

REGIONAL SERVICES: Moving into R2S for NOAA's Product Lines

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Rising Demand for Information with Regional Perspectives

NOAA's Societal Challenge Areas



COASTS
Community Resilience



CLIMATE
Extremes



WATER
Drought and
Flooding



S2S?
Icing, wind, heat

Application of NOAA's Information by Sector



Agriculture



Energy



Health



Transportation



Sustainability of Marine
Ecosystems

R2S- Lingo on the role of services

User-driven, use-oriented, use-inspired, problem-focused

Information for decision-makers

Partnerships, collaboration, can't do it alone

Environmental Intelligence

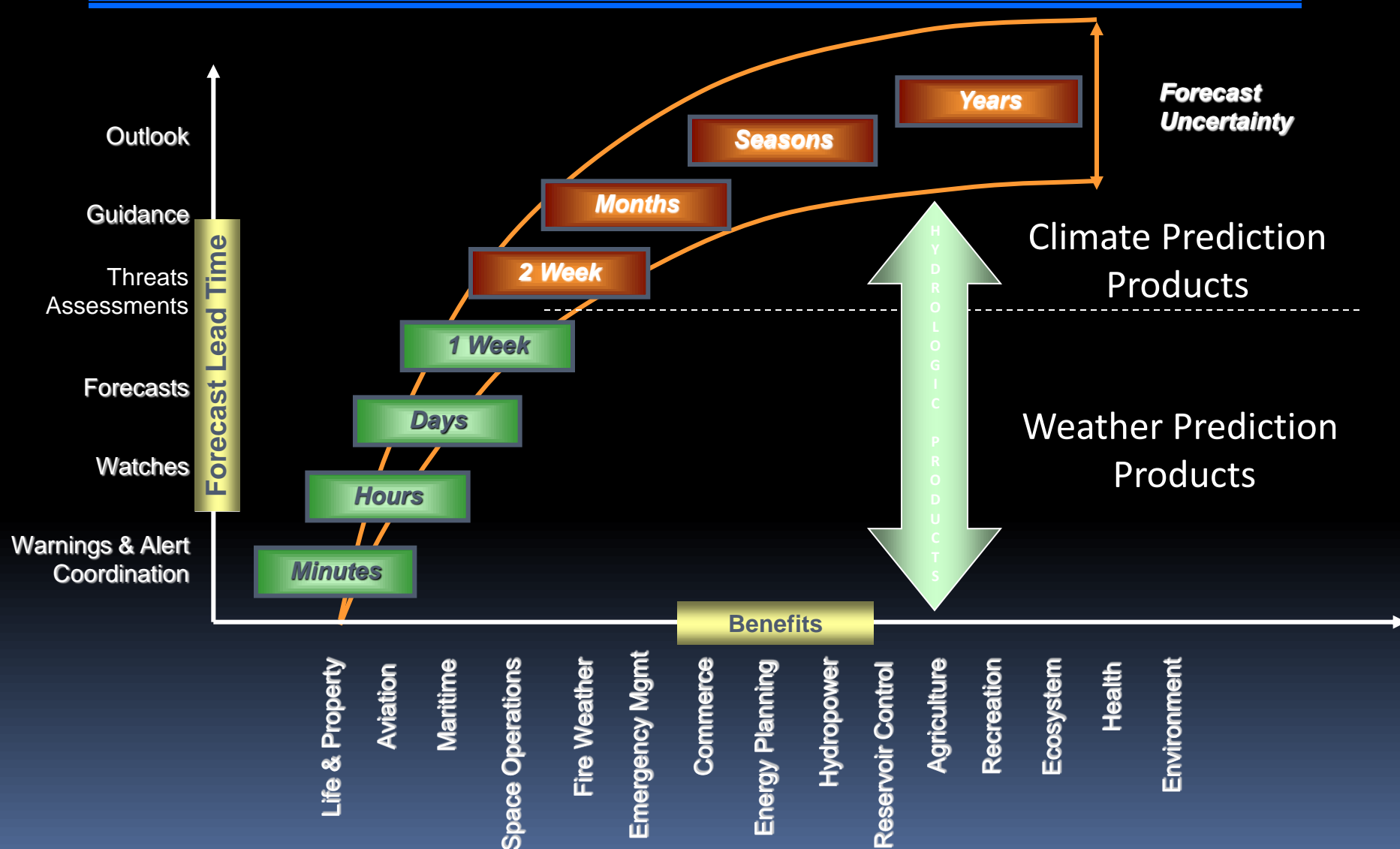
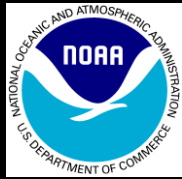
Co-production of knowledge

