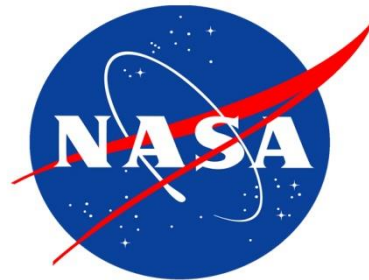


Earth Observing System Data and Information System



2015 Customer Satisfaction Results

November 2015

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About CFI Group

- Founded in 1988
- Founding partner of the ACSI
- Patent holder of the modeling engine used to compute the ACSI
- Predictive analytics software and professional services
- Serving a global list of clients from 6 offices on 4 continents
- Providing “actionable” customer feedback insights based on the science of the ACSI



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Introduction & Methodology

Introduction and Methodology

- Measure customer satisfaction with NASA Earth Observing System Data and Information System (EOSDIS) at a national level for each Distributed Active Archive Center (DAAC).
- Identify the key areas that NASA can leverage across the DAACs to continuously improve its service to its customers.
- Assess the trends in satisfaction with NASA EOSDIS specifically in the following areas:
 - Customer Support
 - Product Selection and Order
 - Product Search
 - Product Documentation
 - Product Quality
 - Delivery

Survey and Data Collection

Survey and Data Collection Summary

- Questionnaire developed by NASA EOSDIS and CFI Group.
 - Measured respondent satisfaction with their experiences with a specific DAAC
 - The survey was designed to allow users to skip over the questions not related to their experience with the specified DAAC.
 - Each DAAC was allowed the opportunity to utilize their own unique supplemental questions (outside of the ACSI model questions).
- Data collection performed via the web.
 - NASA EOSDIS provided a list of email addresses, which after cleaning the sample list, CFI Group sent out 109,485 email invitations.
 - A total of 5,346 responses were received, for a response rate of 4.9%.
 - The online survey was available September 14th through October 6th, 2015
 - Two survey reminder announcements sent by CFI Group (September 22nd & September 29th).

Executive Summary

Executive Summary: CSI and Performance Outcomes

- The 2015 **Customer Satisfaction Index (CSI)** for NASA EOSDIS is **77**, representing performance that is generally strong and consistent with results since 2008.
- All drivers of satisfaction, with the exception of **Product Documentation (78)**, were rated at **80** or above on aggregate, a good indicator of consistency across the spectrum of the customer experience.
 - At the DAAC level, ORNL DAAC (80) and CDDIS (79) were rated highest by respondents in this year's study.
- Respondents' **Likelihood to Recommend** the DAAC they dealt with to a colleague (**86**), and **Likelihood to Use the Services Provided by the DAAC in the future (88)** remained very high, though are down two and one points, respectively, from 2014.

Executive Summary: Customer Support

- Eighteen percent of respondents reported contacting a DAAC's user services office or interacting with DAAC personnel, and the area of **Customer Support** has the most significant leverage on satisfaction.
 - Customers remain very pleased with this aspect of service based on the score of **86**; however, its three point decrease from 2014 is the primary contributor to the one point decline in CSI.
 - The lowest scoring attributes within Customer Support were Helpfulness in correcting a problem (**84**, -3 from 2014) and Speed of response (**84**, -4 from 2014).
- Our recommendation is for DAACs to continue building on **Customer Support** as a key strength, examining policies, procedures, staffing, and training initiatives with an understanding that this touch-point is the most critical area in keeping customers satisfied with the entire NASA EOSDIS experience. Specifically, efforts to streamline problem resolution in a timely and satisfactory manner are likely to pay dividends in terms of customer satisfaction, recommendations, and future usage of services.

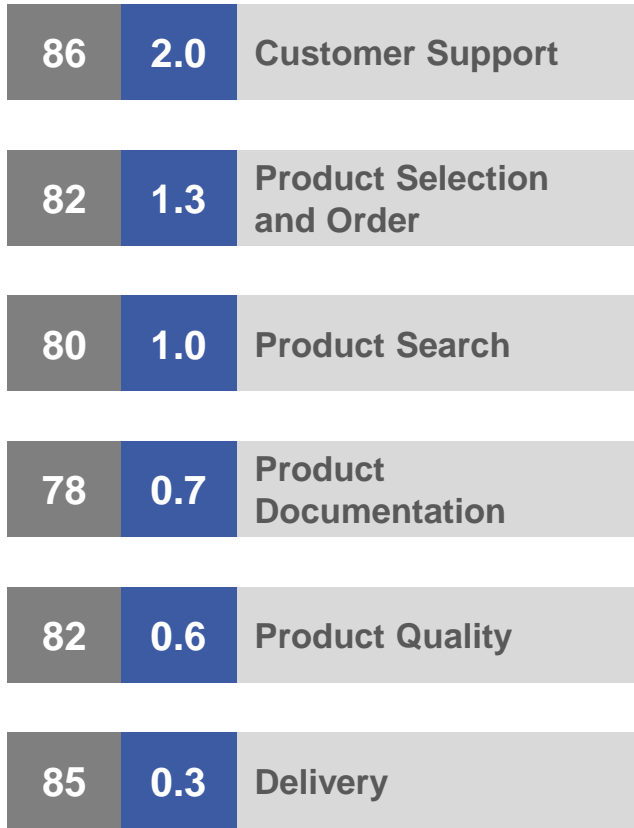
Executive Summary: Other Key Drivers

- **Product Selection and Order (82)** and **Product Search (80)** both continue to earn strong ratings from customers and have noticeable leverage on satisfaction.
 - DAACs' ability to maintain this level of performance and make incremental improvements to the user experience in terms of selecting and requesting/ordering data products, as well as continuing to refine internet search terms and criteria, will contribute towards maintaining and improving overall customer satisfaction.
- **Product Documentation** is the lowest scoring driver (**78**), though it has less influence on CSI than Customer Support, Product Selection and Order, and Product Search.
 - To the extent that continuous improvements can be made to overall document quality, this aspect of the customer experience can work in conjunction with other measured areas to boost aggregate satisfaction for users.

