

BLM CLIMATE CHANGE ACTIVITIES



**CESU ANNUAL MEETING
PORTLAND, OREGON
APRIL 29, 2009**

THE BASIS FOR DOI AND BLM CLIMATE CHANGE ACTIVITIES



- **FY 2009 and 2010 Appropriation Acts and Conference Reports**
- **E.O. 13514 on Federal Leadership in Environmental, Energy, and Economic Performance (October 5, 2009)**
- **CEQ's Draft Framework for Coordination of Federal Land Management Agencies to Address Climate Change**
- **CEQ's Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions**
- **President's Memorandum on a Comprehensive Federal Strategy on Carbon Capture and Storage (February 3, 2010)**
- **Secretarial Order 3289 Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources (September 14, 2009)**
- **DOI High Priority Performance Goals for FY 2010**

In 2009, a climate change bill was passed in the U.S. House of Representatives (H.R. 2454); a similar bill was drafted in the U.S. Senate. These are lengthy bills addressing emissions reductions, carbon capture and sequestration, nuclear and other advanced technologies (including natural gas and coal), water use efficiency, recycling, renewable energy including biofuels, green jobs, worker transition assistance, and natural resource conservation and adaptation.

Sections 341-384 of the Senate draft include 90 pages addressing "Domestic Adaptation." If enacted into law, these sections (and similar sections in the House bill) would require much of the regional assessment, collaborative planning, science development and integration, and other adaptation-related work that is already underway within the BLM, DOI, CEQ, and other agencies.



SUMMARY OF DOI DIRECTIVES



- *Analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multiyear management plans, and making major decisions regarding potential use of resources.*
- *Management responses to climate impacts must be coordinated on a landscape-level basis.*

SUMMARY OF DOI DIRECTIVES



- *Quantify the amount of carbon stored in our lands, identify areas where CO₂ can be stored underground, and develop carbon sequestration methodologies for biological and geological carbon storage.*
- *Promote environmentally responsible energy development.*

SUMMARY OF DOI DIRECTIVES



- *Develop science-based adaptive management strategies and tools to address the impacts of climate change on our natural and cultural resources.*

DOI/BLM Climate Change Strategy



TWO BASIC ELEMENTS

MITIGATION: ACTIONS TO MINIMIZE CLIMATE CHANGE

ADAPTATION: ACTIONS TO PREPARE FOR CLIMATE CHANGE



MITIGATION



- Promoting renewable energy development
 - Solar, wind, geothermal, biomass
- Reducing our carbon footprint
 - Reducing agency GHG emissions
 - Reducing GHG emissions from authorized uses
- Carbon sequestration
 - Biological
 - Geological



ADAPTATION



- **Obtaining down-scaled climate projections**
 - NOAA Regional Climate Science offices
- **Modeling regional impacts to resources and users**
 - DOI Regional Climate Science Centers
- **Determining and implementing responsive changes**
 - Each agency, organization, private landowner – through nested, landscape-scale collaborations including Landscape Conservation Cooperatives (LCCs)
- **Monitoring and adapting**
 - CEQ is working with DOI, DOA, and DOD to foster a unified, multi-scale monitoring approach



