

2023 EARTH OBSERVATION ASSESSMENT REPORT: AGRICULTURE & FORESTRY ANNEXES

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About the Subcommittee on the United States Group on Earth Observations

The United States Group on Earth Observations (USGEO) is chartered as a Subcommittee of the NSTC Committee on Environment. The Subcommittee's purpose is to plan, assess, and coordinate Federal Earth observations, research, and activities; foster improved Earth system data management and interoperability; identify high-priority user needs for Earth observations data; and engage international stakeholders by formulating the United States' position for, and coordinating U.S. participation in, the intergovernmental Group on Earth Observations (GEO).

About this Document

In Agriculture & Forestry, societal benefits accrue from Earth observation measurements that can inform both short- and long-term decisions made by farmers, ranchers, foresters, research scientists, as well as watershed, natural resource, and land managers. Earth observation measurements of renewable resources and ecosystem condition also support evidence-based decision-making by commodity markets, communities, and all levels of government. These annexes to the Agriculture & Forestry Report provide additional insights into the impact an Earth observation input has on parts of the societal benefit area (SBA) *value tree* (e.g., by SBA, SBA sub-area, and key product, service, and outcome [KPSO]). USGEO is making readily available, either through this report or through the online visualization services (<https://usgeo.gov/coa>), those elements that are most valuable for agency and public analysis.

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Annex A: Agriculture & Forestry Descriptions

In Agriculture & Forestry, societal benefits accrue from Earth observation measurements that can inform both short- and long-term decisions made by farmers, ranchers, foresters, research scientists, as well as watershed, natural resource, and land managers. Land management decisions are complicated by dynamic and ongoing sources of disturbance, such as diseases, pests, climate extremes, as well as climate change and the conversion of natural land to other uses. Earth observation measurements of renewable resources and ecosystem condition also support evidence-based decision-making within commodity markets, communities, and all levels of government. Accurate and timely (e.g., low latency) information derived from Earth-observing systems can help enhance food supplies, advance the productivity of renewable resources, improve ecosystem condition, and maximize our resilience to disasters and disturbance events. Measurements in this societal benefit area (SBA) improve the ability of farmers and foresters to meet the needs for human food, animal feed, fiber, biofuels, and forest products; support production decisions; and advance forecasting and risk analysis. Measurements in this SBA lead to reduced damages and inform risk from human and natural sources of disturbance including climate change, such as ecosystem degradation, wildfire, drought, flood, and storm events, as well as pests and invasive species. Research and improved data in this SBA can contribute to early warning systems for crop yield shortfalls and pest outbreaks; quantify the potential impact of climate change on the supply of renewable Agricultural & Forestry products; improve data to support the management of and response to disturbance and disaster events; and limit ecosystem degradation associated with agricultural, forestry, and grazing practices.

Within the Agriculture & Forestry SBA, four sub-areas were identified representing the major thematic components, each with between three and seven key objectives. To assess the relative contribution of each Earth observation input to the provision of societal benefit, SBA teams consisting of federal subject matter experts assigned *weights* to each of the sub-areas and key objectives based on input from subject matter experts within the interagency. The total weight of all sub-areas under an SBA sum to 100% as do the total weights of every key objective under a particular sub-area, and these weights are shown in brackets in the descriptions below.

Enhance Food Supply [15%]

Agricultural production is a measure of the Nation's food supply from local, national, and global sources. Globally, the goal is to consistently produce reliable, objective, timely, transparent, and accurate data on global agricultural production and assessments of the conditions affecting food supply. By monitoring global agricultural production, product supply and demand, baseline market data, and warnings of crop failures, problems can be identified in the food supply system that could lead to famine or other food-insecurities. Timely knowledge of global crop conditions provides the basis for market prices, planting decisions, and emergency food aid. Poor knowledge of food supply and demand often results in unwarranted price fluctuations, human suffering, and county to regional instability. Nationally, the goal is crop monitoring and forecasting of production and supplies of food and fiber. This includes delivering in-season planting intentions, acreage estimates, quality estimates, and harvest estimates in an unbiased manner with measurable error. Each month, the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service disseminates its National Crop Production Report, which forecasts and estimates the annual domestic crop harvest—while the Foreign Agriculture Service produces global reports. Earth observations provide an important component of these estimates at the national and global scale.

Understand current agricultural production, production trends, and risk [25%]

Agricultural land and rangeland, directly or indirectly, provide food to meet local, national, and global demands. Total production, production trends, and crop or animal choice change over time with changes in social and economic demands, together with advances in technology. Tracking changes in the productive capacity of these lands with Earth observations provides an understanding of the change and risk agents affecting the supply of food and the condition of these natural and managed ecosystems, which in turn

provides insight into unsuccessful or unsustainable management practices. Earth observation data can inform factors that affect agricultural production such as ecosystem condition, invasive species and pests, disease, changes in climatic conditions and human-based shocks to the food system, including dynamics in global agriculture and commodity markets or transportation systems.

Improve soil health, increase carbon uptake and storage, and reduce trace gas emissions from soil by promoting soil conservation practices [30%]

Soil health is essential to support agricultural, rangeland and ecosystem productivity, cycle nutrients, filter water and pollutants, and provide stability and resources for plant roots. Soil type will determine the agricultural and ecosystem capacity, which will inform changes in land use in response to climate change. The periodic assessment, review, and promotion of soil conservation and carbon management practices in agricultural production areas, rangeland, shrubland, and grasslands provides benefits to our economy and to nature. Careful management practices lead to improvements in soil health, increased carbon uptake and storage, and the reduction of trace gas emissions. Earth observations can inform soil type, moisture, and vegetation supported by the soil, but are limited in their ability to monitor sub-surface soil characteristics.

Improve resilience of agricultural productivity to empower climate smart agriculture [15%]

Climate change impacts—including shifting weather patterns and increasingly frequent and severe storms, floods, droughts, and wildfire—present a major threat to agricultural, rangeland, and forest productivity. Climate smart agriculture seeks to sustainably improve agricultural productivity, enhance resilience by adapting to climate change, and reduce greenhouse gas emissions. Practices can include shifting crop type to more drought tolerant varieties, cover cropping, conservation tillage, nutrient management, restoring formerly farmed wetlands, and agroforestry. Earth observations provide data on water supply, soil moisture, and evapotranspiration, as well as the risk and impacts of flood and drought events.

Increase the efficiency of irrigation, fertilizers, and pesticides by encouraging sustainable and precision agriculture [10%]

Precision agriculture enables the application of fertilizers, pesticides, and irrigation to be applied with optimal timing and amounts that respond to micro-scale spatial variability in field or tree conditions. This approach gives farmers and foresters the ability to more effectively use resources and reduces the environmental impacts of agriculture. Irrigation is the largest source of consumptive water use across the U.S., and while fertilizers and pesticides can increase productivity and potentially reduce agricultural risk, they can also contaminate surface and ground water. Additionally, excess nutrients can cause eutrophication of waterbodies, while pesticides can harm plants and wildlife. Earth observations can support efforts to track irrigation and inform nutrient and water quality models.

Manage environmental and human health risks associated with fertilizers and pesticides [5%]

Managing risks associated with fertilizer and pesticide use is important to protect human health and conserve ecosystem condition. Excess nutrients—like nitrogen and phosphorous—can cause eutrophication and harmful algal blooms in water bodies, which negatively impact aquatic life and can produce toxins harmful to humans. Pesticides negatively impact human health depending on their toxicity and amount and duration of the exposure. In wildlife, pesticides can not only result in mortality, but can also disrupt hormones, impacting a species' ability to reproduce. Earth observations can monitor chlorophyll and cyanobacteria levels in water bodies and provide early warnings of algal blooms. Derived datasets inform effective Federal and State regulatory decisions regarding agricultural and forestry pesticide registration and usage, and can also support efforts to model pesticides, nutrients, and water quality.

Support forage assessment and management for animal production [5%]

Both climate dynamics and grazing intensity impact forage availability and grazing conditions. The adoption of sustainable practices and datasets to help monitor and manage rangelands, native grazing lands, pasturelands, haylands, grazed forests, grazed croplands, and naturalized pastures are needed to prevent land degradation as well as improve animal health and production. Best management practices in animal production encourages sustainable ecosystem condition and keeps animals and their waste out of streams to limit nutrient loading in surface waters and protect stream banks and riparian corridors. Earth observations can monitor changes in forage condition, such as leaf area and leaf moisture level, and phenology.

Improve ecosystem condition to support diverse agricultural pollinators [10%]

Farmers depend on pollinators like honeybees, butterflies, birds, and bats to pollinate many different food crops. Habitat loss, disease, parasites, and environmental contaminants, however, have all contributed to the decline of many pollinator species. Earth observations that track changes in ecosystem condition, such as leaf cover and phenology—as well as shifts in rainfall and temperature—can be used to guide land management and enhance pollinator habitat. Sustainable agriculture can help diversify agricultural landscapes, and support pollinator-friendly habitats in close proximity with agricultural fields.

Maximize Productivity and Conservation of Ecosystem Condition [40%]

Ecosystem condition informs the capacity of ecosystems to regulate climate, store and cycle carbon, provide clean water and pollinator habitats, and support soil formation and nutrient cycling. Climate change, coupled with other stressors, such as unsustainable land use practices and expanding development, threaten the quality of ecosystems and their capacity to provide these regulating and supporting services, as well as provisioning and cultural services. Maintaining and improving ecosystem condition will require utilizing and advancing scientific, technical, and traditional knowledge and promoting sustainable multi-use land management. Conservation of ecosystem condition will also require engagement and collaboration with public and private landowners, including Indigenous communities, to promote the conservation of high value areas and support geospatial data needs. Earth observations can enable sustainable land management decisions and build climate resilience by helping to track land management, species diversity, fire activity, and forest fuels.

Promote sustainable multi-use management of forests, grasslands, and shrublands that acknowledges Indigenous land management practices [5%]

Sustainable forestry is using forests and lands in a manner that maintains their biodiversity, productivity, and regenerative capacity for future generations. Similarly, multiple-use management seeks to maintain ecosystem functioning while still enabling populations to meet the demands of products yielded from them. In forests, examples include minimizing soil erosion and compaction in timber production, promoting sustainable harvest rates and regeneration strategies, and minimizing impacts to special status species. In rangelands, examples include multi-species grazing to control invasive plant species, protecting riparian corridors and aquatic fauna from grazing impacts, and supporting wildlife habitat, such as sage-grouse. Sustainable and multi-use strategies will benefit from Traditional Ecological Knowledge (TEK) which refers to the evolving knowledge acquired by Indigenous and local people through direct and long-term or multi-generational contact with the environment. This knowledge can help guide land management practices informed by cultural values and scientific research to create locally optimal and sustainable strategies that balance yields with biodiversity and ecosystem functioning. Earth observations that help to track land management, species diversity, and fire activity—along with TEK, can be used to promote sustainable management of ecosystems.

Utilize and advance existing scientific, technical, and traditional ecological knowledge to better monitor, manage, and use agricultural lands, forests, grasslands, shrublands, and pasture and rangelands [35%]

Integrating scientific, technical and TEK into land management practices encourages evidence-based decision-making, improves confidence in predicted outcomes, and enhances stakeholder trust. This process begins with articulating management objectives and questions, using a systematic, rigorous, and transparent approach to summarize relevant science and knowledge, and applying science and knowledge-based conclusions to management objectives. Transparent and collaborative methods are preferred that consider diverse perspectives and recognize socioecological dynamics. Data gaps, sources of uncertainty, and new observing systems can be used to guide research priorities and efforts to produce new and improved Earth observation data products.

Promote climate resilience by advocating for management practices that adapt to climate change to optimize productivity and improve condition [25%]

To mitigate the impacts of climate change, it is critical that we document and track changes in the distribution and abundance of flora and fauna, plan and adapt to expected changes in the timing and amount of precipitation and temperature ranges to build resilience in our forests, agriculture (croplands and feedstock), shrublands, and grasslands. Developing an improved understanding of which plants (and animals) are drought and temperature tolerant (and which are not), and which plant species serve as efficient carbon sinks is critical to a long-term management strategy. Earth observations can be used to track vegetation condition and the response of vegetation to climate extremes. As we develop best practices, Federal and State governments need to work collaboratively as advocates for adaptive management practices.

Minimize adverse effects of human activities on ecosystem condition [15%]

Ecosystem health depends on the functionality of natural, non-degraded ecosystem components and processes, which have evolved in response to climatic, geologic, and topographic forces. Substantial modification of ecosystem condition threatens species' adaptive capacities, ecosystem functioning, and associated ecosystem services that these systems provide to human economies and societies. Human activities and land use can degrade ecosystem condition in many different ways—for example, polluting air and water quality, removing vegetation, practicing silviculture, mining and other development and extractive activities, fragmenting ecosystems, changing the flow of water across watersheds, and introducing invasive species and pests. Monitoring the impacts of human activities on ecosystem condition is key to developing long-term strategies for adaptive management. The developed management strategies need to be agile, adaptable, and forward-looking to remain compatible with changing climatic regimes. Earth observations help track sources of land cover disturbance, such as forest harvest, development, and changes in land use as well as support efforts to monitor ecosystem type, condition (e.g., leaf area index, leaf moisture, productivity, chemical pollutants), and the impacts of human land use on aquatic and terrestrial ecosystems. Further, Earth observations also inform effective Federal and State regulations for protecting the environment from human-driven stressors.

Collaboratively promote conservation of high value areas and minimally managed forests, grasslands, and shrublands [15%]

High conservation value landscapes may provide high biological diversity, conserve critical habitat for special status species, and support cultural values and community needs. Additionally, the conservation of large landscape-level ecosystems and ecosystem mosaics is important to conserve viable populations of plants, wildlife, aquatic fauna, and ecosystem types, store carbon, and maintain essential ecosystem services such as clean air and water. Data products that support the monitoring of high value areas and minimally managed forests, grasslands, and shrublands are important to encourage collaborative conservation efforts at local, regional, and national scales. Networks of long-term monitoring sites, as well as refuges, reserves,

parks, and other protected lands help maintain biodiversity and high conservation value landscapes. Earth observation products that help track changes in land cover, extent and timing of disturbances, and ecosystem condition, including phenology, leaf area and productivity, will inform the condition of, and risks to, both protected lands as well as unprotected and minimally managed lands.

