

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #1: Provide Shared Landscape-level Management and Planning Tools
Strategy #1: Ensure the use of landscape-level capabilities and mitigation actions

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
U.S. Geological Survey							
National Geospatial Program.....	70,748	65,755	62,988	59,332	60,096	58,532	75,600

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #1: Ensure the use of landscape-level capabilities and mitigation actions									
Number of communities on the Geospatial Platform that provide information relevant to landscape level decision making.	USGS	N/A	N/A	N/A	N/A	NEW	17	20	23
Number of tools registered on the Geospatial Platform that can be used to support landscape level decision making.	DOI	N/A	N/A	N/A	N/A	NEW	6	12	18
	USGS	---	---	---	---	---	5	9	15
	OSMRE	---	---	---	---	---	0	2	2
	BOR	---	---	---	---	---	1	1	1
Number of landscape conservation designs available to inform management decisions.	DOI	N/A	N/A	N/A	N/A	NEW	N/A	28	28
	FWS	---	---	---	---	---	N/A	14	14
	NPS	---	---	---	---	---	N/A	14	14
Number of landscapes with surrogate species, including population objectives, identified to support conservation actions.	FWS	N/A	N/A	N/A	N/A	NEW	N/A	29	29
Number of landscape-level mitigation strategies and actions that provide for the conservation of natural resources occurring before, during, or after development activities.	DOI	N/A	N/A	N/A	N/A	NEW	14,328	12,839	12,835
	FWS	---	---	---	---	---	N/A	12,810	12,810
	BLM	---	---	---	---	---	N/A	12	7
	BIA	---	---	---	---	---	N/A		
	OSM	---	---	---	---	---	N/A	17	18
	BOEM	---	---	---	---	---	N/A		
Percent of lower 48 States, Hawaii, District of Columbia and Puerto Rico published as high-resolution base geospatial databases.	USGS	64%	100%	35%	67%	100%	100%	34%	67%
		32,013	50,515	18,546	35,781	53,940	53,940	18,190	36,322
		50,414	50,414	53,684	53,684	53,940	53,940	54,139	54,139

Supporting Performance Measures

Outputs, Supporting Performance Measures, and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Percent of Alaska published as high resolution geospatial databases.	USGS	N/A	N/A	N/A	31%	43%	44%	49%	55%
Percent of U.S. surface area published as new enhanced elevation data.	USGS	N/A	N/A	N/A	3%	5%	4%	7%	10%

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #2: Provide Science for to Understand, Model, and Predict Ecosystem, Climate, and Land Use Changes at Targeted and Landscape Levels (biota, land cover, and Earth and ocean systems)
Strategy #1: Identify and Predict Ecosystem and Land Use Change

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
USGS Ecosystems.....	165,587	160,837	158,268	149,086	152,811	157,041	172,298
USGS Land Use Change.....	74,842	73,807	83,214	78,386	78,386	78,386	108,192
Total.....	240,429	234,644	241,482	227,472	231,197	235,427	280,490

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #1: Identify and Predict Ecosystem and Land Use Change									
Percent of targeted species for which monitoring and decision support information on their status and trends are available (Status & Trends)	USGS	27.2%	28.2%	28.5%	28.5%	28.5%	28.5%	29.0%	29.0%
		178	185	187	187	187	187	190	190
		655	655	655	655	655	655	655	655
Percent of targeted fish and aquatic populations and their habitats for which information is available regarding limiting factors such as migratory barriers, habitat, and effects of disturbance (fire, flood, nutrient enhancement) (Fisheries)	USGS	41.2%	42.0%	42.9%	42.9%	43.7%	43.7%	45.4%	45.4%
		49	50	51	51	52	52	54	54
		119	119	119	119	119	119	119	119
Percent of targeted wildlife populations for which science information is provided for management decisionmaking to inform and improve conservation (Wildlife)	USGS	54.4%	57.8%	61.2%	61.2%	61.2%	61.2%	62.3%	62.3%
		192	204	216	216	216	216	220	220
		353	353	353	353	353	353	353	353
Percent of targeted ecosystems with information products forecasting ecosystem change (Environments)	USGS	22%	22%	33%	33%	44%	44%	44%	44%
		2	2	3	3	4	4	4	4
		9	9	9	9	9	9	9	9
Percent of critical science information products available for successful control and management of targeted groups of invasive species.	USGS	45%	45%	45%	45%	45%	45%	48%	48%
		27	27	27	27	27	27	29	29
		60	60	60	60	60	60	60	60
Percent of U.S. surface area with contemporary land cover data needed for major environmental monitoring and assessment programs (Land Change Science Program)*	USGS	95%	100%	15%	78.0%	98.0%	98.0%	100.0%	15.4%
		440	463	70	354	445	445	454	70
		463	463	454	454	454	454	454	454

