

# One-Stop Shopping for Usable Science:

The Case of Climate Information



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# Overview

- Goals of the Scientific Enterprise
- Climate Services Clearinghouse
  - What it is
  - How to Search
- Next Steps: Climate Services Clearinghouse as intermediary



# Shifting Scientific Goals

- In 1998, the NSF added a second criterion for its review of grants. Now:
  - The intellectual merit of the proposed activity
  - The broader impacts resulting from the proposed activity
- September, 1998: George Brown: “A new science policy should articulate the public’s interest in supporting science - the goals and values the public should expect of the scientific enterprise.”
- “We must reexamine and reshape our science policy both to sustain America's preeminence in science and to facilitate the role of science in the broader national interest.” (Gore, 1994)



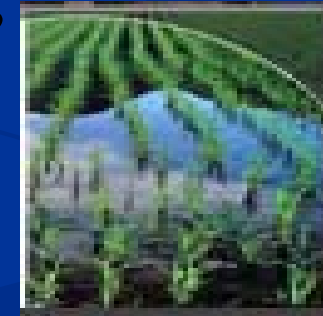
# Similar Shift in Scientific Output?

- Prevailing opinion: No.
- Much science goes unused or is not usable.
- i.e.: 10/90 problem in global health research  
(Sarewitz and Pielke, 2004).
- Why?



# Climate Goals

- National Climate Program Act (2000): “will assist the Nation and the world to understand and **respond** to natural and man-induced climate processes and their implications.”
- Climate Change Science Plan also seeks to provide tools for decision makers to plan, adjust, and adapt to climate variability.



# Climate Services

Climate service - “The timely production and delivery of useful climate data, information, and knowledge to decision makers.” (NRC, 2001).

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*A Network of activities which maintains well-structured paths from observations, modeling, and research to usable information.* (Pulwarty, 2004).



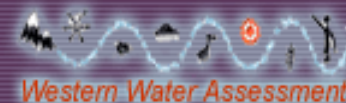
# The Result:

- Abundant available climate products and services. ie:
  - Seasonal precipitation and temperature forecasts by county
  - Regional hazards assessments
  - Monthly historical climate perspectives
  - Annual national climate predictions
  - Descriptions of climate phenomena like El Nino and its local effects
  - Etc.



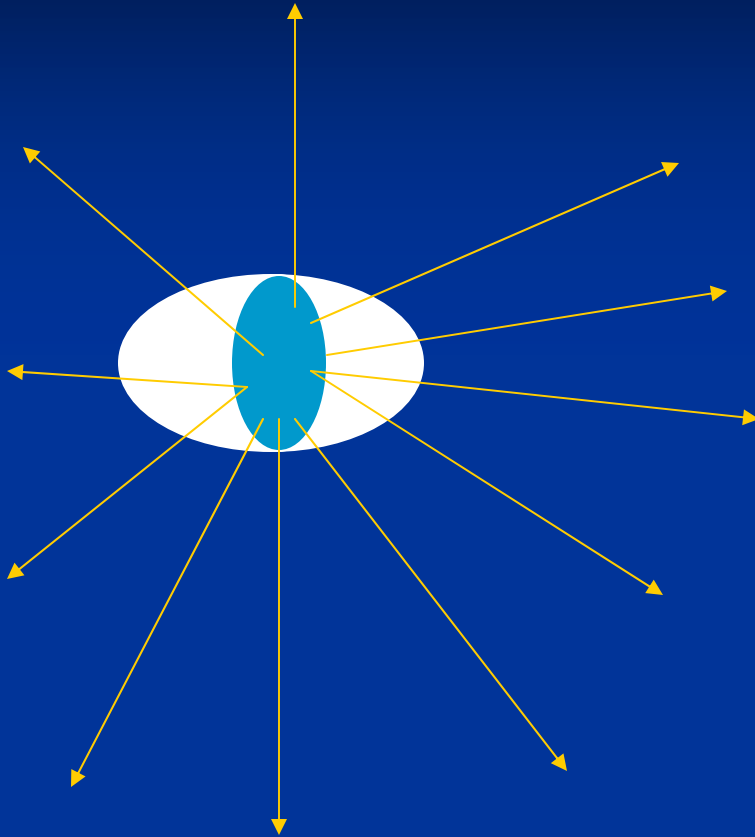
# Is it used?

