

Illinois Innovation Network (IIN)
Council Meeting
Meeting held via Zoom
March 26, 2020

Council Chair Jerry Blazey called the meeting to order at 1:00 PM. Blazey welcomed Council members and guests. He also reminded attendees to put computers on mute unless speaking. He provided instructions as to communicating in the meeting.

In addition to opening remarks from Chair Blazey, University of Illinois System Vice President Ed Seidel also provided brief remarks. Recording Secretary Lori Pflugmacher called roll of Council Members. Council members or proxies in attendance included:

Chicago State University (Leslie Roundtree, Vice Chair) Mary Daniels
Discovery Partners Institute (Bill Jackson) Matt Bell
Eastern Illinois University (Ryan Hendrickson)
Governors State University (Beth Cada)
Illinois State University (John Bauer)
Northeastern Illinois University (Mike Bedell)
Northern Illinois University (Jerry Blazey, Chair)
Peoria Innovation Hub (Ryan Spain) Kip McCoy
Southern Illinois University Carbondale (Gary Kinsel), Lynn Lindberg,
Southern Illinois University Edwardsville (Jerry Weinberg, Proxy)
University of Illinois Chicago (TJ Augustine) Kristy Kuzmuk
UIC Health Sciences Campus Rockford (Alex Stagnaro-Green)
University of Illinois Springfield (Bruce Sommer)
University of Illinois at Urbana-Champaign (Melanie Loot, Proxy)
Western Illinois University (Joe Rives)

Several guests also participated in the Zoom meeting.

Presentation by Prairie Research Institute

Dr. Jeff Stein gave a summary of Prairie Research Institute (PRI). Dr. Stein indicated that while PRI is housed in UIUC, many of the activities are statewide – for example the Illinois State Geological Survey covers all of Illinois. Dr. Stein also mentioned a possible state of Illinois genome sequencing activity coordinated by several offices including the UIUC Institute for Genomic Biology. He provided a power point presentation which is available to Council members.

Presentation by Illinois Century Network

Mr. Essam El-Beik from the Illinois Century Network gave an overview of their activities and possible collaboration with the IIN. He mentioned several activities including a K-12 project and a virtual workshop. Mr. El-Beik's power point presentation is available to Council members.

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Working Committee Updates

Discussion ensued regarding populating working committees with vice chairs in addition to short summaries from each of the summaries.

Education and Workforce Development: Chair Beth Cada reported that they have identified a Vice Chair and are confirming with that individual. She also mentioned that the April 7 Department of Labor Webinar coordinated by IIN has been rescheduled for April 14.

Entrepreneurship and Corporate Engagement: Chair Bruce Sommer provided updates of summer Entrepreneurship bootcamp planning and the progress of subcommittees. He also mentioned that we intend to participate in the Falling Walls Lab competition next Fall. Sommer indicated that Mike Bedell of Northeastern Illinois University has agreed to serve as Vice Chair.

Public Policy: Chair Ryan Spain provided a policy update and summarized activities from the legislature.

Research and Collaboration: Chair Ryan Hendrickson reported that Leslie Matuszewich from Northern Illinois University has agreed to serve as Vice Chair of this committee. He further discussed the planned sustainability workshop in the fall.

Open Discussion: Chair Blazey asked Executive Director Kyle Harfst to initiate discussion on the following topics.

Capital Funding/CDB Update: Kyle summarized a meeting held on March 19. Information was provided from Sean Reeder of University of Illinois Capital Programs. Mr. Reeder indicated that Capital Development Board will be suspending all new project procurement activities while we work through COVID-19.

Sustaining Illinois Seed Funding: Council discussed extending the deadline for proposal submissions. The due date will be June 30 and plans are to introduce another round of funding next fall.

COVID-19 in Illinois: Harfst and Bill Jackson, Executive Director of the Discovery Partners Institute, lead this discussion. Harfst reviewed the request made for an inventory of COVID-19 testing equipment and PPE of the hubs. Discussion also ensued regarding using university resources to make PPE. Jackson mentioned the need of monitoring and providing assistance to the Governor's office and the Illinois Department of Public Health. Joe Rives discussed the importance of higher education reacting quickly to this pandemic.

Considerable discussion ensued and it was decided to hold a special IIN Council meeting dedicated to COVID-19 discussion the following day and include representatives from the Governor's office in the meeting.

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Prior to adjournment Blazey reminded the Council membership to consider bringing agenda topics in advance of the meetings to staff.

Next meeting date: May 28 at SIUC or Zoom.

Motion made by Mike Bedell, seconded by Ryan Hendrickson, to adjourn meeting.
Motion passed.

Meeting adjourned at 3:05 PM



Working together to ignite the Illinois economy

IIN COUNCIL MEETING

MARCH 26, 2020 | ZOOM VIRTUAL MEETING



WELCOME & INTRODUCTIONS

For today's Zoom meeting, please mute your microphone unless you are speaking.

If you have a question or comment, please indicate that by "raising your hand" in Zoom (under participants panel or alt-Y/option-Y) or sending a note in chat and we will pass the baton to you.

We are recording today's meeting for note-taking and sharing purposes.



