

CO-LABS ECONOMIC IMPACT STUDY

-The Impact of Federally Funded Research Laboratories in Colorado-

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CO-LABS

Consortium of federally funded scientific laboratories, universities, businesses, local governments, and legislators organized to establish Colorado as a global leader in research, technology, and technology transfer.

- Collects and analyzes data
- Informs the public about the labs
- Facilitates interactions

Background of Study

BRD charged with:

- Quantifying the direct and indirect economic benefits of federal research facilities and federal-university partnership facilities.
- Qualifying the intangible benefits derived from the research facilities.

Key Findings

- State net economic benefit: \$1.1B
- Direct spending at Colorado facilities: \$808.5M
 - Purchases
 - Payroll
 - Direct employment: 6,210.5
 - Average total compensation: \$90,627
 - Average salary: \$64,350
 - 48% higher than state average for all industries
- 4.7 million square feet of space in Colorado

Facilities

- Centers for Disease Control and Prevention (CDC/DVBID)
- Cooperative Institute for Research in Environmental Sciences (CIRES)
- Cooperative Institute for Research in the Atmosphere (CIRA)
- JILA
- National Oceanic and Atmospheric Administration (NOAA)
 - Earth System Research Laboratory (ESRL)
 - National Geophysical Data Center (NGDC)
 - National Weather Service (NWS)
 - National Environmental Satellite, Data, and Information Service (NESDIS)
 - Space Weather Prediction Center (SWPC)
- National Institute of Standards and Technology (NIST)
- National Renewable Energy Laboratory (NREL)
- National Telecommunications and Information Administration (NTIA)
- University Corporation for Atmospheric Research (UCAR)
 - National Center for Atmospheric Research (NCAR)
- U.S. Department of Agriculture – Agricultural Research Service (USDA-ARS)
 - Natural Resources Research Center
 - National Center for Genetic Resources Prevention
 - Crops Research Laboratory
 - Central Great Plains Research Station
- U.S. Department of Agriculture – Rocky Mountain Research Station (RMRS)
- U.S. Department of Agriculture – National Wildlife Research Center (NWRC)
- U.S. Geological Survey (USGS)

Model Concepts

- Economic Benefits
 - Sum of economic benefits from construction, operations, off-site employee effects, indirect effects, and visitors.
- Public Revenues
 - Taxes on property, sales, and income.
- Public Costs
 - Cost of providing government services to the facility and to the employees of the facility.

Terminology

- Construction
 - New construction and renovation
- Operations
 - Revenues and costs associated with the operations of the facility (payroll, purchases of materials, equipment)
- Off-site Employee Effects
 - Employee spending
- Secondary Effects
 - Multiplier effects
- Visitor Impacts
 - Overnight visitors to the facility

Construction

Materials, Soft Costs, and Labor

FY2007: \$12 M

Boulder \$11.5 M
Jefferson \$365,000
Larimer \$188,000

NTIA, USGS, NIST, NOAA,
NREL, USDA

FY2008: 54.7 M

Boulder \$25.1 M
Jefferson \$25.0 M
Larimer \$4.6 M

NTIA, NIST, NOAA, NREL,
USDA, RMRS, NWRC

FY2009 \$155.4 M

Boulder \$44.4 M
Jefferson \$75.0 M
Larimer \$36.0 M

NTIA, NIST, NOAA,
NREL, NWRC

Operations

- \$808.5 million in direct spending for Colorado facilities
 - Labor, operations, maintenance, utilities, and lease payments
 - \$713 million in direct spending in Colorado
 - 6,210.5 full-time equivalent employees
 - 5,237 full-time
 - 695 part-time (counted as ½ FTE)
 - 626 contract workers
 - Weighted average salary and benefits: \$90,627
 - Average salary: \$64,350
 - Salary/Benefits split: 71%/29%

Off-Site Employee Effects

- Property, Sales, Income Taxes
- 78.6% of Colorado lab employees live in Boulder, Jefferson, and Larimer counties

County	Employees	Percentage
Boulder	2,566	41.3%
Jefferson	1,558	25.1%
Larimer	759	12.2%
Denver Metro	2,500	40.3%
Colorado	6,159	99.2%
Total		
Employees	6,210.5	100.0%

Indirect Effects

- Multipliers applied to function
 - Federal, Non-Military
 - Commercial and Institutional Buildings
 - Professional, Scientific, and Technical Services
 - Facilities Support Services
 - Utilities

Type	Boulder County	Jefferson County	Larimer County	Denver Metro	Colorado
Employment	1.97	1.90	1.94	1.98	2.07

Source: Minnesota IMPLAN Group.