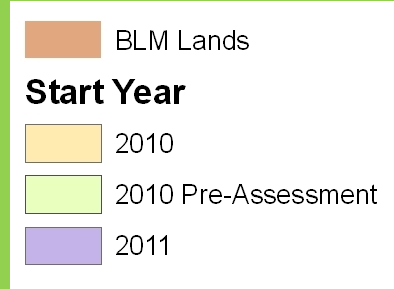
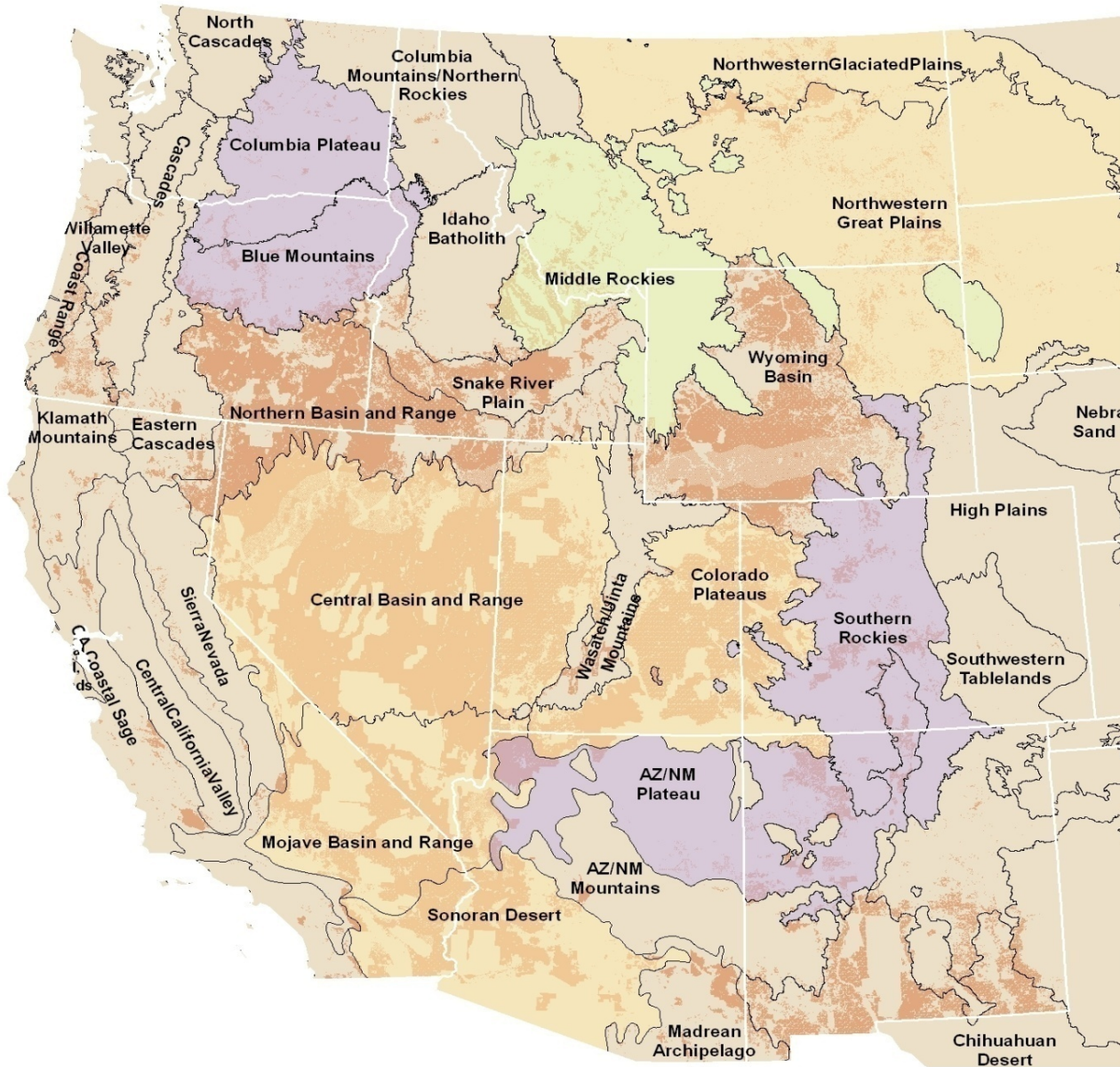
ECOREGIONAL ASSESSMENTS



- BLM will conduct a series of ecoregional assessments beginning in FY 2010
- Driven in part by landscape-scale concerns about impacts to resources from renewable energy siting
- Designed to help address other landscape-scale concerns, including invasive species, altered fire regimes, and climate change