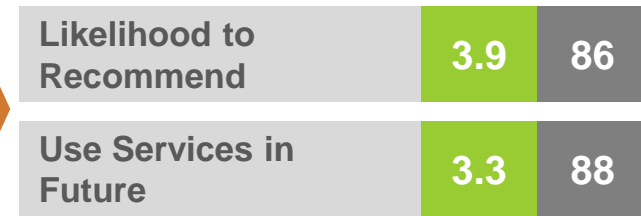
Customer Satisfaction Model Results

2015 NASA EOSDIS – Customer Satisfaction Model

QUALITY COMPONENTS/DRIVERS



PERFORMANCE OUTCOMES

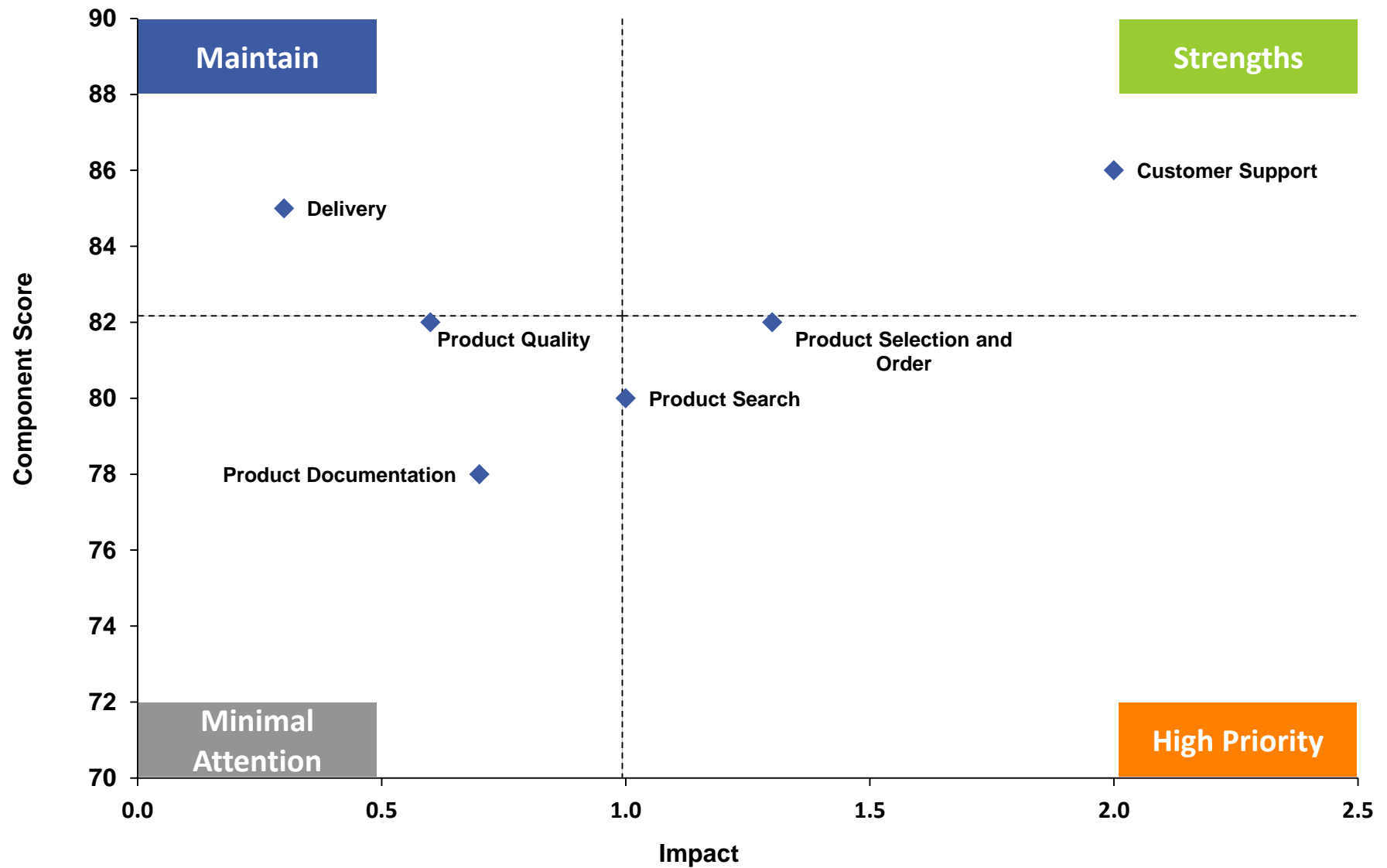


Scores represent your performance as rated by **your** customers

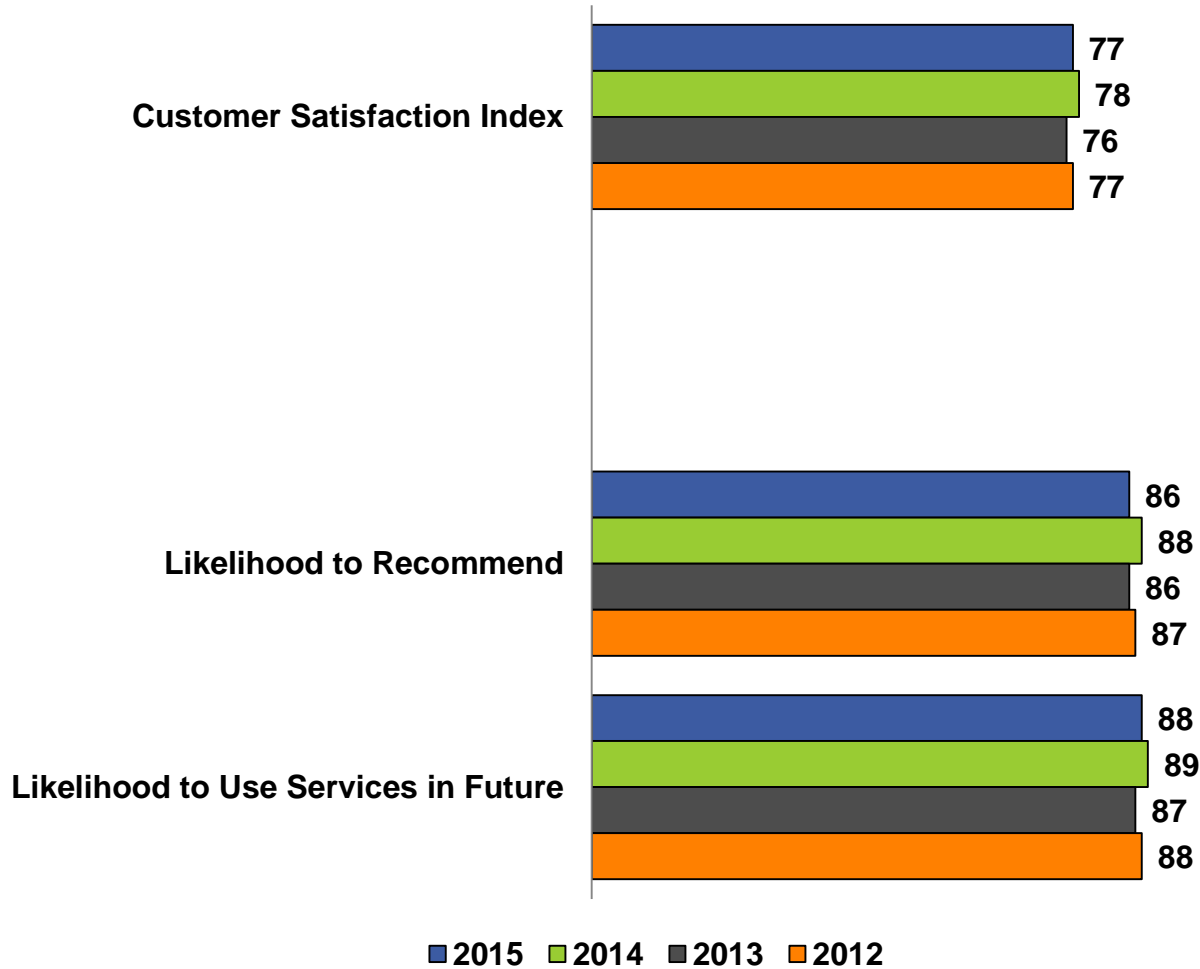
Driver Impacts show you which driver has the most/least leverage – where improvements matter most/least to **your** customers

Performance Outcomes Impacts represent the impact of CSI on the future behaviors of **your** customers

Priorities for NASA EOSDIS

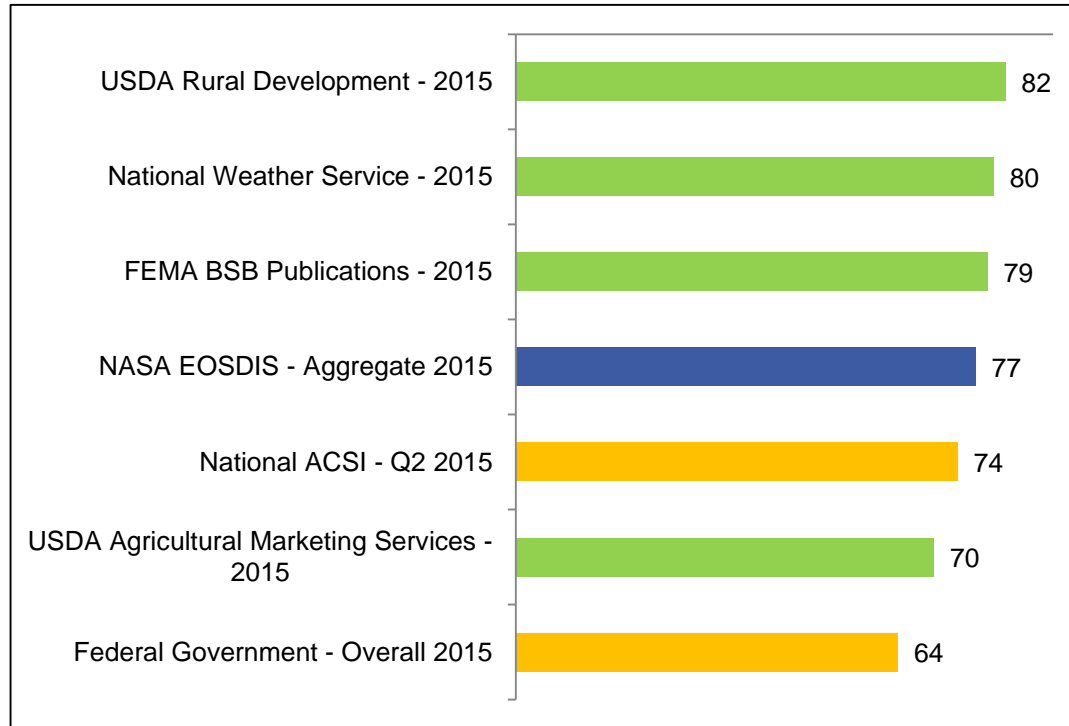


CSI and Performance Outcomes: Four-year Trending



While CSI and both Performance Outcomes saw slight declines in 2015, scores have remained generally steady over time.

Benchmarks



CSI for NASA EOSDIS is three points above the National ACSI average (74), and 13 points above the Federal Government average (64).

Scores in green represent CSI for other Federal Government Agency information providers measured by CFI.