Actionable Science

DSS



NOAA Seamless Suite of Forecast Products Spanning Climate/Weather/Water



Climate and Weather Information Services

Deliver Use-Inspired Environmental Information Products and Services that Supports the Nation's Prosperity and Resilience

Provide Products and Services

Expand and Enrich Use of NCEI's Environmental Information



Understand Users

Understand User Needs and Translate Them Into Requirements



Strengthen Networks

Strengthen Networks for Developing and Delivering NCEI's Products and Services



The DOE Partnership for Energy Sector Climate Resilience

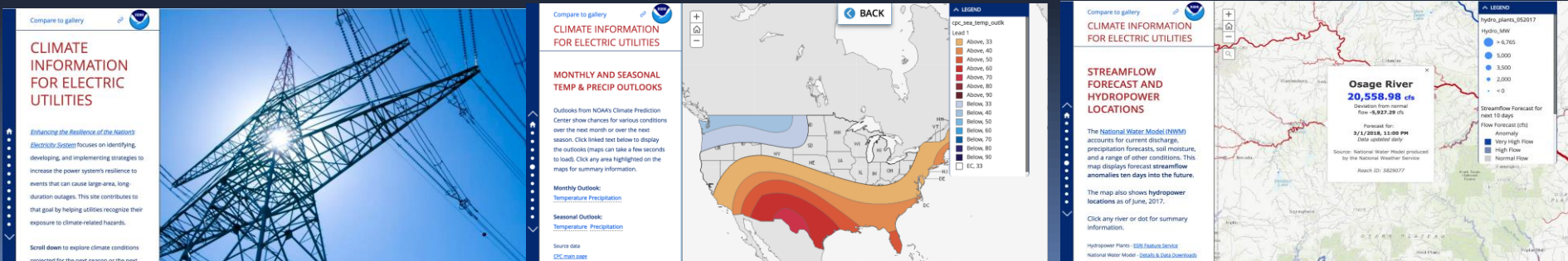
NOAA is working in a government to government relationship to offer weather and climate information to meet the requirements of DOE and its core partners

Mission Interests- Grid Sustainability and Critical Infrastructure Security

Weather and Climate Information Requirements:

- Icing events,
- temperature extremes,
- Wet bulb temperatures,
- Wind speed and duration
- Water availability (drought impacts)
- Sea level rise

Sample frames from the Story Map - <http://arcg.is/1jOLCb>



The DOE Partnership for Energy Sector Climate Resilience

PROTOTYPE: Energy Data Gallery



This gallery of data sources is a demonstration site for the [Partnership for Energy Sector Climate Resilience](#). Do you have feedback on what categories should be included, or specific data sources that are useful for resilience planning?

Please submit your comments to Ellen Mecray and Art DeGaetano.

Future Projections



Cooling Degree Days

Enter a city or county of interest. Under Other, select Cooling Degree Days. Adjust the time slider on the graph or map to view by decade.

[Visit data source >](#)



Mean Daily Maximum Temperature by Month

Enter a city, county, or zip code of interest. Under Temperature, select Days with Maximum Above 95°F. View the graph or map for available decades by adjusting the time slider.

[Visit data source >](#)



Days with Max Temp >95°F

Enter a city or county of interest. Under Temperature, select Days with Maximum Above 95°F. View the graph or map for available decades by adjusting the time slider.

[Visit data source >](#)



Sea Level Rise Viewer

Visualize community-level impacts from coastal flooding or sea level rise, including simulations of how future flooding might impact local landmarks. Access data related to water depth, flood frequency, and mapping confidence.

[Visit data source >](#)



Days of Precipitation over 1 inch

Enter a city or county of interest. Under Precipitation, select Days with Precipitation Above 1 inch. Adjust the time slider on the graph or map to view by decade.

