

## 2018 SPE Membership Salary Survey

**Highlight Report — December 2018**

SPE Research | [speresearch@spe.org](mailto:speresearch@spe.org)



Society of Petroleum Engineers

# 2018 SPE Membership Salary Survey Highlight Report

On 11 July 2018, Society of Petroleum Engineers (SPE) sent invitations to 77,677 professional members to participate in the annual *SPE Membership Salary Survey* by completing an online survey. The survey includes various questions about members' compensation for the period of 30 June 2017 to 30 June 2018. By the close of the survey on 23 August 2018, 3,939 members responded for a 5.1% response rate, of which 2,805 provided valid compensation data, resulting in a reported final 3.6% response rate and a completion rate of 72%. This sample of responses produces a margin of error of  $\pm 1.52\%$  at a 95% confidence level. Salary information and other data in the report are entirely self-reported.

Participants in the *2018 SPE Membership Salary Survey* are based in 80 countries and 37 US states. More than three-fourths (81.2%) are citizens of the countries in which they work. Their employers' headquarters are based in 76 countries. As in previous years, about half (49.6%) of the reported respondents are based in countries outside of the United States. The percentage of female participants included in the report is similar to previous years at 13.4% (13.7% in 2017; 13.7% in 2016; 13.3% in 2015).

Respondents were asked to provide their employment status, using the status that described them for the majority of period of 30 June 2017 to 30 June 2018. The majority (90.9%) of respondents indicated they are full-time, regular payroll employees. A small percentage of respondents (5.0%) are contract, freelance, or part-time employees. With the recent industry trends, the contract, freelance, or part-time segment has grown by over 50% since 2014 (4.2% in 2017, 3.2% in 2016; 2.4% in 2015; 2.2% in 2014). This year, 2.6% identified as self-employed or business owners (3.0% in 2017; 2.6% in 2016; 1.7% in 2015).

The composition of respondents by job function remains consistent year over year. One-fifth (21.9%) of participants in this year's survey are primarily engaged in Reservoir Engineering (21.4% in 2017; 19.5% in 2016). 14.2% reported a focus on Engineering – Other or Combination (14.7% in 2017; 14.2% in 2016), and 12.1% are involved in Production Engineering (10.7% in 2017; 11.4% in 2016).

Nearly one-third (32.5%) of respondents work for an independent oil and gas company. 25.5% are employed by a service or manufacturing company, a decrease from 27.8% in 2017. Almost one-fifth (18.4%) are employed by an integrated oil and gas company, and fewer than one-tenth (7.1%) work for a national oil and gas company. This year, 7.1% of members reported working for a consulting company, which is a decrease from 7.6% in 2016. Consulting still ranks as one of the top four employer types of respondents.



## General Findings

*All compensation data presented in this Highlight Report is expressed in US dollars (USD). Data collected in local currencies has been converted to US dollars using the exchange rate as of 5 September 2018, which is the effective date of this year's data.*

***For Figures 1-5, any table figures in bold text have a base size of 30 or more respondents and the data is more likely to be statistically significant.***

Petroleum industry professionals reported an average calculated total compensation of USD 196,874 in 2018, an increase from 2017, however still lower than the average total compensations reported in prior years (USD 194,649 in 2017; USD 185,001 in 2016; USD 206,020 in 2015; USD 214,328 in 2014). In 2018, respondents reported a lower average calculated mean and median base pay and a higher mean and median other compensation year over year.

Calculated mean base pay reported in 2018 (USD 151,003) is similar to last year (USD 151,122 in 2017; USD 143,006 in 2016; USD 153,492 in 2015; USD 156,439 in 2014). Other compensation (including bonuses) increased (USD 45,872) for the second year in a row since 2013. The average other compensation for 2018 (USD 45,872) is still not up to previous compensation levels, but shows a favorable increase again this year (USD 43,712 in 2017; USD 41,995 in 2016; USD 52,931 in 2015; USD 57,889 in 2014; USD 64,000 in 2013).

As in the past, the number of professionals receiving a car allowance has also continued to decline. In 2018, the number of respondents who reported receiving a car allowance stayed consistent at 22.9%. In previous years, this number has ranged from about one-fourth to one-third of respondents (23.2% in 2017; 24.6% in 2016; 26.3% in 2015; 28.4% in 2014; 31.0% in 2013).

The average age of energy and petroleum professionals reported in the survey was 43 years old, which remained the same as the prior seven years. However, this varied by gender. Males' average age of 44 is slightly higher than the overall average and higher than females' average age of 39.

The level of experience professionals have in the industry remained consistent with recent years, with the average at 19 years. Likely as a result of varied average age, experience also varied by gender with male professionals having more experience than females. The average years of experience in 2018 is 19.6 years for males and 13.9 years for females (an increase for both genders from 2017 which was 19.4 years for males and 12.7 years for females).

The number of professionals who reported an education level higher than a bachelor's degree was 45.5% in 2018 and is an increase from previous years (44.2% in 2017; 43.8% in 2016; 44.2% in 2015; 43.2% in 2014).