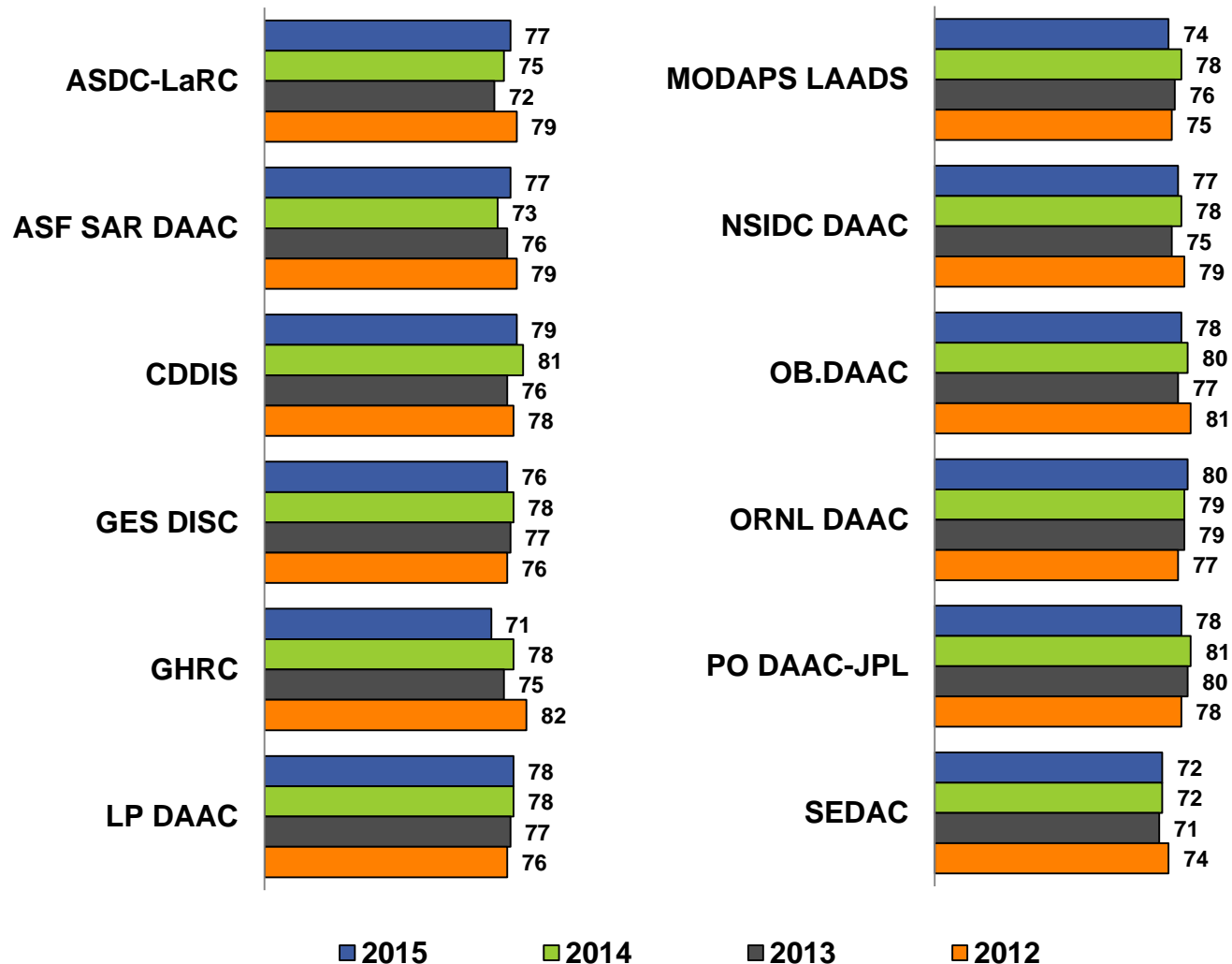
CSI by DAAC and Other Segments

CSI and Frequency by DAAC

- LP DAAC was again the most frequently cited DAAC for evaluation (**38%**).
- ORNL DAAC (80) and CDDIS (**79**) were the highest scoring DAACs.
- ASF SAR DAAC realized most improvement over 2014 (+4 to **77**), while GHRC saw the biggest decline (-7 to **71**).

DAAC	2014			2015		
	%	N	CSI	%	N	CSI
ASDC-LaRC	6%	267	75	10%	530	77
ASF SAR DAAC	4%	159	73	4%	198	77
CDDIS	4%	161	81	3%	185	79
GES DISC	7%	303	78	10%	543	76
GHRC	2%	99	78	5%	269	71
LP DAAC	42%	1,746	78	38%	2,050	78
MODAPS LAADS	10%	428	78	13%	713	74
NSIDC DAAC	8%	322	78	5%	250	77
OB.DAAC	5%	219	80	2%	116	78
ORNL DAAC	5%	206	79	2%	125	80
PO DAAC-JPL	3%	122	81	3%	175	78
SEDAC	3%	115	72	4%	191	72
Number of Respondents		4,147			5,345	

CSI: Four-year Comparison by DAAC



CSI moved only zero to two points for eight of the twelve DAACs since 2014.

CSI and Driver Scores: USA vs. All Other Countries

	USA	All Others	Difference	Significant Difference
	Scores			
Sample Size	1,025	4,321		
Product Search	80	79	-1	
Product Selection and Order	82	81	-1	
Delivery	87	84	-3	*
Product Quality	83	82	-1	
Product Documentation	78	78	0	
Customer Support	90	84	-6	*
Customer Satisfaction Index	78	76	-2	*
Likelihood to Recommend	88	86	-2	*
Likelihood to Use Services in Future	90	87	-3	*

CSI is two points higher for domestic respondents, driven primarily by higher scores in Customer Support and Delivery.

* indicates a Significant Difference between scores at 90% confidence level

CSI and Frequency by Type of User

What type of user are you? (Select all that apply)

Type of User~	2014			2015		
	%	N	CSI	%	N	CSI
General Public	15%	406	75	13%	693	75
Elementary, Middle, High School Teachers	2%	51	74	1%	52	77
University Professor	0%	0	--	15%	778	80
University Student	0%	0	--	35%	1,866	75
Other Education and Outreach	8%	207	74	4%	225	75
Earth Science Researcher	61%	1,610	79	32%	1,714	78
Earth Science Modelers	18%	484	77	9%	457	77
NASA-funded Scientist	0%	0	--	3%	148	79
Non-NASA-funded Scientist	0%	0	--	4%	236	78
Science Team Member	0%	0	--	7%	374	77
Data Tool Developer	11%	297	78	5%	267	75
Decision Support Systems Analyst	9%	249	78	5%	253	76
Other User Type	13%	337	76	9%	457	76
Number of Respondents		2,628			5,346	

University Student (35%) and *Earth Science Researcher* (32%) were the most common type of user, followed by *University Professor* (15%) and *General Public* (13%).

University Professors reflected the highest CSI (**80**), while the lowest belonged to *Data Tool Developers*, *Other Education and Outreach*, and *General Public* (**75** in each case).

- Percents dashed due to questionnaire changes
- ~ Multiple responses allowed

Areas/Disciplines Need/Use Earth Science Data and Services

For which general areas/disciplines do you need or use Earth science data and services? Select all that apply

	2014			2015		
	%	N	CSI	%	N	CSI
General Areas Need or Use Earth Science Data and Services~						
Atmosphere	34%	1,395	78	29%	1,574	77
Biosphere	20%	818	78	15%	795	77
Calibrated radiance	10%	434	79	8%	443	76
Cryosphere	9%	361	79	7%	354	77
Human dimensions	14%	560	76	12%	647	74
Land	64%	2,640	78	62%	3,300	76
Near-real-time applications	17%	703	78	13%	687	77
Ocean	20%	831	78	15%	780	77
Space geodesy	9%	390	77	9%	480	77
Other area	9%	391	76	8%	446	75
Number of Respondents		4,147			5,346	

Nearly two-thirds (**62%**) of respondents indicated they use data and services for *Land*.

Atmosphere (29%), *Biosphere (15%)*, and *Ocean (15%)* were the next most commonly reported uses.

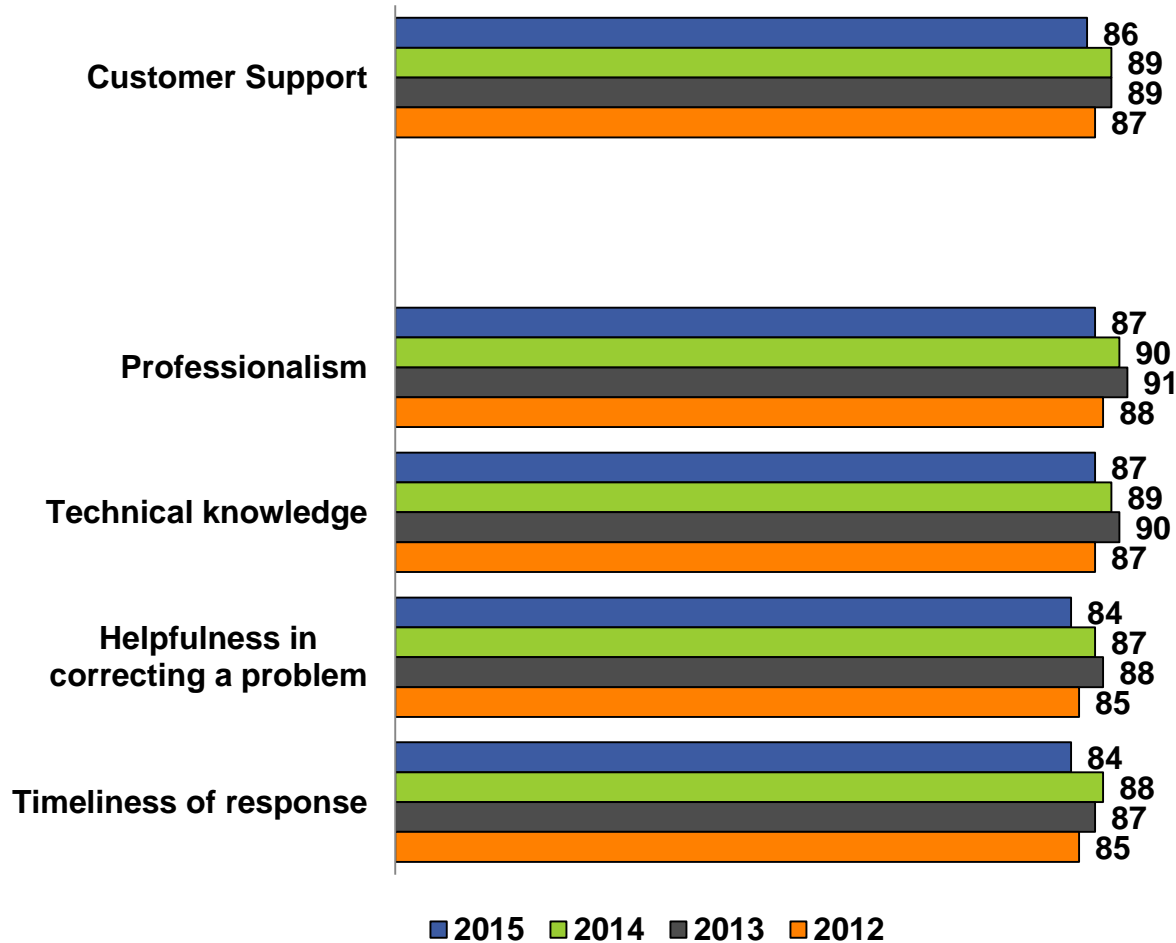
There was little variation in CSI among areas/disciplines of use, though respondents who cited *Human Dimensions* reflected CSI (**74**) three points lower than the aggregate.