[Visit data source >](#)

Climate Normals and Historical Observations

Product selection

- Single-Station Products
 - Multi-Station Products
 - Gridded Data Products
 - Other Products
- Options selection
- Station/Area selection
- Go

Almanac Data for a Day

- Time Series for a Day
- Daily Data for a Month
- Daily Data Listing
- Calendar Day Summaries
- Monthly Summarized Data
- Seasonal Time Series
- Extremes
- Consecutive Days
- First/Last Dates
- Daily/Monthly Normals
- Temperature Graph
- Accumulation Graph



SC-ACIS - Applied Climate Information System

Access customized climate data from the Global Historical Climatology Network as well as stations in other data networks. Products include climate normals, daily almanac, first/last dates, graphs, and daily and monthly summaries of temperature, precipitation, snowfall, snow depth, and degree days.

[Visit data source >](#)

U.S. Regional Climate Maps

Quick-look maps of recent and historical weather data for any region of the contiguous United States (from Northeast Regional Climate Center).

[Visit data source >](#)

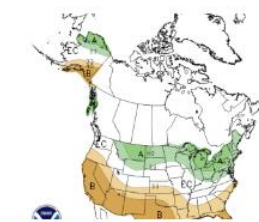
1981-2010 Daily Normals by Weather Station

Use this GIS interface to select stations for which you want to view daily normals. Climate Normals are the latest three-decade averages of climatological variables, including temperature and precipitation. Hourly, monthly, and annual normals are also available.

[View tool demo >>](#)

[Visit data source >](#)

Monthly to Seasonal Outlooks



Monthly Precipitation and Temperature Outlooks

View monthly maps showing the probability for precipitation ranking in the

1982-2010 UNCLIMB OFFICIAL Forecasts

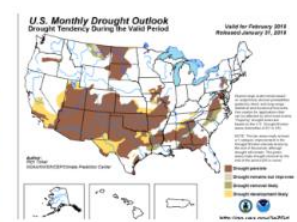
Click below for archives of past outlooks (data & graphics), verifications of past outlooks, and GIS data for current outlooks

Archives: Verifications: GIS Data

Year-Forward Outlooks (Probability)	Outlook	Rank	Prob. of Event
12 Months Outlook for Dec. 2016-2017	Wet	1	7
12 Months Outlook for Dec. 2016-2017	Normal	2	1
12 Months Outlook for Dec. 2016-2017	Dry	3	2
9 Months Outlook for Dec. 2016-2017	Wet	1	7
9 Months Outlook for Dec. 2016-2017	Normal	2	1
9 Months Outlook for Dec. 2016-2017	Dry	3	2
6 Months Outlook for Dec. 2016-2017	Wet	1	7
6 Months Outlook for Dec. 2016-2017	Normal	2	1
6 Months Outlook for Dec. 2016-2017	Dry	3	2
3 Months Outlook for Dec. 2016-2017	Wet	1	7
3 Months Outlook for Dec. 2016-2017	Normal	2	1
3 Months Outlook for Dec. 2016-2017	Dry	3	2