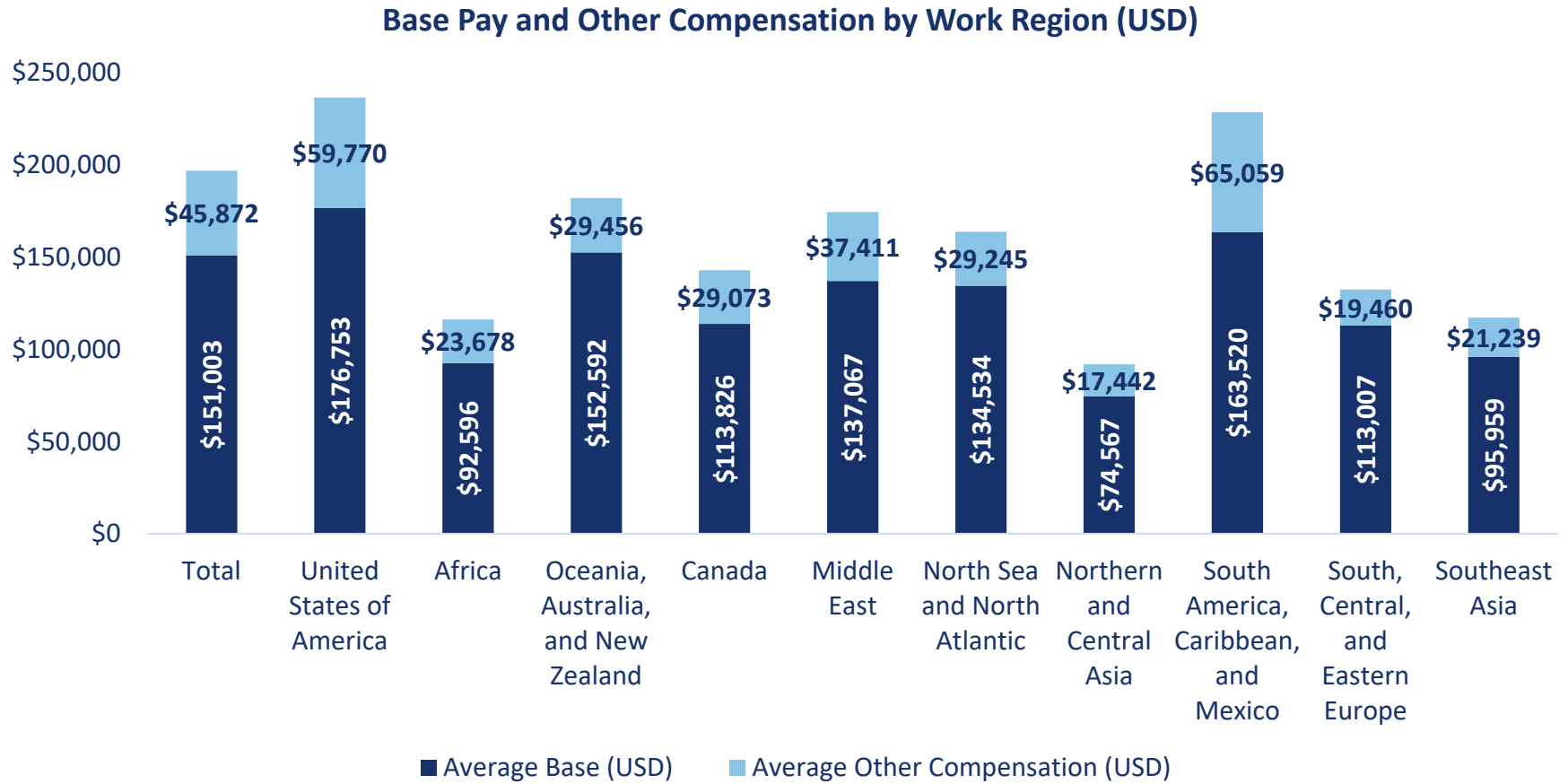
**Figure 1**

**Summary of Results by Work Region** (All compensation data is expressed in US dollars)

	Total (n=2,805)	United States of America (n=1,388)	Africa (n=107)	Oceania, Australia, and New Zealand (n=132)	Canada (n=180)	Middle East (n=134)	North Sea and North Atlantic (n=351)	Northern and Central Asia (n=72)	South America, Caribbean, and Mexico (n=190)	South, Central, and Eastern Europe (n=92)	Southeast Asia (n=162)
<b>Base Pay</b>											
Mean	\$151,003	\$176,753	\$92,596	\$152,592	\$113,826	\$137,067	\$134,534	\$74,567	\$163,520	\$113,007	\$95,959
Median	\$130,000	\$160,644	\$60,090	\$125,911	\$98,678	\$113,359	\$114,885	\$40,002	\$59,463	\$81,416	\$72,183
<b>Other Compensation</b>											
Mean	\$45,872	\$59,770	\$23,678	\$29,456	\$29,073	\$37,411	\$29,245	\$17,442	\$65,059	\$19,460	\$21,239
Median	\$17,987	\$30,000	\$5,991	\$14,093	\$15,091	\$18,645	\$11,911	\$2,929	\$2,947	\$6,087	\$6,551
<b>Total Compensation</b>											
Mean	\$196,874	\$236,523	\$116,274	\$182,048	\$142,899	\$174,478	\$163,778	\$92,009	\$228,579	\$132,467	\$117,198
Median	\$152,540	\$197,450	\$73,489	\$146,597	\$117,655	\$146,106	\$132,090	\$44,178	\$66,554	\$88,430	\$84,140
Average Base Pay % Increase	8.9%	9.3%	8.0%	6.9%	6.8%	6.3%	9.2%	10.4%	11.9%	5.8%	8.0%
% With Car Allowance	23.2%	19.7%	43.1%	11.5%	11.8%	43.5%	32.4%	15.3%	20.9%	22.7%	32.9%
Average Age	45	40	43	40	41	45	41	41	42	41	43
Average Years of Experience	18.8	20.3	14.3	19.0	16.1	16.4	19.8	17.0	16.2	16.4	16.9
% With Education Beyond Bachelor's Degree	46.2%	33.9%	56.9%	50.8%	25.8%	56.9%	76.9%	77.8%	58.6%	83.0%	39.1%
% Citizens of Work Region	81.2%	90.1%	76.0%	79.5%	92.2%	27.6%	70.1%	87.5%	83.2%	66.3%	70.4%

**Figure 2**

**Base Pay and Other Compensation by Work Region**



**Figure 3**

**Job Categories and Total Compensation**

The global mean for total compensation increased for three of the five job categories from 2017 to 2018. The means stayed largely consistent; the largest increases were in the Executive/Top Management and Supervisor/Superintendent/Lead categories. Africa and South, Central, and Eastern Europe regions experienced decreases in every job category compensation. The United States of America, Middle East, North Seas and North Atlantic, and South, Central, and Eastern Europe regions saw an increase in all job categories but one.