Visitor Effects

- 37,300 Room Nights
 - More than 107/night
- Overnight Visitors
 - Conferences
 - Presentations
 - Technical training
 - Meetings
 - Tours
 - Awards
 - Fact-finding missions
 - Focus Groups

<u>County</u>	<u>Overnight Visitors</u>	<u>Length (Nights)</u>	<u>Day Visitors</u>
Boulder County	4,516	2.4	84,257
Jefferson County	9,323	2.7	16,580
Larimer County	2,539	1.7	3,068
Total	16,378	2.4	103,905

Colorado - Net Economic Benefits

Source, in millions	FY 2007	FY 2008	FY 2009
Construction	\$10.0	\$54.2	\$182.0
Operations	\$697.5	\$739.9	\$783.0
Employees (off-site)	\$136.9	\$147.5	\$158.4
Indirect	\$251.2	\$299.3	\$420.6
Visitors	\$9.5	\$9.8	\$10.1
Net Economic Benefit	\$1,105.1	\$1,250.7	\$1,554.2

Boulder County - Net Economic Benefits

Source, in millions	FY 2007	FY 2008	FY 2009
Construction	\$1.3	\$17.5	\$45.8
Operations	\$268.5	\$281.5	\$294.4
Employees (off-site)	\$58.6	\$61.8	\$64.9
Indirect	\$46.6	\$70.4	\$89.7
Visitors	\$1.7	\$1.7	\$1.8
Net Economic Benefit	\$376.7	\$432.9	\$496.6

Facility	County	State
CIRES	\$40.9	\$73.6
JILA	13.3	18.0
NIST	70.8	112.4
NOAA	66.1	106.7
NTIA	10.9	16.1
UCAR	147.5	207.4

Jefferson County - Net Economic Benefits

Source, in millions	FY 2007	FY 2008	FY 2009
Construction	\$0.2	\$16.3	\$48.8
Operations	\$226.7	\$236.6	\$257.5
Employees (off-site)	\$66.1	\$69.5	\$78.3
Indirect	\$66.5	\$93.3	\$120.3
Visitors	\$4.0	\$4.1	\$4.2
Net Economic Benefit	\$363.5	\$419.8	\$509.1