~ Multiple responses allowed

Driver Detail: Customer Support

Customer Support

Impact = 2.0

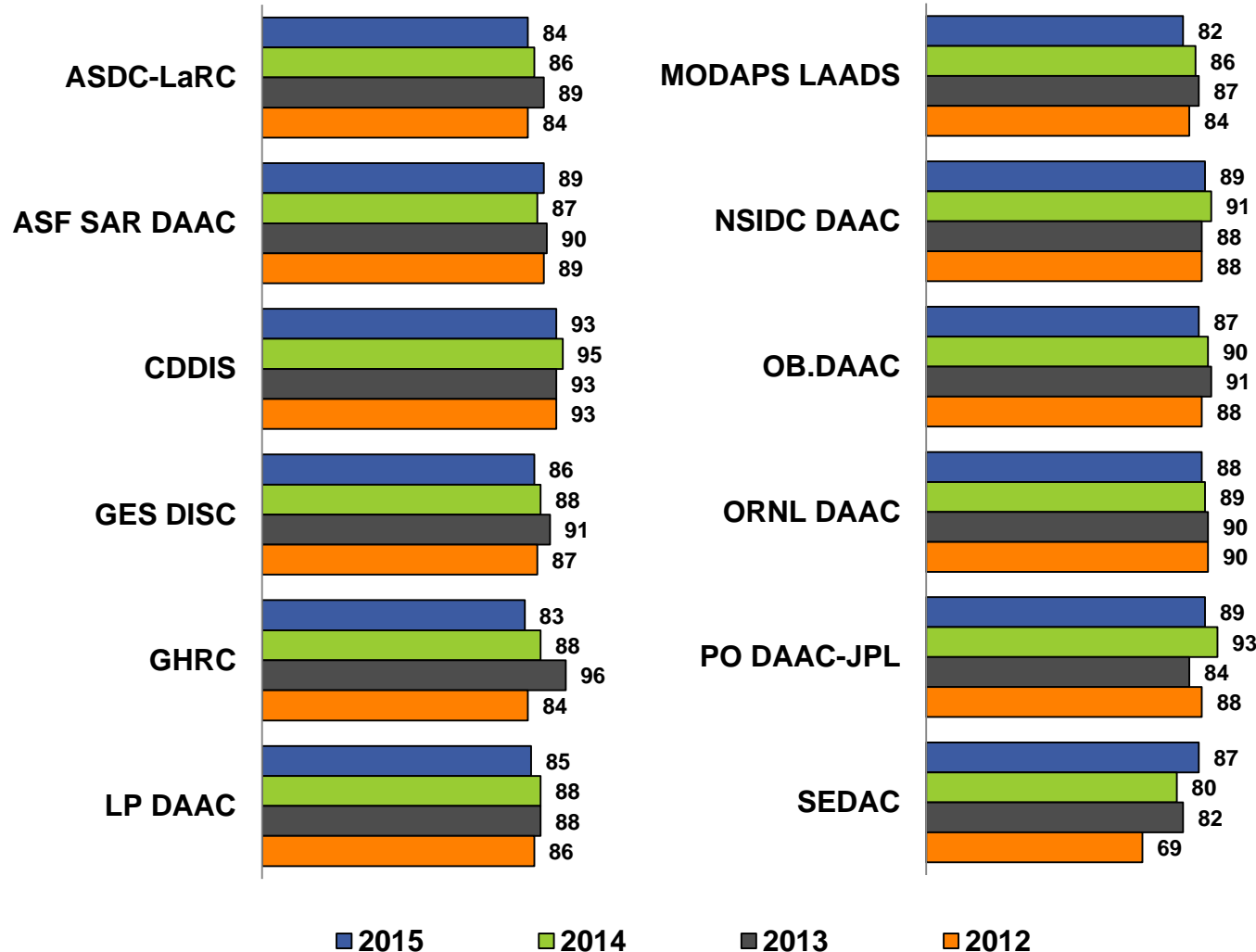


Eighteen percent of respondents reported contacting a DAAC's user services office or interacting with DAAC personnel in the past year (up 2 percentage points from 2014).

Though down three points from 2014, this area is still rated very highly and has the most leverage on CSI.

Timeliness of response is the area that showed the largest score decrease (-4 to **84**).

Customer Support: Four-year Comparison by DAAC



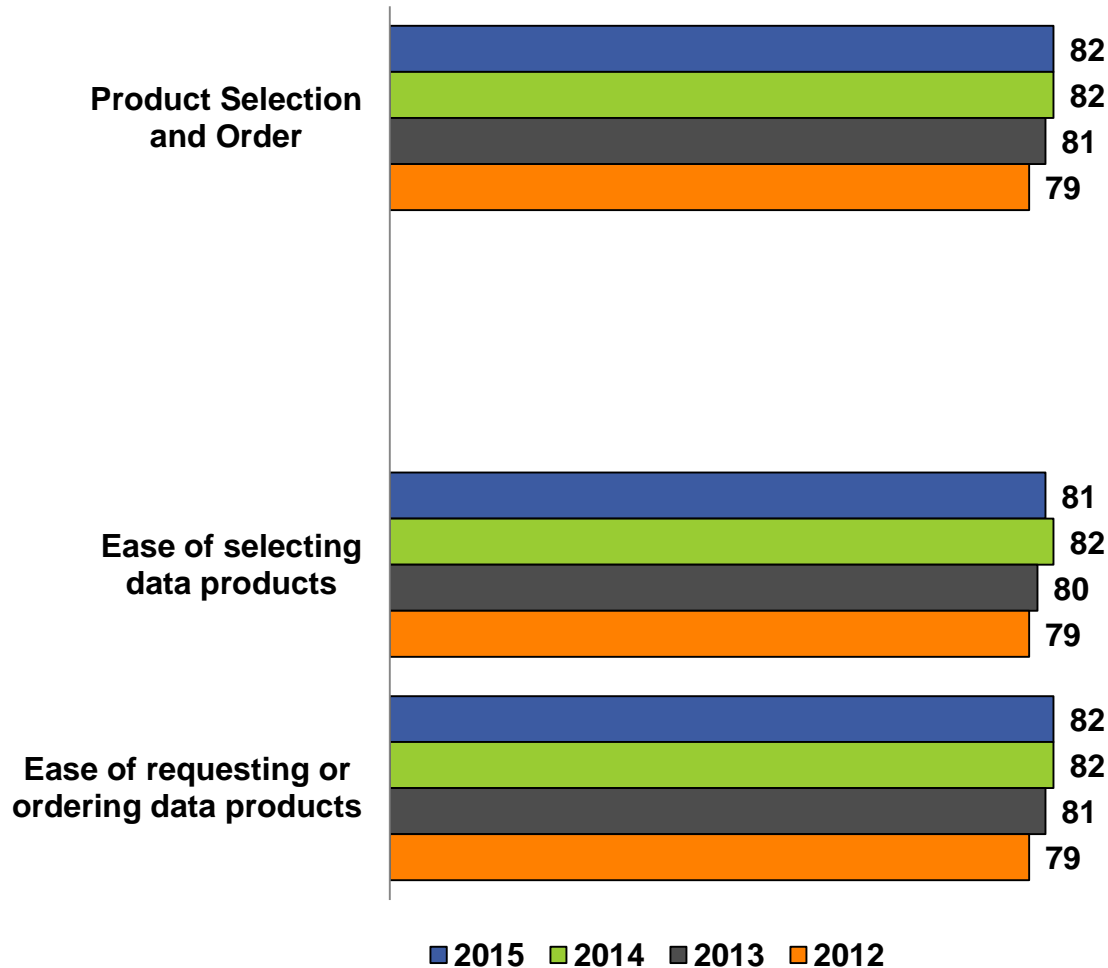
At **93**, CDDIS recorded the highest score for **Customer Support**, while SEDAC saw the biggest improvement (+7 to **87**).

Most DAACs scored in the high-80s.

