

Coding scheme

Node

1 Coordination, Collaboration, and Communication
<i>1.1 Communication Channels</i>
Between mass media (TV/internet) and practitioners
Between scientists and policymakers
Between and among communities
Between communities/public and planners/practitioners
Between researchers/agencies and practitioners
Between the government and private industry/practitioners
Between agencies and/or levels of government
Between states
Between private companies and practitioners
Between consultants and practitioners
Between Extension/boundary organizations and practitioners
New modes of dissemination
<i>1.2 Communication Goals</i>
To translate risk assessment/tradeoff (acting vs not acting)
To translate information so clearer to understand
To increase awareness
To create a common understanding of climate change
To support the adoption of sustainable practices
To facilitate exchange of best practices
To explain current conditions (e.g. drought)
To warn about pending events/disasters
<i>1.3 Communication Standards</i>
Clear expression of uncertainty
Clear messages and language

Experts to convey messages

Understand stakeholder language and user groups

1.4 Proposed Coordination/Collaboration

Between scientists and policymakers

Between practitioners

Between agencies and/or levels of government

Between tribal, state, and federal entities

Between states

Between Extension/boundary organizations and practitioners

Between researchers/agencies and practitioners/planners

Between different research organizations

Between the government and research institutions

1.5 Collaboration Goals

To streamline information delivery

To combine separate studies

To create a partnership/collaboration database

To engage practitioners in sustainable practices

To achieve stakeholder agreement on baseline information

1.6 Training and Data Use/Availability

'Clearinghouse' or 'one-stop shop' of information

Data availability and accessibility

Data usability

Evaluation of current decision aids

Training to prepare for climate change

Training to adopt sustainable practices or improve management

2 Monitoring and Data Collection

2.1 Data Scale

Regional scale

2.2 Data Rights

Public domain/Free

Proprietary/Paid

2.3 Data Source

GIS

Past plans

Forecast

Historical/Climatological

Observational (i.e., current/new data, non-remote)

Remote sensing

2.4 Data Type

Land use

Conservation or preservation areas

Human development

Amount of land cover

Forestry - land coverage, biodiversity, old vs. new growth

Pests and Diseases

Crop diseases

Invasive species

Pest species and vector borne illnesses

Water Resources

Drought

Flooding

Stream flow

Stormwater

Wastewater

Water quality

Weather and Climate

Air humidity

Air Temperature

Growing Degree Day

Extreme heat

Hail

Ice and snow cover

Precipitation

Wind

Air quality

Program success and other metrics

Soil Health

Soil erosion

Soil compaction

Soil Temperature

Soil Moisture

Survey of data gaps

Topography

3 Policies, Programs, and Law

3.1 Service and Capacity

Autonomy in decision making

Available Markets

Human resources

Familiarity with / knowledge of DSTs

Flexibility in decision making

Funding/Financial Support

Infrastructure

Institutional Memory

Leadership

Structural barriers

Time / staff to learn

Training opportunities

3.2 Governance

Expand/Improve law/program enforcement/management

Identify responsibility for Tribal trust lands

Track authority for land use decisions

Create position tracking climate change adaptation

Create new types of employment opportunities & positions

Political support

State guidance/regulation

Institutional constraints

Competing uses

Rigid regulations and restrictive management

3.3 Law

Assess performance & vulnerability of water law to climate change

From interplay between different levels of government

Insurance

Laws and policies that discourage sustainable development

Laws and policies that discourage unsustainable development

Resulting from climate change

Revisit and evaluate existing laws for potential changes

3.4 Management

Agricultural Management

Pesticide application

Better weed and invasive species management

Crop rotation

Cover crops

No-Till/Tillage
Trees as cropland borders/buffers
De-stocking cattle during drought
Building in flexibility - resource / financial cushion
Nutrient management
Nitrogen
Manganese
Other Nutrients
Phosphorus
Potassium
Sulfur
Timing of nutrient application
Water management
Stormwater swales
New water planning
Irrigation
Storage (e.g., water supply assessment)
Runoff/drainage
Timing of Drought Response
Runoff control/reduction
Data incorporation in management
Cost/Benefit of Options
Economics
Ecosystem Management (including endangered species)
Leadership
Proactive planning
Risk Management
Standards based on up-to-date climate predictions

Increased staff

3.5 Programs

Data on program and regulation implementation

Emergency preparation & response

Flexibility in program structure

Form new organizations (e.g., research centers)

