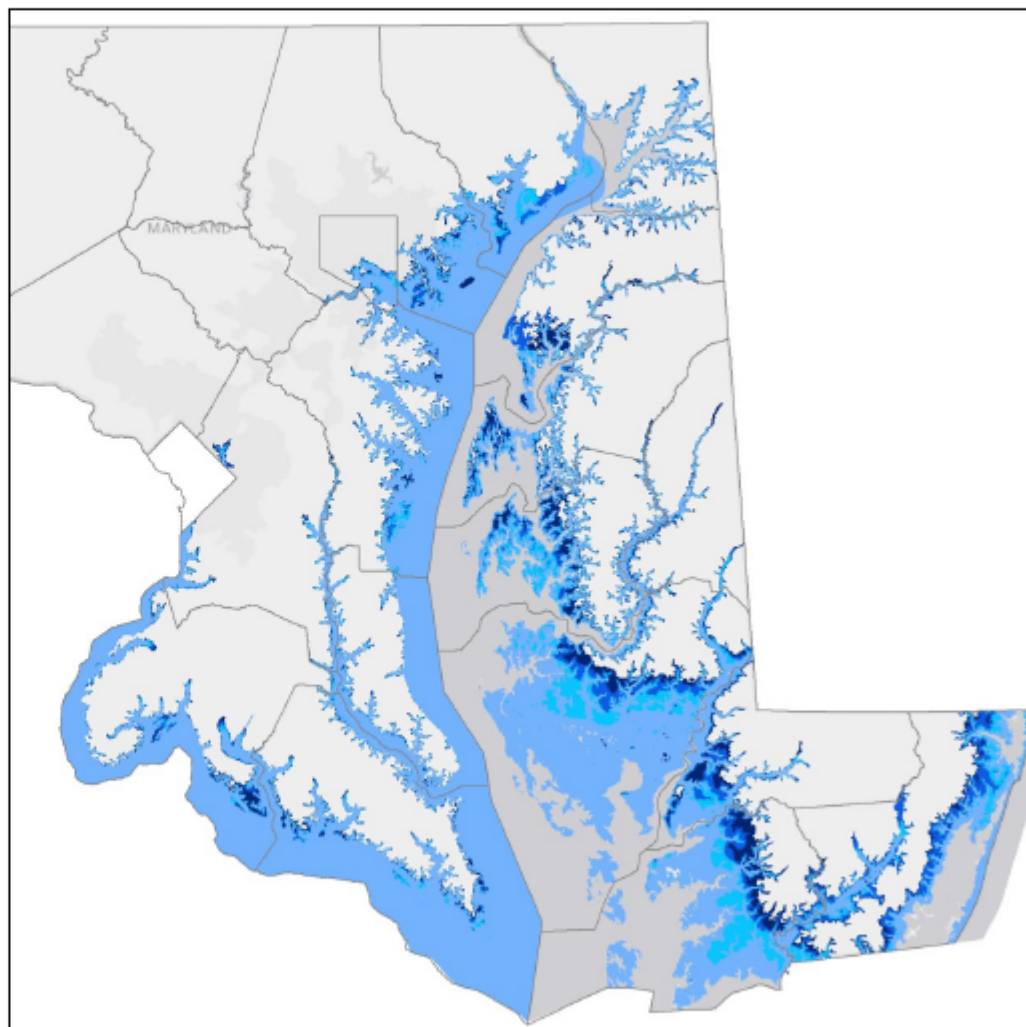
## Sea Level Rise Vulnerable Areas

- 0-2 Foot Inundation Areas
- 2-5 Foot Inundation Areas
- 5-10 Foot Inundation Areas