Collaboratively engage and support geospatial needs in rural and Indigenous communities [5%]

Working collaboratively with rural and Indigenous communities is seeing renewed emphasis across the Federal civil community, particularly in relation to geospatial data collection, analysis, and dissemination. The push for collaboration is both out of respect for these communities, and to empower communities to prioritize locally important values such as environmental justice, urban greening, and cultural knowledge. Numerous tools and dashboards enable effective data communication and collaboration with people in rural and Indigenous communities. The efficient organization and delivery of data products and flexible modeling frameworks can help support local data needs and decision-making.

Improve Resilience to Disasters and Disturbance Events [35%]

Ecosystems are highly dynamic systems. Cycles of disturbances and recovery from fire, wind, climate extremes, and pest/disease and compounding effects of disasters often facilitate diversity in ecosystem structure and composition, improving ecosystem resilience. However, disturbance and disasters can also threaten public health and safety as well as the economic productivity of forests and agriculture. Additionally, as climate change modifies disturbance dynamics, impacts on ecosystem condition and productivity become more uncertain. Data products that facilitate the characterization of pre-disturbance conditions, the spatial extent, magnitude and severity of disasters and disturbances, and monitor post-disturbance recovery are critical. Near-real time data products support the tactical response to fast-moving disasters such as wildfires, hurricanes, and floods. Disaster response and mitigation processes require complete, reliable, and time sensitive Earth observations to help protect forest, agriculture, soil, and water resources.

Allow natural disturbance (e.g., fire) where appropriate and manage disturbance risks that affect populations (e.g., wildland-urban interface and coastal areas) [15%]

Numerous natural disturbances—including wildfire, flooding, hurricanes and storms, and extended drought—are important to promote micro- and macro-scale diversity in ecosystem structure and function but require risk analysis for proper planning and response before, during, and following disturbance events. Wildland fire, for example, can be beneficial (and often necessary) as well as detrimental to the wildland ecosystem. Knowing when to commit resources and when to let fires burn is part of a new paradigm in fire management. Prescriptive fire burning is part of the national approach to reducing fire risk, particularly in areas where communities in the wildland urban interface, and critical infrastructure are at high risk for burning. It is also important for the fire management community to acknowledge, respect, and learn from Indigenous fire stewardship and related practices that improve forest resilience. Increasing wildfire activity also leads to increasing downwind smoke and health impacts to communities. Earth observations can help with tracking of smoke plume movement and air quality measurements, facilitated by online dynamic maps that are shared with the public. Accurate floodplain maps aid in assessing risk in low-lying areas informing homeowners, city planners, insurers, and others. Real-time flood maps are useful in supporting search and rescue and aid in post-flooding damage assessments to structures and infrastructure.

Predict and manage fire risk, tactical fire support, and post-fire remediation [25%]

Earth observation data needs differ between predicting fire risk, supporting tactical fire management, and managing post-fire risks and impacts (e.g., debris flow, flooding, emissions). Data on fuel loads and fuel moisture integrated with real-time data on wildfire-conducive weather conditions help support efforts to predict and manage wildland fire risk. Land managers can also prescribe treatments to reduce fire risk and

understand where more fire may be beneficial for ecosystem condition. Knowledge of wildfire risk also helps land managers to better lead and to position fire and aviation assets in preparing and responding to fire events. Real-time thermal data from aircrafts, uncrewed aircraft systems (UAS), and satellites provide information critical for the control of active fires. Post fire, it is important to assess the burn severity across the landscape to characterize impacts from the fire and to aid in rapid remediation efforts. Of immediate concern is minimizing downslope wasting and debris flows after the fire is extinguished. The rate of soil stabilization through the reestablishment of grass and shrub species is of interest. In forest fires, long-term concern is the rate and trajectory of forest succession, with post-fire weather and climate change impacting the establishment and survival of tree seedlings.

Minimize soil erosion from water, wind, active management, and post fire in agricultural and forest ecosystems [10%]

Soil erosion is a significant problem in systems where bare soil is exposed. Following severe wildfires, for example, rainstorms can cause heavy soil erosion without plant roots to stabilize the soil and plant material to encourage the percolation of water into the soil profile. In agricultural landscapes, minimizing soil erosion from wind and precipitation is integral to maintaining productivity and protecting water quality. In agricultural systems, highly erodible land requires application of conservation systems as a condition of eligibility for most farm commodity and conservation programs. Minimizing soil erosion can be supported through near-real time production of burn severity and tracking and monitoring post-wildfire soil stabilization efforts. In addition, datasets such as geology, soil, vegetation, wind speed, and elevation models can help predict erosion risk and the impact of management actions, such as wind breaks.

Support risk and impact modeling for drought, flood, climate extremes, pest/disease infestation, fire, and storm-prone areas [30%]

Predictive modelling for drought, flood, climate extremes, pest/disease infestation, fire, and storm-prone areas is critically important to manage the risk to human health and safety, protect homes and infrastructure, and reduce the economic costs of disturbance and disaster events on agriculture and forestry. Risk analysis provides forewarning and helps guide risk mitigation efforts, such as managing vegetation in the wildland-urban interface, conserving coastal wetlands to buffer impacts to coastline cities, and allocating water supplies to reduce drought impacts. Impact modeling is critical to facilitate the recovery of communities and ecosystems during and following disturbance and disaster events. Earth observations such as floodwater extent mapping can support the allocation of emergency resources, while mapping pest and disease infestations can guide decisions to manage and treat these infestations.

Maintain resilience of water supplies and facilitate post-disturbance restoration and rehabilitation [10%]

Water forms the foundation for the human economy and the health of ecosystems. In addition to freshwater providing drinking water, forest, ranching, and agricultural ecosystems all depend on water resources to support vegetation growth and wildlife. Monitoring water supplies in all forms (wetlands, lakes, streams, rivers, reservoirs, aquifers, etc.) is critical for supplying safe drinking water to our growing population, supporting agriculture (plant and animal), and maintaining stable and dependable food supplies. The amount of water, as well as its reliability and quality through time, will determine the capacity of land to sustain forests and agricultural ecosystems, and ultimately, the ability to sustain human populations while maintaining healthy ecosystems. The amount of surface water is driven by surface storage, patterns of precipitation and evapotranspiration, and water extraction. The distribution of surface water, in turn, is influenced by dams, flow modification, and agricultural tile drainage. Tile drainage, for example, increases flash flooding, river and stream erosion, and the movement of fertilizers and pesticides across watersheds. Extended drought and wildfires are also significant threats to water supplies. Earth observations can support forecasts of water supplies, monitor of surface water extent, track the movement of water across landscapes, and better understand the impacts of land use on surface water.

Improve resistance of agriculture, rangelands, grasslands, and forests to disease and pests including invasive species [10%]

Native and invasive pests, such as diseases, insects, and weeds, cause costly economic and ecological damage by decimating crops, obstructing streams and waterways, degrading wildlife habitat, and increasing fire vulnerability. Invasive species are of particular threat to ecosystem productivity and condition and include non-native species that tend to reproduce and spread rapidly, out-competing native species. Native species can also have large impacts on ecosystem condition. Bark beetles, for example have co-evolved with forest ecosystems, but their population dynamics are changing with climate change. Efforts to survey, track, and model invasive species, pests, and diseases can be used to slow their spread, monitor their impacts, and guide management plans. Earth-observing capabilities are useful in detecting changes in species composition or vegetation condition that may indicate mortality from invasive species, pests, or disease, as well identifying changes in condition that may indicate increase susceptibility to disease and pests.

Support Regulatory Requirements and Evidence-Based Decision-Making [10%]

Compliance and integrity monitoring ensures that adequate safeguards are in place to avoid or correct abuses to taxpayer funded insurance, conservation, and farm programs as well as provide support to firefighters, aviation, and law enforcement. Sources of moderate- and high-resolution imagery are used extensively to supply tactical- and strategic-level support to wildland firefighters, provide farm program management and stewardship tools that support farmers and communities, share actionable information to insurance programs, and afford tools for tracking forest ecosystem carbon pools (storage) and fluxes, which are increasing in importance as the global community works to limit greenhouse gases.

Provide geospatial support to firefighters, aviators, law enforcement, farmers, communities, and agencies [30%]

Near real-time Earth observation data are critical to support active and tactical fire mapping, and to track flood water extent and guide post-disaster response. For example, high frequency fire perimeter and spread data are crucial to wildland firefighters whose safety and effectiveness on the fire-line depend on an accurate understanding of where the fire is and how it is behaving (direction, rate of spread, flame fronts). Datasets derived from optical, light detecting and ranging (LiDAR), and radio detection and ranging (RADAR) imagery can also be used to support the needs of farmers, aviators, and law enforcement. Further, easily accessible datasets on environmental and demographic information can help support community needs and improve environmental justice.

Monitor and promote compliance with Federal laws (farm, insurance, conservation, and leases) and programs [15%]

Successful implementation of Federal programs, national stewardship and conservation efforts, and Federal laws will benefit from national-scale data on land use and intensity as well as ecosystem condition informing—for example, agricultural and rangeland productivity and management, and forest type, structure, and health. Accurate, complete, and timely Earth observation-based datasets can improve the effectiveness and cost efficiency of implementing and promoting compliance with programs and laws, bringing substantial savings to agencies and the American taxpayer.

For carbon storage and greenhouse gas emissions, support analysis and evidence-based decision-making [55%]

Forests sequester and store carbon dioxide from the atmosphere, making them a critical resource to mitigate greenhouse gas emission and climate change. However, the amount of carbon stored, the rate of carbon assimilation, as well as the source (net emission) to sink (net absorption) ratio will depend on forest type,

age, and health, which are impacted by changing climate and disturbances such as wildfire, insect/disease, ecosystem degradation, and harvest. Policies and management decisions can be used to help facilitate the recovery of forests following disturbance events, maximize forest carbon storage, and promote sustainable forestry practices. Earth observations support efforts to monitor forest extent, biomass, and productivity, as well as the recovery of forests following a disturbance.

Abbreviations and Acronyms

EOP	Executive Office of the President
GEO	Group on Earth Observations
KPSO	key product, service, or outcome
LiDAR	light detection and ranging
NSTC	National Science and Technology Council
OSTP	Office of Science and Technology Policy
RADAR	radio detection and ranging
SBA	societal benefit area
TEK	Traditional Ecological Knowledge
UAS	uncrewed aircraft systems
USDA	U.S. Department of Agriculture
USGEO	U.S. Group on Earth Observations

Annex B: Agriculture & Forestry Summary Table

The ranking in this table reflects the observing systems that the federal community is currently relying on and does not include new/upcoming systems that may have value in the future for the Agriculture and Forestry SBA. The ranking is determined by the weights in Annex A, which were developed by federal subject matter experts. The ranking of an Earth Observation Input only applies in the context of the Agriculture and Forestry SBA. Any given Earth Observation Input may be ranked either higher or lower for other SBAs and for the Earth observation enterprise as a whole.

Key	Satellite/Satellite Data	Number of Agriculture & Forestry KPSOs Impacted (208 Total)	% Impact on Agriculture & Forestry
	<i>In Situ</i> Data		
	Airborne Data		
	Field Work		
	Elevation Data		
	Other Reference Data		
	Earth Observation Inputs		
1	Aqua Moderate Resolution Imaging Spectroradiometer (MODIS)	164 (78.8%)	9.04%
2	Terra Moderate Resolution Imaging Spectroradiometer (MODIS)	164 (78.8%)	8.99%
3	Digital Elevation Models Output - Shuttle Radar Topography Mission (USGS)	160 (76.9%)	4.22%
4	Landsat Operational Land Imager (OLI)	142 (68.2%)	6.76%
5	Landsat Thermal Infrared Sensor (TIRS)	138 (66.3%)	3.08%
6	Global Land Survey Digital Elevation Model (GLSDEM)	138 (66.3%)	2.41%
7	Airborne Synthetic Aperture Radar (SAR)/Interferometric SAR (IfSAR)	137 (65.8%)	1.31%
8	Canadian Digital Elevation Model	133 (63.9%)	0.68%
9	Sentinel-2 Multi-Spectral Imager [ESA]	129 (62%)	3.65%
10	Norwegian Polar Institute (NPI) Elevation Data	128 (61.5%)	0.36%
11	Sweden, Norway, and Finland National (SNF) Elevation Data	128 (61.5%)	0.36%
12	Greenland Ice Mapping Project (GIMP) DEM	128 (61.5%)	0.36%
13	Radarsat Antarctic Mapping Project (RAMP) DEM	128 (61.5%)	0.36%
14	National Agriculture Imagery Program (NAIP)	126 (60.5%)	3.45%
15	National Elevation Dataset (NED)	126 (60.5%)	2.92%
16	JPSS Polar Constellation Visible Infrared Imaging Radiometer Suite (VIIRS)	125 (60%)	4.49%
17	WorldView 2 Commercial Earth Observation Satellite	119 (57.2%)	0.88%
18	Landsat archives	118 (56.7%)	2.54%
19	SNOWpack TELelemetry (SNOTEL)	118 (56.7%)	1.51%
20	WorldView 3 Commercial Earth Observation Satellite	118 (56.7%)	1.01%
21	Global Positioning System (GPS)	116 (55.7%)	3.01%
22	Commercial Airborne Lidar	113 (54.3%)	2.41%
23	Field Work - Visual Surveys/Lab Samples Collection	111 (53.3%)	8.54%
24	Global Climate Model DEM	110 (52.8%)	0.49%
25	Interagency Remote Automated Weather Stations (RAWS)	109 (52.4%)	0.74%
26	Automated Surface Observing System (ASOS)	109 (52.4%)	0.24%
27	Community Collaborative Rain, Hail and Snow Network (CoCoRaHS)	108 (51.9%)	0.43%
28	NWS Cooperative Observer Program (COOP)	107 (51.4%)	0.81%
29	Google Earth	102 (49%)	0.83%
30	National Hydrography Dataset (NHD) Data	101 (48.5%)	0.98%
31	ASTER Global Emissivity Database (GED)	99 (47.5%)	0.35%
32	Global Change Observation Mission 1st-Water (GCOM-W1) Advanced Microwave Scanning Radiometer-2 [JAXA]	98 (47.1%)	0.13%