ECOREGIONAL ASSESSMENTS



BLM – Rapid Ecoregional Assessment



- **Rapid/No New Data Collection**
- **GIS Based**
- **Interdisciplinary and Collaborative – Multiple Agencies and Stakeholders**
- **Define and Refine Management Questions**
- **Identify Goals and Objectives at Ecoregional Scale**

Rapid Ecoregional Assessment



- **Resource Values (status, risk and trend)**
 - Native fish, wildlife and plants of conservation concern
 - Aquatic resource values
 - Terrestrial resource values

- **Change Agents**
 - Wildland Fire
 - Development (e.g., urban, industrial)
 - Invasive, non-native species
 - Climate Change

- **Vulnerability Assessment**

Rapid Ecoregional Assessments



- *Proposed Process:*
- Conduct rapid assessments
- Formulate eco-regional management strategies
- Conduct sub assessments as needed
- Develop conservation strategies
- Consider RMP Revisions/Amendments
- Implement conservation, restoration and adaptation actions
- Carry out inventories, research, monitoring and reporting

ECOREGIONAL STRATEGIES



- Assessments will lead to landscape-scale strategies for conservation, restoration, renewable energy siting, and other purposes
 - Northern Great Basin and Chihuahuan Desert are pilot areas for developing ecoregional management goals, objectives, and responsive actions
- Integrated, multi-agency, collaborative exercises
- Future landscape-scale strategies may be facilitated by LCCs, developed and implemented through nested collaborations