# Storm Surge Risk

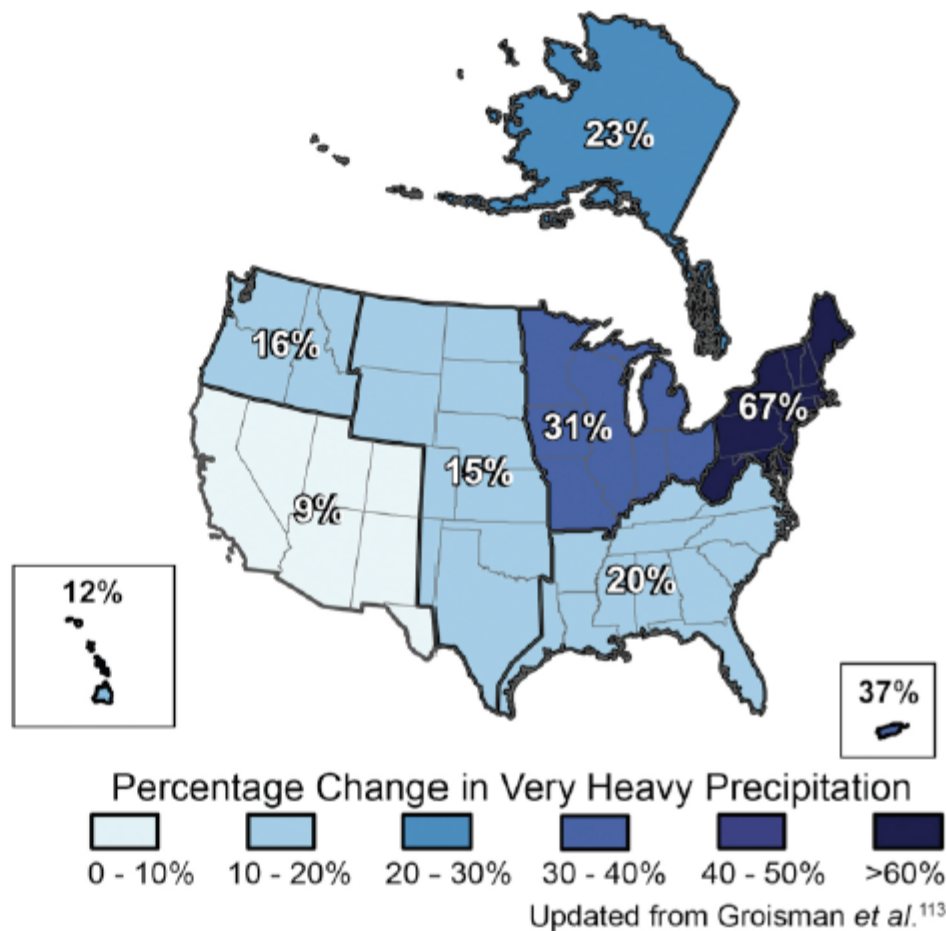
- Category 1 (5-7 feet)
- Category 2 (7-11 feet)
- Category 3 (11-19 feet)
- Category 4 (19-24 feet)



## More Frequent and Intense Storms

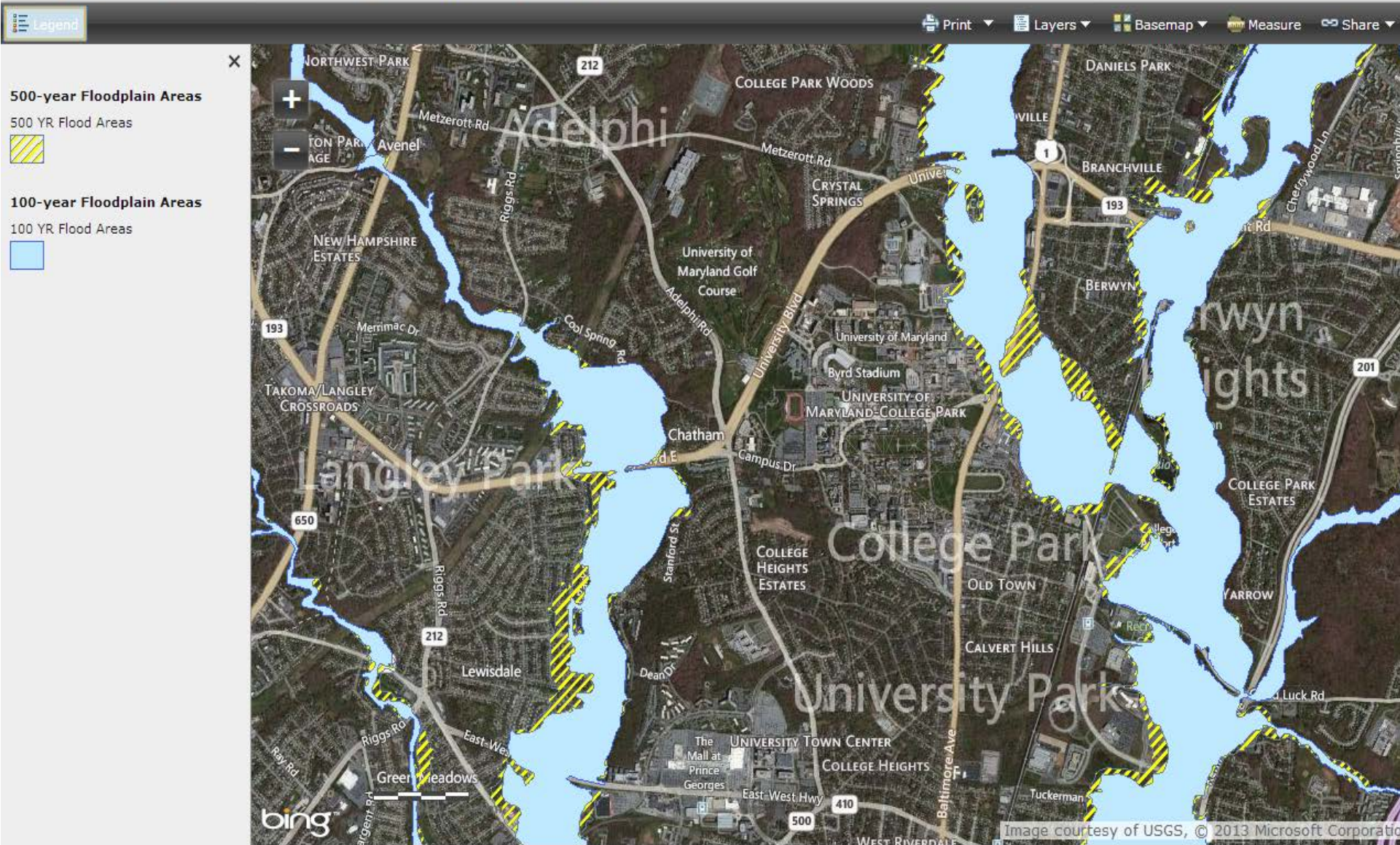
Historic Return Interval	Current Return Interval
100	60
50	30
2	1.4