Key	Satellite/Satellite Data	Number of Agriculture & Forestry KPSOs Impacted (208 Total)	% Impact on Agriculture & Forestry
	<i>In Situ</i> Data		
	Airborne Data		
	Field Work		
	Elevation Data		
	Other Reference Data		
	Earth Observation Inputs		
33	U.S. Climate Reference Network (USCRN)	97 (46.6%)	0.45%
34	WorldView 1 Commercial Earth Observation Satellite	96 (46.1%)	0.04%
35	Field Work - Visual Inspections	95 (45.6%)	1.09%
36	GOS Basic Surface Synoptic Network	93 (44.7%)	1.39%
37	NASA Global Precipitation Measurement Mission (GPM) Microwave Imager	93 (44.7%)	0.13%
38	Voluntary Observing Ship	93 (44.7%)	0.11%
39	AURA Ozone Monitoring Instrument	92 (44.2%)	0.16%
40	USDA FSA Form 578 Database	90 (43.2%)	0.65%
	Geostationary Operational Environmental Satellite - R Series (GOES-R) Advanced Baseline Imager	88 (42.3%)	1.28%
41			
42	State Geologic Survey Maps	88 (42.3%)	0.61%
43	Soil Climate Analysis Network (SCAN)	88 (42.3%)	0.20%
44	Automated Weather Observing System (AWOS)	84 (40.3%)	0.26%
45	Hydrometeorological Automated Data System (HADS)	84 (40.3%)	0.16%
	Information Management System: Advanced Hydrological Prediction Service (AHPS)	82 (39.4%)	0.18%
46			
47	Upper-air Rawinsonde Network	81 (38.9%)	0.25%
48	Weather Bureau Army Navy (WBAN) Weather Data	81 (38.9%)	0.19%
49	Papers - Journals, Scientific Articles/Reports (External)	79 (37.9%)	0.30%
50	Environment Canada (EC) Weather Network	79 (37.9%)	0.15%
51	Mexico Weather Network	79 (37.9%)	0.12%
52	Snow Courses	78 (37.5%)	0.2%
53	Western Regional Climate Center (WRCC) Mesonet	78 (37.5%)	0.11%
54	Planet Dove	78 (37.5%)	0.09%
55	Field Work - Salinity Sampling, Tidal Observations	77 (37%)	0.07%
56	NOAA National Data Buoy Center (NDBC) Buoy Network	74 (35.5%)	0.13%
57	NOAA Hydrometeorological Design Studies Center (HDSC) Precipitation	73 (35%)	0.05%
58	USGS Streamgages	72 (34.6%)	1.07%
59	Meteorological Data Collection and Reporting System (MDCRS)	72 (34.6%)	0.08%
60	North Dakota Agricultural Weather Network (NDAWN)	72 (34.6%)	0.05%
61	Nebraska Mesonet (NEMESO)	72 (34.6%)	0.05%
62	Aircraft Meteorological Data Relay (AMDAR)	71 (34.1%)	0.08%
63	California Irrigation Management Information System (CIMIS)	71 (34.1%)	0.03%
64	Washington State University AgWeatherNet	70 (33.6%)	0.03%
65	Agrimet (USBR, Pac NW Agricultural Sfc Weather Network)	70 (33.6%)	0.03%
66	California Data Exchange Center (CDEC) Mesonet	70 (33.6%)	0.04%
67	Lower Colorado River Authority Network (LCRA)	70 (33.6%)	0.03%
68	GeoEye1 Commercial High-Resolution Satellite Imagery	69 (33.1%)	0.18%
69	Colorado Agricultural Meteorological Network (COAGMET)	69 (33.1%)	0.03%
70	Minnesota Climatology Working Group Gauge Network	69 (33.1%)	0.03%
71	North Dakota State Water Commission (NDSWC) Gauge Network	69 (33.1%)	0.03%
72	Nevada Division of Water Resources (NVDWR) Gauge Network	69 (33.1%)	0.03%
73	South Florida Water Management District (SFWMD) Gauge Network	69 (33.1%)	0.03%
74	Long-Term Precipitation Storage Gage Stations	69 (33.1%)	0.03%

Key	Satellite/Satellite Data	Number of Agriculture & Forestry KPSOs Impacted (208 Total)	% Impact on Agriculture & Forestry
	<i>In Situ</i> Data		
	Airborne Data		
	Field Work		
	Elevation Data		
	Other Reference Data		
	Earth Observation Inputs		
75	National Geologic Map	68 (32.6%)	0.20%
76	Polar-orbiting Operational Environmental Satellite Series (POES) Advanced Very High Resolution Radiometer	66 (31.7%)	0.19%
77	Polar-orbiting Operational Environmental Satellite Series (POES) Advanced Microwave Sounding Unit A	65 (31.2%)	0.09%
78	Arizona Mesonet (AZMET)	64 (30.7%)	0.02%
79	Nevada Climate-Ecohydrological Assessment Network (NevCAN)	64 (30.7%)	0.02%
80	Oklahoma Mesonet	64 (30.7%)	0.02%
81	Utah State University Agricultural Weather Network (UCC-AGNET)	64 (30.7%)	0.02%
82	MetOp Advanced Microwave Sounding Unit A [EUMETSAT]	63 (30.2%)	0.07%
83	CA - LandIQ Specialty Crops (2019)	63 (30.2%)	0.04%
84	FL - NASS Citrus Data Layer (2022)	63 (30.2%)	0.04%
85	NRCS National Commodity Crop Productivity Index (NCCPI) [MI only]	63 (30.2%)	0.04%
86	WA - Washington State Dept of Agriculture Crop Data (2022)	63 (30.2%)	0.04%
87	Kansas Mesonet	63 (30.2%)	0.02%
88	Kentucky Mesonet	63 (30.2%)	0.02%
89	North Carolina Environment and Climate Observing Network (NCECONET)	63 (30.2%)	0.02%
90	New Jersey Weather and Climate Network (NJWXNET)	63 (30.2%)	0.02%
91	USGS Topographic Maps	62 (29.8%)	1.59%
92	STATSGO Database	62 (29.8%)	0.82%
93	Florida Automated Weather Network (FAWN)	62 (29.8%)	0.02%
94	GAP Protected Area Database (PAD-US) Data	61 (29.3%)	0.48%
95	Delaware Environmental Observing System (DEOS)	61 (29.3%)	0.02%
96	National Hydrography Dataset Plus (NHD-Plus)	60 (28.8%)	0.024%
97	Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave Imager Sounder	60 (28.8%)	0.09%
98	Commercial Airborne High-resolution Visible Imagery	60 (28.8%)	0.02%
99	Historical Airborne Imagery	59 (28.3%)	0.26%
100	Wetland Potential Index (WPI)	59 (28.3%)	0.17%
101	Himawari Advanced Himawari Imager [JMA]	59 (28.3%)	0.14%
102	Next Generation Weather Radar (NEXRAD) Base Products	59 (28.3%)	0.13%
103	MetOp Advanced Scatterometer [EUMETSAT]	58 (27.8%)	0.10%
104	Next Generation Weather Radar (NEXRAD) Velocity Derived Products	58 (27.8%)	0.09%
105	NOAA Air Resources Lab (ARL) Field Research Division (ARLFRD) Mesonets	58 (27.8%)	0.02%
106	NOAA Air Resources Lab (ARL) Special Operations and Research (ARLSORD) Mesonets	58 (27.8%)	0.02%
107	HJ Andrews Long Term Ecological Research (LTER) Site Mesonet Data (OREGON)	58 (27.8%)	0.02%
108	JPSS Polar Constellation Advanced Technology Microwave Sounder	55 (26.4%)	0.08%
109	Citizens Weather Observer Program	55 (26.4%)	0.01%
110	Georgia Automated Environmental Monitoring Network (GAEMN)	55 (26.4%)	0.01%
111	University of South Alabama Mesonet	55 (26.4%)	0.01%
112	MetOp Advanced Very High Resolution Radiometer [EUMETSAT]	54 (25.9%)	0.12%
113	GOS Upper Air Network	54 (25.9%)	0.06%

Key	Satellite/Satellite Data	Number of Agriculture & Forestry KPSOs Impacted (208 Total)	% Impact on Agriculture & Forestry
	<i>In Situ</i> Data		
	Airborne Data		
	Field Work		
	Elevation Data		
	Other Reference Data		
	Earth Observation Inputs		
114	Shuttle Radar Topography Mission (SRTM)	53 (25.4%)	0.43%
115	JPSS Polar Constellation Cross-track Infrared Sounder	53 (25.4%)	0.08%
116	MetOp Infrared Atmospheric Sounding Interferometer [EUMETSAT]	53 (25.4%)	0.08%
117	GCOS Reference Upper Air Network (GRUAN)	53 (25.4%)	0.04%
118	Michigan Automated Weather Network (MAWN)	53 (25.4%)	0.01%
119	Next Generation Weather Radar (NEXRAD) Precipitation Estimation Products	52 (25%)	0.08%
120	MetOp Microwave Humidity Sounder [EUMETSAT]	52 (25%)	0.04%
121	Polar-orbiting Operational Environmental Satellite Series (POES) High Resolution Infrared Sounder	52 (25%)	0.03%
122	Polar-orbiting Operational Environmental Satellite Series (POES) Microwave Humidity Sounder	52 (25%)	0.03%
123	Spatial - Global Land Survey Topography (University of Maryland)	52 (25%)	0.04%
124	Airborne Gamma Ray Surveys	52 (25%)	0.01%
125	Luke Air Force Base Network (LUKEAFB)	52 (25%)	0.01%
126	Meteosat Second Generation [EUMETSAT]	51 (24.5%)	0.07%
127	Montana Mesonet (MT-MESO)	51 (24.5%)	0.01%
128	Mississippi Delta Agricultural Weather Center (MS-DELTA) Weather Stations	51 (24.5%)	0.01%