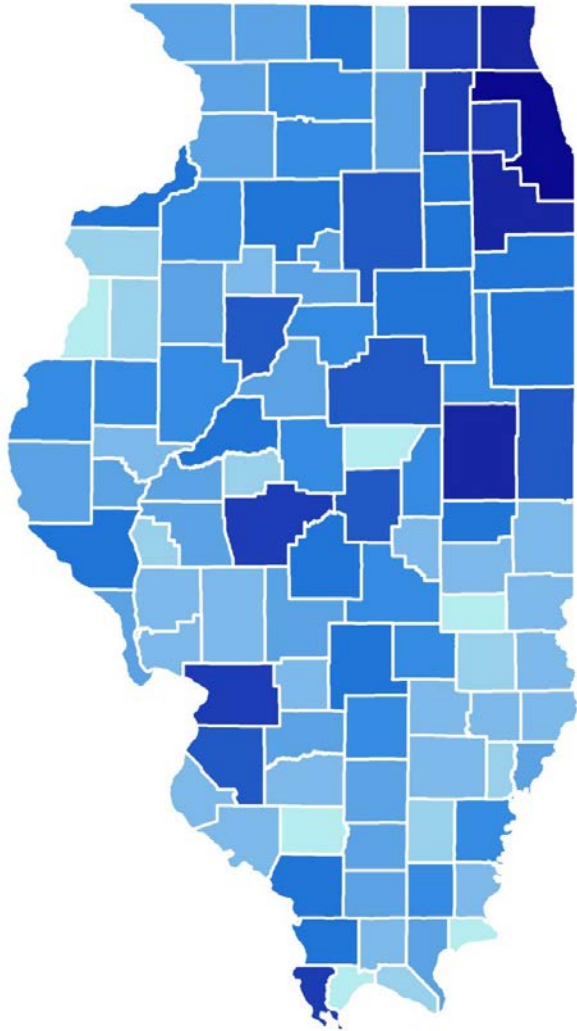
PRAIRIE RESEARCH INSTITUTE PRESENTATION



ILLINOIS

Prairie Research Institute

PRI is a world-class, interdisciplinary,
applied research institute



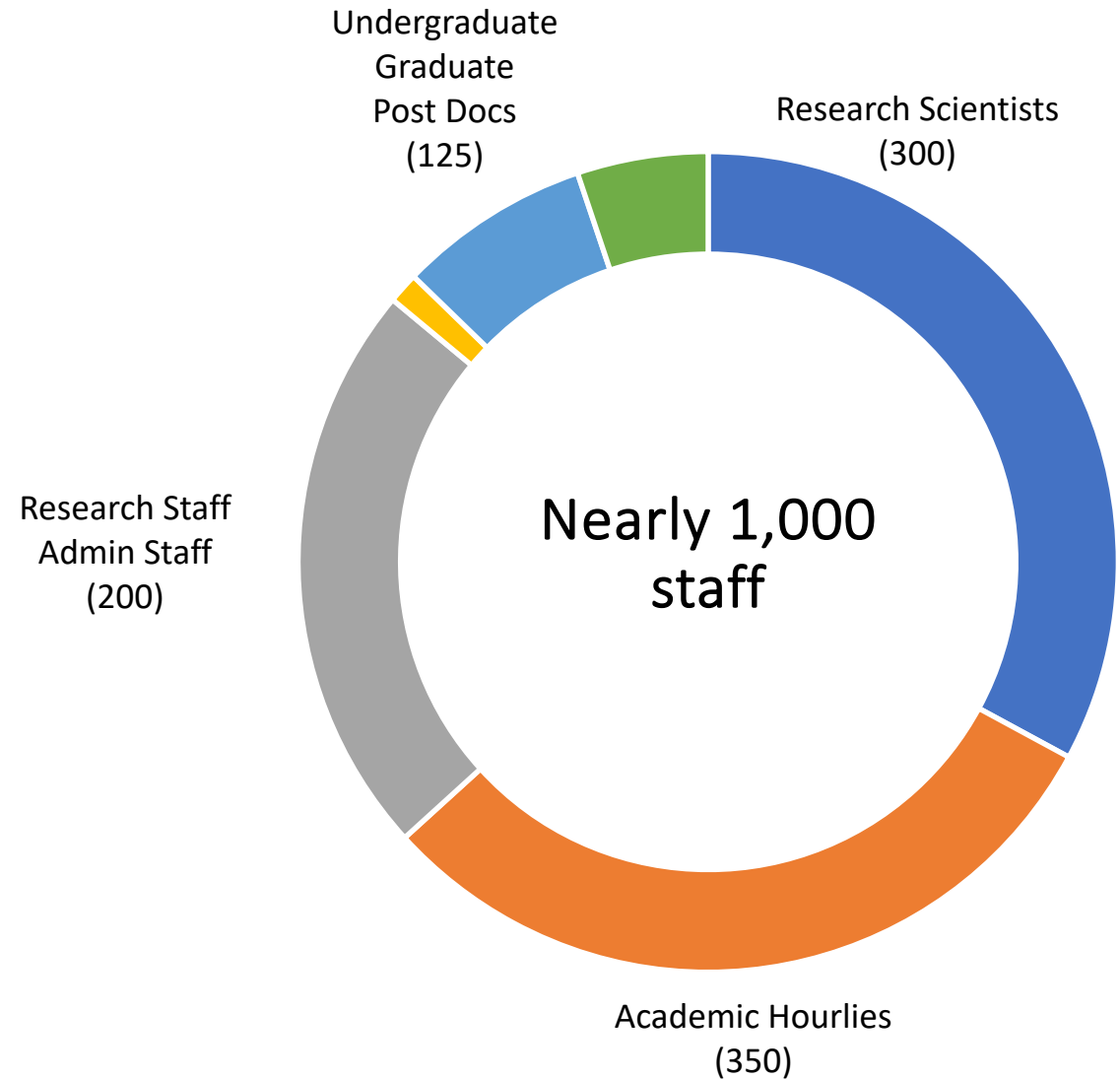
PRI's unique balance of
applied and basic science,
technology transfer,
and problem-solving **data and expertise**
benefits the **people, the economy,**
and the **environment** of Illinois.

PRI delivers **objective, timely** scientific **data** to

state agencies
municipal governments
businesses/industries
non-profits
and the people of Illinois

PRI's Five Divisions

Illinois **Natural History** Survey
Illinois State **Archaeology** Survey
Illinois State **Geological** Survey
Illinois State **Water** Survey
Illinois **Sustainable Technology** Center