Supporting Performance Measures

Outputs, Supporting Performance Measures, and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Number of students complete degree requirements for MS, PhD, and post-doctoral program under the direction and mentorship of Unit Scientists (Cooperative Research Units)	USGS	89	84	83	83	75	76	75	70
Number of systematic analyses and investigations completed (Ecosystems)	USGS	1,169	1,273	1,444	1,262	1,250	1,257	1,288	1,265
Number of formal workshops or training provided to customers (Ecosystems)	USGS	113	142	129	75	65	121	68	70
Number of terabytes managed cumulatively (Land Remote Sensing)	USGS	2,873.40	3,723.00	5,073.20	7,397.00	10,520.00	10,057.00	14,420.00	15,165.00
# of remote sensing products distributed (LRS)	USGS	5,600,000	4,710,757	5,923,825	8,249,372	12,623,424	14,622,000	15,332,000	16,532,000
Number of systematic analyses and investigations completed (Land Use Change)	USGS	79	92	84	106	80	100	100	100

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #2: Provide Science to Understand, Model, and Predict Ecosystem, Climate, and Land Use Changes at Targeted and Landscape Levels (biota, land cover, and Earth and ocean systems)
Strategy #2: Assess and Forecast Climate Change and Its Effects

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
USGS Climate Variability.....	63,117	64,334	58,189	54,809	53,589	57,589	82,442

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #2: Assess and Forecast Climate Change and Its Effects									

Number of natural resource and cultural habitat, population, or ecosystem models, assessments, or major data sets developed by scientists and in cooperation with land managers.	USGS	n/a	n/a	n/a	10	20	29	20	20

Percent of climate research and development program products cited/used within three years of publication.	USGS	n/a	n/a	n/a	94%	92%	95.4%	92%	92%
					354	322	289	322	322
					376	350	303	350	350

Supporting Performance Measures

Outputs, Supporting Performance Measures, and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Percent of the baseline, reference projection, and mitigation evaluation units completed for a national biological carbon sequestration assessment (Bio Carbon)	USGS	NA	14% 45/330	40% 120/300	75% 225/300	100% 300/300	100% 300/300	N/A	N/A
Number of systematic analyses and investigations completed (Climate Variability)	USGS	121	130	177	137	148	371	148	148
Number of masters' and doctoral level students supported at CSC consortium universities (NCCWSC/CSC)	USGS	NA	NA	NA	19	20	86	20	35

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #3: Provide Scientific Data to Protect, Instruct, and Inform Communities
Strategy #1: Monitor and Assess Natural Hazards Risk and Resilience

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
USGS Natural Hazards Total.....	138,951	135,964	131,145	123,536	128,486	135,186	144,994

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #1: Monitor and Assess Natural Hazards Risk and Resilience									
Percent completion of earthquake and volcano hazard assessments for moderate to high hazard areas (Earthquake Hazard Program & Volcano Hazard Program) (SP)	USGS	30.8%	34.0%	36.9%	38.0%	40.0%	40.0%	40.5%	40.0%
		62	68	73.7	76	80	80	81	80
		200	200	200	200	200	200	200	200
Percent implementation of optimal earthquake and volcano monitoring for moderate to high hazard areas (EHP & VHP) (SP)	USGS	26.1%	29.5%	32.9%	34.0%	34.0%	36.0%	34.5%	33.5%
		52	59	65.8	68	68	72	69	67
		200	200	200	200	200	200	200	200
Percent of regional and topical ocean and coastal studies that cite USGS products within three years of study completion (Coastal and Marine Geology Program - CMGP)	USGS	80.0%	81.3%	78.6%	80.0%	81.8%	81.8%	90.9%	89.5%
		24	26	22	20	18	18	20	17
		30	32	28	25	22	22	22	19