Annex C: Agriculture & Forestry Full Results Table

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
1	Aqua Moderate Resolution Imaging Spectroradiometer (MODIS)	9.04%	8.56%	8.96%	9.84%	7.26%
2	Terra Moderate Resolution Imaging Spectroradiometer (MODIS)	8.99%	8.42%	8.96%	9.77%	7.24%
3	Field Work - Visual Surveys/Lab Samples Collection	8.54%	11.22%	14.68%	1.98%	1.68%
4	Landsat Operational Land Imager (OLI)	6.76%	5.81%	7.41%	6.98%	4.76%
5	JPSS Polar Constellation Visible Infrared Imaging Radiometer Suite	4.49%	2.47%	3.83%	6.39%	3.75%
6	Database: Digital Elevation Models Output - Shuttle Radar Topography Mission (USGS)	4.22%	4.06%	4.32%	4.33%	3.64%
7	Sentinel-2 Multi-Spectral Imager [ESA]	3.65%	3.81%	2.66%	5.36%	1.52%
8	National Agriculture Imagery Program (NAIP)	3.45%	5.10%	2.76%	2.01%	8.96%
9	Landsat Thermal Infrared Sensor (TIRS)	3.08%	3.21%	3.14%	2.94%	3.07%
10	Global Positioning System (GPS)	3.01%	1.48%	3.90%	1.35%	7.49%
11	Database: National Elevation Dataset (NED)	2.92%	3.95%	3.33%	2.10%	2.44%
12	Field Work - Ground Surveys, Field Measurements	2.86%	0.17%	4.17%	1.05%	8.00%
13	Database: State/Local Parcel Data	2.57%	0.14%	3.68%	0.98%	7.33%
14	Database: Landsat archives	2.54%	1.30%	3.13%	1.75%	4.75%
15	Commercial Airborne Lidar	2.41%	4.53%	1.58%	2.53%	2.19%
16	Database: Global Land Survey Digital Elevation Model (GLSDEM)	2.41%	2.24%	2.46%	2.55%	1.92%
17	Citizen Reporting - Phenology	1.98%	0.23%	4.32%	0.54%	
18	Database: USGS Topographic Maps	1.59%	0.14%	2.13%	0.78%	4.48%
19	SNOWpack TElemetry (SNOTEL)	1.51%	1.98%	0.91%	2.19%	0.86%
20	GOS Basic Surface Synoptic Network	1.39%	0.52%	0.14%	3.45%	0.67%
21	Field Work - Visual Surveys	1.34%	1.69%	0.34%	1.19%	5.53%
22	NEON Airborne Observation Platform (AOP) Imaging Spectrometer	1.32%	1.93%	2.51%	< 0.01%	< 0.01%
23	ISS Global Ecosystem Dynamics Investigation (GEDI) Lidar	1.31%	0.08%	1.48%	0.64%	4.88%
24	Airborne Synthetic Aperture Radar (SAR)/Interferometric SAR (IfSAR)	1.31%	2.65%	1.06%	0.99%	1.33%
25	Database: Historical FIA Forest Inventory Data	1.29%	0.07%	1.88%	0.45%	3.71%
26	Geostationary Operational Environmental Satellite - R Series (GOES-R) Advanced Baseline Imager	1.28%	0.52%	0.48%	2.77%	0.55%
27	Field Work - Visual Inspections	1.09%	1.99%	0.37%	0.82%	3.68%
28	USGS Streamgages	1.07%	1.98%	0.70%	1.22%	0.62%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
Blank Cells Indicate Input Does Not Contribute to Area						
Earth Observation Inputs						
29	WorldView 3 Commercial Earth Observation Satellite	1.01%	1.08%	0.33%	1.53%	1.93%
30	National Ecological Observatory Network (NEON)	0.99%	0.12%	2.16%	0.27%	
31	Database: National Hydrography Dataset (NHD) Data	0.98%	1.43%	1.26%	0.41%	1.11%
32	Database: Integrated Reporting of Wildland-Fire Information (IRWIN)	0.90%	0.07%	0.30%	1.92%	1.11%
33	WorldView 2 Commercial Earth Observation Satellite	0.88%	0.88%	0.33%	1.23%	1.92%
34	Database: Google Earth	0.83%	0.11%	1.22%	0.43%	1.69%
35	Database: STATSGO Database	0.82%	1.22%	0.82%	0.65%	0.75%
36	NWS Cooperative Observer Program (COOP)	0.81%	0.97%	0.49%	1.20%	0.49%
37	Database: ArcGIS Imagery	0.80%	0.04%	1.09%	0.45%	2.06%
38	US National Imagery Systems (USNIS)	0.78%	< 0.01%	< 0.01%	1.70%	2.01%
39	State & Local Air Monitoring Stations (SLAMS)	0.76%	0.01%	1.59%	0.31%	0.01%
40	Interagency Remote Automated Weather Stations (RAWS)	0.74%	0.64%	0.45%	1.17%	0.57%
41	Database: VIIRS Land Cover Product	0.72%	0.31%	1.51%	0.18%	< 0.01%
42	Database: Google Earth Engine (GEE)	0.68%	0.55%	1.04%	0.14%	1.29%
43	Database: Canadian Digital Elevation Model	0.68%	0.66%	0.67%	0.75%	0.53%
44	Database: FAA Airport Diagrams	0.66%	0.03%	0.97%	0.22%	1.89%
45	Database: Avenza Maps	0.66%	0.03%	0.97%	0.22%	1.89%
46	Database: USDA FSA Form 578 Database	0.65%	1.76%	0.59%	0.33%	0.30%
47	Field Work - Field Experiments	0.65%		1.59%		
48	Database: Hydrologic Unit Codes (HUC)	0.65%	1.33%	0.62%	0.48%	0.27%
49	Database: State Geologic Survey Maps	0.61%	1.47%	0.49%	0.28%	0.94%
50	Database: Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3)	0.60%			1.34%	1.46%
51	Field Work - Field Moisture Sampling	0.56%			1.59%	0.11%
52	Sentinel-3 Ocean and Land Color Instrument [ESA]	0.55%	0.85%	< 0.01%	1.23%	
53	NCore (National Core Network)	0.53%	0.01%	1.28%	< 0.01%	0.01%
54	Soil Moisture Active-Passive (SMAP)	0.51%	2.80%	0.18%	0.04%	< 0.01%
55	Natural Resource Management Community Reporting (Fed, State, Local Gov't)	0.50%	0.06%	1.08%	0.14%	
56	Database: Global Climate Model DEM	0.49%	0.55%	0.56%	0.46%	0.22%
57	NEON Airborne Observation Platform (AOP) Airborne Lidar	0.49%	0.76%	0.92%	< 0.01%	0.01%
58	Airborne High-Resolution Visible Imagery	0.48%	0.07%	0.52%	0.50%	0.90%
59	Database: National Incident Feature Service (NIFS)	0.48%	0.06%	0.17%	0.87%	1.04%
60	Field Work - Species Data Collection	0.48%	0.01%	1.13%	0.04%	< 0.01%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
61	Database: GAP Protected Area Database (PAD-US) Data	0.48%	0.05%	0.50%	0.47%	1.05%
62	Ice, Cloud, and Land Elevation Satellite 2 (ICESAT) Advanced Topographic Laser Altimeter System	0.46%	< 0.01%	1.09%	< 0.01%	0.18%
63	Field Experiments (Controlled Ecosystem)	0.45%		1.11%		
64	U.S. Climate Reference Network (USCRN)	0.45%	0.55%	0.31%	0.63%	0.24%
65	Database: Shuttle Radar Topography Mission (SRTM)	0.43%	0.17%	0.78%	0.21%	0.13%
66	Community Collaborative Rain, Hail and Snow Network (CoCoRaHS)	0.43%	0.65%	0.39%	0.37%	0.44%
67	Database: OnX Hunt - Hunting GPS Maps	0.42%	0.02%	0.62%	0.14%	1.20%
68	Database: Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory	0.42%	2.16%			0.97%
69	Database: Farm Operator Surveys	0.42%	1.45%	0.40%	< 0.01%	0.33%
70	Field Work - Soil Sample Collection	0.41%	0.07%	0.01%		4.04%
71	Database: USGS Global 30 Arc-Second Elevation (GTOPO30)	0.40%	0.49%	0.57%	0.15%	0.42%
72	Database: U.S. Census Data	0.40%	0.14%	0.23%	0.73%	0.33%
73	Database: Direct Reports from Farmers (Crop Reports, 578s)	0.38%	0.24%	0.14%	0.80%	0.16%
74	Database: Historical Landslide Inventory	0.37%			1.08%	
75	Crewed Aircraft Visual Surveys	0.37%	0.11%	0.07%	0.93%	0.03%
76	Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS)	0.36%	1.80%			0.92%
77	Database: Norwegian Polar Institute (NPI) Elevation Data	0.36%	0.35%	0.35%	0.39%	0.28%
78	Database: Sweden, Norway, and Finland National (SNF) Elevation Data	0.36%	0.35%	0.35%	0.39%	0.28%
79	Database: Greenland Ice Mapping Project (GIMP) DEM	0.36%	0.35%	0.35%	0.39%	0.28%
80	Database: Radarsat Antarctic Mapping Project (RAMP) DEM	0.36%	0.35%	0.35%	0.39%	0.28%
81	Database: ASTER Global Emissivity Database (GED)	0.35%	0.58%	0.37%	0.30%	0.06%
82	Database: Census of Agriculture Data	0.35%	0.92%	0.25%	0.07%	0.82%
83	Sentinel-1 Synthetic Aperture Radar C-Band [ESA]	0.34%	0.45%	0.28%	0.32%	0.54%
84	Telemetered Cameras (Rivers)	0.33%	< 0.01%	0.80%	< 0.01%	< 0.01%
85	Database: Coupled Model Intercomparison Project Phase 5 (CMIP5)	0.32%	0.55%	0.52%	< 0.01%	0.20%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
86	Database: Papers - Journals, Scientific Articles/Reports (External)	0.30%	0.46%	0.30%	0.31%	0.07%
87	Database: WORLDCLIM Temp Climate Data	0.29%	0.33%	0.37%	0.21%	0.20%
88	Database: APEX SyncroSIM ST-Sim	0.29%	0.02%	0.19%	0.57%	0.15%
89	Database: Cligen Climate Database	0.28%	0.05%	0.03%	0.75%	< 0.01%
90	Database: Forest Pest Event Recorder	0.28%	0.30%		0.67%	
91	Database: Conservation Resources Land Management Operations Database (CRLMOD) - Crops	0.27%	0.03%	0.03%	0.75%	
92	Database: Conservation Resources Land Management Operations Database (CRLMOD) - Operations	0.27%	0.03%	0.03%	0.75%	
93	Interagency Monitoring of Protected Visual Environments (IMPROVE)	0.27%	< 0.01%	0.50%	0.19%	< 0.01%
94	Automated Weather Observing System (AWOS)	0.26%	0.20%	0.08%	0.54%	0.12%
95	Database: Bing Maps	0.26%	1.19%	0.05%	< 0.01%	0.59%
96	Database: Historical Airborne Imagery	0.26%	0.96%	0.02%	0.09%	0.79%
97	5-Minute Refresh	0.25%	0.01%	0.01%	0.73%	0.01%
98	Database: USACE National Inventory of Dams (NID)	0.25%	0.68%	0.12%	0.17%	0.41%
99	Upper-air Rawinsonde Network	0.25%	0.12%	0.09%	0.55%	0.06%
100	Soil Moisture Sensors	0.25%	0.26%	0.30%	0.24%	< 0.01%
101	Database: Foreign Crop Statistics	0.25%	0.18%		0.64%	
102	Database: Emissions Factors Literature and Research	0.24%			0.71%	
103	Database: Fuel Data Literature and Research	0.24%			0.71%	
104	Database: Bing Building Footprint Maps Database	0.24%	< 0.01%	0.04%	0.66%	0.01%
105	Database: National Hydrography Dataset Plus (NHD-Plus)	0.24%	0.78%	0.16%	0.09%	0.28%
106	Automated Surface Observing System (ASOS)	0.24%	0.25%	0.20%	0.29%	0.20%
107	Citizen Reporting	0.24%	0.28%	0.39%	0.03%	0.26%
108	Database: MACAv2-METDATA	0.24%		0.45%		0.55%
109	Database: Global Biodiversity Information Facility (GBIF)	0.23%	0.39%	0.03%	0.46%	
110	Clean Air Status and Trends Network (CASTNET)	0.23%	< 0.01%	0.50%	0.06%	< 0.01%
111	Database: State Forest Health Monitoring Programs	0.23%	0.07%	0.05%	0.57%	0.02%
112	Database: WORLDCLIM Precip Climate Data	0.22%	0.25%	0.31%	0.11%	0.20%
113	Database: USFS Visitor Map	0.22%	0.01%	0.33%	0.07%	0.63%
114	Database: USFS Motor Vehicle Use Maps (MVUM)	0.22%	0.01%	0.33%	0.07%	0.63%
115	Ameriflux	0.21%	0.53%	0.22%	< 0.01%	0.39%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
116	Photochemical Assessment Monitoring Stations (PAMS)	0.21%	< 0.01%	0.50%	< 0.01%	< 0.01%
117	Database: Socio-Economic - Population Data (DoC/U.S. Census)	0.21%	0.09%	0.12%	0.41%	0.01%
118	Database: SoilGrids 2.0	0.20%	0.26%	0.27%	< 0.01%	0.58%
119	Flux Towers	0.20%	0.32%	0.38%	< 0.01%	< 0.01%
120	Soil Climate Analysis Network (SCAN)	0.20%	0.31%	0.17%	0.23%	0.09%
121	USFS Experimental Forests and Ranges (EFR) Network	0.20%	0.21%	0.38%	0.04%	0.02%
122	Database: National Geologic Map	0.20%	0.44%	0.15%	0.13%	0.30%
123	Snow Courses	0.20%	0.26%	0.09%	0.31%	0.11%
124	Database: University of Idaho Vegetation Transition Database	0.19%	0.01%	0.06%	0.44%	0.16%
125	Polar-orbiting Operational Environmental Satellite Series (POES) Advanced Very High Resolution Radiometer	0.19%	0.11%	0.07%	0.41%	0.06%
126	Database: ArcMap Surface Toolset	0.19%	< 0.01%	0.01%	0.54%	0.03%
127	Database: Silvics of North America	0.19%		0.46%		
128	Weather Bureau Army Navy (WBAN) Weather Data	0.19%	0.27%	0.22%	0.11%	0.20%
129	Fire Reporting (Lookout Towers, Firefighters, Citizens)	0.19%			0.42%	0.42%
130	Database: WORLDCLIM Aridity Index	0.18%	0.19%	0.24%	0.11%	0.20%
131	Information Management System: Advanced Hydrological Prediction Service (AHPS)	0.18%	0.31%	0.19%	0.12%	0.22%
132	GeoEye1 Commercial High-Resolution Satellite Imagery	0.18%	0.07%	0.05%	0.41%	0.09%
133	Field Work - Sample Collection	0.18%	0.32%		0.39%	
134	Commercial Airborne Imagery	0.17%	0.24%	0.15%	0.07%	0.50%
135	Database: Non-USFS Forest Inventories (e.g., BIA Inventory, DOI Inventory)	0.17%				1.77%
136	Database: CRP Conservation Layers	0.17%	0.26%	0.22%	0.12%	
137	Database: National Hierarchical Framework of Ecological Units	0.17%		0.41%		
138	Database: Wetland Potential Index (WPI)	0.17%	0.05%	0.23%	0.19%	0.03%
139	Database: State-level Field Boundary Datasets [CA, OR, WA, ID, UT, NV]	0.17%	0.49%	0.13%	0.11%	< 0.01%
140	Database: LANDFIRE Existing Vegetation Type (EVT) 2016 Remap	0.17%	0.01%	0.05%	0.38%	0.14%
141	Database: National Land Cover Dataset (NLCD) Alaska	0.16%	0.01%	0.05%	0.39%	0.09%
142	AURA Ozone Monitoring Instrument	0.16%	0.22%	0.16%	0.16%	0.12%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
143	Database: NASS County-Level Planting and Harvest Date Reporting	0.16%		0.40%		
144	Database: NLDAS-2 Forcings Dataset	0.16%	0.92%	< 0.01%	0.07%	< 0.01%
145	Hydrometeorological Automated Data System (HADS)	0.16%	0.16%	0.03%	0.33%	0.12%
146	Database: Basic Site-Specific Dam Information	0.16%			0.47%	
147	Database: Real Time International GNSS Service	0.16%	0.25%	0.30%	< 0.01%	< 0.01%
148	Database: Historical Wildland Fire Interagency Geospatial Services (WFIGS) Data	0.16%			0.46%	
149	Fixed Wing Aircraft (DOD, contract Comm)	0.15%	< 0.01%	< 0.01%	0.35%	0.37%
150	Database: U.S. Census Topologically Integrated Geographic Encoding and Referencing (TIGER) system	0.15%	0.29%	0.04%	0.25%	0.09%
151	Early Detection and Distribution Mapping System (EDDMapS)	0.15%	0.35%		0.29%	
152	Environment Canada (EC) Weather Network	0.15%	0.22%	0.17%	0.08%	0.16%
153	Database: Global Multi-Resolution Terrain Elevation Data 2010 (EROS)	0.15%	0.11%	0.07%	0.23%	0.24%
154	Other Air Quality Networks	0.15%			0.42%	
155	Database: POLARIS Soil Map	0.14%	0.17%	0.14%	0.15%	0.11%
156	Bureau of Land Management Lightning Data	0.14%	< 0.01%	0.02%	0.39%	< 0.01%
157	Field Work - Vegetation Measurements	0.14%	0.04%	< 0.01%	0.39%	< 0.01%
158	Himawari Advanced Himawari Imager [JMA]	0.14%	0.16%	0.04%	0.26%	0.09%
159	Database: WindGen Wind Database	0.14%	0.03%	0.03%	0.35%	
160	NASA Global Precipitation Measurement Mission (GPM) Microwave Imager	0.13%	0.20%	0.13%	0.12%	0.09%
161	Global Change Observation Mission 1st-Water (GCOM-W1) Advanced Microwave Scanning Radiometer-2 [JAXA]	0.13%	0.19%	0.13%	0.12%	0.09%
162	Database: LANDFIRE Existing Vegetation Cover 2016 Remap	0.13%	0.01%	0.04%	0.30%	0.12%
163	NOAA National Data Buoy Center (NDBC) Buoy Network	0.13%	0.12%	0.08%	0.19%	0.17%
164	Database: EPA Level III Ecoregions Map	0.13%	0.18%	0.06%	0.17%	0.22%
165	Database: FSA F3B Layer	0.13%	0.20%	0.17%	0.09%	
166	Next Generation Weather Radar (NEXRAD) Base Products	0.13%	0.15%	0.05%	0.24%	0.02%
167	Database: Hawaii Statewide Agricultural Baseline Project	0.13%	0.01%	0.04%	0.29%	0.11%
168	Database: USGS Microsoft Building Footprints	0.13%	0.01%	0.04%	0.29%	0.11%
169	Database: 2015 North American Land Change Monitoring System (NALCMS) Land Cover	0.13%	0.01%	0.04%	0.29%	0.11%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
Blank Cells Indicate Input Does Not Contribute to Area						
Earth Observation Inputs						
170	Database: Fuel Beds Literature and Research	0.13%	< 0.01%	< 0.01%	0.35%	0.09%
171	Database: USFS Ecological Response Units	0.13%		0.27%	0.04%	
172	MetOp Advanced Very High Resolution Radiometer [EUMETSAT]	0.12%	0.06%	0.06%	0.25%	0.04%
173	Database: Ag Conservation Practice Type and Acreage Data	0.12%	0.26%	0.11%	0.06%	0.19%
174	ARS small Unmanned Aircraft Systems (sUAS)	0.12%	0.19%	0.22%	< 0.01%	< 0.01%
175	Database: Esri Streets Map Layer	0.12%	0.01%	0.05%	0.15%	0.44%
176	NWS Cooperative Observer Program (COOP) - Temperature	0.12%	0.07%	0.01%	0.26%	0.11%
177	Mexico Weather Network	0.12%	0.17%	0.13%	0.07%	0.13%
178	Database: LANDFIRE Internal Disturbance Detection Process	0.11%	0.01%	0.03%	0.28%	0.09%
179	Long Term Agroecosystem Research (LTAR) Network - Micronets	0.11%	0.32%	0.16%	< 0.01%	< 0.01%
180	Database: EROS MODIS Irrigated Agriculture for the U.S. (MIRAD-US) dataset	0.11%	0.07%	0.17%	0.05%	0.18%
181	Database: NatureServe Ecological Systems Datasets	0.11%	0.01%	0.13%	0.16%	< 0.01%
182	Database: Commercial Roads Databases (NavTeq)	0.11%	0.02%	0.12%	0.17%	0.02%
183	State & Local DOT Traffic Counts	0.11%	0.26%	0.17%		
184	Database: U.S. Census Topologically Integrated Geographic Encoding and Referencing (TIGER) system - Roads	0.11%	0.10%	0.05%	0.22%	
185	Database: USFS Wildfire Risk to Communities	0.11%	0.01%	0.03%	0.25%	0.09%
186	Database: California Statewide Crop Mapping	0.11%	0.01%	0.03%	0.25%	0.09%
187	Voluntary Observing Ship	0.11%	0.15%	0.09%	0.11%	0.09%
188	Database: LANDFIRE Existing Vegetation Height 2016 Remap	0.11%	0.01%	0.04%	0.24%	0.08%
189	Database: Forest Stand Exam Data	0.11%		0.09%	0.01%	0.66%
190	Database: Ecozone Modeling	0.11%		0.23%	0.03%	
191	Western Regional Climate Center (WRCC) Mesonet	0.11%	0.16%	0.12%	0.06%	0.11%
192	NPS Northern Colorado Plateau Network (NCPN) Inventory & Monitoring	0.10%	0.19%	0.02%	0.20%	< 0.01%
193	Database: National Conservation Easement Database	0.10%	0.18%	0.10%	0.05%	0.15%
194	Database: WFIGS Working Polygons	0.10%	< 0.01%	< 0.01%	0.28%	0.04%
195	Database: NIFS Event Polygons	0.10%	< 0.01%	< 0.01%	0.28%	0.04%
196	Field Work - Water, Soil, Species Collection	0.10%		0.01%	0.29%	
197	ISS Ecosystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS)	0.10%	0.16%	0.11%	0.09%	0.01%