DeGaetano 2009





# Maryland Climate Change Impact Areas



# Questions?

*The Governor's Plan Is*

## COMBATING CLIMATE CHANGE

### WE'RE MAKING PROGRESS

*In 2009, Governor Martin O'Malley and Maryland's General Assembly charged the State with developing and implementing a plan to reduce Maryland's Greenhouse Gas emissions 25 percent by 2020. In implementing its recently finalized plan, the O'Malley Brown Administration is committed to making the smartest, most effective environmental and economic decisions possible.*



#### PROGRESS:

As of 2011, the Greenhouse gas emissions in Maryland have decreased 5% since 2006.

#### PROGRESS:

Greenhouse gas emissions in Maryland have decreased 14% versus "business as usual" projections since 2011.

### THERE'S MORE WORK TO DO



# Towards an Institute for Sustainable Maryland

Sustainability Council  
September 25, 2013



- **National Center for Smart Growth Research and Education**
  - Environmental Finance Center
  - Transportation Policy Research Group
  - Center for Use of Sustainable Practice
  - Housing Strategies Group
  - Planning and Design Center





# Institute for Sustainable Maryland

- Sustainable Maryland Certified
- Sustainability Monitoring and Measurement
- Sustainability Challenge
- Sustainability Leadership Program
- Sustainable Communities Research Cluster
- Active Learning Program



# Oregon's Sustainable City Year Program

- Launched by planning and architecture faculty in 2010
- Key principle: Active Learning; Partnership with local governments
- University wide engagement
- Extensive national and local publicity
- Copied by several other universities already
- <http://sci.uoregon.edu/scy>



# Exploratory Workshop

- September 16, 2013; Van Munching Hall
- Invitations signed by Brit Kirwan and John Griffin
- 100 Attendees
  - UMD students, faculty, administrators,
  - Maryland counties, municipalities, and regional governments
  - State agencies
  - Local and national foundations
  - Business leaders

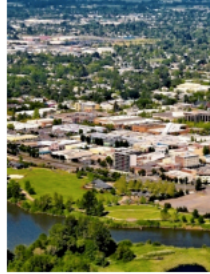
# Sustainable City Year Program

**Nico Larco, AIA**

Associate Professor, Dept. of Architecture  
Co-Founder and Co-Director, Sustainable Cities Initiative  
University of Oregon

[nlarco@uoregon.edu](mailto:nlarco@uoregon.edu)

# Activity to date



## **SCYP Introduction**

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- 53 Projects
- 92 Courses
- 36 Faculty
- 15 Disciplines / 2 Universities
- 1450+ students
- 191,000 hours of student time  
(first four years)
- \$250k - \$350k per Year