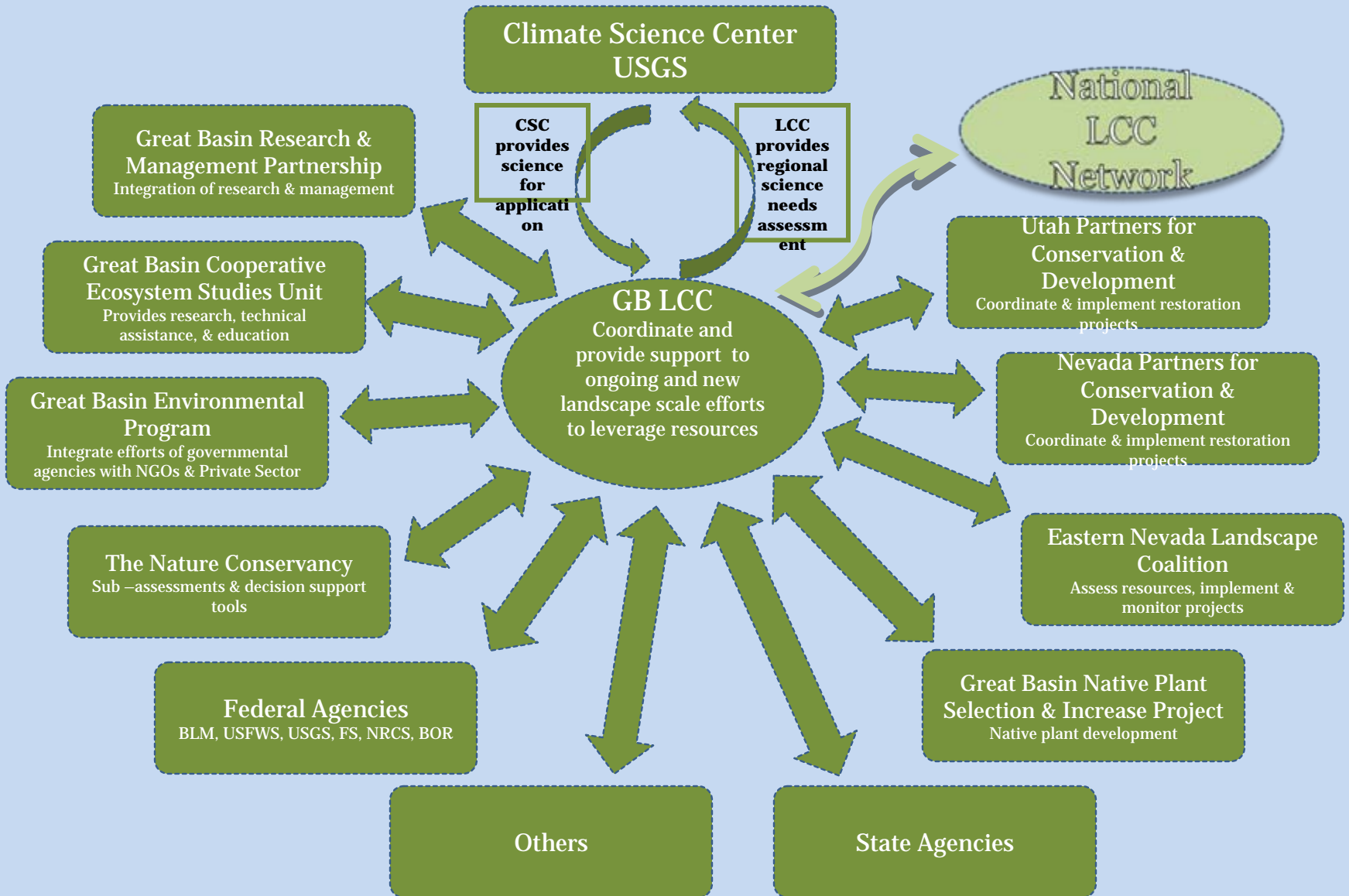
GREAT BASIN LCC



- BLM has initiated discussions to take the lead for the Great Basin LCC.
- Initial meetings in Boise, Salt Lake City and Reno in the next few weeks



Great Basin Landscape Conservation Cooperative Organizational Concept



Oregon/Washington **Climate Change Strategy**



Vision:

Minimize and mitigate the impact of climate change on our resources and adapt our actions accordingly