PRI Research Themes

Water

Energy

Public Health

Environment

Climate
Resilience

Agriculture

Technology
& Data
Transfer

ENERGY

Assessing the viability of **renewable energy resources**

Identifying & mapping **coal, oil, and natural gas resources**

Improving technology to **reduce emissions**

Identifying new ways to **conserve energy**



ILLINOIS EASTERN
COMMUNITY COLLEGES
WORKFORCE EDUCATION



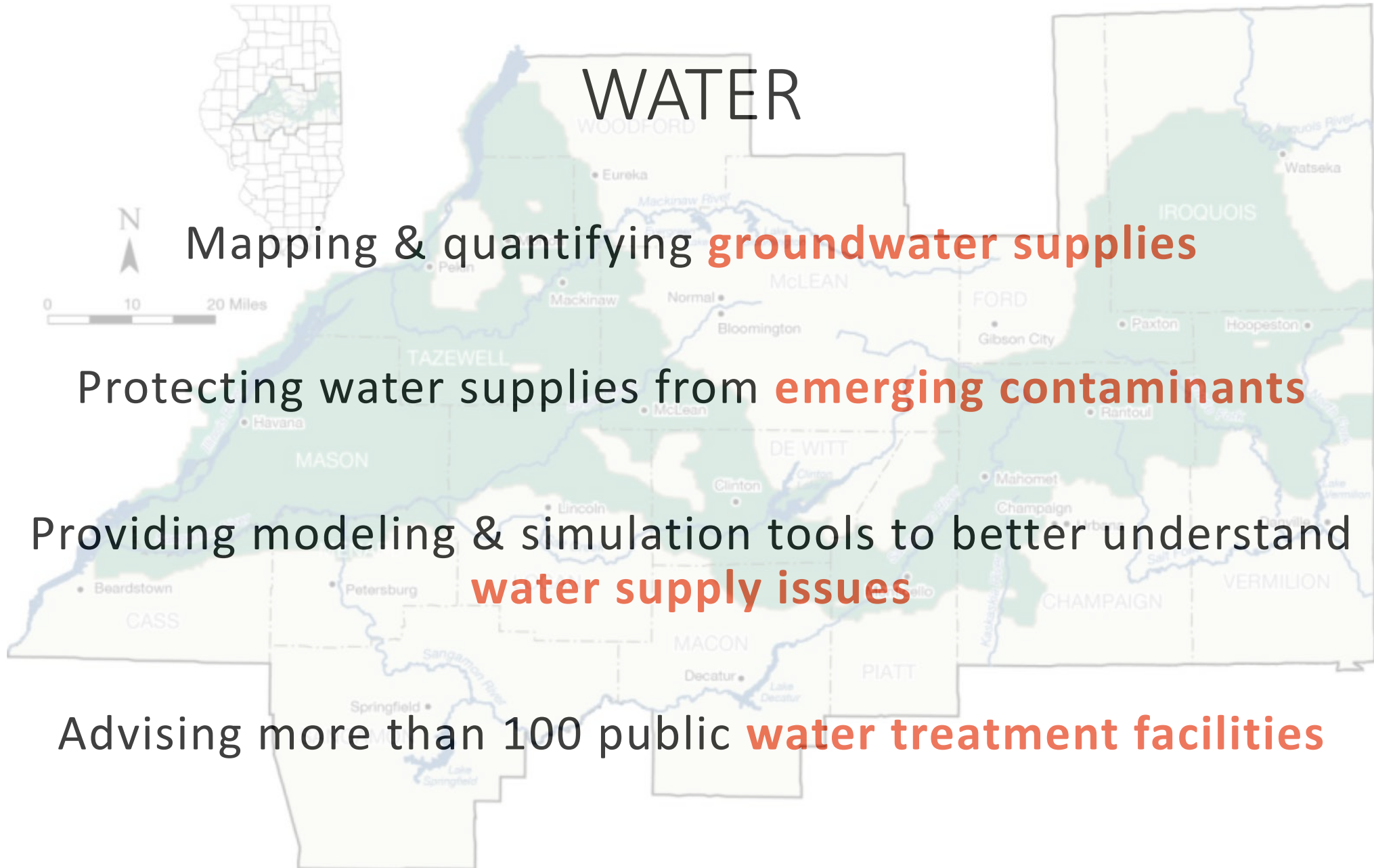
WATER

Mapping & quantifying **groundwater supplies**

Protecting water supplies from **emerging contaminants**

Providing modeling & simulation tools to better understand **water supply issues**

Advising more than 100 public **water treatment facilities**



AGRICULTURE

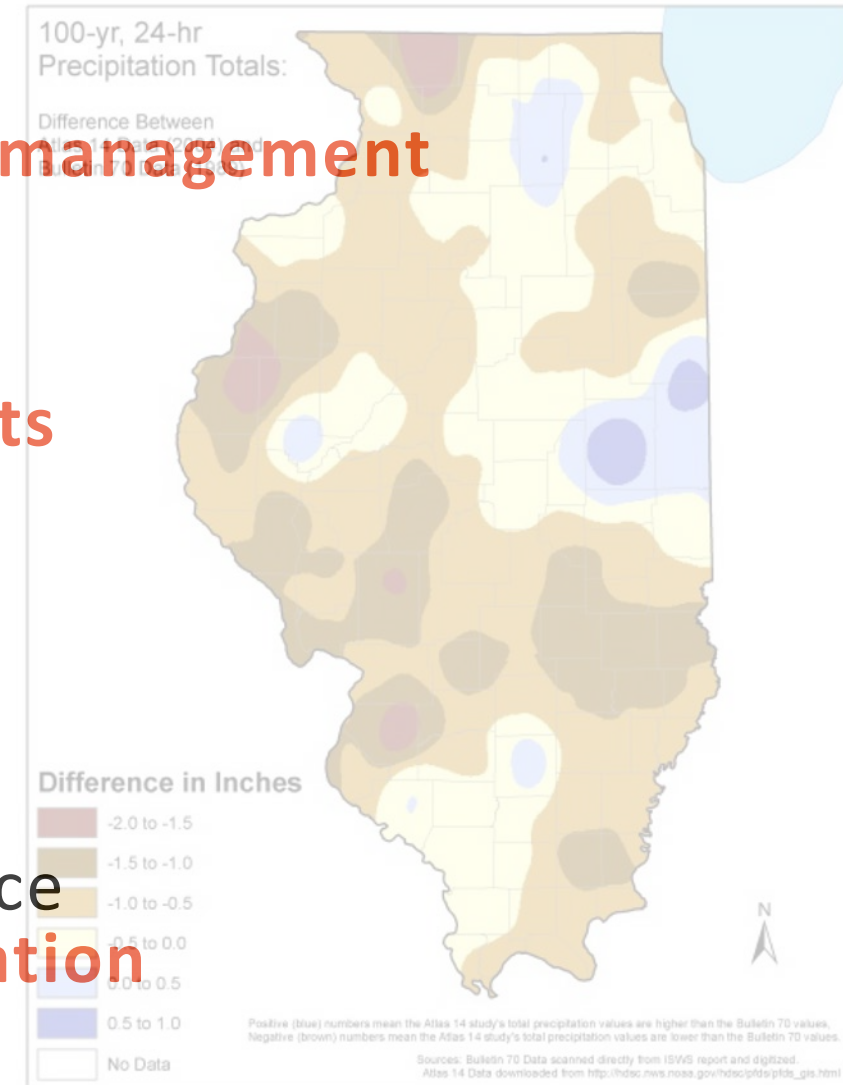
Advising on disease, weed, and **pest management**