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	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
198	MetOp Advanced Scatterometer [EUMETSAT]	0.10%	0.11%	0.06%	0.16%	0.04%
199	Database: State/Local Water Use Data	0.10%	0.17%	0.14%	0.05%	< 0.01%
200	Database: BLM Surface Management Agency Layer	0.10%	0.17%	0.10%	0.05%	0.15%
201	Database: Copernicus Global Land Cover Dataset	0.10%	0.06%	0.08%	0.11%	0.22%
202	USGS Rain Gauge Network	0.10%	0.11%	0.19%	0.01%	0.03%
203	Next Generation Weather Radar (NEXRAD) Velocity Derived Products	0.09%	0.08%	0.04%	0.18%	0.03%
204	Database: Downscaled Population & Income Scenarios (Wear et al. 2019)	0.09%		0.05%		0.74%
205	Downlooking RGB Photography	0.09%	0.17%		0.20%	
206	In Situ Water Quality (NRCS)	0.09%		0.23%		
207	Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave Imager Sounder	0.09%	0.09%	0.06%	0.13%	0.05%
208	Commercial Airborne Lidar Elevation Data	0.09%	0.12%	0.05%	0.12%	0.09%
209	Database: USGS Land Cover Trends Dataset (1973-2000)	0.09%	0.03%			0.88%
210	Database: Global Inventory Modeling and Mapping Studies 3rd Generation (GIMMS 3g) (1982-2012)	0.09%	0.48%	0.04%		
211	CryoSat-2 SAR Interferometer Radar Altimeter [ESA]	0.09%	0.05%	0.01%	0.20%	0.13%
212	Planet Dove	0.09%	0.06%	0.04%	0.18%	0.03%
213	University of Bristol LISFLOOD-FP Hydrodynamic Model	0.09%		0.16%		0.25%
214	Database: Coupled Model Intercomparison Project Phase 5 (CMIP5) Temperature	0.09%		0.16%	0.05%	0.05%
215	Meteosat Third Generation [EUMETSAT]	0.09%	0.12%		0.19%	0.04%
216	Polar-orbiting Operational Environmental Satellite Series (POES) Advanced Microwave Sounding Unit A	0.09%	0.10%	0.05%	0.15%	0.04%
217	Bathymetry Data	0.09%	0.02%	< 0.01%	0.23%	0.05%
218	Database: Interagency Fire Perimeter Historical Data	0.08%			0.24%	
219	PRecursore IperSpettrale della Missione Applicativa (PRISMA) Hyperspectral Camera [ASI]	0.08%	0.15%		0.17%	
220	JPSS Polar Constellation Advanced Technology Microwave Sounder	0.08%	0.06%	0.05%	0.14%	0.04%
221	JPSS Polar Constellation Cross-track Infrared Sounder	0.08%	0.06%	0.05%	0.14%	0.04%
222	JPSS Polar Constellation OMPS Nadir Mapper	0.08%	< 0.01%	0.05%	0.11%	0.24%

Key	SBA		Sub-area			
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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
223	Database: InFORM Fire Occurrence Data Record (FODR)	0.08%	< 0.01%	< 0.01%	0.22%	0.03%
224	Database: State Natural Heritage Databases	0.08%	< 0.01%	0.07%	< 0.01%	0.52%
225	Database: Coupled Model Intercomparison Project Phase 5 (CMIP5) Precipitation	0.08%		0.16%	0.03%	0.03%
226	Next Generation Weather Radar (NEXRAD) Precipitation Estimation Products	0.08%	0.06%	0.02%	0.17%	0.02%
227	MetOp Infrared Atmospheric Sounding Interferometer [EUMETSAT]	0.08%	0.06%	0.05%	0.14%	0.04%
228	Database: MODIS Geolocation Parameters (MOD03)	0.08%	0.15%	0.07%	0.06%	0.06%
229	Database: Global Fuel Characteristics Classification System (FCCS)	0.08%	< 0.01%	< 0.01%	0.21%	0.05%
230	NCAR Community Climate System Model 4/Community Earth System Model 2	0.08%		0.19%		
231	NRCS Reservoir Storage Monitoring	0.08%	0.11%		0.18%	
232	Meteorological Data Collection and Reporting System (MDCRS)	0.08%	0.07%	0.05%	0.12%	0.04%
233	Database: USDA National Forest Type Dataset	0.08%			0.17%	0.19%
234	Soil Moisture and Ocean Salinity Mission (SMOS) Microwave Imaging Radiometer using Aperture Synthesis [ESA]	0.08%	0.19%	0.08%	0.04%	< 0.01%
235	Aircraft Meteorological Data Relay (AMDAR)	0.08%	0.07%	0.05%	0.11%	0.04%
236	Database: EROS MODIS (eMODIS)(7-day composites, NDVI, Reflectance)	0.08%	0.12%		0.08%	0.32%
237	Database: NFCMS Forest Carbon Stocks and Fluxes, Conterminous USA, 1990-2010 [Williams et al.]	0.07%			0.16%	0.18%
238	National Lightning Data Network (NLDN)	0.07%	0.01%	0.01%	0.19%	0.01%
239	LTAR Streamgages	0.07%	0.12%	0.14%	< 0.01%	< 0.01%
240	Database: Coupled Model Intercomparison Project Phase 6 (CMIP6)	0.07%	< 0.01%	0.10%		0.31%
241	State/Local Streamgages	0.07%	0.10%	0.04%	0.11%	0.04%
242	Database: LANDFIRE Total Fuels Change Tool (LFTFC)	0.07%	< 0.01%	0.04%	0.14%	0.06%
243	Database: LANDFIRE Fuel Rules Database	0.07%	< 0.01%	0.04%	0.14%	0.06%
244	Field Work - Salinity Sampling, Tidal Observations	0.07%	0.06%	0.07%	0.08%	0.06%
245	Planet SuperDove	0.07%	0.02%	0.03%	0.04%	0.41%
246	Database: LANDFIRE 40 Fire Behavior Fuel Models 2016 Remap	0.07%	< 0.01%	0.04%	0.13%	0.07%
247	Radarsat Series Synthetic Aperture Radar [CSA]	0.07%	0.09%	0.12%	0.02%	0.01%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
248	Database: Cyanobacteria Archive NCEI	0.07%	0.46%			
249	Database: Height Above Nearest Drainage (HAND) Mask	0.07%	0.04%		0.16%	0.10%
250	Database: U.S. Census Topologically Integrated Geographic Encoding and Referencing (TIGER) system - Boundaries	0.07%	0.01%	0.15%		0.06%
251	Database: Environmental Conservation Online System (ECOS) Critical Habitat Mapper	0.07%	0.14%	0.12%		0.01%
252	Database: Spatial - Critical Infrastructure (FEMA)	0.07%		0.17%	< 0.01%	
253	Surface Precipitation Observation (e.g., NWS, State, Local, RAWS)	0.07%			0.20%	
254	Next Generation Weather Radar (NEXRAD) Reflectivity Derived Products	0.07%	0.02%	0.02%	0.16%	0.02%
255	Database: MIRCA2000 Global Monthly Crop Irrigated and Rainfed Harvested Crop Areas	0.07%		0.17%		
256	Database: Fertilizer Application Rates Data	0.07%		0.17%		
257	Database: Multi-Error-Removed Improved-Terrain (MERIT) Hydro River Network Data	0.07%		0.17%		
258	Database: Technosylva 2019 PSPS Event Wildfire Risk Analysis Reports	0.07%		0.17%		
259	Database: CoreLogic Tax Bulk Data	0.07%		0.17%		
260	Database: IMPLAN Economic Impact Data	0.07%		0.17%		
261	Database: USACE North Atlantic Coast Comprehensive Study Report - Risk Management	0.07%		0.17%		
262	Database: State-level Water Rights Data	0.07%		0.17%		
263	Database: Zillow ZTRAX	0.07%		0.17%		
264	Database: Integrated Public Use Microdata Series (IPUMS)	0.07%		0.17%		
265	Database: WaterLitix Data	0.07%		0.17%		
266	Database: FAO Harmonized World Soil Database v1.2	0.07%		0.17%		
267	Database: Global Effective Plant Rooting Depth	0.07%		0.17%		
268	Database: Global Irrigation Efficiency Model Data 2002	0.07%		0.17%		
269	Planet SkySat	0.07%	0.09%	0.11%	0.03%	< 0.01%
270	Database: VIIRS Geolocation Parameters (VNP03)	0.07%	0.11%	0.08%	0.05%	
271	Northern Arizona University - The Phenocam Network	0.07%	0.11%	0.12%	< 0.01%	< 0.01%
272	State Airborne Fire Assets (CAL FIRE, CO Multi-Mission, etc.)	0.07%	< 0.01%	< 0.01%	0.15%	0.17%
273	Greenhouse Gas Chambers (CO2/CH4 flux measurements)	0.07%				0.69%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
274	Database: State Natural Resource Management Programs Fire Datasets	0.07%		0.04%	0.14%	< 0.01%
275	Database: Landsat-based Irrigation (LandID) 1997-2017	0.07%	0.01%	0.02%	0.15%	0.06%
276	Meteosat Second Generation [EUMETSAT]	0.07%	0.05%	0.06%	0.08%	0.07%
277	MetOp Advanced Microwave Sounding Unit A [EUMETSAT]	0.07%	0.06%	0.04%	0.11%	0.03%
278	Database: BLM National Surface Management Agency Area Polygons	0.07%	0.12%	0.03%	0.10%	< 0.01%
279	Database: Eulerian Level Set Model of FIRE spread Model (ELMFIRE)	0.06%		0.08%		0.32%
280	Reservoir Operations Data	0.06%	0.10%	< 0.01%	0.14%	< 0.01%
281	State & Local Lidar	0.06%		0.10%	0.06%	0.01%
282	National Wind Erosion Research Network (NWERN)	0.06%	0.23%	0.06%		0.02%
283	Database: National Wildland Fire Coordinating Group (NWCG) Units	0.06%	< 0.01%	< 0.01%	0.18%	< 0.01%
284	Database: Parameter-Elevation Regressions on Independent Slopes Model	0.06%	0.03%	0.02%	0.13%	0.06%
285	Database: USFS Land Ownership/Land Use	0.06%	0.03%	0.03%	0.12%	0.03%
286	Database: NatureServe Biodiversity Datasets	0.06%		0.15%		
287	Database: MODIS Archives	0.06%			0.18%	
288	Database: DOE Energy Information Administration (EIA) Consumptive Use Data	0.06%	0.09%	0.11%	< 0.01%	< 0.01%
289	Field Work - Tree Measurements	0.06%		0.01%	< 0.01%	0.56%
290	Database: FCCS Digital Photo Series	0.06%	< 0.01%	< 0.01%	0.16%	0.04%
291	Database: RUSLE2 Climate Database	0.06%	0.09%	0.08%	0.04%	
292	Database: Historical Dam Break Reports	0.06%			0.17%	
293	Database: UK Climate Research Unit (CRU) Climate Data	0.06%	0.05%	0.07%		0.23%
294	Field Work - Water Testing	0.06%	0.16%		0.10%	
295	Sentinel-3 Sea and Land Surface Temperature Radiometer [ESA]	0.06%	0.07%	< 0.01%	0.13%	0.05%
296	Database: USFS Spatial Wildfire Occurrence Data	0.06%		< 0.01%	0.16%	0.02%
297	Global Positioning System (GPS) Integrated Precipitable Water Sensor	0.06%	0.01%	0.03%	0.13%	0.01%
298	Database: SHIFT Colonization Model	0.06%		0.14%		
299	Regional and State Mesonetworks	0.06%	0.11%	0.07%	0.03%	< 0.01%
300	Earth Networks Total Lightning Network (ENTLN)	0.06%	< 0.01%	< 0.01%	0.16%	< 0.01%
301	Database: HYDRO1K Compound Topographic Index	0.06%	0.09%	0.11%	< 0.01%	< 0.01%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
302	Various Mesonets	0.06%	0.02%	0.02%	0.13%	0.01%
303	Database: Atlantic Hurricane Database Reanalysis Project (AOML)	0.06%	0.03%	< 0.01%	0.12%	0.09%
304	Database: State Species Databases	0.06%		0.14%		
305	Database: LANDFIRE Historical Disturbance	0.06%	0.02%	0.02%	0.11%	0.03%
306	GOS Upper Air Network	0.06%	0.07%	0.02%	0.11%	0.01%
307	Database: Conservation Practice Data from non-Government Stakeholder Engagement	0.06%	0.21%	0.06%		< 0.01%
308	Database: NRCS Planning Land Units (PLU)	0.05%	0.01%	0.04%		0.39%
309	Database: NPS Vegetation Mapping Inventory	0.05%	0.11%	0.01%	0.09%	
310	Database: State/Local Land Cover Data	0.05%	0.04%	0.01%	0.11%	0.07%
311	Surface Observations without Ceiling and Visibility	0.05%	< 0.01%	< 0.01%	0.15%	< 0.01%
312	National GroundWater Monitoring Network (NGWMN)	0.05%	0.23%	< 0.01%	0.05%	< 0.01%
313	In Situ Monitoring at Dams	0.05%			0.15%	
314	Cooperative Agency Profilers	0.05%	0.05%	0.02%	0.10%	0.01%
315	NADP National Trends Network (NTN)	0.05%	0.05%	0.10%	< 0.01%	0.02%
316	Database: Global Forest Age Map [Bernard et al.]	0.05%			0.12%	0.13%
317	Database: Snow Pack Monitoring (CSAS)	0.05%	0.07%		0.12%	
318	Database: USGS and other agencies rating tables	0.05%	0.07%		0.12%	
319	Database: Coupled Model Intercomparison Project (CMIP) Archives	0.05%		0.09%		0.12%
320	Database: Source Water Assessments EPA	0.05%			0.14%	
321	Database: Environmental Conservation Online System (ECOS) T&E	0.05%	< 0.01%	0.12%		0.01%
322	COSMIC-2 Tri-GNSS Radio Occultation System	0.05%	0.07%	0.01%	0.09%	0.01%
323	TerraSAR-X GPS-RO [DLR]	0.05%	0.05%	0.03%	0.07%	0.03%
324	Database: FracFocus	0.05%	0.08%	0.09%	< 0.01%	< 0.01%
325	Database: OneMine Global Mining and Minerals Library	0.05%	0.08%	0.09%	< 0.01%	< 0.01%
326	Next Generation Weather Radar (NEXRAD) Dual-Pol Derived Products	0.05%	0.02%	0.01%	0.11%	0.01%
327	Database: Homeland Infrastructure Foundation-Level Data (HIFLD)	0.05%		< 0.01%	0.13%	
328	Database: Conservation Resources Land Management Operations Database (CRLMOD) - Management	0.05%	0.01%	< 0.01%	0.13%	
329	USGS Chesapeake Bay Watershed Non-tidal Network (NTN) Stations	0.05%	0.18%	0.05%		< 0.01%
330	Database: National Levee Database (USACE)	0.05%	0.02%	< 0.01%	0.11%	0.05%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
331	Database: Environmental Conservation Online System (ECOS) Species Status Assessment	0.05%		0.11%		
332	State/Local Rain Gauge Network	0.05%	0.08%	0.08%	< 0.01%	< 0.01%
333	Database: NOAA Hydrometeorological Design Studies Center (HDSC) Precipitation	0.05%	0.08%	0.05%	0.03%	0.05%
334	North Dakota Agricultural Weather Network (NDAWN)	0.05%	0.07%	0.05%	0.03%	0.05%
335	Nebraska Mesonet (NEMESO)	0.05%	0.07%	0.05%	0.03%	0.05%
336	NASA Uninhabited Aerial Vehicle SAR (UAVSAR)	0.05%	0.09%	0.07%	0.01%	< 0.01%
337	State 303(d) Water Quality Assessments	0.05%	< 0.01%	0.06%		0.20%
338	Database: National Land Cover Dataset (NLCD 2006) Land Cover	0.05%	0.07%		0.05%	0.19%
339	Database: 2011-2020 Real Time Mesoscale Analysis (RTMA) dataset	0.05%		0.06%		0.22%
340	Database: USGS Surficial Materials Map Database	0.04%		0.01%	0.11%	0.03%
341	National Infrared Operations (NIROPS) Phoenix Sensor	0.04%	0.02%	< 0.01%	0.09%	0.11%
342	Database: OpenStreetsMap	0.04%	< 0.01%	0.11%	< 0.01%	< 0.01%
343	Database: National Elevation Dataset (NED) Multi-Scale Topographic Position Index (mTPI)	0.04%	0.10%		0.08%	
344	Database: National Elevation Dataset (NED) Topographic Diversity	0.04%	0.10%		0.08%	
345	Database: Shuttle Radar Topography Mission (SRTM) Continuous Heat-Insolation Load Index (CHILI)	0.04%	0.10%		0.08%	
346	Database: Extent of Aquifer Maps (base, width, depth)	0.04%	0.12%	< 0.01%	0.08%	0.01%
347	Database: CONUS-SOIL	0.04%	0.03%	0.07%	< 0.01%	0.11%
348	USGS Water Level Sensors	0.04%	< 0.01%	< 0.01%	0.13%	< 0.01%
349	Global Argo Profiling Floats	0.04%	0.04%	0.02%	0.08%	0.01%
350	Database: Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Global Digital Elevation Model (GDEM)	0.04%	0.03%	0.04%	0.01%	0.18%
351	Database: US National Incident Management System (NIMS) Incident Status Summary (ICS-209) forms	0.04%		0.03%	0.09%	< 0.01%
352	Waverider Buoys	0.04%	0.02%	< 0.01%	0.09%	0.07%
353	GPS Tracking	0.04%		0.10%		
354	Database: USACE Hydrologic Engineering Center River Analysis System (HEC-RAS) Dam Breach Analysis	0.04%			0.12%	