Driver Detail: Product Selection and Order

Product Selection and Order

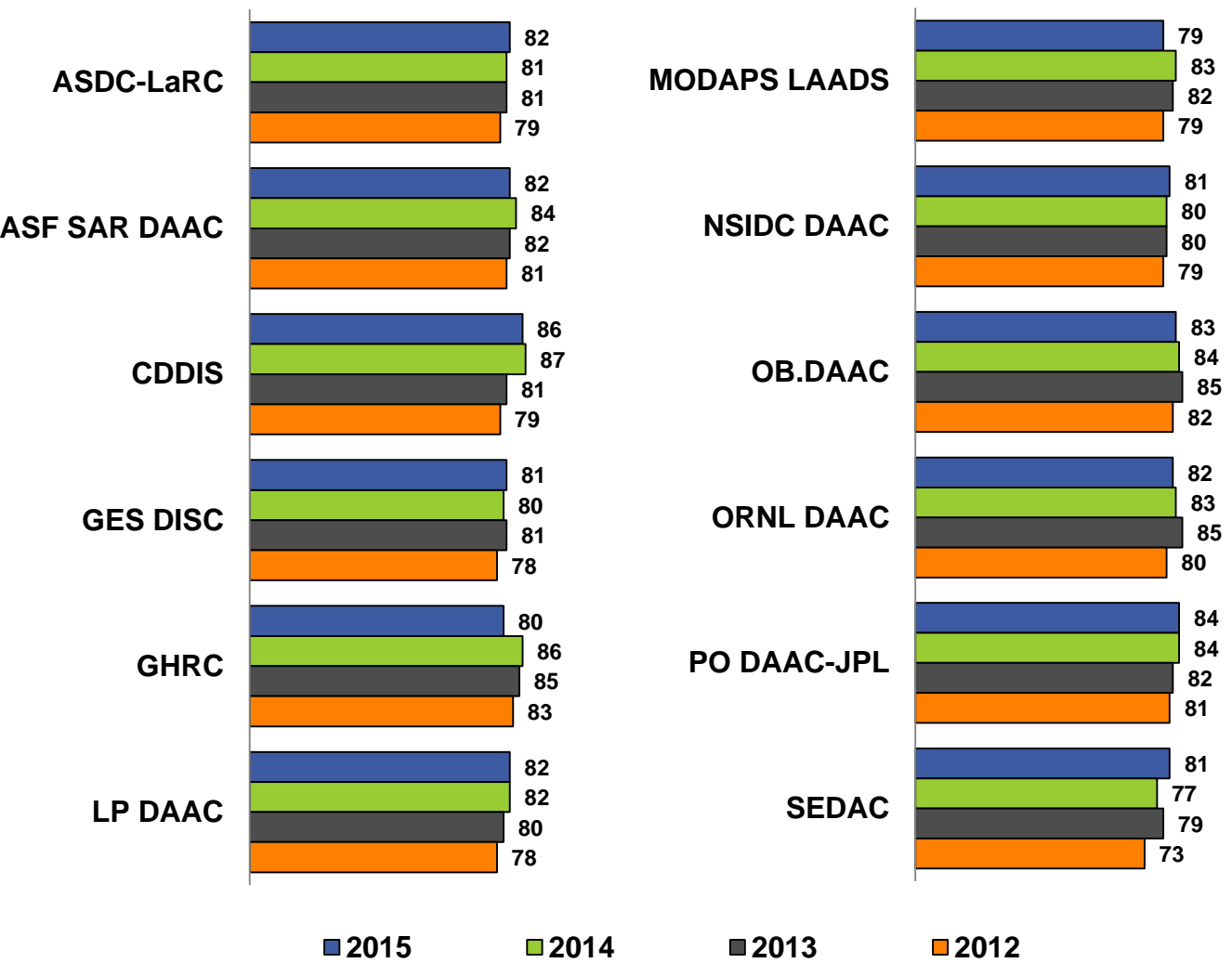
Impact = 1.3



Seventy-eight percent of respondents requested/acquired data products from a DAAC in the past year.

This aspect of the customer experience has relatively strong influence on CSI, and with a score of **82** it is an area that is performing well.

Product Selection and Order: Four-year Comparison by DAAC



CDDIS (**86**) and PO DAAC-JPL (**84**) were the highest rated DAACs for **Product Selection and Order**.

GHRC and MODAPS LAADS each experienced significant decreases since the prior year.

Eleven of the twelve DAACs scored **80** or higher, just as in 2014.

Driver Detail: Product Search

Product Search Method

How did you search for the data products or services of [DAAC] that you were seeking?

	2015			
	%	N	Product Search Score	CSI
Method of Searching for Data Products or Services~				
Search services specific to a DAAC	38%	1,756	81	79
Earthdata search	39%	1,825	80	77
Direct interaction with user services personnel	6%	259	83	82
Global Change Master Directory	4%	188	78	76
Internet search tool	40%	1,864	78	76
Land Atmosphere Near Real-Time Capability for EOS	7%	349	79	76
Reverb	15%	702	81	80
Other search tool	6%	266	82	80
Did not search	2%	99	N/A	78
Number of Respondents		4,665		

Internet search tools (40%), Earthdata search (39%), and Search services specific to a DAAC (38%) were the most commonly cited methods of searching for products or services.

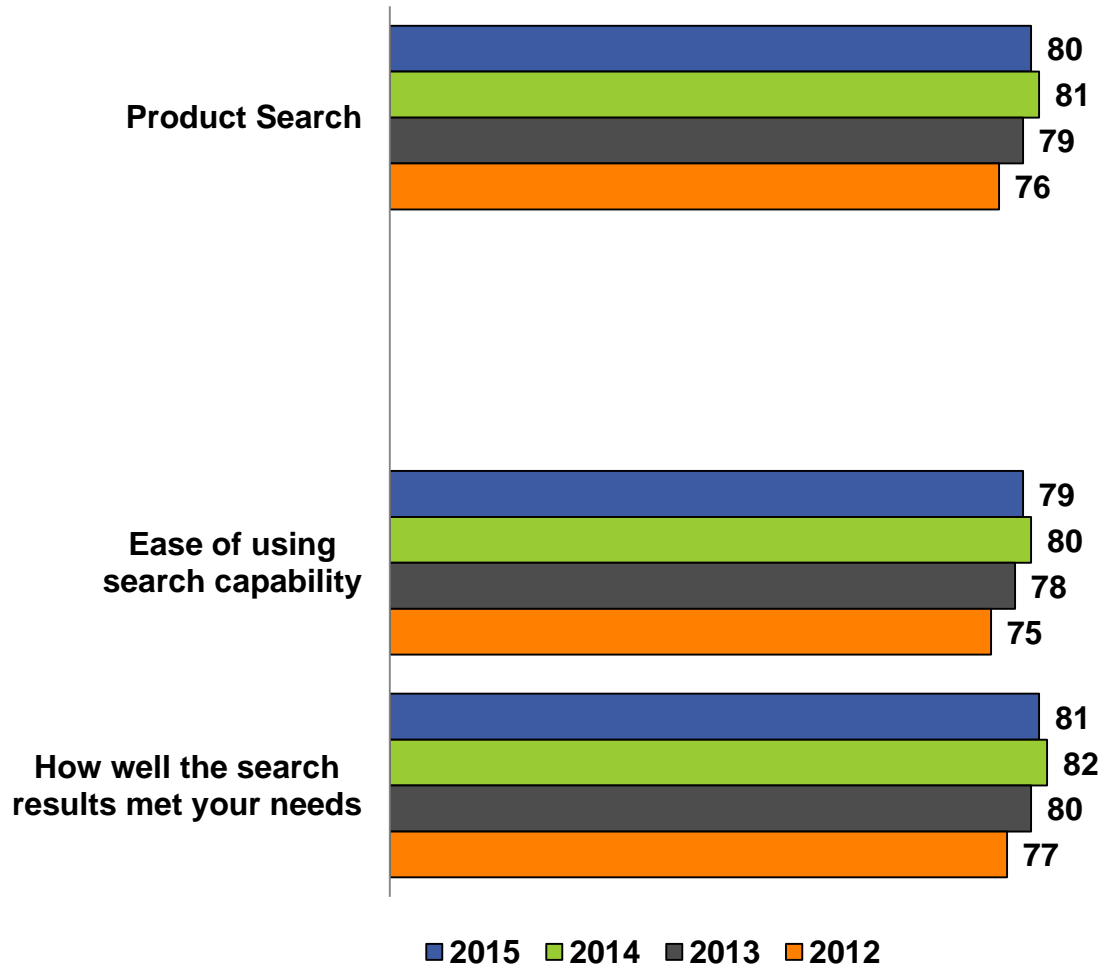
The highest Product Search ratings were among those who utilized *Direct interaction with user services personnel* (**83**), followed by *Other search tool* (**82**) and *Search services specific to a DAAC* (**81**).

The lowest Product Search scores were from those who used *Global Change Master Directory* and/or *Internet search tool* (both at **78**).