Long-lead Seasonal Outlooks

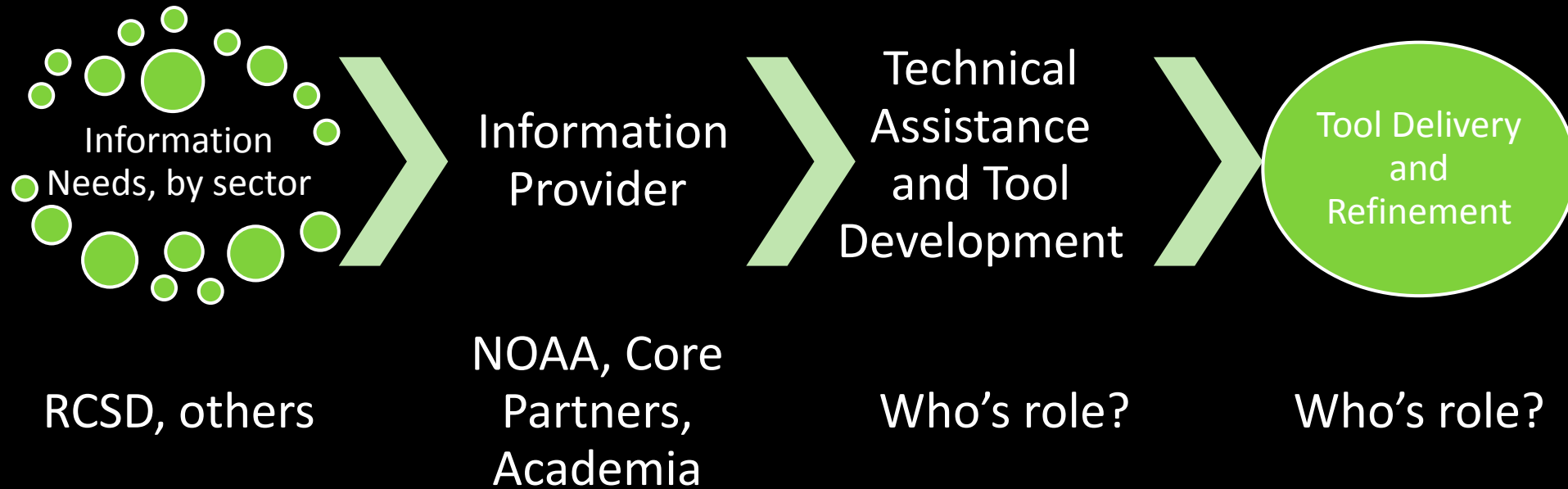
Issued monthly, these long-lead outlooks show the chances for above-, below-, or



Drought Outlook

Maps show how conditions related to drought are likely to change over the valid period. Outlooks indicate areas where

The Continuum of Regional Services



- Provision of information is highly dependent on the customer.
 - Government to government- technical assistance, user engagement, refinement of information products
 - Private sector enterprise- tailored tool development

What can we do? Offer Key Services

Generate, Transmit, Transform, Translate

- **Monitoring** – value add, trends, anomalies
- **Data** – instrumentation, collection, database
- **Prediction** – interpretation, place/sector based
- **Outreach** – informing decisions, accessibility
- **Education** – capacity building for understanding
- **Research** – applied, useable
- **Networks** – awareness, linkages, sharing

Key Lesson: *Share information*, including lessons learned from customer engagements, with all of NOAA and our close partners

Questions?