Incentives

Land use planning

Link science to program implementation

New plant and crop varieties

Public support

Increased staff

4 Research Topics

4.1 Funding

Change way research funding is distributed to recipients

Easier submission process

For collaboration activities

For new research topics

That meets end user needs

More for existing research topics

Needed for local scale planning

For co-produced research

4.2 Modeling

Modeling standards

Availability and accessibility of technology

Improved expertise

Integrated modeling incl. all climate related scientific process

Schedule to update maps

Standardized modeling format and style across sectors

Model products

Climate change focused

Downscaling of larger scale scenarios to appropriate scale

Enhanced mapping updated with recent information

More and or improved outlooks and projections

Regional and local climate modeling

4.3 Research Standards

Macro scale

Local Scale

Long term

State coordination

User-driven Research

4.4 Specific types of data, analyses, or projects

Alternative or efficient energy sources

Best practices

Climate change focused

Climate change impacts specific to sector

Climate change indicators

Climate change tipping points

Climate science with recommendations for how to adapt

Greenhouse gas reduction strategies

Interactions between the impacts & stressors of climate change

Temperature increase

Cost/Benefit Analyses

Costs and benefits of options

Costs of climate change and benefits of adaptation

Identify “no regrets” options

Economic
Event specific information
Extreme events
Habitat restoration
Improve understanding of past & current environment conditions
Information on existing policy and programs
Maintaining species and habitat diversity
New crop development
Pilot programs for Stakeholder-researcher projects
Planning, Assessments, Risk Mitigation, & Decision making
Assess performance of regional water quality & health actions
Current state of environment assessments
Determining which information managers and planners use
Identify appropriate adaptation options
Incorporation of climate information into decision making
Risk characterization
Scenario planning
Standardized decision support tools and metrics
Sustainable agriculture practices
Uncertainty or probability analyses
Understand other practitioners' plans
Vulnerability assessments
Determining which information managers and planners should use
Social science
Identify areas of historic or cultural significance
Study of public preparedness for climate change
Tourism related
Suitability of current monitoring efforts

Tribal use of land and resources

Understanding underlying environmental processes

Water demand

5 Social Issues

5.1 Justice

Greater inclusion in research and or decision making

Support for vulnerable populations

6 Document level codes

6.1 Authors

Academic institutions

Within DAWN Scope

Indiana University

Iowa State University

Kansas State University

Michigan State University

North Dakota State University

Ohio State University

Purdue University

South Dakota State University

Texas A&M University

University of Illinois

University of Iowa

University of Kansas

University of Kentucky

University of Michigan

University of Minnesota

University of Missouri

University of Nebraska

University of Wisconsin, Madison

Western Kentucky University

Beyond DAWN Scope

Alabama A&M

Arizona State University

Bates College

California Institute of Technology

California State University, Sacramento

Central State University

Colorado State University

Cornell University

Cranfield University

Lawrence University

Lincoln University

Manhattan College

Mississippi State University

Montana State University

Northern Arizona University

Pennsylvania State University

Sierra Nevada College

State College Pennsylvania

State University of New York

Syracuse University

Texas State University

University of Arkansas

University of Arizona

University of California, Davis

University of Colorado

University of Connecticut

University of Idaho

University of Oklahoma

University of Maryland

University of Texas

University of Wyoming

Virginia Tech

Extension

Government actors

Federal

National Weather Service

National Oceanic and Atmospheric Association

U.S. Army Corps of Engineers

U.S. Department of Agriculture

National Aeronautics and Space Administration

United States Geological Survey

State

Arizona State Land Department

State of Illinois

State of Indiana

State of Iowa

State of Kansas

State of Kentucky

State of Michigan

State of Minnesota

State of Missouri

State of Nebraska

State of North Dakota

State of Ohio
State of South Dakota
State of Wisconsin
Regional / Municipal
Private sector actors
NGOs
The Nature Conservancy
The Center for Research on the Changing Earth System
Multiple author partnership
Other
<i>6.2 Funding sources</i>
Grant-based
Government budget (non-grant)
Private donor
University program
None listed
<i>6.3 Geographic Scope</i>
Cornbelt
Midwest
Illinois
Indiana
Iowa
Kansas
Kentucky
Michigan
Minnesota
Missouri
Nebraska

North Dakota
Ohio
South Dakota
Wisconsin
Outside of DAWN scope
California
Texas
Colorado
Wyoming
Montana
Alberta, CA
Maryland
Georgia
Florida
New York
<i>6.4 Publication date</i>
2011 or older
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021