

**V(A). Planned Program (Summary)**

**Program # 2**

**1. Name of the Planned Program**

Climate Change

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
104	Protect Soil from Harmful Effects of Natural Elements	7%		1%	
111	Conservation and Efficient Use of Water	15%		3%	
112	Watershed Protection and Management	17%		24%	
125	Agroforestry	5%		2%	
132	Weather and Climate	14%		8%	
133	Pollution Prevention and Mitigation	10%		21%	
135	Aquatic and Terrestrial Wildlife	8%		15%	
136	Conservation of Biological Diversity	15%		15%	
141	Air Resource Protection and Management	2%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%		0%	
304	Animal Genome	0%		1%	
315	Animal Welfare/Well-Being and Protection	0%		5%	
405	Drainage and Irrigation Systems and Facilities	5%		0%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	70.0	0.0	11.5	0.0
Actual Paid Professional	140.4	0.0	6.0	0.0
Actual Volunteer	421.0	0.0	0.0	0.0

**2. Institution Name:** Cornell University

**Actual dollars expended in this Program (includes Carryover Funds from previous years)**

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
893090	0	769105	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
893090	0	769105	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**2. Institution Name:** NY State Agricultural Experiment Station

**Actual dollars expended in this Program (includes Carryover Funds from previous years)**

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	29387	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	29387	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

This is a comprehensive effort entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored applied research and educational efforts depending on the focus and scope of their role. Example targeted activities include a comprehensive "Northeast Climate Impacts Assessment" that details potential impacts on crops, dairy, forests, and invasive pest species for the region and the Cornell Computational Agricultural Project that is compiling daily weather data and using complex computing tools to create a user friendly website and database for farmers to help them make critical decisions as they adapt to the changing environment. Climate change is tied intimately to sustainable energy concerns. Therefore, climate change is an important element of energy literacy initiatives across all audiences including youth.

**2. Brief description of the target audience**

Key audiences served, directly and indirectly include: agricultural, horticultural and natural resource producers; consultants and service providers, resource managers, governmental agencies, and local/state/federal governmental leaders and policy makers, individual consumers, and youth.

**3. How was eXtension used?**

eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 347 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with Financial Security for All COP.

Examples of participation in COPs in this plan of work area include:

Climate Change

- Climate, Woodlands, and Forests
- Agricultural Disaster Preparedness
- Floods
- Invasive Species

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	784043	5092432	44800	268023

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	9	180	189

## **V(F). State Defined Outputs**

### **Output Target**

#### **Output #1**

##### **Output Measure**

- 2.1a # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on the causes and implications of climate change and adaptive or mitigating strategies.  
Not reporting on this Output for this Annual Report

#### **Output #2**

##### **Output Measure**

- 2.2a # of local government officials and community leaders completing educational programs on causes and implications of climate change and adaptive or mitigating strategies.  
Not reporting on this Output for this Annual Report

#### **Output #3**

##### **Output Measure**

- 2.3a # of adult and youth consumers, residents, and landowners completing educational programs on causes and implications of climate change and adaptive or mitigating strategies.  
Not reporting on this Output for this Annual Report

#### **Output #4**

##### **Output Measure**

- 2.4a # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on managing water resources and/or environmental planning.  
Not reporting on this Output for this Annual Report

#### **Output #5**

##### **Output Measure**

- 2.5a # of government officials and community leaders completing educational programs on managing water resources and the relationship between water resources and land use management.  
Not reporting on this Output for this Annual Report

#### **Output #6**

##### **Output Measure**

- 2.6a # of adult and youth consumers, residents, and landowners completing educational programs on water resources protection.  
Not reporting on this Output for this Annual Report

**Output #7**

**Output Measure**

- 2.7a # of agricultural/ natural resources producers, and/or organization and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity.

Not reporting on this Output for this Annual Report

**Output #8**

**Output Measure**

- 2.8a # of local government officials and community leaders completing educational programs on managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.

Not reporting on this Output for this Annual Report

**Output #9**

**Output Measure**

- 2.9a # of adult and youth consumers, residents, and landowners completing educational programs on natural resources protection, invasive species, and/or biodiversity.