Supporting Performance Measures and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Number of monitoring stations operated by Volcanoes Hazard Program (VHP)	USGS	743	765	785	848	785	789	779	775
Number of systematic analyses and investigations completed (EHP)	USGS	146	146	101	130	135	144	135	120
Number of systematic analyses and investigations completed (VHP)	USGS	75	124	80	119	70	63	70	68
Number of systematic analyses and investigations completed (Landslide Hazard Program)	USGS	15	15	15	15	14	14	14	15
Percent completion of optimal monitoring (EHP)	USGS	26.0%	30.4%	36.1%	38.7%	38.7%	41.93%	39.4%	37.7%
		1,846/7,100	2,158/7,100	2,564/7,100	2,746/7,100	2,746/7,100	2,977/7,100	2,796/7,101	2,674/7100
Percent completion of optimal monitoring (VHP)	USGS	26.2%	28.6%	29.7%	29.6%	29.6%	29.64%	29.6%	29.1%
		2,308/8,800	2,520/8,800	2,610/8,800	2,604/8800	2,604/8,800	2,608/8,800	2,609/8,800	2,560/8,800
Percent completion of optimal monitoring (GSN)	USGS	86.5%	88.6%	89.8%	86.3%	86.3%	85.6%	86.3%	86.3%
		88.2/102	90.4/102	91.55/102	88.0/102	88/102	87.3/102	88/102	88/102
Percent completion of optimal monitoring (Geomagnetism)	USGS	57.3%	84.7%	85.8%	86.0%	83.3%	85.0%	83.3%	0%
		17.2/30	25.4/30	25.76/30	25.8/30	25/30	25.5/30	25/30	0/30
Cost of collection and processing of Light Detecting and Ranging (LIDAR) data for coastal characterization and impact assessments (per megabyte of data collected) (CMGP)	USGS	0.39	0.34	0.53	0.31	0.25	0.27	0.25	0.24
Number of gigabytes of LIDAR data collected annually (CMGP)	USGS	555	300	100	1,471	8,000	2,000	12,000	15,000
Number of systematic analyses and investigations completed (CMGP)	USGS	214	152	190	186	185	185	190	175

Mission Area 6: Building a Landscape Level Understanding of Our Resources
 Goal #3: Provide Scientific Data to Protect, Instruct, and Inform Communities
 Strategy #2: Provide environmental health science to guide decision making

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
U.S. Geological Survey							
Contaminant Biology.....	9,411	9,216	9,180	8,647	9,647	10,197	12,114
Toxic Substance Hydrology.....	11,084	10,778	10,580	9,967	9,967	11,248	15,488
Total.....	20,495	19,994	19,760	18,614	19,614	21,445	27,602

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #2: Provide environmental health science to guide decisionmaking									
Number of knowledge products on the quality and health of the environment that informed the public and the decision makers.	USGS	246	234	209	224	185	199	201	201

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #4: Provide Water and Land Data to Customers
Strategy #1: Monitor and Assess Water Availability and Quality

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
USGS Water Resources	221,223	212,423	209,614	197,449	207,281	211,267	224,653

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #1: Monitor and Assess Water Availability and Quality									
Percent of U.S. with groundwater availability status and trends information (Water Availability and Use Science Program)	USGS	15%	18%	20%	20%	23%	23%	25%	28%
		6	7	8	8	9	9	10	11
		40	40	40	40	40	40	40	40
Percent of U.S. with current streamwater quality status and trends information (National Water Quality Program)	USGS	68.8%	86.2%	103.0%	2.6%	5.2%	5.1%	7.7%	10.2%
		3,409	4,273	5,109	1,546	3,118	3,090	4,634	6,178
		4,956	4,956	4,956	60,390	60,390	60,390	60,390	60,390
Percent of U.S. with current groundwater quality status and trends information (National Water Quality Program)	USGS	77.87%	89.11%	100.2%	7.21%	18.23%	15.82%	38.69%	52.33%
		658	753	847	1,369	3,464	3,006	4,643	6,280
		845	845	845	19,000	19,000	19,000	12,000	12,000
Percent of USGS planned streamgages that are fully funded by the National Streamflow Information Program (Groundwater and Streamflow Information Program)	USGS	7.3%	8.8%	8.8%	9.4%	11.6%	20.5%	13.0%	18.9%
		349	421	421	446	550	976	620	900
		4,757	4,758	4,758	4,759	4,758	4,759	4,758	4,760
Percent of U.S. with completed, consistent water availability products (Water Availability and Use Science Program)	USGS	n/a	n/a	0%	0%	5.0%	16.7%	20.0%	25.0%
		n/a	n/a	-	-	105	352	423	528
		n/a	n/a	2,112	2,112	2,112	2,112	2,112	2,112
Number of water monitoring sites supported jointly with State, local, or Tribal cooperators (Groundwater and Streamflow Information Program)	USGS	20,000	17,850	18,655	18,500	18,500	19,000	18,500	18,000