# Participating Campus Units



## **SCYP Introduction**

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- |                  |                     |
|------------------|---------------------|
| - Planning       | - Product Design    |
| - Architecture   | - Business          |
| - Public Policy  | - Law               |
| - Landscape Arch | - Civil Engineering |
| - Interior Arch  | - Economics         |
| - Journalism     | - Arts and Admin.   |
| - Digital Arts   | - Geography         |

# Example Projects



**Gresham Sustainable City Hall**  
*Architecture*



**Salem North Downtown Waterfront**  
*Planning, Architecture, Law, Civil Engineering*



**Sustainable Streetlights**  
*Planning, Product Design*



**Booth-Kelly Redesign**  
*Env. Studies, Landscape Arch., Architecture*



**Sustainability Metrics (GHG)**  
*Planning, Business*



**Metro Wastewater Management  
Commission Outreach**  
*Journalism*



**Industrial By-Product Re-Use**  
*Business*



**LEED Incentive Analysis**  
*Economics*





# City of Springfield Projects

## Pesky Projects

### Social Equity

- Laura Street and Brattain Neighborhoods

### Economic Development

- Citywide and Downtown Wayfinding
- Development Incentives
- Willamalane Recreation Center and Dorris Ranch Marketing
- Adopt-a-Waterway
- Cost/Benefit Analysis of System Improvements
- Economic Viability of Student Housing

### Architecture, Landscape Architecture, Planning

- Waremart Redevelopment
- Bicycle and Pedestrian Planning
- Jasper-Natron K-8 School Design
- Booth-Kelly Redevelopment
- Demonstration Stormwater Treatment Area
- New Public Library Design

### City Operations

- Greenhouse Gas Inventory
- Legal Review of SDC Methodology





# UMN Resilient Communities Project

## North St. Paul Projects

Live/work housing  
Living streets and capital improvements  
Green energy initiative  
Neighborhood identities  
Fiber optic network development  
Community identity and branding  
Downtown revitalization strategies  
Civic engagement and communication  
Environmental education  
Redevelopment-ready community  
Public art and public history  
Master redevelopment plan  
Silver Lake trail connection  
Community gardens and local food  
Staff development and retention  
Development of underutilized parcels  
Aging in place  
Energy conservation initiative  
Emerald ash borer management plan  
Bulk waste pick-up program evaluation  
Documenting the RCP-North St. Paul partnership



## U of MN Departments

Housing Studies  
Civil Engineering  
Law School  
Landscape Architecture  
Communication Studies  
Sociology  
Liberal Studies  
Graphic Design  
Gerontology  
Journalism  
Bioproducts and Biosystems Engineering  
Architecture  
Org Leadership, Policy and Development  
Urban and Regional Planning  
Public Policy  
Environmental Education (UMD)  
Environmental Science, Policy and Mgt  
Forestry  
Agronomy  
Social Work  
Recreation Resources Management

## **Finding the City Partner (the pitch)**

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- Value Add (capacity / cutting edge / energy)
- Not Consultants
- ‘Expand the Conversation’
- Breadth Critical (not a typical service learning experience)
- 80,000 Hours
- Sustainability vs. ‘Efficiency and Quality of Life’

## **Benefits**

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- To Students
- To Cities
- To Private Sector
- To Faculty
- To University

# Selected Press



“The Sustainable Cities Initiative is perhaps the most comprehensive effort by a U.S. university to infuse sustainability into its curricula and community outreach.”

**The New York Times**

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Michael Burnham, Greenwire  
August 23, 2010

“The Sustainable City Year is an amazing innovation that focuses huge resources from education to focus on real world problems. And it works.”

**Forbes**

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Haydn Shaughnessy  
December 10, 2011

## **Challenges**

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- Starting – (The First Partner City)
- Maintaining ‘Value-add’ for Everyone
- Managing Expectations
- Getting Past Sticker Shock of Total Program
- Private Sector Reaction (Stealing our work...?)
- Professionalism/Quality Control (with certain classes)
- City/Academic Schedules and Deadlines

# Non Challenges

## **Not Challenges** (that we expected would be)

- Faculty Involvement / Interest ('Volunteer Organization')
- Student Buy-in with 'Real-World' Issues
- Community Buy-In
- Cross Disciplinary Interest (from faculty and students)
- Creating Value Add Work (low hanging fruit)



# Gunna need your help!

For more information see:

<http://smartgrowth.umd.edu/ancActionLearning.html>