Monitoring
atmospheric contaminants

Providing guidance on
climate and weather

Researching ways to reduce
nutrient loss and sedimentation



PUBLIC HEALTH

Studying **medicinal properties of natural products**



Examining the ecology and distribution
of **disease vectors**

Working to reduce **flood damage**
and identify high-risk areas

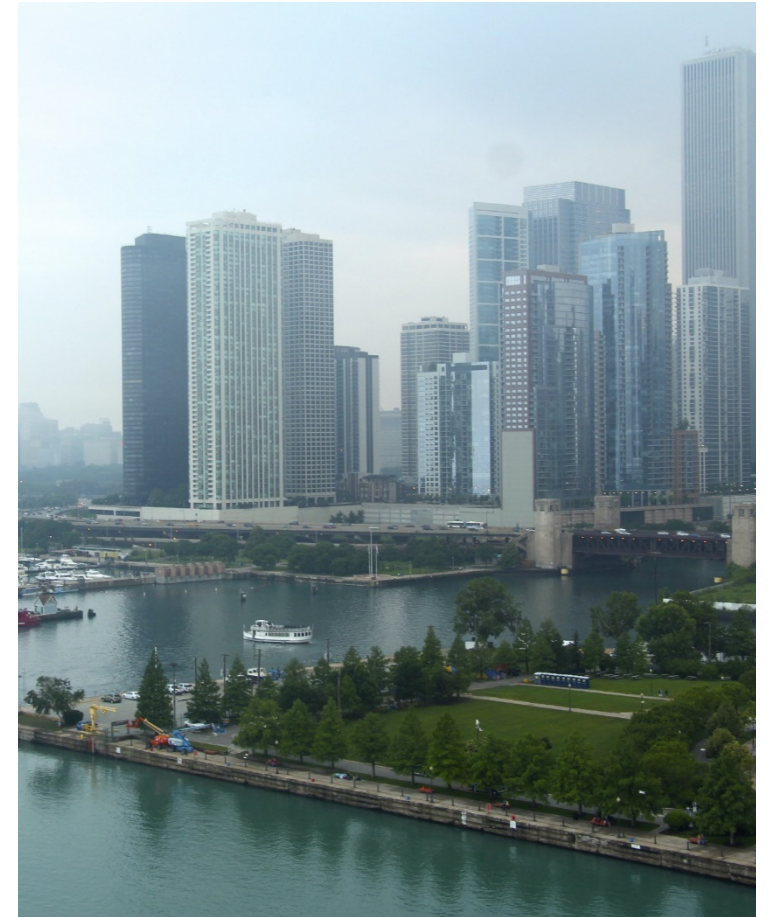
Testing **drinking water supplies** for
contaminants like arsenic and lead

CLIMATE RESILIENCY

Monitoring **weather** & collecting long-term **climate data**

Developing and communicating **best management practices** to deal with weather extremes

Measuring changes in **terrestrial and aquatic habitats**



TECHNOLOGY/DATA TRANSFER

Technical Assistance Program

Promotes sustainable business practices



- ✓ Cut waste
- ✓ Cut water use
- ✓ Cut energy use
- ✓ **Save money!**



ENVIRONMENT

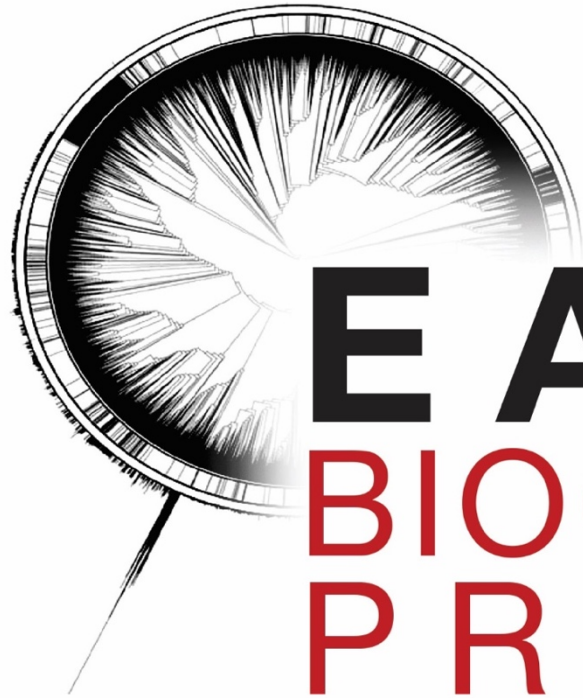
Investigating the **ecology of plants and animals**

Prioritizing **natural resource investments**

Preserving **ecosystems and biological communities**

Developing methods to reduce **hazardous wastes & chemicals of concern**





EARTH BIOGENOME PROJECT

sequencing life for the future of life

<https://www.earthbiogenome.org>

Prairie Research Institute
Advisory Board Meeting
October 17, 2019

What is the Earth BioGenome Project?

The Earth BioGenome Project is a consortium of independent partner institutions that have the common goal of sequencing and annotating the genomes of all 1.5 million known species (animals, plants, fungi, protozoa and other microbes) in 10 years.



A GRAND CHALLENGE

Sequence the DNA of all life on Earth in 10 years

A GRAND VISION

Create a new foundation for science to drive solutions for preserving biodiversity and sustaining human societies.

WHY **SEQUENCE** LIFE?

Conserve, protect, and restore biodiversity

Revolutionize biology

Create new benefits for society and human welfare

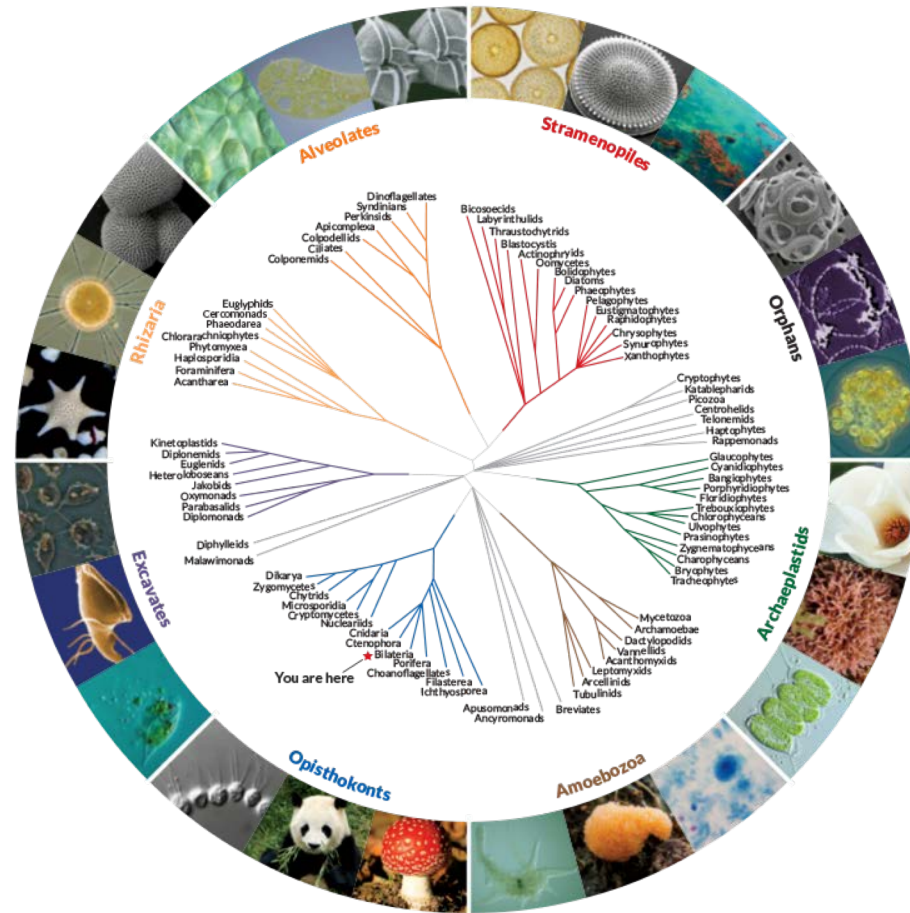
Genomes are books of life:
They reveal the past,
encode the present,
and hint at the future.