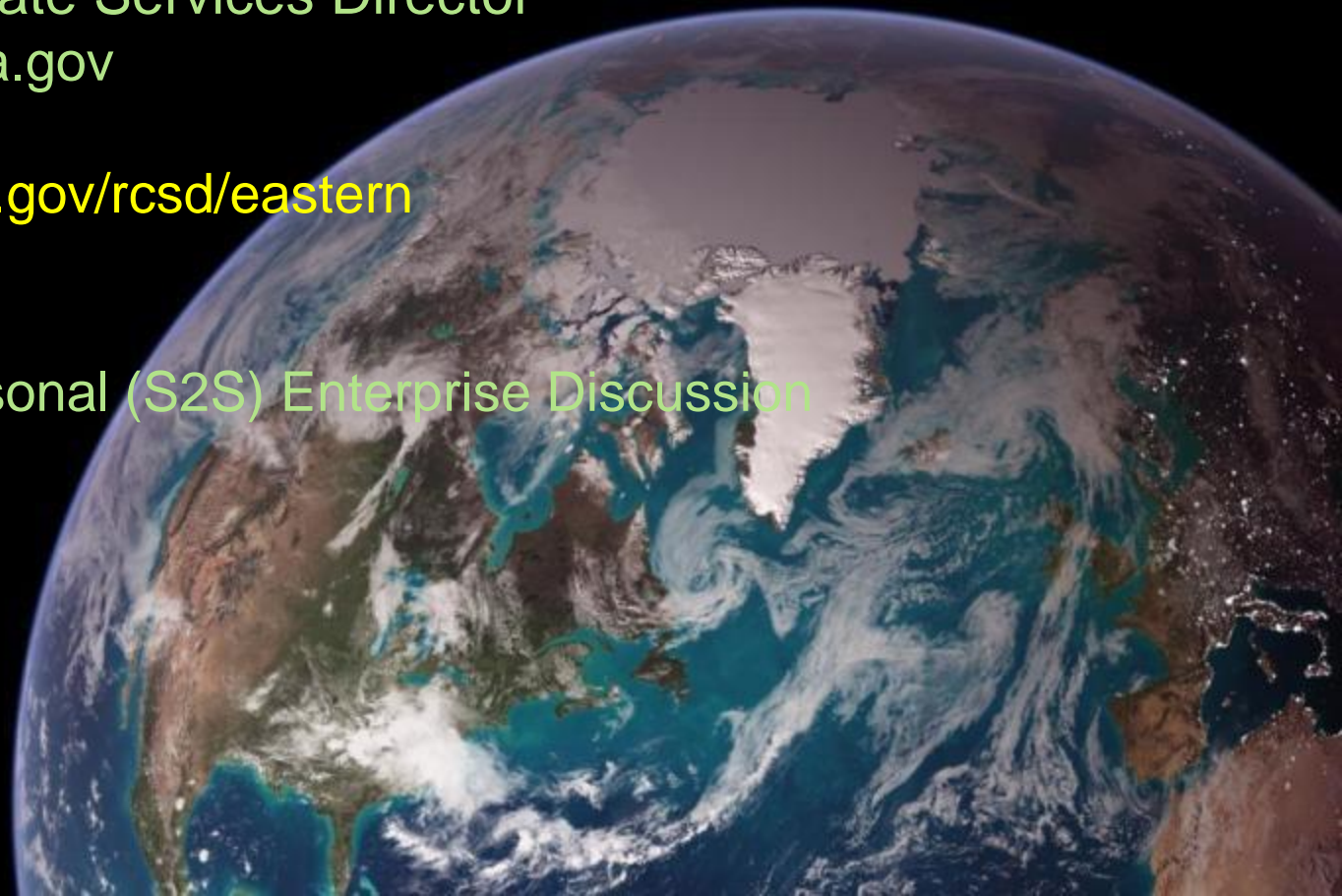
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<http://www.ncdc.noaa.gov/rcsd/eastern>

February 28, 2018

Sub-seasonal to Seasonal (S2S) Enterprise Discussion
College Park, MD



BackUps

NOAA Services: Temporal and Spatial Scales



NOAA Services Across the Weather-Climate Continuum

National &
Global



Drought Monitor



Monthly State of the
Climate Reports



Annual State of the
Climate Reports



National Climate
Assessment

Regional



Hurricane Tracks



Heat Wave
Prediction



Drought Outlook



Climate Normals

Local



Tornado Warnings



Heating and Cooling
Degree Days



Temperature &
Precipitation
Outlooks



Extreme Detection &
Attribution

Weekly

Monthly

Seasonal-
Annual

Decadal

NOAA's Contribution to a Federal Partnership

NOAA commits to providing critical assets in science and service to a Federal partnership



Information Delivery and Decision Support

NOAA uses its national and regional infrastructure to deliver climate services today

NOAA's Assets

Assessments of Climate Change and Impacts

*NOAA is a leader in national and regional climate impact assessments
75% of Federal IPCC authors were from NOAA*

Climate Change Research and Modeling

International award winning models of the global climate

Climate Observations and Monitoring

*NOAA operates observation and monitoring systems
NOAA is mandated to monitor and provide access to climate data and information*

- Security *
- Forestry
- Water
- Health
- Infrastructure
- Global
- Land Management
- Oceans
- Energy
- Other

Regional Climate Services

The development and delivery of climate products and services that are on time and spatial scales needed most by decision-makers

Development and Delivery: requires an end-to-end system that links research, modeling and assessment activities to product and services development, along with delivery systems and capacity building to help users incorporate new knowledge into their decision making.

Products and Services: climate information and decision support tools that expand one's understanding of risk and impacts and promote identification of adaptation and mitigation options

Time and spatial scales: climate impacts are felt closest to home. Users need timely, place-based information on climate risks and impacts in order to make informed decisions.

Decision-makers: users of climate information representing all public and private sectors of activity. These are our climate stakeholders.