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	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
355	Database: Washington Department of Natural Resources Portal Data	0.04%		0.09%	0.01%	
356	Database: Interagency Fuel Treatment Decision Support System Data	0.04%		0.09%	0.01%	
357	Database: USFS Gradient Nearest Neighbor (GNN)	0.04%		0.09%	0.01%	
358	WorldView 1 Commercial Earth Observation Satellite	0.04%	0.05%	0.04%	0.03%	0.04%
359	Database: State/Local Roads Information	0.04%	0.05%	0.01%	0.04%	0.14%
360	Database: USFS Resource Photography Archive	0.04%	0.01%	0.01%	0.10%	< 0.01%
361	Database: CA - LandIQ Specialty Crops (2019)	0.04%	0.11%	0.04%	0.02%	0.02%
362	Database: NRCS National Commodity Crop Productivity Index (NCCPI) [MI only]	0.04%	0.11%	0.04%	0.02%	0.02%
363	Database: GAP Land Cover/Ecological Systems Dataset	0.04%		0.05%		0.20%
364	Database: FL - NASS Citrus Data Layer (2022)	0.04%	0.11%	0.03%	0.02%	0.02%
365	Database: WA - Washington State Dept of Agriculture Crop Data (2022)	0.04%	0.11%	0.03%	0.02%	0.02%
366	Canadian Wildland Fire Information System (CWFIS) Active Fire Locations Data	0.04%	< 0.01%	0.06%		0.15%
367	NWS Cooperative Observer Program (COOP) - Precipitation	0.04%	0.02%	0.01%	0.09%	0.03%
368	Database: EPA Safe Drinking Water Information System (SDWIS) Data	0.04%	0.06%	0.07%	< 0.01%	0.04%
369	NOAA Tide Gauges	0.04%		0.08%		0.09%
370	Database: State/Local Well File/Permit Information	0.04%	0.07%	0.04%	0.04%	< 0.01%
371	Database: Forest Biomass Mapping in CA and OR	0.04%	0.09%	0.06%		
372	Mercury Deposition Network (MDN)	0.04%	0.04%	0.07%	< 0.01%	0.01%
373	GCOS Reference Upper Air Network (GRUAN)	0.04%	0.06%	0.04%	0.04%	0.04%
374	National Water Quality Network (NWQN)	0.04%	0.22%	< 0.01%	0.02%	< 0.01%
375	Database: UC Davis California Soil Resource Lab SoilWeb	0.04%	0.06%	0.07%	< 0.01%	< 0.01%
376	Database: InFORM Inspector Reports	0.04%	< 0.01%	< 0.01%	0.11%	0.01%
377	Database: EPA BenMAP	0.04%		0.09%		
378	Database: USGS Mineral Resources Data System (MRDS)	0.04%			0.11%	
379	Database: USMIN Mineral Deposit Database	0.04%			0.11%	
380	1-Minute Refresh	0.04%	< 0.01%	< 0.01%	0.11%	< 0.01%
381	Database: Historical Airborne High-Res Stereo Imagery	0.04%	< 0.01%	0.06%	0.01%	0.11%
382	USACE Wave Information Studies (WIS)	0.04%	0.02%	< 0.01%	0.08%	0.06%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
383	Field Work - Water and Soil Sampling, Farmer Interviews (Management Practices)	0.04%	0.14%	0.04%		< 0.01%
384	USGS Streamgauge Network River	0.04%	0.08%	0.01%	0.06%	0.01%
385	In Situ Water Quality (USGS) Continuous Sampling	0.04%	0.21%	< 0.01%	0.01%	< 0.01%
386	MetOp Microwave Humidity Sounder [EUMETSAT]	0.04%	0.03%	0.03%	0.05%	0.02%
387	California Data Exchange Center (CDEC) Mesonet	0.04%	0.05%	0.04%	0.02%	0.04%
388	Database: Spatial - Global Land Survey Topography (University of Maryland)	0.04%	0.05%	0.03%	0.03%	0.03%
389	Database: CAL FIRE Wildfire Perimeters	0.04%	< 0.01%	< 0.01%	0.10%	0.02%
390	Database: The FOrEst Resource Outlook Model (FOROM)	0.04%		0.02%		0.28%
391	Database: LANDFIRE polygons (Federal, State and Local)	0.04%	< 0.01%	0.01%	0.08%	0.03%
392	Database: USFS Vegetation Treatment Data	0.04%	< 0.01%	0.01%	0.08%	0.03%
393	Polar-orbiting Operational Environmental Satellite Series (POES) Microwave Humidity Sounder	0.03%	0.03%	0.03%	0.05%	0.02%
394	Database: National Geochemical Database (NGDB)(USGS)	0.03%	0.12%	0.04%		
395	Polar-orbiting Operational Environmental Satellite Series (POES) High Resolution Infrared Sounder	0.03%	0.04%	0.02%	0.05%	0.02%
396	Database: USACE Infrastructure Database	0.03%	0.02%	< 0.01%	0.07%	0.05%
397	Ground-based Structure Surveys	0.03%	0.02%	< 0.01%	0.07%	0.05%
398	Database: Coriolis WindSat Archive	0.03%	0.02%	0.03%	0.04%	0.03%
399	Database: Canadian National Fire Database (CNFDB)	0.03%	< 0.01%	< 0.01%	0.09%	0.02%
400	Database: Economic Data and Models	0.03%		0.05%		0.15%
401	NOAA National Geodetic Survey (NGS) Coastal Mapping Program Airborne Lidar	0.03%	0.02%	< 0.01%	0.07%	0.05%
402	AURA Microwave Limb Sounder	0.03%	0.02%	0.03%	0.04%	0.02%
403	California Irrigation Management Information System (CIMIS)	0.03%	0.05%	0.04%	0.02%	0.03%
404	Agrimet (USBR, Pac NW Agricultural Sfc Weather Network)	0.03%	0.05%	0.04%	0.02%	0.03%
405	Washington State University AgWeatherNet	0.03%	0.05%	0.04%	0.02%	0.03%
406	Database: Future Scenarios 2020 RPA (Langner et al., 2020)	0.03%		0.08%		
407	Database: Percent Tree and Impervious Cover 2020-2070 (Greenfield et al., 2023)	0.03%		0.08%		
408	Jason Ocean Surface Topography Mission (2, 3 & CS) [NASA, EUMETSAT]	0.03%	0.13%	0.01%	0.02%	0.01%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
409	Information Management System: Visualization (OCM)	0.03%		0.04%		0.15%
410	Database: Ground-Based Photographic Records	0.03%			0.09%	
411	USGS Rapidly Deployable Gage	0.03%	0.01%	< 0.01%	0.08%	0.02%
412	Lower Colorado River Authority Network (LCRA)	0.03%	0.05%	0.04%	0.02%	0.03%
413	Database: DOD Surface Observations	0.03%	0.04%	0.01%	0.06%	< 0.01%
414	Database: International Surface Observations	0.03%	0.04%	0.01%	0.06%	< 0.01%
415	Database: Internal USGS Custom Vdep Tool	0.03%		< 0.01%	0.08%	
416	Database: Seattle Public Utilities Elevation Database	0.03%	0.07%	0.05%		
417	In Situ Water Quality (non-USGS)	0.03%	0.20%			
418	Database: ESA Global Surface Water	0.03%		0.05%		0.10%
419	FAS Agricultural Attache' Reports (GAIN)	0.03%	0.20%			
420	Minnesota Climatology Working Group Gauge Network	0.03%	0.05%	0.03%	0.02%	0.03%
421	North Dakota State Water Commission (NDSWC) Gauge Network	0.03%	0.05%	0.03%	0.02%	0.03%
422	Nevada Division of Water Resources (NVDWR) Gauge Network	0.03%	0.05%	0.03%	0.02%	0.03%
423	South Florida Water Management District (SFWMD) Gauge Network	0.03%	0.05%	0.03%	0.02%	0.03%
424	Long-Term Precipitation Storage Gage Stations	0.03%	0.05%	0.03%	0.02%	0.03%
425	Aqua Atmospheric Infrared Sounder	0.03%	0.03%	0.01%	0.06%	0.01%
426	Colorado Agricultural Meteorological Network (COAGMET)	0.03%	0.04%	0.03%	0.02%	0.03%
427	Database: BLM Public Lands Survey System (PLSS)	0.03%	0.03%	0.04%	0.01%	0.04%
428	Database: NDFD Relative Humidity	0.03%	< 0.01%	0.01%	0.07%	0.01%
429	MetOp Global navigation satellite system Receiver for Atmospheric Sounding [EUMETSAT]	0.03%	0.04%	0.01%	0.05%	0.01%
430	NOAA Aircraft KingAir Coastal Mapping Topography	0.03%	< 0.01%	0.04%	< 0.01%	0.14%
431	Database: Multi-Error-Removed Improved-Terrain (MERIT) DEM	0.03%		0.07%		
432	Database: Colorado State Global N2O Database	0.03%	0.03%	0.01%		0.22%
433	Database: Watershed Boundary Dataset (WBD)	0.03%		0.04%		0.14%
434	Database: EPA Permit Compliance System and Integrated Compliance Information System (PCS-ICIS) databases	0.03%	0.17%	< 0.01%		
435	Database: WRF National Water Census	0.03%		0.07%		
436	MetOp High Resolution Infrared Sounder [EUMETSAT]	0.03%	0.04%	0.02%	0.03%	0.02%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
437	Database: MN Department of Natural Resources Forest Inventory Imagery Data	0.03%			0.08%	
438	Database: ENVISAT(SCIAMACHY) Archive	0.03%				0.28%
439	Database: Sentinel-2 Satellite Archives	0.03%	0.04%	0.05%	< 0.01%	< 0.01%
440	TanDEM-X Synthetic Aperture Radar [DLR]	0.03%	< 0.01%	< 0.01%	0.07%	< 0.01%
441	Database: Homeland Security Infrastructure Program (HSIP) Data	0.03%			0.08%	
442	Global Drifter Program	0.03%	0.02%	0.01%	0.05%	0.01%
443	Database: Land Cover Institute - Land Cover (USGS)	0.03%	0.01%	0.03%	0.01%	0.10%
444	Database: State Fish Community Sampling Records for UMRB	0.03%	0.10%	0.03%		
445	USACE Streamgauge Network	0.03%	0.02%	< 0.01%	0.06%	0.04%
446	Database: FishTraits Database USGS	0.03%	0.10%	0.03%		
447	Database: National Anthropogenic Barrier Dataset (NABD) USGS	0.03%	0.10%	0.03%		
448	Database: FAO & FAS Typical Planting and Harvesting Dates Data	0.03%	0.17%			
449	Database: FEMA Hazus Loss Library	0.03%			0.08%	
450	Database: State Industrial Sites Listings	0.03%	< 0.01%	0.02%		0.18%
451	Database: EPA Emissions & Generation Resource Integrated Database (eGRID)	0.03%		0.03%		0.12%
452	Uncrewed Aerial System	0.02%	0.01%	< 0.01%	0.06%	< 0.01%
453	Borehole Geophysical Logs	0.02%	0.05%		0.05%	
454	Coastal Weather Buoys (CWB)	0.02%	0.02%	0.01%	0.04%	0.01%
455	Nevada Climate-Ecohydrological Assessment Network (NevCAN)	0.02%	0.03%	0.03%	0.01%	0.02%
456	Vegetation and Environment Monitoring on a New Micro-Satellite Superspectral Camera (VENUS)[CNES]	0.02%	0.04%	0.04%	< 0.01%	< 0.01%
457	Database: National Emissions Inventory (NEI)(EPA)	0.02%	0.01%	0.03%	< 0.01%	0.11%
458	Commercial Contract NIROPS-like Aircraft	0.02%			0.05%	0.06%
459	Oklahoma Mesonet	0.02%	0.03%	0.02%	0.01%	0.02%
460	Arizona Mesonetnetwork (AZMET)	0.02%	0.03%	0.02%	0.01%	0.02%
461	Utah State University Agricultural Weather Network (UCC-AGNET)	0.02%	0.03%	0.02%	0.01%	0.02%
462	Commercial Airborne High-resolution Visible Imagery	0.02%	0.02%	0.02%	0.03%	0.02%
463	Database: NLCD % Tree Canopy	0.02%		0.03%		0.10%
464	USBR Water Flow Data	0.02%	0.04%	0.04%	< 0.01%	< 0.01%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
Blank Cells Indicate Input Does Not Contribute to Area						
Earth Observation Inputs						
465	Database: Global Reservoir and Dam (GRanD) database	0.02%		0.05%		
466	Database: HydroConDams Database v2.0 HarvardU	0.02%		0.05%		
467	Database: Google Maps	0.02%			0.06%	
468	Database: Spatial - Soil Classification (USDA)	0.02%	0.03%	< 0.01%	0.05%	< 0.01%
469	ISS Earth Surface Mineral Dust Source Investigation (EMIT)	0.02%	0.04%		0.04%	
470	Diversions irrigation districts	0.02%	0.03%		0.05%	
471	Kansas Mesonet	0.02%	0.03%	0.02%	0.01%	0.02%
472	Kentucky Mesonet	0.02%	0.03%	0.02%	0.01%	0.02%
473	NOAA Air Resources Lab (ARL) Field Research Division (ARLFRD) Mesonets	0.02%	0.03%	0.02%	0.01%	0.02%
474	NOAA Air Resources Lab (ARL) Special Operations and Research (ARLSORD) Mesonets	0.02%	0.03%	0.02%	0.01%	0.02%
475	NEON Airborne Observation Platform (AOP) Airborne Hyperspectral	0.02%	0.07%	0.02%		0.01%
476	Database: Bureau of Economic Analysis (BEA) Income Data	0.02%		0.01%		0.16%
477	Decagon Soil Moisture Sensors (ground-based)	0.02%	0.04%		0.04%	
478	Polar-orbiting Operational Environmental Satellite Series (POES) Solar Backscatter Ultraviolet Spectral Radiometer	0.02%	0.04%	< 0.01%	0.04%	< 0.01%
479	Various Mesonets - Boundary Layer	0.02%	0.02%	0.01%	0.04%	0.01%
480	Sentinel-3 Synthetic Aperture Radar Altimeter [ESA]	0.02%	0.12%	< 0.01%	< 0.01%	< 0.01%
481	Database: National Biomass & Carbon Dataset	0.02%		0.02%		0.09%
482	Database: NCDC Extreme Events Database	0.02%	0.07%	0.02%		< 0.01%
483	Sentinel-6 Poseidon-4 Dual-Frequency SAR [ESA]	0.02%	0.12%	< 0.01%	< 0.01%	< 0.01%
484	North Carolina Environment and Climate Observing Network (NCECONET)	0.02%	0.03%	0.02%	0.01%	0.02%
485	New Jersey Weather and Climate Network (NJWXNET)	0.02%	0.03%	0.02%	0.01%	0.02%
486	Gravity Recovery and Climate Experiment (GRACE) Follow-On Triple G (GPS, Galileo, GLONASS)	0.02%	0.03%	< 0.01%	0.04%	< 0.01%
487	National Water Level Observation Network (NWLON)	0.02%	< 0.01%	0.01%	0.04%	0.02%
488	Database: State and Local Aquifer Characteristics Data	0.02%	0.03%		0.04%	
489	Database: U.S. Census Future Water Demand	0.02%	0.03%		0.04%	
490	Traditional Ecological Knowledge (TEK)	0.02%		0.04%		