Maximize Returns to Society and Human Welfare

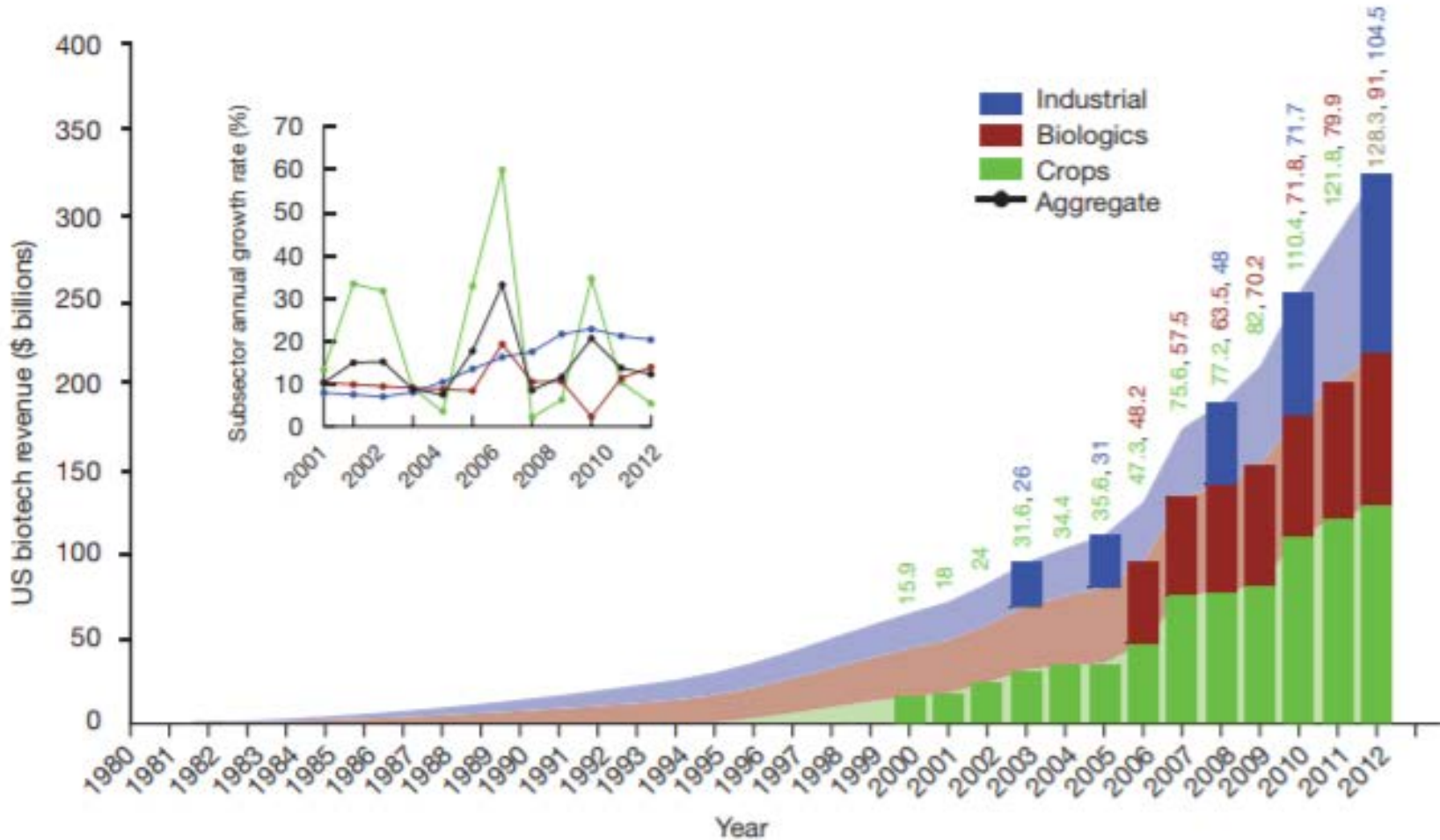


Revise and Reinvalidate Our Understanding of Biology and Evolution



Source: F. Burki/Cold Spring Harbor
Perspectives in Biology 2014

Create Bioeconomy Infrastructure and Enhance Biosecurity



Conservation, Protection and Regeneration of Biodiversity

- Identify genes for resiliency to climate change
- Mitigate impacts of pollution and habitat encroachment on biodiversity
- Develop evidence-based conservation plans
- Create genomic resources to restore damaged ecosystems and for de-extinction