Climate Change Partnerships

Oregon/Washington BLM



Climate Science Center
USGS



National
LCC
Network

EPA



BLM

OR/WA
Climate
Change
Strategies

USGS



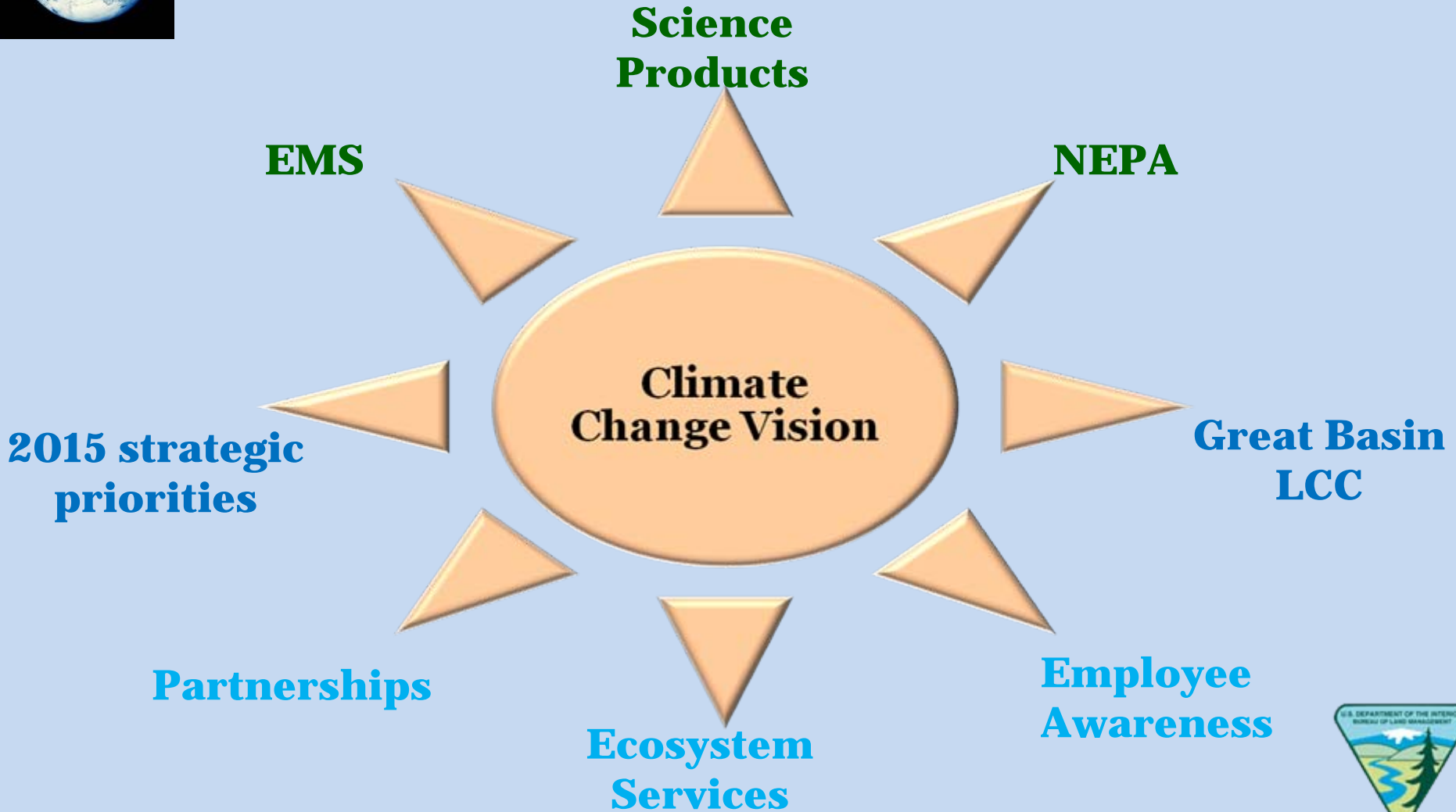
State Agencies

USFS

USFWS



Oregon/Washington BLM Climate Change Strategy 2010 work



Climate Change Strategy

Oregon/Washington BLM



- **EMS/SUSTAINABLE OPERATIONS**

Green Procurement, Hazardous Materials Management.

Invasive Plant Management, Sustainable Operations Team

NEPA

- Provide NEPA guidance related to climate change, specifically on: Affected environment, “significance”
 - Quantification of climate change impacts associated with BLM actions in NEPA documents
 - Consideration of Programmatic EIS



Climate Change Strategy

Oregon/Washington BLM



Science Products

- **#1 Climate Change Synthesis-** will have bi-annual updates to remain relevant
- **#2 Downscaling-** Consideration of a downscale model that summarizes thousands of simulated models to provide statistically valid answers to key questions
- **#3 GHG Model paradigm-** Including partnership with OWEB and Ecotrust for GHG related projects on the Eastside



Climate Change Strategy

Oregon/Washington BLM



EMPLOYEE AWARENESS

- **FY10 Goals**

- Enhance climate change awareness within OR/WA BLM
- Develop a common understanding, use common terminology, increase employee awareness & education
- Provide guidance to Program managers to better assist the field with Climate Change information and analysis relevant to their area of expertise
- Ecosystem Services



BLM – Forest Service BUSINESS NEEDS ASSESSMENT



TERRESTRIAL PRIORITIES

- Synthesize climate change outputs for vegetation – scale, new models
- Fill gap for Klamath Basin downscaling
- Develop bioclimatic envelopes for understory species, especially in rangelands
- Develop projections for changed fire regimes in all ecosystems
- Simulate new habitat distributions



BUSINESS NEEDS ASSESSMENT



AQUATIC/WATERSHED PRIORITIES

- Conduct a low flow risk assessments
- Determine groundwater effects on stream hydrographs
- Develop and apply stream temperature models for current and future climates
- Simulate new habitat distribution for aquatic species



Climate Change Issues



- Defining the “Right” Management Questions
- Baseline
- Factors Influencing Groundwater
- Data Accessibility
- Decision Support Models
- Integration Within and Across Agencies and Other Stakeholders (Buy In)





THANK YOU

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