Facility	County	State
NREL	123.9	194.0
USGS	189.5	257.0

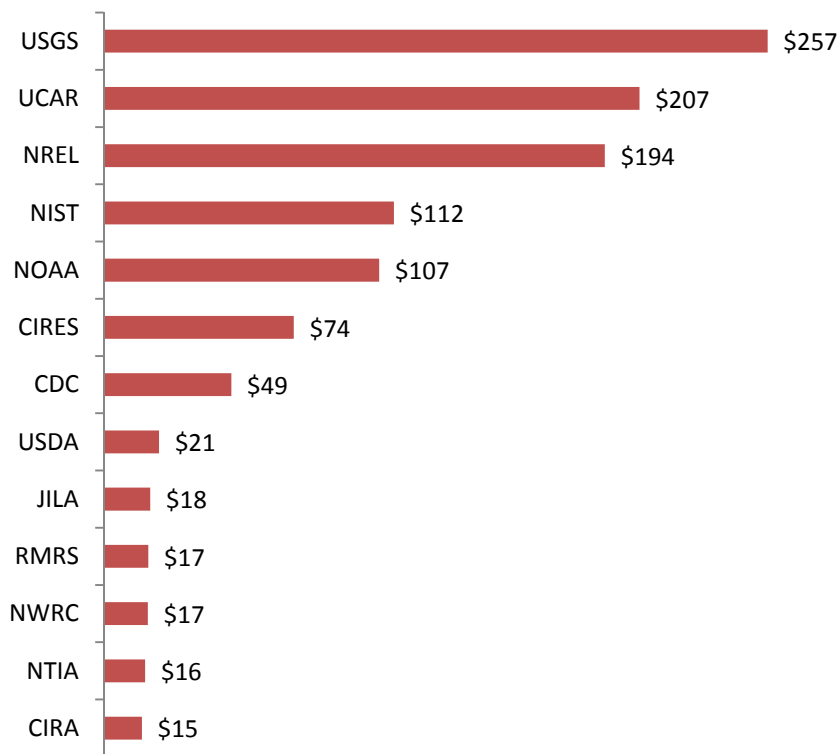
Larimer County - Net Economic Benefits

Source, in millions	FY 2007	FY 2008	FY 2009
Construction	\$0.1	\$3.1	\$25.0
Operations	\$72.9	\$74.4	\$77.0
Employees (off-site)	\$16.5	\$16.8	\$17.3
Indirect	\$15.5	\$18.0	\$32.1
Visitors	\$0.7	\$0.7	\$0.7
Net Economic Benefit	\$105.8	\$113.1	\$152.2

Facility	County	State
CDC	\$30.6	\$49.4
CIRA	9.5	14.8
NWRC	10.8	17.1
RMRS	14.0	17.3
USDA	17.0	21.4

Facilities – Net Economic Benefits, (millions)

Net Economic Benefit to Colorado, FY 2007



Facility	County	State
CDC-DVBID	\$30,590	\$49,416
CIRA	9,502	14,780
CIRES	40,946	73,586
JILA	13,333	18,050
NIST	70,811	112,354
NOAA	66,072	106,668
NREL	123,875	193,968
NTIA	10,886	16,052
NWRC	10,807	17,112
RMRS	13,959	17,278
USDA	16,988	21,442
USGS	189,484	256,996
UCAR	147,465	207,395

Intangible Benefits

Enriching the cultural, intellectual, and social fabric

- Blood donations
- Volunteering with seniors
- Building bike paths
- Educating school children
- Educating the public
- \$600,000 in CFC and other donations

Intangible Benefits

Educational Attainment

- 55% - Doctoral or Master's
 - Compared to 12.4% for all of Colorado
- 32% - Bachelors
 - Compared to 22% for all of Colorado

Employee Education

- Employee training
- Scholarships
- Tuition reimbursement/waivers
- Research fellowships
- Post-doctoral programs
- Internships
- Work-study
- Research assistantships

Spin-off Companies

- STAR Institute
- Advanced Radar Corporation
- Peak Weather Resources
- WITI Corporation
- Vaisala
- Micro-G Solutions
- Winters Electro-Optics
- HelioVolt
- ColdQuanta
- AlphaSniffer
- Vescent Photonics
- Precision Technologies
- Global Solar
- Ascent Solar
- PrimeStar Solar
- Skyfuel

C2B2 Sponsoring Companies

Colorado Center for Biorefining and Biofuels

Archer Daniels Midland Company	Dow Chemical	Range Fuels
ASD Inc.	DuPont	Rocky Mountain Sustainable Enterprises
BioExtraction	General Motors	San Juan Biodiesel
Blue Sun Biodiesel	Korth O-Neil Engineering	Shell Global Solutions
Ceres	Live Fuels	Solix Biofuels
Chevron	LS9	Suncor
Cobalt Biofuel	Mascoma	UOP
ConocoPhillips	OpX Biotechnologies	W.R. Grace & Co
Copernican Energy	PureVision Technology	Weyerhaeuser

Source: <http://www.c2b2web.org/2SponsorMem.php>, retrieved March 27, 2008.

Recent News

- ***ConocoPhillips buyer of StorageTek site,***

Denver Post, February 20, 2008

- ***New wind turbine manufacturer breaks ground in Windsor***

The Tribune, June 15, 2007

- ***Multimillion-dollar renewable energy company coming to Colorado***

9News, March 26, 2008



The Koelbel Building - Leeds School of Business