marsupials – endangered and extinct



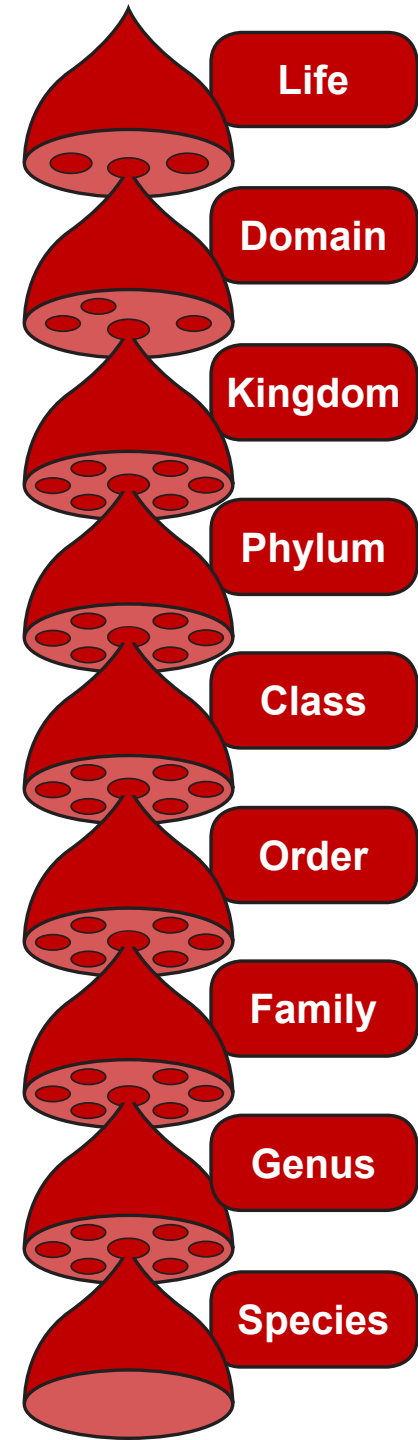
Cheetah



California Condor

EARTH BIOGENOME PROJECT STRATEGY

March through the tree of life



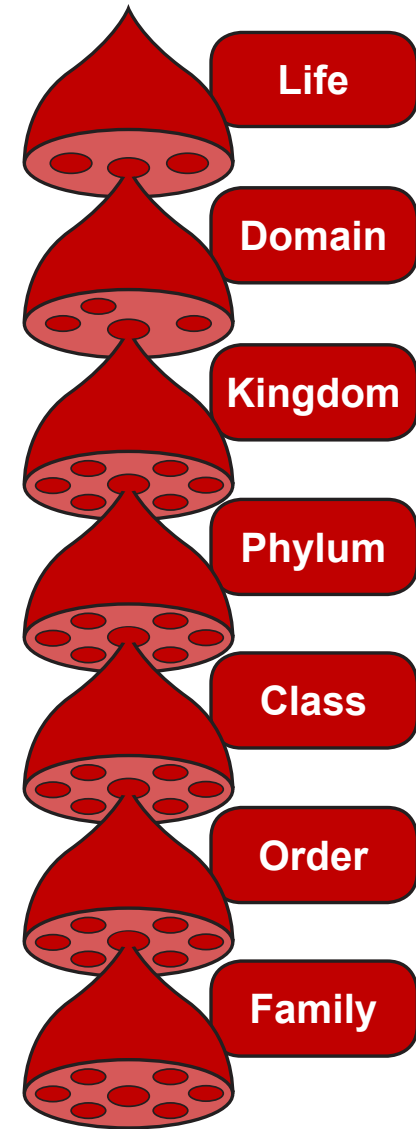
EARTH BIOGENOME PROJECT

STRATEGY

Phase 1:

All known families (~9K; reference level)

Years 1-3, **\$500M**



EARTH BIOGENOME PROJECT STRATEGY

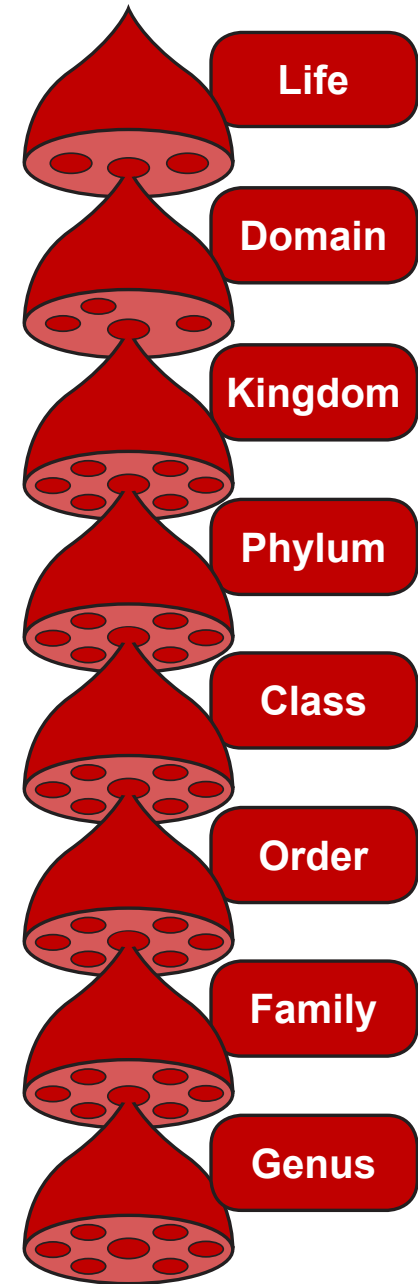
Phase 1:

All known families (~9K; reference level)

Years 1-3, **\$500M**

Phase 2:

All known genera (140K—200K)



EARTH BIOGENOME PROJECT STRATEGY

Phase 1:

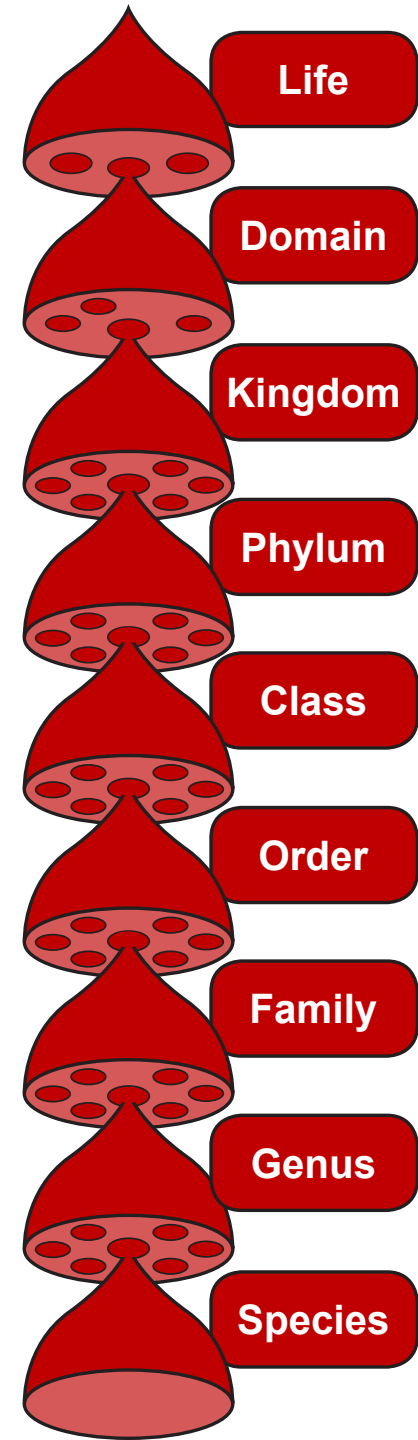
All known families (~9K; reference level)
Years 1-3, \$500M

Phase 2:

All known genera (140K—200K)

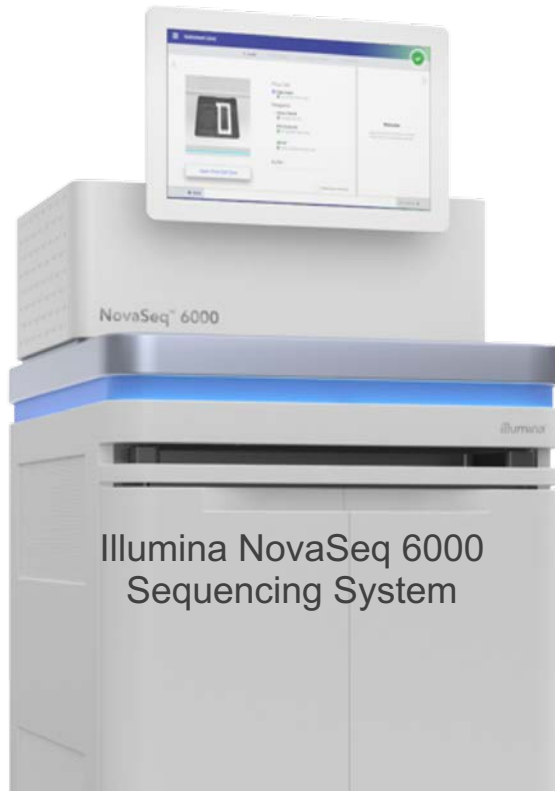
Phase 3:

All known species (~1.5M)



FEASIBILITY: CAN BE DONE WITH CURRENT TECHNOLOGY

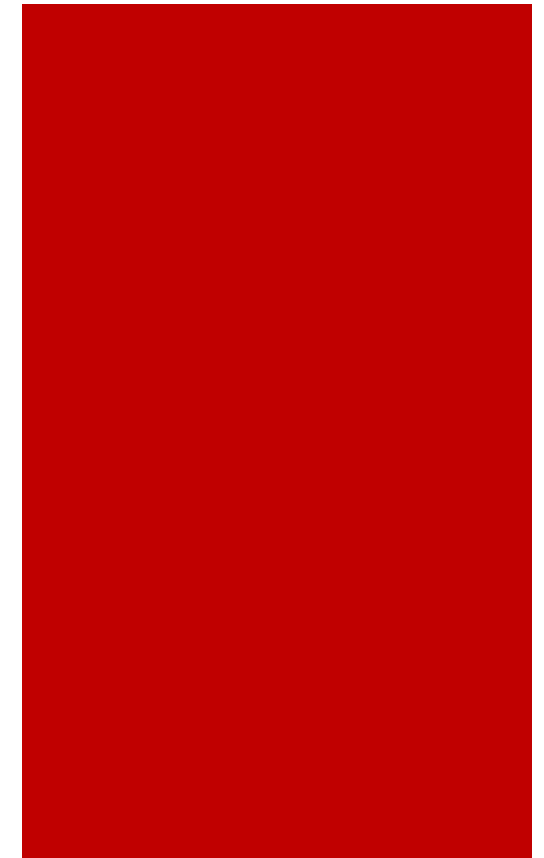
30 machines
1.5M genomes, 10 years



Estimated Cost:
~\$4 billion



Human Genome Project:
\$2.7B
(\$4.8B in 2017 dollars)