Key	SBA		Sub-area			
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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
491	Database: FL - FSAID Specialty Crop Data (2020)	0.02%	0.05%	0.01%	0.01%	0.01%
492	Database: NY - Cornell University Grape/Vineyard Data (2022)	0.02%	0.05%	0.01%	0.01%	0.01%
493	Database: CA+AZ - US Bureau of Reclamation Crop Data	0.02%	0.05%	0.01%	0.01%	0.01%
494	Database: OR - Oregon State University Tree Crop and Vineyard Data (2015)	0.02%	0.05%	0.01%	0.01%	0.01%
495	Database: NDFD Chance of Wetting Rain	0.02%	< 0.01%	0.01%	0.05%	< 0.01%
496	Aircraft Report (AIREP)	0.02%	0.01%	0.01%	0.03%	< 0.01%
497	State Habitat and Species Data (Fish and Wildlife Agency Data)	0.02%		0.04%		
498	Florida Automated Weather Network (FAWN)	0.02%	0.03%	0.02%	0.01%	0.02%
499	International Doppler Radars	0.02%	0.01%	< 0.01%	0.04%	0.01%
500	Database: AMSR & SSMI Topographic Moisture Potential (National Surface Moisture Datasets)	0.02%	0.05%		0.03%	
501	Database: SmartFIRE fire detection points	0.02%	< 0.01%	< 0.01%	0.05%	0.01%
502	Ground Field Webcam (non-volcano)	0.02%	0.04%		0.03%	0.03%
503	NASA Land, Vegetation and Ice Sensor (LVIS)	0.02%		0.02%		0.08%
504	Information Management System: Geographic Information Systems (OCM)	0.02%		0.02%		0.09%
505	Information Management System: Web Services (OCM)	0.02%		0.02%		0.09%
506	State & Local Streamgage Networks River	0.02%	0.01%	< 0.01%	0.04%	0.01%
507	Database: MAPBOX Building Footprints Data	0.02%		0.03%		0.05%
508	Database: USGS Basin Boundaries	0.02%		0.04%		
509	Database: Climate Database Modernization Program (CDMP)	0.02%	< 0.01%	< 0.01%	0.04%	0.02%
510	Database: Quality Controlled Local Climatological Data	0.02%	< 0.01%	< 0.01%	0.04%	0.02%
511	Database: USFS Public and Private Forest Ownership Conterminous United States Map	0.02%		0.04%		
512	Aqua Advanced Microwave Sounding Unit	0.02%	0.03%	< 0.01%	0.03%	< 0.01%
513	Database: Tile Drainage Type and Acreage Data	0.02%	0.06%	0.01%	0.01%	< 0.01%
514	Database: NDFD Lightning Activity Level	0.02%	< 0.01%	< 0.01%	0.04%	< 0.01%
515	Tractor-mounted Lidar	0.02%	0.03%		0.04%	
516	Terra Advanced Spaceborne Thermal Emission and Reflection Radiometer	0.02%	0.01%	< 0.01%	0.05%	< 0.01%
517	Tropical Atmospheric Ocean Buoy Array (TAO) Ocean Profile	0.02%	0.02%	0.01%	0.03%	0.01%
518	Database: NRCS National Coordinated Common Resource Area (CRA) Geographic Database	0.02%	0.08%	0.01%		< 0.01%
519	Database: FWS Land Ownership/Land Use	0.02%	0.03%	0.02%	0.01%	0.02%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
520	Database: NDFD Wind Speed	0.02%	0.01%	< 0.01%	0.04%	< 0.01%
521	Database: NPS Land Ownership/Land Use	0.02%	0.03%	0.02%	0.01%	0.02%
522	Surface Radiation Budget Network (SURFRAD)	0.02%	0.03%	0.01%	0.02%	< 0.01%
523	Airport Weather Observations (METAR)	0.02%	0.01%	< 0.01%	0.04%	0.03%
524	Delaware Environmental Observing System (DEOS)	0.02%	0.02%	0.02%	0.01%	0.02%
525	Database: Historical Aerial Imagery Data	0.02%		0.04%		
526	Database: BLM Vegetation Treatment (VTRT) Data	0.02%	< 0.01%	< 0.01%	0.04%	0.01%
527	Database: NPS Vegetation Treatment Data	0.02%	< 0.01%	< 0.01%	0.04%	0.01%
528	Database: State & Local Coastal Erosion Databases	0.02%	0.01%	< 0.01%	0.04%	0.02%
529	Gravity Recovery and Climate Experiment (GRACE) Follow-On High Accuracy Inter-satellite Ranging System	0.02%	0.03%	< 0.01%	0.03%	0.01%
530	Resource Satellite-2A Advanced Wide Field Sensor [ISRO]	0.02%	< 0.01%	< 0.01%	0.04%	< 0.01%
531	Database: NOAA Digital Coast Lidar	0.02%	0.01%	< 0.01%	0.03%	0.02%
532	HJ Andrews Long Term Ecological Research (LTER) Site Mesonet Data (OREGON)	0.02%	0.02%	0.02%	0.01%	0.02%
533	Database: NASA ABoVE - Wildfire Date of Burning	0.02%	< 0.01%	< 0.01%	0.04%	0.01%
534	Database: ADCIRC Western and Eastern Tidal Databases	0.02%	0.01%	< 0.01%	0.03%	0.02%
535	Geostationary Operational Environmental Satellite - R Series (GOES-R) Geostationary Lightning Mapper	0.01%	< 0.01%	< 0.01%	0.04%	< 0.01%
536	Database: Internal USFS S-Class ArcPro Tool	0.01%		< 0.01%	0.04%	
537	Database: Nature Conservancy S-Class Assignment Spreadsheet	0.01%		< 0.01%	0.04%	
538	Citizens Weather Observer Program	0.01%	0.02%	0.02%	0.01%	0.01%
539	Remote Video Monitoring	0.01%	< 0.01%	< 0.01%	0.04%	< 0.01%
540	Field Work - Field Work and Campaigns including Aircraft	0.01%	0.09%			
541	Airborne Gamma Ray Surveys	0.01%	0.03%	0.01%	0.01%	0.02%
542	Michigan Automated Weather Network (MAWN)	0.01%	0.02%	0.02%	0.01%	0.01%
543	Radiosonde Observations by National Weather Service (RAOBS)	0.01%		0.03%		
544	FWS Low-Altitude Imagery	0.01%				0.15%
545	Database: DOE Energy Information Administration (EIA) Cost Stats	0.01%		0.03%		