- A lot goes unused.
- The timely adoption and effective use of climate information and technology throughout the U.S. economy is not as successful as it could be (U.S. Congress, 1998; NRC 2003).
- Why?
  - Products don't meet decision maker needs
  - Decision makers do not know what is available. (ie Denver Water)





# Why?



## ■ PERSPECTIVE!

- For end users (I.e. Denver Water)
- Climate Science Policy Decision Makers (I.e. CCSP)

# End Users



- Have Google
- Need to know what they're looking for.



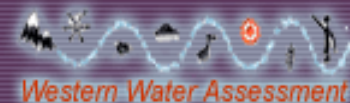
# Climate Science Policy Decision Makers

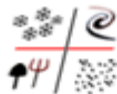
- CCSP, NOAA, etc.
  - Make decisions about funding
  - Set research priorities
- Do not have a way to see the whole range of available climate products.
- Affects research priorities, priorities which can determine the usefulness of climate services



# Problem

- Research enterprise goal: provide tools for decision makers
- Many tools go unused
- A breakdown at the beginning of the research process and at the end.
- A more comprehensive perspective of what's available could help both parts of the process: perhaps a Clearinghouse of available products.





Welcome to the Climate Services Clearinghouse – your access point for any climate service you may desire. With our search functions, you can either locate a specific service, explore all services that meet a particular set of criteria (ie regional, weekly, prognostic, precipitation services), or you can browse all services through the categories listed below. To browse, select a category below: time scale, space scale, product type, climate event and or/feature, or source agency. To locate a specific service or to search by criteria, select the "Search for Services" tab above.

We are in constant pursuit of a more complete site as we are fully aware that some climate services and products are missing from our clearinghouse. Please contact us with suggestions and additions at any time. Contact us by selecting the "Suggest a Service" tab above or by clicking [here](#).

- [Temporal](#)
- [Spatial](#)
- [Organizational](#)
- [Type of Product](#)
- [By Climate Trend or Characteristic](#)



# Search Function

[New search](#) | [Search history](#)

## Text Search (Optional):

Leave blank if you do not want to perform a text search.

Search word(s): \_\_\_\_\_

## Narrow your search by category (Recommended).

This may be the best way to find your information.

Select All

Or Choose which categories to search.

- [View](#) Temporal
- [View](#) Spatial
- [View](#) Organizational
- [View](#) Type of Product
- [View](#) By Climate Trend or Characteristic





# Search Results

[New search](#) | [Search history](#) | [Narrow search](#) | [Modify search](#)

## Categories you selected:

Spatial, Region, Northeast

By Climate Trend or Characteristic, Fire

## Your Search Results

3 Resources were found:

### Climate Hot Map

This map illustrates the local consequences of global warming by dividing the globe into continental regions and regions within the continents. The map helps to distinguish direct manifestations of a widespread and long-term trend toward warmer global temperatures from events that foreshadow the types of impacts likely to become more frequent and widespread with continued warming.... [\(Read more\)](#)

### Fire Issues Unique to the Northeastern US

This handout gives information about the history of fire, fire characteristics, and fire dangers for the Northeastern US based on climate characteristics such as soil characteristics and water/CO2 resources.... [\(Read more\)](#)

### Hazards Assessment Briefing

This Hazards Assessment map of the US is intended to provide emergency managers, planners, forecasters and the public advance notice of potential hazards related to climate, weather and hydrological events. It integrates existing NWS official medium (3-5 day), extended (6-10 day) and long-range (monthly and seasonal) forecasts and outlooks, and hydrological analyses and forecasts, which use state-of-the-art science and technology in their formulation....

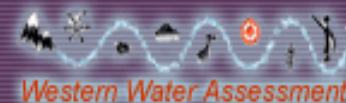


# Extension to Other Fields

- GAO Report on Watershed Management recommendation to:

“coordinate the development of an Internet-based clearinghouse to convey what entities are collecting what types of data. As part of this effort, the organization could advance the development of a [portal] that would allow users access to information about water data available within a given watershed.”

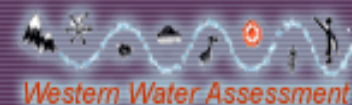
- Similar Efforts in Nanotechnology





# Conclusion

- Great progress in our endeavor for science in the public interest.
- But in order for it to truly produce usable science, we must coordinate research both at the beginning of the research process and at the end.
- A clearinghouse will complement other knowledge transfer work already underway.



# Questions?

[http://sciencepolicy.colorado.edu/  
climateservices](http://sciencepolicy.colorado.edu/climateservices)