Not reporting on this Output for this Annual Report

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	2.1b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.
2	2.1c # agricultural/natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to minimize their contribution to climate change and/or adapt to climate change effects.
3	2.1d # agricultural/natural resources producers, and/or organization and business representatives documented to have successfully adapted to climate change effects enhancing economic viability.
4	2.2b # of local government officials and community leaders who demonstrate knowledge gains about causes and implications of climate change and adaptive or mitigating strategies.
5	2.2c # of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to minimize their contribution to climate change and/or adapt to climate change effects.
6	2.2d # of communities documented to have established or modified public policies to minimize contribution to climate change and/or adapt to climate change effects.
7	2.3b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains on causes and implications of climate change and adaptive or mitigating strategies.
8	2.3c # of adult and youth consumers, residents, and landowners documented to have modified existing practices and/or adopted new practices to minimize their contribution to climate change and/or adapt to climate change effects.
9	2.4b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing water resources.
10	2.4c # agricultural/natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.
11	2.4d # agricultural/ natural resources producers, and/or organization and business representatives documented to have improved and/or protected water resources.
12	2.5b # of government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management.
13	2.5c # of government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.
14	2.5d # of communities documented to have established or modified land use and development policies to enhance and protect water resources.
15	2.6b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about water resources protection.
16	2.6c # of adult and youth consumers, residents, and landowners documented to have modified existing practices or adopted new practices to protect/enhance water resources.

17	2.6d # of adult and youth consumers, residents, and landowners documented to have successfully modified existing practices and/or adopted new practices leading to improved protection/enhancement of water resources.
18	2.7b # of agricultural/ natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.
19	2.7c # of agricultural/ natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.
20	2.7d # of documented instances in which implementation of natural resources management practices by agricultural/ natural resources producers, and/or organization and business representatives lead to increase open space preservation, enhanced/ protected natural resources, biodiversity, land use.
21	2.8b # of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.
22	2.8c # of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity.
23	2.8d # of documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or increased alternative land use.
24	2.9b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity.
25	2.9c # of adult and youth consumers, residents, and landowners documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.
26	2.9d # of documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources or enhanced biodiversity.
27	Climate Change Mitigation and Adaptation with New Tools for Soil Carbon and Nitrogen Management van Es
28	Assessing the Geography of Weed Damage in Agricultural Systems and the Potential Impacts of Climate Change Riha
29	On-Farm Opportunities to Reduce Greenhouse Gas Emissions while Maintaining Soil and Water Quality Woodbury
30	Emergency Flood Response Training for Equipment Operators (A.K.A. Contractors? Training)
31	GIS Training and Support to Inform Sustainable Land Use and Natural Resource Planning
32	Marine Meadows Program

**Outcome #1**

**1. Outcome Measures**

2.1b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

2.1c # agricultural/natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new management practices to minimize their contribution to climate change and/or adapt to climate change effects.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	143

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
132	Weather and Climate
133	Pollution Prevention and Mitigation
405	Drainage and Irrigation Systems and Facilities

**Outcome #3**

**1. Outcome Measures**

2.1d # agricultural/natural resources producers, and/or organization and business representatives documented to have successfully adapted to climate change effects enhancing economic viability.

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

2.2b # of local government officials and community leaders who demonstrate knowledge gains about causes and implications of climate change and adaptive or mitigating strategies.

Not Reporting on this Outcome Measure

**Outcome #5**

**1. Outcome Measures**

2.2c # of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to minimize their contribution to climate change and/or adapt to climate change effects.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	30

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
141	Air Resource Protection and Management

#### Outcome #6

##### 1. Outcome Measures

2.2d # of communities documented to have established or modified public policies to minimize contribution to climate change and/or adapt to climate change effects.

Not Reporting on this Outcome Measure

#### Outcome #7

##### 1. Outcome Measures

2.3b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains on causes and implications of climate change and adaptive or mitigating strategies.

Not Reporting on this Outcome Measure

#### Outcome #8

##### 1. Outcome Measures

2.3c # of adult and youth consumers, residents, and landowners documented to have modified existing practices and/or adopted new practices to minimize their contribution to climate change and/or adapt to climate change effects.

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2012	461

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
136	Conservation of Biological Diversity
141	Air Resource Protection and Management

### Outcome #9

#### 1. Outcome Measures

2.4b # of agricultural/natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing water resources.

Not Reporting on this Outcome Measure

### Outcome #10

#### 1. Outcome Measures

2.4c # agricultural/natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	1301

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife

**Outcome #11**

**1. Outcome Measures**

2.4d # agricultural/ natural resources producers, and/or organization and business representatives documented to have improved and/or protected water resources.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	803

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

**Outcome #12**

**1. Outcome Measures**

2.5b # of government officials and community leaders who demonstrate knowledge gains about managing water resources and the relationship between water resources and land use management.

Not Reporting on this Outcome Measure

**Outcome #13**

**1. Outcome Measures**

2.5c # of government officials and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	278

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

### Outcome #14

#### 1. Outcome Measures

2.5d # of communities documented to have established or modified land use and development policies to enhance and protect water resources.

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

<b>Year</b>	<b>Actual</b>
2012	52

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

### **Outcome #15**

#### **1. Outcome Measures**

2.6b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about water resources protection.

Not Reporting on this Outcome Measure

### **Outcome #16**

#### **1. Outcome Measures**

2.6c # of adult and youth consumers, residents, and landowners documented to have modified existing practices or adopted new practices to protect/enhance water resources.

#### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	3770

#### **3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

**Outcome #17**

**1. Outcome Measures**

2.6d # of adult and youth consumers, residents, and landowners documented to have successfully modified existing practices and/or adopted new practices leading to improved protection/enhancement of water resources.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4160

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife

**Outcome #18**

**1. Outcome Measures**

2.7b # of agricultural/ natural resources producers, and/or organization and business representatives who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.

Not Reporting on this Outcome Measure

**Outcome #19**

**1. Outcome Measures**

2.7c # of agricultural/ natural resources producers, and/or organization and business representatives documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	967

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

**Outcome #20**

**1. Outcome Measures**

2.7d # of documented instances in which implementation of natural resources management practices by agricultural/ natural resources producers, and/or organization and business representatives lead to increase open space preservation, enhanced/ protected natural resources, biodiversity, land use.

Not Reporting on this Outcome Measure

**Outcome #21**

**1. Outcome Measures**

2.8b # of local government officials and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, open space preservation, alternative land uses and/or biodiversity.

Not Reporting on this Outcome Measure

**Outcome #22**

**1. Outcome Measures**

2.8c # of local government officials and community leaders documented to have modified existing practices or technologies and/or adopted new management practices to protect/enhance natural resources and/or enhance biodiversity.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	221

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

### Outcome #23

#### 1. Outcome Measures

2.8d # of documented instances in which implementation of natural resources management practices and/or land use policies lead to increased open space preservation, enhanced or protected natural resources, enhanced biodiversity, and/or increased alternative land use.

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2012	309

#### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

**Outcome #24**

**1. Outcome Measures**

2.9b # of adult and youth consumers, residents, and landowners who demonstrate knowledge gains about natural resources management, invasive species, and/or biodiversity.

Not Reporting on this Outcome Measure

**Outcome #25**

**1. Outcome Measures**

2.9c # of adult and youth consumers, residents, and landowners documented to have modified existing practices and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	2182

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

**Outcome #26**

**1. Outcome Measures**

2.9d # of documented instances in which implementation of natural resources management practices by individual consumers, residents, and/or private landowners lead to increased open space preservation, enhanced or protected natural resources or enhanced biodiversity.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	200

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
132	Weather and Climate
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

**Outcome #27**

**1. Outcome Measures**

Climate Change Mitigation and Adaptation with New Tools for Soil Carbon and Nitrogen Management van Es

Not Reporting on this Outcome Measure

**Outcome #28**

**1. Outcome Measures**

Assessing the Geography of Weed Damage in Agricultural Systems and the Potential Impacts of Climate Change Riha

Not Reporting on this Outcome Measure

**Outcome #29**

**1. Outcome Measures**

On-Farm Opportunities to Reduce Greenhouse Gas Emissions while Maintaining Soil and Water Quality Woodbury

Not Reporting on this Outcome Measure

**Outcome #30**

**1. Outcome Measures**

Emergency Flood Response Training for Equipment Operators (A.K.A. Contractors? Training)

Not Reporting on this Outcome Measure

**Outcome #31**

**1. Outcome Measures**

GIS Training and Support to Inform Sustainable Land Use and Natural Resource Planning

Not Reporting on this Outcome Measure

**Outcome #32**

**1. Outcome Measures**

Marine Meadows Program

Not Reporting on this Outcome Measure

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

Climate change issues play out in a complex and volatile context involving weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. The specific implications of external factors vary greatly by locale and across commodities and business forms. Technical knowledge of climate change issues and mitigation strategies is evolving rapidly.

With weather related impacts directly impacting communities and agriculture, there is a growing interest in programs that will prepare youth, families and communities for potential changes. This year saw a rise in participation numbers and offerings in education and research related to Climate Change. The impacts of programs have not yet caught up with the offerings, but they are anticipated in coming years.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

The evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. In addition, specialized data needs of funding partners must be addressed, sometimes using methods and/or accountability structures required by the funders.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to influence our evaluation patterns and procedures. CORE has piloted the Evaluation Partnership Project (EPP) over the last decade documenting processes that work for Cornell Cooperative Extension and teaching process. The CORE Evaluation Partnership Project has included intensive program development and evaluation planning with a number of targeted programs and counties.

We employ a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities for each of our planned programs. The results are aggregated in a statewide accountability system which leads to the summary results reported in the State Defined Outcomes in each plan including selected impact statements and success stories from a pool of more than 400 documented narratives.

In 2010, we established an Energy and Climate Change team to provide leadership for statewide program initiatives. In 2011, the team entered into partnership with the Cornell Office for Research on Evaluation in their Evaluation Planning Partnership. This collaboration assisted the team in developing detailed logic models for initial program emphases and development of specific evaluation approaches for the coming year. The process continues to influence the way that the team is working.

### **Key Items of Evaluation**

See cross cutting outcomes in State Defined Outcomes.