~ Multiple responses allowed

Product Search

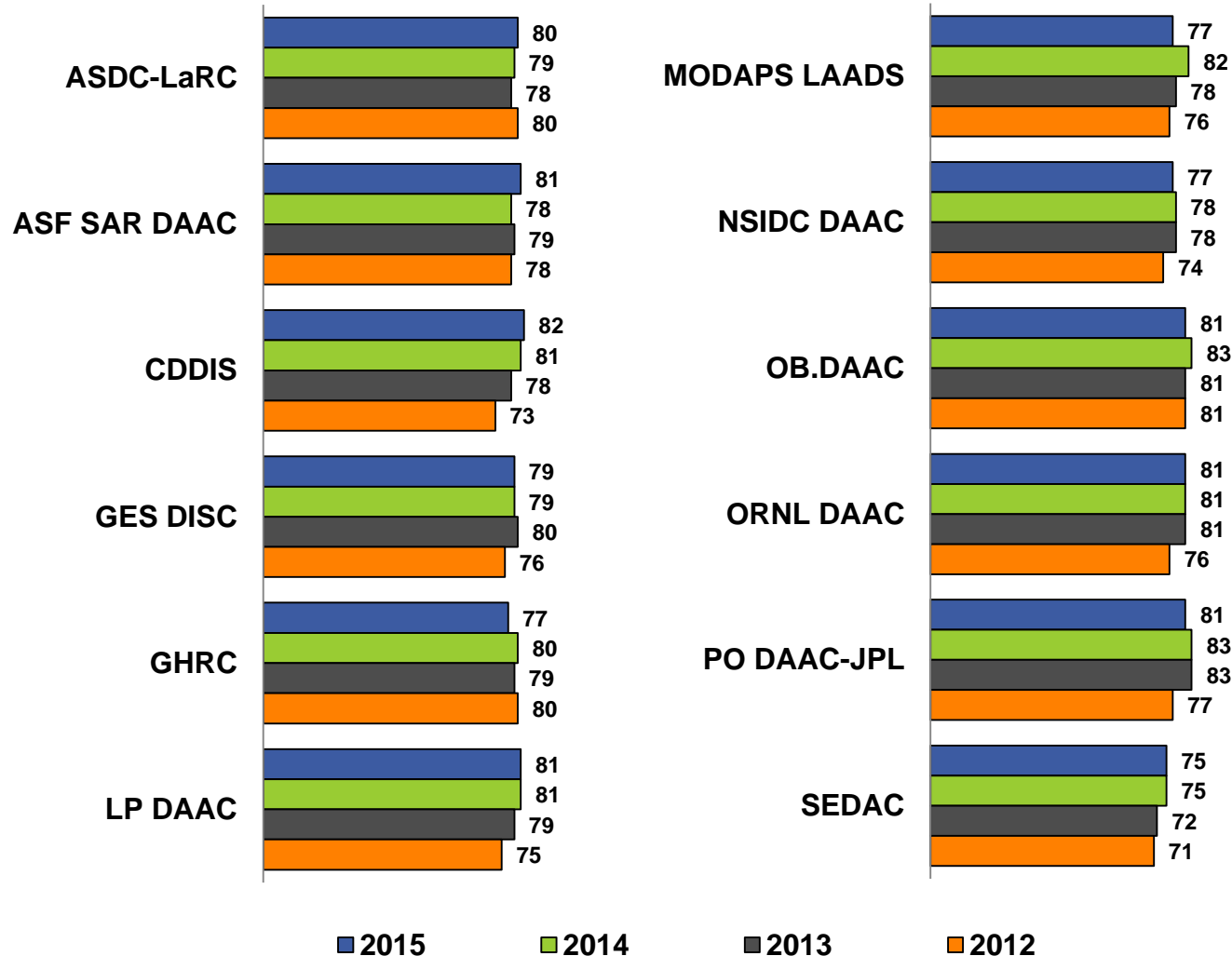
Impact = 1.0



Product Search scored one point lower than in 2014 after having seen improvement the prior two years.

This area has a moderate impact in CSI, and both *Ease of using search capability* and *How well the search results met your needs* saw a one point decrease.

Product Search: Four-year Comparison by DAAC



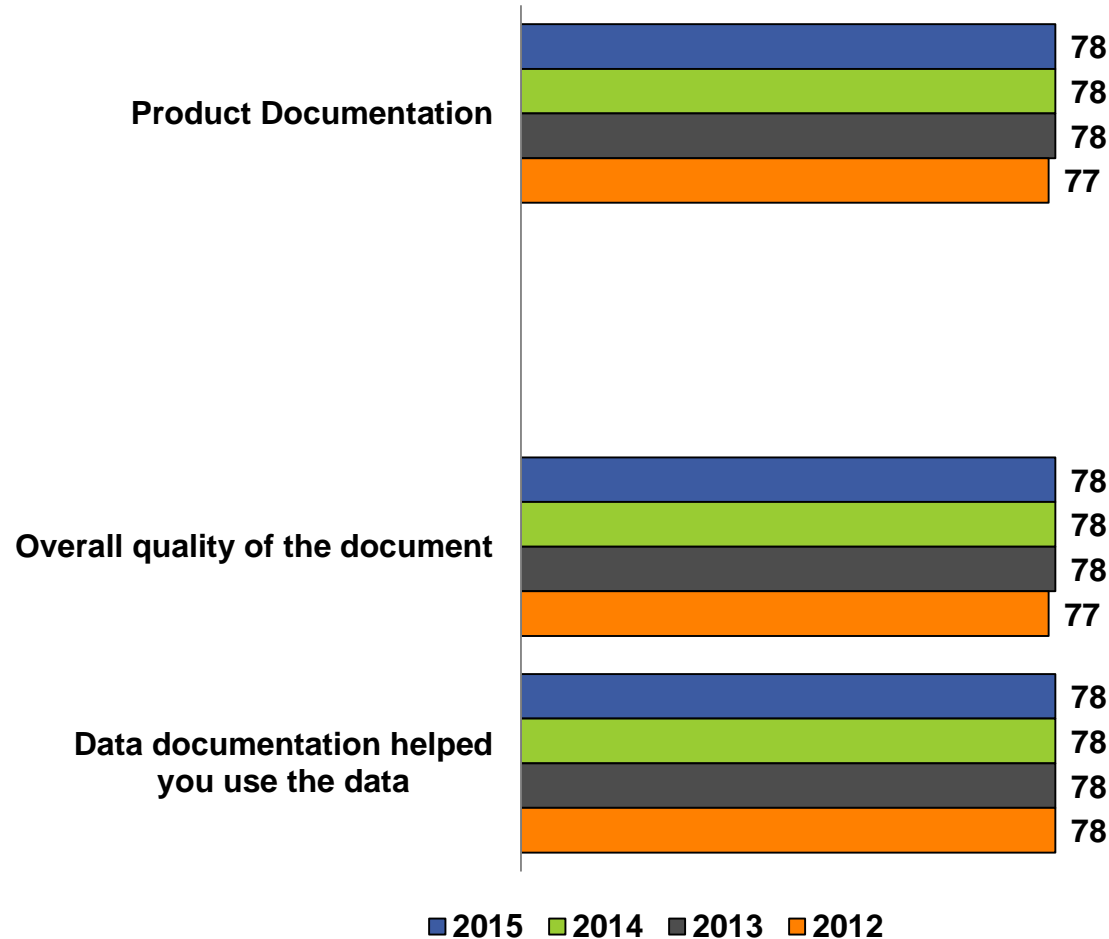
Customers evaluating CDDIS reported the highest **Product Search** score (**82**), and has improved this area each of the past three years.

MOADAPS LAADS saw a five point decline to **77**.