Supporting Performance Measures

Outputs, Supporting Performance Measures, and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Number of knowledge products on the water availability of the Nation's water resources provided to support management decisions (GWP)	USGS	25	40	35	49	20	25	20	N/A
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (NAWQA)	USGS	80	43	69	39	50	49	50	N/A
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (Hydrologic Research & Development)	USGS	220	250	123	196	160	162	166	N/A
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (HNA)	USGS	12	11	11	9	7	7	7	N/A
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (CWP)	USGS	230	325	387	350	300	298	300	N/A
Number of retrievals of groundwater and surface water quantity and quality data and information (Groundwater and Streamflow Information Program, National Water Quality Program)	USGS	175,000,000	283,258,614	314,369,456	406,220,000	400,000,000	494,020,000	400,000,000	435,000,000
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (Water Availability and Use Science Program)	USGS	187	243	216	240	180	185	182	162
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (Groundwater and Streamflow Information Program)	USGS	150	192	170	182	153	153	155	137
Number of knowledge products on the water availability and quality of the Nation's water resources provided to support management decisions (National Water Quality Program)	USGS	230	235	239	221	203	202	205	186

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #4: Provide Water and Land Data to Customers
Strategy #2: Generate Geologic Maps

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
U.S. Geological Survey							
National Cooperative Geologic Mapping	27,724	28,163	27,713	24,397	24,397	24,397	25,429

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #2: Generate geologic maps									

Percent of the U.S. that is covered by at least one geologic map and is available to the public through the National Geologic Map Database (NCGMP)	USGS	48.9%	49.4%	50.0%	51.3%	51.9%	52.2%	52.5%	53.0%
		1,729,771	1,746,550	1,767,763	1,814,735	1,835,930	1,846,543	1,857,155	1,874,842
		3,537,438	3,537,438	3,537,438	3,537,438	3,537,438	3,537,438	3,537,438	3,537,438

Supporting Performance Measures

Outputs, Supporting Performance Measures and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Annual production of geologic maps for the Nation (summed and represented as a percent of U.S. land area) made available to the public through the National Geologic Map Database (NCGMP)	USGS	2.70%	2.00%	1.80%	2.10%	1.80%	2.10%	1.80%	1.80%

Mission Area 6: Building a Landscape Level Understanding of Our Resources
Goal #4: Provide Water and Land Data to Customers
Strategy #3: Assess National and International Energy and Mineral Resources

Key Funding Sources (dollars in thousands)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Enacted	2016 Request
U.S. Geological Survey							
Minerals Resources.....	53,780	52,168	48,760	45,931	45,931	45,931	47,498
Energy Resources.....	27,237	27,750	27,570	25,970	25,970	24,895	28,164
Total.....	81,017	79,918	76,330	71,901	71,901	70,826	75,662

Strategic Plan Performance Measures	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Target	2016 Target
Strategy #3: Assess National and International Energy and Mineral Resources									
Number of times USGS mineral resource program products were (successfully) accessed online (in millions)	USGS	17.5	22.4	21.9	19.8	20.0	17.0	20.5	20.5
Number of times USGS energy resource program products were (successfully) accessed online (in millions)	USGS	6.9	5.0	5.0	4.8	4.8	3.9	4.5	4.5

Supporting Performance Measures

Outputs, Supporting Performance Measures and/or Milestones	Bureau	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2014 Actual	2015 Plan	2016 Plan
Number of systematic analyses and investigations delivered to customers (MRP)	USGS	4	3	3	559	560	416	500	550
Number of outreach activities provided to customers (MRP)	USGS	NA	NA	NA	1355	1300	1,272	1,500	1,950
Number of mineral commodity reports available for decisions (MRP)	USGS	748	705	729	759	700	610	725	740
Number of megabytes collected annually (ERP)	USGS	1,707	2,323	2,147	549	1,425	5,241	1,354	1,325
Number of systematic analyses and investigations delivered to customers (ERP)	USGS	5	205	149	454	143	272	135	133
Number of outreach activities provided to customers (ERP)	USGS	9	1,570	2,482	2,161	2,100	1,436	2,000	1,953