EARTH BIOGENOME PROJECT WILL SPUR INNOVATION IN **TECHNOLOGY**

- Sample collection
- Sample identification
- Sample sequencing

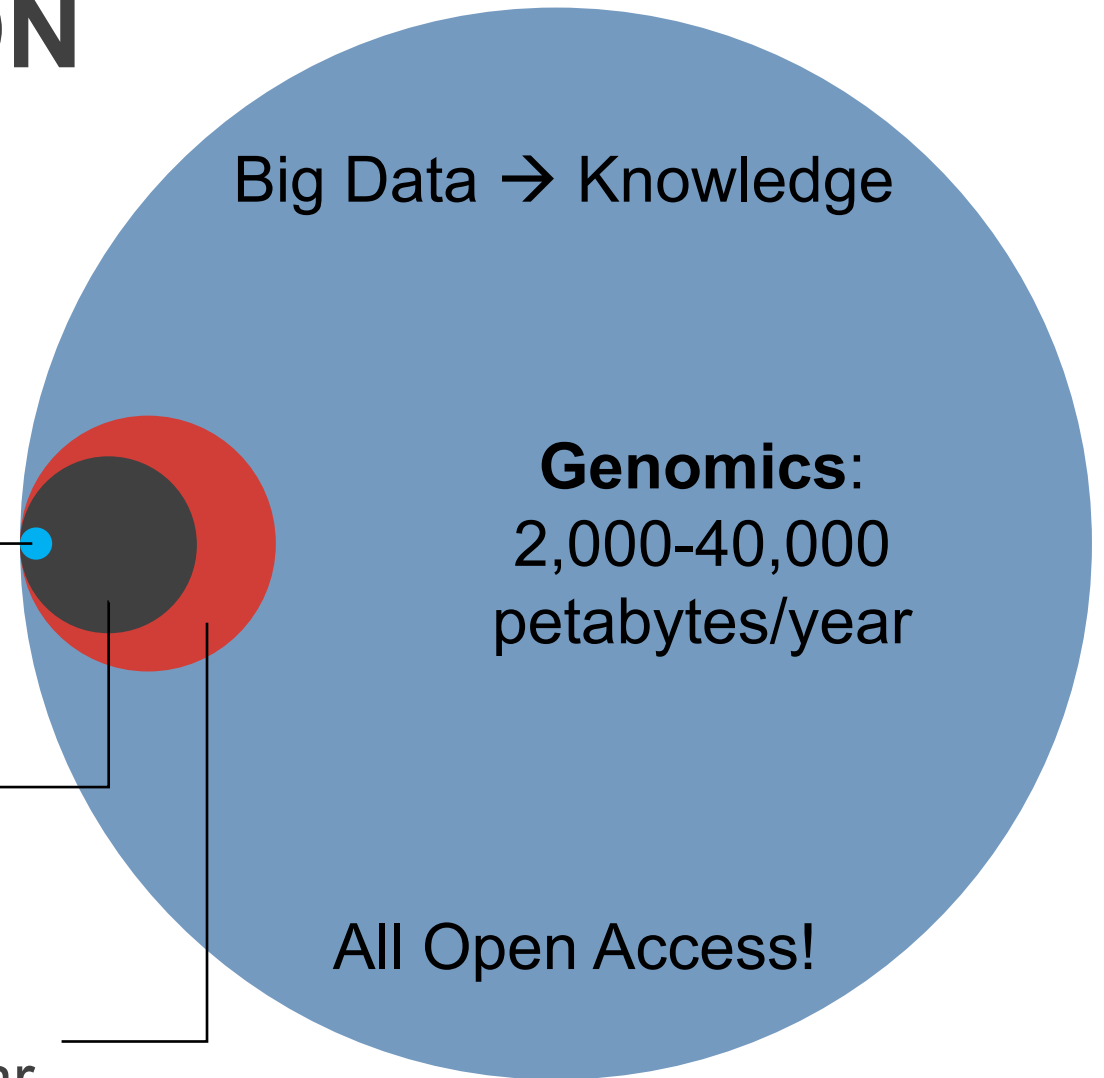


EARTH BIOGENOME PROJECT WILL SPUR INNOVATION IN **COMPUTING**

Twitter:
1-17 petabytes/year

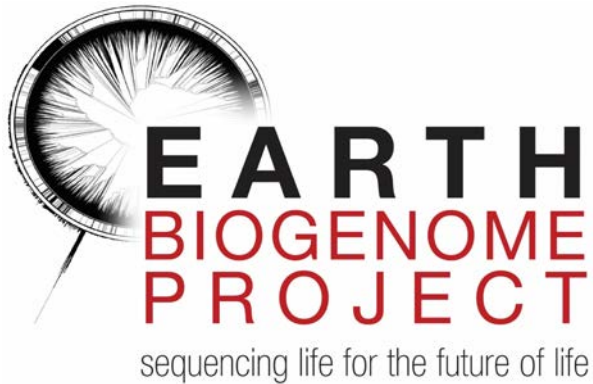
Astronomy:
1,000 petabytes/year

YouTube:
1,000-2,000 petabytes/year





I ILLINOIS
Prairie Research Institute



I ILLINOIS IGB

Innovative Applied Research
Public-Private Partnerships
Workforce Development Opportunities

Energy Sustainability
Water Resource Management
Natural Resource Management
Technology & Data Transfer



Illinois Century Network

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26 March 2020



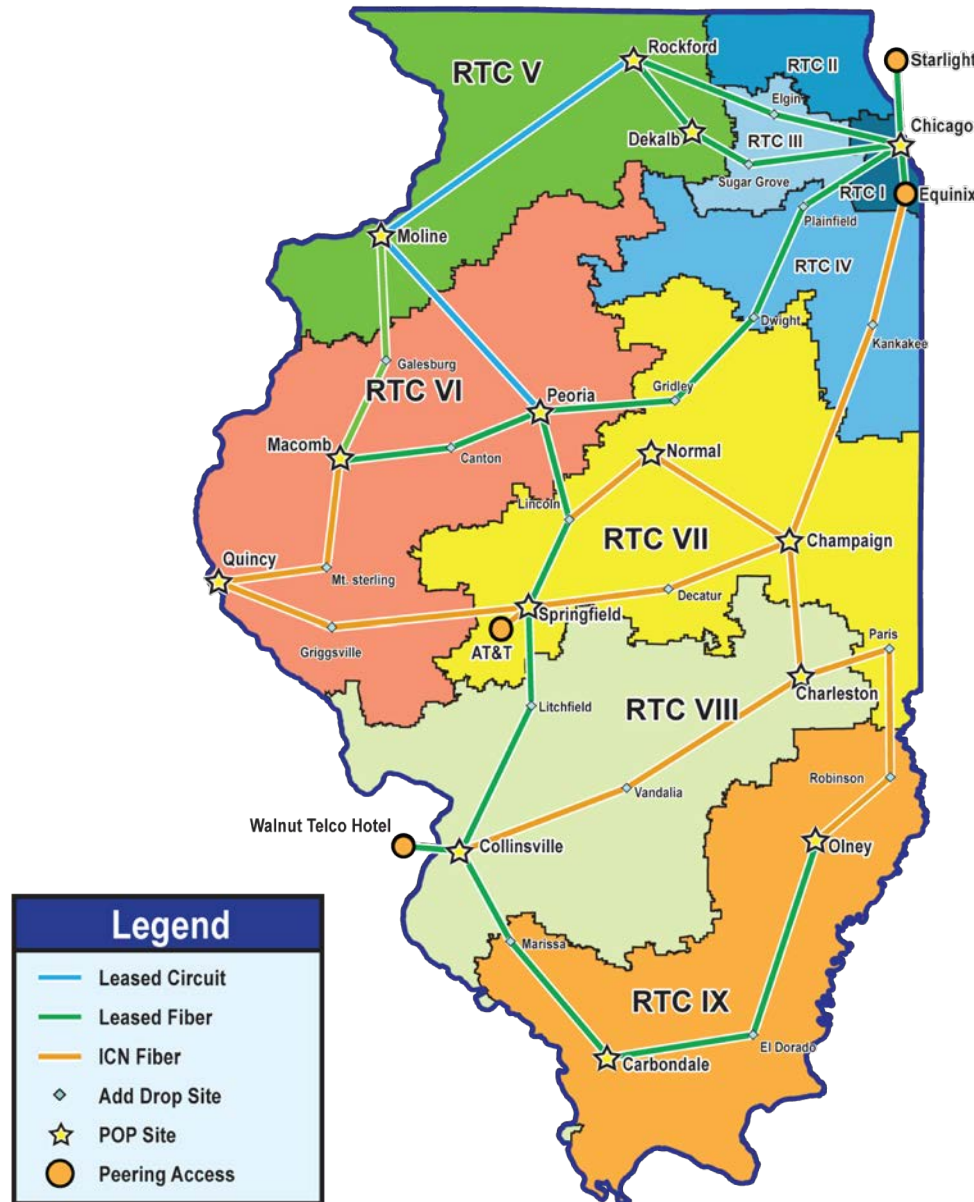
ICN at a Glance

OVERVIEW

- Open Access
- 2,000 Miles of Fiber
- 100GB Backbone
- High Availability
- High Speed
- Internet2 SEGP for Illinois

SERVICES

- Internet -10Mb to 10Gb
- Point to Point Ethernet
- Dark Fiber
- Co-location
- Content Filtering
- Multicasting
- QOS
- Equipment Discounts
- Internet2
- DDOS Detection and Mitigation
- Consulting



HISTORY

- 1995 created as a K-12 network by ISBE
- 1999 20 ILCS 3921 created the ICN
- 2010 awarded \$96M in federal stimulus & state capital funds to build fiber backbone
- 2014 fiber backbone completed
- 2019 awarded \$20M for upgrades and K-12 connectivity

CUSTOMERS

- 1,527 K-12
- 182 Higher Education
- 189 Libraries
- 1,521 State & Local Government
- 79 Service Providers
- 22 Other

Illinois K-12 Broadband Network



Unlimited and Secure Internet Access and Broadband Connectivity for Illinois K-12 – allowing Digital K-12 Learning to Flourish

Partnership

Illinois Century Network would like to partner with Illinois Innovation Network to encourage and advance Innovation, Improved Educational Outcomes and Distance Learning in Illinois K-12



Thank you

WORKING COMMITTEE UPDATES

- **Education & workforce development**
- **Entrepreneurship & corporate engagement**
- **Public policy**
- **Research & collaboration**

OPEN DISCUSSION

- **Capital funding/CDB update**
- **Sustaining Illinois seed funding program**
- **COVID-19 related activities**



ADJOURN

- **Next meeting: May 28 - SIU Carbondale**
 - **Meeting may be converted to a Zoom meeting if social distancing guidelines/travel restrictions remain in place**
 - **Discuss meeting format**
 - **Call for agenda items**