Driver Detail: Product Documentation

Product Documentation

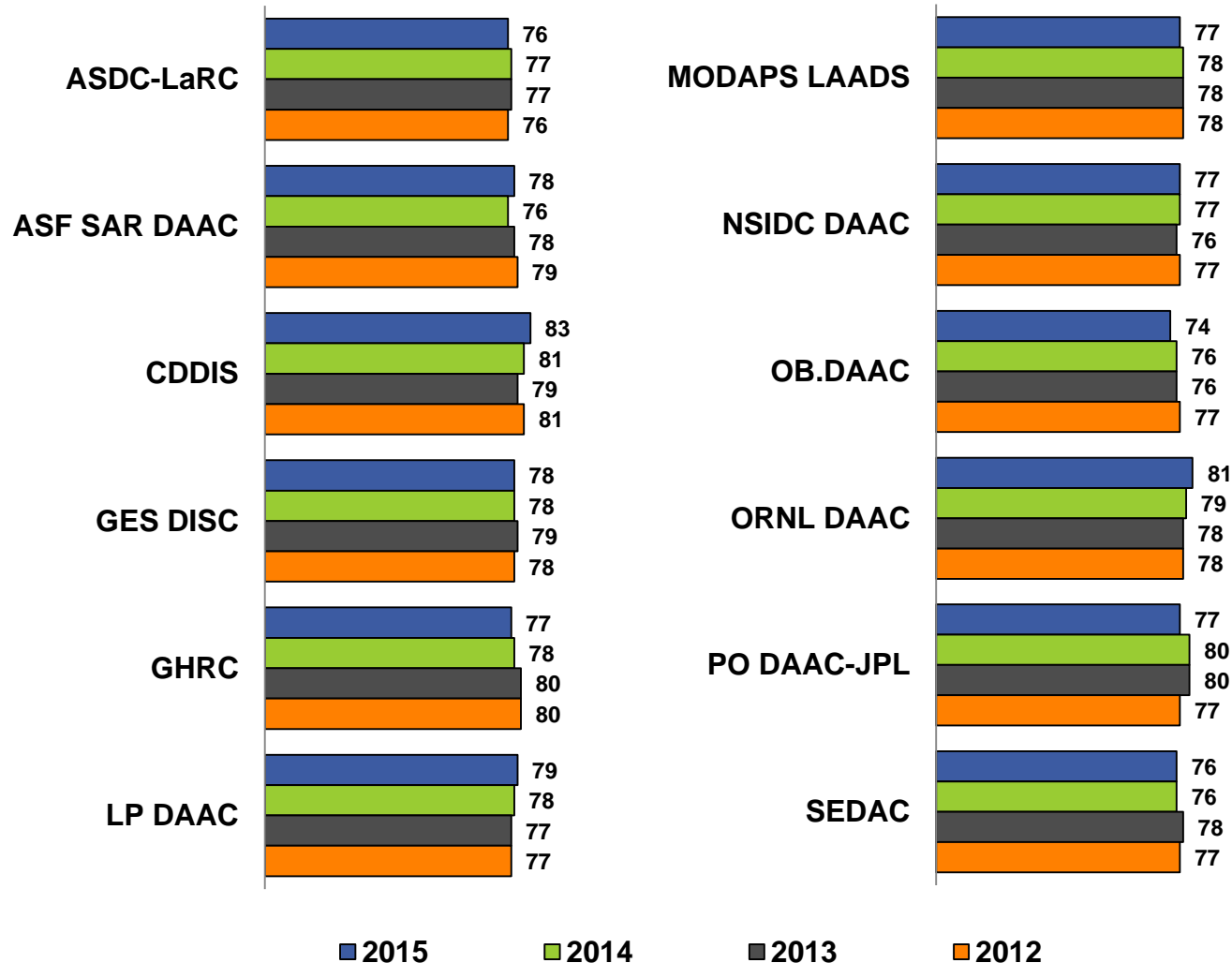
Impact = 0.7



Seventy-two percent of respondents looked for or obtained documentation related to the data.

Scores have remained consistent at **78** since 2013 for **Product Documentation**, and this driver has low to moderate leverage on CSI.

Product Documentation: Four-year Comparison by DAAC



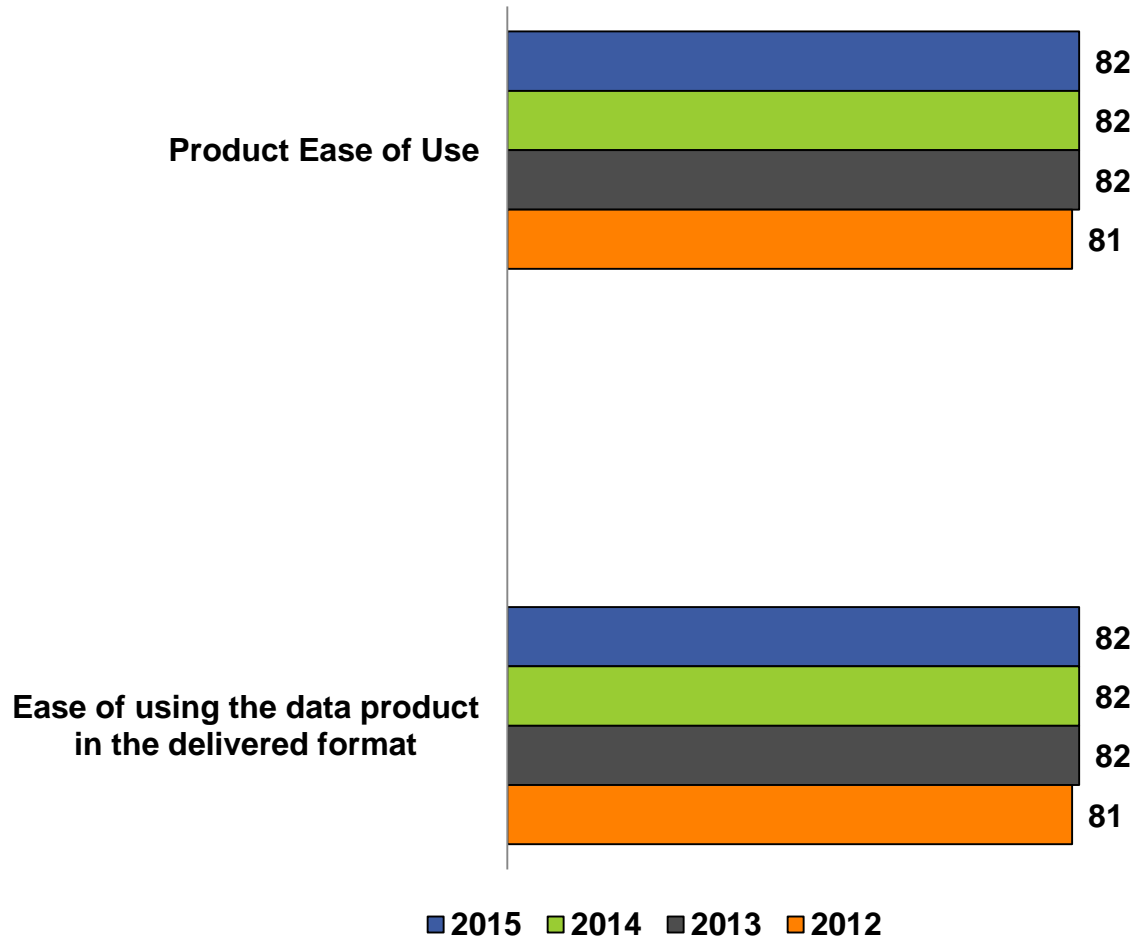
Those evaluating CDDIS posted the highest scores for Product Documentation (**82**).

Scores are very consistent across DAACs for this driver, most scores ranging from **76-79**.

Driver Detail: Product Quality

Product Quality – Ease of Use

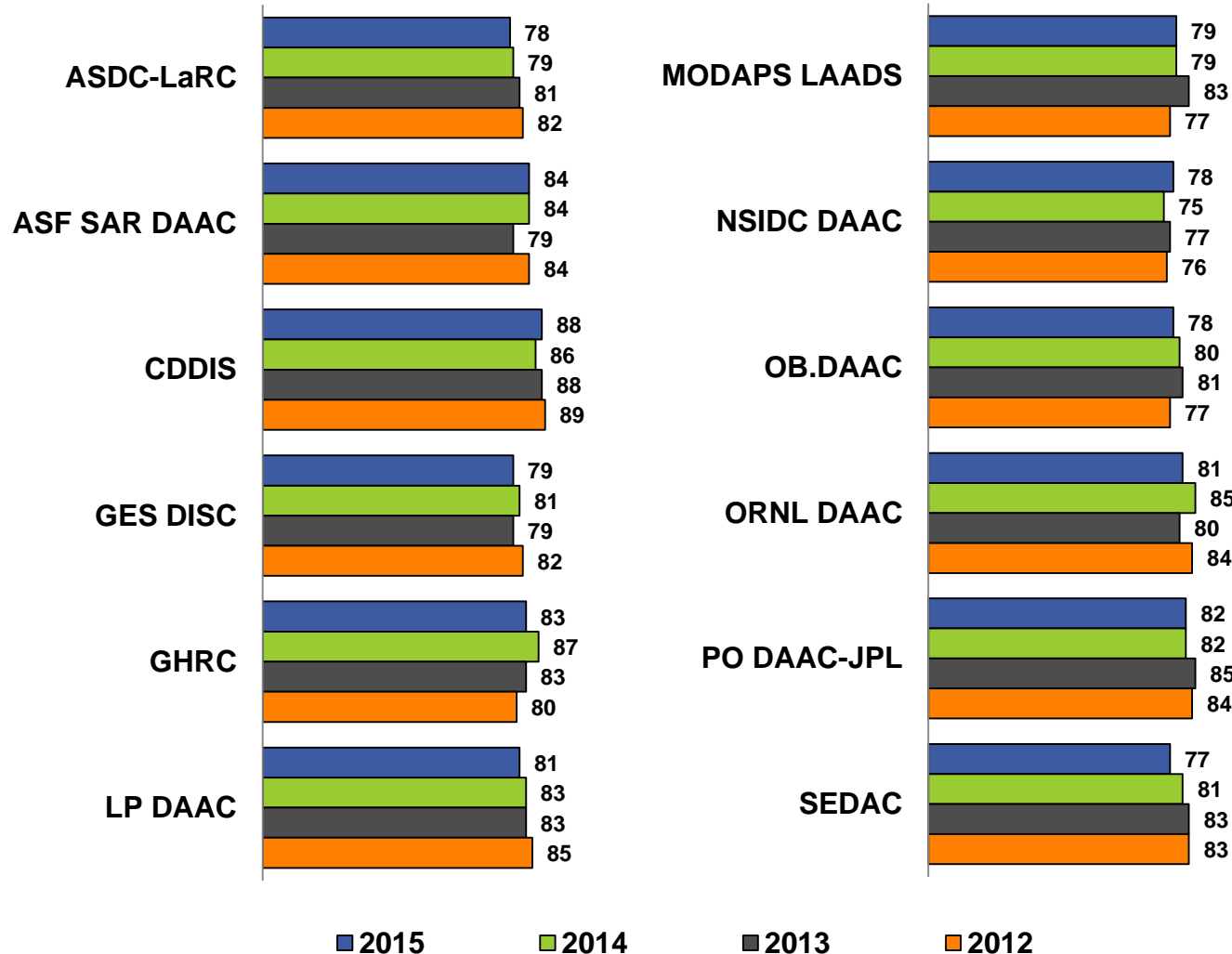
Impact=0.6



Respondents rated the *Ease of using the data product in the delivered format* at **82** for the third straight year.