Key	SBA		Sub-area			
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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
546	Database: North American Environmental Atlas - Land Cover 2015	0.01%	< 0.01%	< 0.01%	0.03%	0.01%
547	Database: Kruitwagen Photovoltaic Solar Energy Inventory	0.01%	< 0.01%	0.01%	0.02%	< 0.01%
548	Database: TOPEX/Poseidon	0.01%	0.01%	< 0.01%	0.03%	0.02%
549	Georgia Automated Environmental Monitoring Network (GAEMN)	0.01%	0.02%	0.02%	0.01%	0.01%
550	University of South Alabama Mesonet	0.01%	0.02%	0.02%	0.01%	0.01%
551	Coastal-Marine Automated Network (C-MAN)	0.01%	0.02%	0.01%	0.02%	0.01%
552	Database: NOAA Above Ground Forest Biomass Map	0.01%				0.14%
553	Vaisala Global Lightning Dataset 360 (GLD360)	0.01%	< 0.01%	< 0.01%	0.03%	< 0.01%
554	Database: First Street Foundation (FSF) Adaption and Infrastructure Internal Database	0.01%		0.03%		0.03%
555	Database: Synthetic Hurricane Tracks Dataset	0.01%		0.03%		0.03%
556	Database: Irrigated Cropland (Google Earth Engine)	0.01%	0.04%	0.01%	0.01%	< 0.01%
557	NASA Global Precipitation Measurement Mission (GPM) Dual-frequency Precipitation Radar	0.01%	< 0.01%	< 0.01%	0.04%	< 0.01%
558	Database: North America Forest Database (NAFD)	0.01%		0.02%		0.06%
559	Atmospheric Mercury Network (AMNet)	0.01%	0.01%	0.03%	< 0.01%	0.01%
560	Montana Mesonet (MT-MESO)	0.01%	0.02%	0.02%	0.01%	0.01%
561	Mississippi Delta Agricultural Weather Center (MS-DELTA) Weather Stations	0.01%	0.02%	0.02%	0.01%	0.01%
562	Database: National Climate Assessment (NCA) 2016	0.01%		0.03%		
563	Ammonia Monitoring Network (AMon)	0.01%	0.01%	0.02%	< 0.01%	0.01%
564	NADP Mercury Litterfall Network (MLN)	0.01%	0.01%	0.02%	< 0.01%	0.01%
565	Field Work - Experimental Watersheds for Field Campaigns	0.01%	0.05%	0.01%		0.01%
566	Database: Museum Databases/Specimen Data	0.01%		0.03%		
567	Database: FLUXNET	0.01%	0.02%	0.02%	< 0.01%	< 0.01%
568	Database: Historical Photographs	0.01%			0.04%	
569	Database: Historic Post-storm Damage Imagery	0.01%	0.01%	< 0.01%	0.03%	0.02%
570	Database: USGS Revised Hydrogeologic Framework of the Florida Aquifer System	0.01%	0.05%	0.01%		< 0.01%
571	Database: Florida Geological Survey Water Table Depth Data	0.01%	0.05%	0.01%		< 0.01%
572	Database: Internal Research Fire Behavior Models	0.01%	0.05%	0.01%		0.01%
573	Database: National Solar Radiation Database (NSRDB)	0.01%	0.02%	< 0.01%	0.02%	< 0.01%
574	Database: Other Base Layers (Misc.)	0.01%	< 0.01%	< 0.01%	0.03%	0.03%

Key	SBA		Sub-area			
	99th Percentile	Agriculture & Forestry [AF]	Enhance Food Supply [AF-1]	Maximize productivity and conservation of ecosystem condition [AF-2]	Improve resilience to disasters and disturbance events [AF-3]	Support regulatory requirements and evidence-based decision-making [AF-4]
	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
575	Database: FAOSTAT Wood Products Data	0.01%		0.03%		
576	U.S. Air Force Hurricane Hunters Dropsondes	0.01%	0.02%	< 0.01%	0.02%	< 0.01%
577	Natural Resources Canada (NRC) Fire Danger Maps	0.01%	< 0.01%	0.02%		0.04%
578	Surface Geophysical Surveys (physical and hydrological properties of rocks)	0.01%	0.02%		0.03%	
579	Database: Annual Wildland Fire Statistics	0.01%			0.04%	
580	Database: EPA Green Book Nonattainment Areas	0.01%	< 0.01%	0.01%		0.08%
581	Database: USGS Texas Atlas	0.01%	0.01%	< 0.01%	0.03%	0.02%
582	Database: NOAA Atlas 14 precipitation frequency estimates	0.01%	< 0.01%	< 0.01%	0.03%	0.01%
583	Database: USDA Economic Research Service (ERS) Statistical Data	0.01%	0.04%	0.01%		< 0.01%
584	Database: Flood Thresholds Established by WFO Service Hydrologist and Emergency Managers	0.01%			0.03%	
585	Luke Air Force Base Network (LUKEAFB)	0.01%	0.02%	0.01%	0.01%	0.01%
586	Database: Historic Beach Profile Survey Datasets	0.01%	0.01%	< 0.01%	0.03%	0.02%
587	Database: Digital Ortho Quarter Quads (DOQQ)	0.01%	< 0.01%	0.01%	0.02%	0.03%
588	NOAA Aircraft G-IV Dropsondes	0.01%	0.01%	< 0.01%	0.02%	< 0.01%
589	Water Quality Samples (EPA)	0.01%	0.03%	0.01%	0.01%	< 0.01%
590	Oil and Gas Point Location Data	0.01%	< 0.01%	0.01%	0.02%	< 0.01%
591	IOOS Regional Ocean Observing System	0.01%	< 0.01%	0.01%	0.02%	0.01%
592	Texas Coastal Ocean Observation Network (TCOON)	0.01%	0.01%	< 0.01%	0.02%	0.02%
593	Aqua Advanced Microwave Scanning Radiometer	0.01%	0.01%	< 0.01%	0.02%	< 0.01%
594	Commercial GNSSRO	0.01%	0.01%	0.01%	0.02%	< 0.01%
595	WMO Ground Station Soil Moisture	0.01%	0.07%			
596	Pilot Report for Aviation Weather Phenomena (PIREP)	0.01%	< 0.01%	0.01%	0.02%	< 0.01%
597	Research Moored Array for African-Asian-Australian Monsoon Analysis (RAMA) Ocean Profile	0.01%	0.01%	< 0.01%	0.02%	< 0.01%
598	Database: West Wide Wildfire Risk Assessment (WWRA)	0.01%				0.11%
599	Water Quality Samples (USGS) - Surface Water	0.01%	0.07%			
600	Prediction and Research Moored Array in the Atlantic (PIRATA) Ocean Profile	0.01%	0.01%	< 0.01%	0.02%	< 0.01%
601	Field Work - Soil Burn Severity Validation	0.01%			0.03%	
602	Canadian Doppler Radar	0.01%	0.02%	0.01%	0.01%	0.01%
603	Database: NDFD Temperature	0.01%	< 0.01%	< 0.01%	0.03%	< 0.01%
604	Commercial Airborne Lidar Point Cloud	0.01%	< 0.01%	0.01%	0.02%	< 0.01%
605	University of Utah (UUNET) Cameras	0.01%	0.01%	0.01%	0.01%	0.01%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
606	Utah Climate Center Data for MesoWest	0.01%	0.01%	0.01%	0.01%	0.01%
607	Database: IKONOS Archive	0.01%	0.02%	0.01%	0.01%	0.01%
608	Data Transmission Network (DTN) Weather Data for MesoWest	0.01%	0.01%	0.01%	0.01%	0.01%
609	Database: Unedited Local Climatological Data	0.01%	< 0.01%	< 0.01%	0.02%	0.01%
610	Spotters US Forest Service	0.01%		< 0.01%	0.03%	
611	Database: U.S. Census Survey of Construction Data	0.01%		0.01%		0.08%
612	Database: U.S Census Public Use Microdata Sample (PUMS) People and Housing Unit Data	0.01%		0.01%		0.08%
613	Pilot Balloon (PIBAL)	0.01%	0.01%	0.01%	0.02%	< 0.01%
614	Database: State Beach Inventories/Profile Observations	0.01%	0.01%	< 0.01%	0.02%	0.02%
615	Database: 3D Hydrography Program (3DHP)	0.01%	0.01%	0.01%	0.01%	0.01%
616	Database: U.S. Drought Monitor data tables	0.01%	< 0.01%	< 0.01%	0.03%	0.01%
617	USGS Small Uncrewed Aircraft Systems (sUAS)	0.01%		0.02%		
618	Database: USDA Conservation Reserve Program Geospatial Data	0.01%	< 0.01%	0.01%		0.07%
619	USFS FHP Airborne Hyperspectral	0.01%			0.02%	0.02%
620	NASA Airborne Passive Active L- and S-band Sensor (PALS)	0.01%	0.06%			
621	Database: ALOS1(PALSAR) Phased Array L-band SAR data	0.01%		0.01%	< 0.01%	0.03%
622	Database: NDFD Sky Cover	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
623	Database: POES Microwave (NCDC)	0.01%	0.04%	0.01%	< 0.01%	< 0.01%
624	Washington Dept of Ecology Nutrient Loading Data	0.01%	0.02%	0.01%		
625	Database: Objective Yield Field Surveys	0.01%	0.03%			0.05%
626	USGS Tide Gages	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
627	Database: FAO/UNESCO Soil Map of the World	0.01%	0.02%	< 0.01%	0.02%	
628	Advanced Land Observing Satellite-2 (ALOS-2) Phased Array L-band SAR [JAXA]	0.01%	< 0.01%	0.01%	0.01%	0.05%
629	West Texas Mesonet	0.01%	0.01%	0.01%	0.01%	0.01%
630	GPS (handheld)	0.01%	0.06%			
631	Database: ARS Aeolian Erosion (AERO) Model	0.01%	0.03%	0.01%		< 0.01%
632	Database: Topographic Data (External)	0.01%	< 0.01%	< 0.01%	0.02%	0.01%
633	Database: Wind Farms	0.01%	< 0.01%	< 0.01%	0.02%	0.01%
634	Database: WorldPop Population	0.01%		0.01%		0.03%
635	Post Event High Water Mark Reports (USGS, USACE)	0.01%	< 0.01%	< 0.01%	0.02%	0.01%
636	Database: NDFD Haines Index	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
637	Discrete Water Quality Samples (USGS)	0.01%	0.01%	< 0.01%	0.02%	< 0.01%

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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
	Earth Observation Inputs					
638	Pleiades Commercial High-Resolution Satellite Imagery	0.01%	0.01%	0.01%	0.01%	0.01%
639	Database: FWS Information for Planning and Consultation (IPaC)	0.01%		0.02%		
640	Database: RPA Population Projections 2020, Langer et al.	0.01%		0.02%		
641	Database: DOE Energy Information Administration (EIA) Power Production Estimates	0.01%		0.02%		
642	Desert Research Inst. Community Environment Monitor Program (CEMP) Network	0.01%	0.01%	0.01%	0.01%	0.01%
643	Database: Landsat NDVI 10 Year Average	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
644	Database: State Harmful Algal Blooms Toxin Reports	0.01%	0.05%			
645	Database: Natural Resources Defense Council Harmful Algal Blooms Reports	0.01%	0.05%			
646	Database: State Health Department Recreational Advisories	0.01%	0.05%			
647	Database: Greenhouse Gas Inventory Emissions Statistics	0.01%		0.02%		
648	Database: International Soil Carbon Network Database (ISCN)	0.01%		0.01%		0.03%
649	Continuous Water-Level Recorders (Groundwater)	0.01%	0.01%	< 0.01%	0.02%	< 0.01%
650	Database: Lithologic Logs/Lithologic Data (Local)	0.01%	0.05%			
651	Database: Thickness of Unconsolidated Deposits Data	0.01%	0.05%			
652	Database: National Fire Map	0.01%			0.02%	
653	Database: NDFD Mixing Height	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
654	Database: NDFD Wind Gust Speed	0.01%	< 0.01%	< 0.01%	0.02%	< 0.01%
655	Supplementary Aviation Weather Reporting Station (SAWRS)	0.01%	< 0.01%	< 0.01%	0.01%	0.01%
656	Database: UK Climate Research Unit (CRU) Precipitation Data (CRUTS 3.1.x)	0.01%	0.04%			
657	Database: UK Climate Research Unit (CRU) Temperature Data (CRUTS 3.1.x)	0.01%	0.04%			
658	Conductivity, Temperature, Depth (CTDs)	0.01%	0.04%			
659	Database: Water Quality Samples (Local Partners/Cooperators)	0.01%	< 0.01%	0.01%	< 0.01%	< 0.01%
660	Database: Severe Weather and Hydro Application Development NSSL	0.01%	0.01%	< 0.01%	0.01%	< 0.01%
661	USFS FHP Airborne High-Resolution Visible Imagery	0.01%			0.01%	0.02%

Key	SBA		Sub-area			
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	95th Percentile					
	90th Percentile					
	75th Percentile					
	50th Percentile					
	Below 50th Percentile					
	Blank Cells Indicate Input Does Not Contribute to Area					
Earth Observation Inputs						
662	Database: NOAA National Beach Nourishment Database	0.01%	< 0.01%	< 0.01%	0.01%	0.01%
663	Database: Operational Tillage Information System (OpTIS)	0.01%	0.01%	< 0.01%		0.05%
664	Database: National Center for Education Statistics Education Data	0.01%		0.02%		
665	Database: State Geologic Maps	0.01%	0.04%	< 0.01%		
666	Database: Stream Flow (USGS)	0.01%	0.04%	< 0.01%	< 0.01%	< 0.01%
667	MOM Research Activity, Code Stack, and Collaborations: GFDL	0.01%	0.01%	< 0.01%	0.01%	< 0.01%
668	Database: Spring Location Data	0.01%	0.01%		0.01%	
669	Database: ESRI 2020 Global Land Cover Map	0.01%	0.04%			
670	Database: Pyromes of the Conterminous United States	0.01%			0.02%	
671	Database: USFS Community zones for assessing wildfire exposure	0.01%			0.02%	
672	Aircraft-3	0.01%			0.01%	0.01%
673	Database: June Agriculture Surveys	0.01%	0.04%			
674	Bureau of Land Management Fire Fuel Reports	0.01%		< 0.01%	0.02%	
675	Illinois Climate Network	0.01%	0.01%	0.01%	< 0.01%	0.01%
676	Database: LANDFIRE 13 Fire Behavior Fuel Models 2016 Remap	0.01%	< 0.01%	< 0.01%	0.01%	< 0.01%
677	Database: NDFD Wind Direction	0.01%	0.01%	< 0.01%	0.01%	< 0.01%
678	Physical Oceanographic Real-Time System Currents	0.01%	0.03%			
679	Database: CDMP 19th Century Forts and Voluntary Observers Database	0.01%	< 0.01%	< 0.01%	0.01%	0.01%
680	NOAA Aircraft Otter (Coastal Mapping)	0.01%	< 0.01%	0.01%	< 0.01%	0.03%
681	USGS Mobile Surge Sensors	0.01%	< 0.01%	< 0.01%	0.01%	< 0.01%
682	NOAA Aircraft P-3 (Dropsondes)	0.01%	0.01%	< 0.01%	0.01%	< 0.01%