This driver has low to moderate influence on CSI.

Product Quality: Four-year Comparison by DAAC



While this driver has remained static at the aggregate level (**82**) for the past three years, scores for **Product Quality** at the DAAC level ranged from **77** to **88** in 2015.

Software Tools/Packages Used to Work with Data

Did you use software tools/packages to work with the data?

Used a Software Tool to Work with the Data	2014			2015		
	%	N	CSI	%	N	CSI
Yes, used software tools	76%	2,157	80	68%	2,330	80
Yes, made my own using programming language	19%	543	82	20%	686	79
No, I couldn't find what I needed	1%	29	63	2%	76	66
No, I couldn't understand how to use it	1%	26	63	3%	88	66
No, I did not need software tools	3%	82	83	8%	261	80
Number of Respondents		2,837			3,441	

Preferred Programming Language	%	N	CSI	%	N	CSI
C	7%	144	81	3%	101	81
C++	11%	238	80	7%	219	80
C#	3%	56	79	1%	45	77
Fortran 77	2%	42	82	2%	51	77
Fortran 90	7%	142	81	6%	167	82
Java	10%	222	81	10%	291	80
Perl	1%	30	86	1%	32	84
PHP	1%	27	81	1%	26	78
Python	35%	757	80	35%	1,055	79
Other	23%	499	80	34%	1,029	80
Number of Respondents		2,157			3,016	

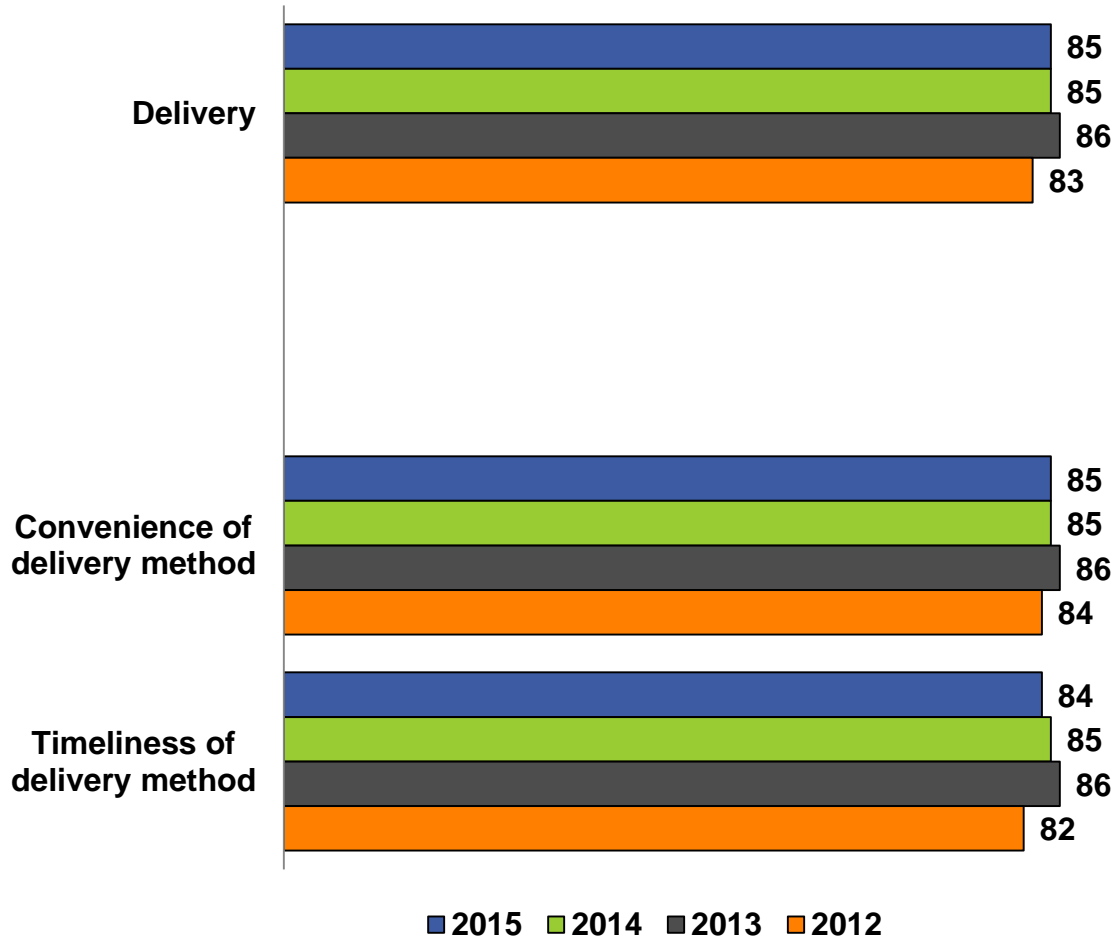
Of those who downloaded data, more than two-thirds (**68%**) reported using software tools or packages (down eight percentage points from 2014).

Python was the most commonly cited preferred programming language.

Driver Detail: Delivery

Delivery

Impact = 0.3

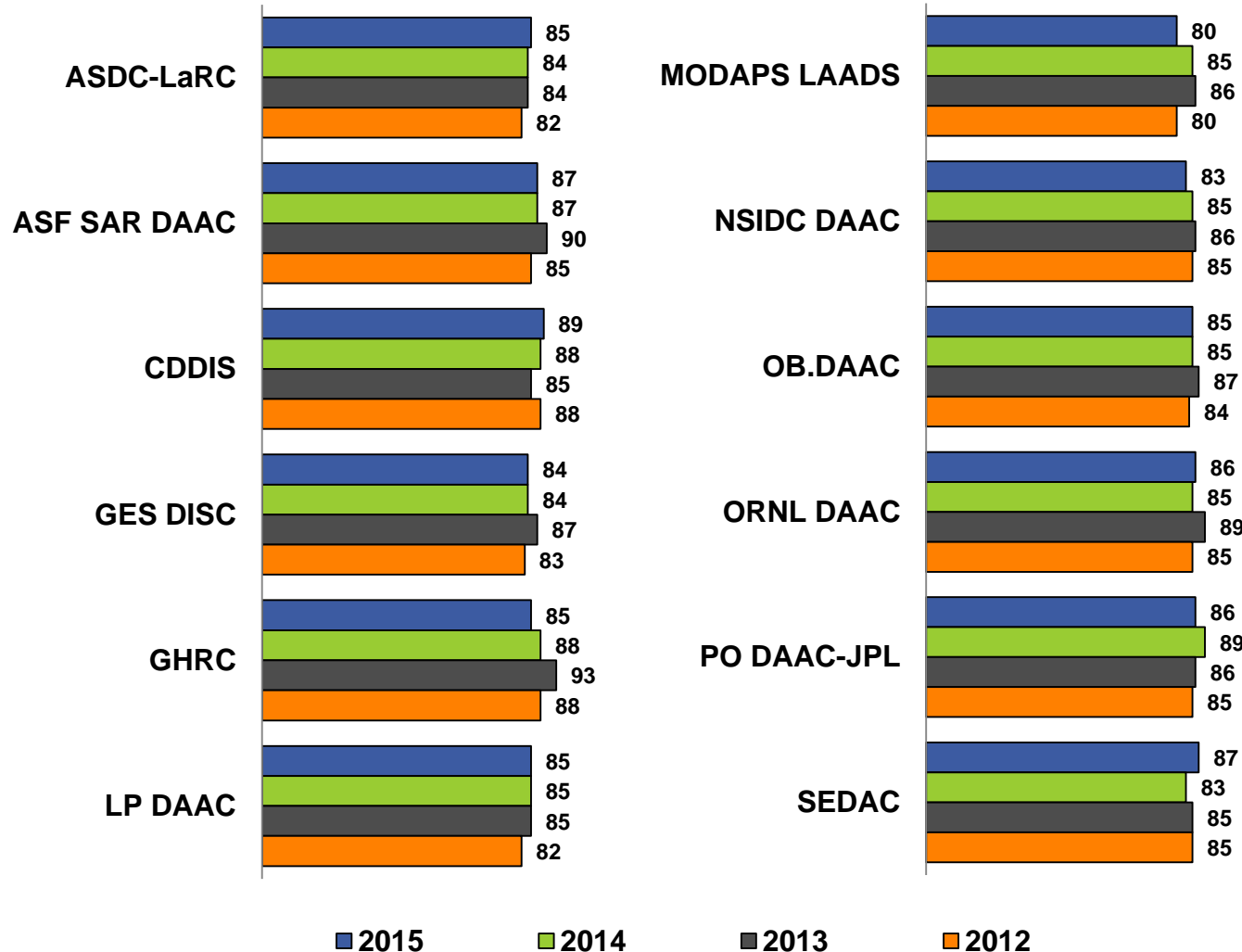


Ninety-four percent of respondents downloaded or received data.

Convenience of delivery method and *Timeliness of delivery method* both remain strong at **85** and **84**, respectively.

Delivery has the lowest impact on CSI of any of the drivers.

Delivery: Four-year Comparison by DAAC



CDDIS saw the highest **Delivery** score (**89**), while SEDAC experienced the most significant improvement in this area, up four points to **87**.

Respondents who evaluated MODAPS LAADS rated **Delivery** five points lower (**85**) in 2015 than the previous year.

Thank you

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