The lower job category tiers reported more increases overall, but the top tiers reported higher increases by amount. However, the largest losses, both in frequency and amount, were at the top tiers.

Year over year, eight of ten regions saw increases in total compensation at the Executive/Top Management level. The amount of the increases were also substantially larger. However, the declines in compensation from 2016 to 2017 seen at the Professional/Individual Contributor and Technician/Specialist/Support Staff levels—although more frequent by region—were typically much lower in value than the decreases reported at the higher Manager/Director and Executive/Top Management levels.

Total Compensation by Job Category and Work Region	United States of America (n=1,388)	Africa (n=107)	Oceania, Australia, and New Zealand (n=132)	Canada (n=180)	Middle East (n=134)	North Sea and North Atlantic (n=351)	Northern and Central Asia (n=72)	South America, Caribbean, and Mexico (n=190)	South, Central, and Eastern Europe (n=92)	Southeast Asia (n=162)	Global Mean
Executive/Top Management	\$419,830	\$108,089	\$370,946	\$280,001	\$341,644	\$369,033	\$283,785	\$284,485	\$260,692	\$123,866	\$371,203
Manager/Director	\$268,048	\$229,845	\$247,038	\$208,186	\$209,189	\$217,891	\$200,606	\$146,526	\$196,213	\$201,497	\$237,813
Supervisor/Superintendent/Lead	\$239,211	\$107,495	\$204,714	\$125,544	\$165,593	\$170,769	\$71,825	\$502,192	\$187,987	\$95,949	\$210,286
Professional/Individual Contributor	\$195,199	\$90,286	\$137,029	\$115,155	\$160,181	\$118,586	\$51,747	\$138,567	\$93,095	\$96,720	\$160,196
Technician/Specialist/Support Staff	\$160,000	\$62,590	\$98,653	\$78,626	\$130,991	\$101,381	\$37,933	\$69,413	\$73,613	\$95,831	\$108,101

**Figure 4**

**Job Function and Work Region**

Base Pay by Job Function and Work Region	United States of America (n=1,388)	Africa (n=107)	Oceania, Australia, and New Zealand (n=132)	Canada (n=180)	Middle East (n=134)	North Sea and North Atlantic (n=351)	Northern and Central Asia (n=72)	South America, Caribbean, and Mexico (n=190)	South, Central, and Eastern Europe (n=92)	Southeast Asia (n=162)	Global Mean
College/University/Academic	\$86,796	\$26,400	\$120,155	\$110,896	\$363,466	\$63,420	\$40,170	\$48,654		\$46,868	<b>\$87,397</b>
Computer or Information Technology	\$136,569	\$55,323	\$237,433	\$683,156		\$85,258		\$24,239	\$44,895	\$34,675	\$137,094
Earth Science/Geology	<b>\$168,485</b>	\$100,037	\$145,554	\$136,347	\$199,062	\$122,282	\$207,447	\$42,891	\$191,304	\$155,005	<b>\$154,035</b>
Engineering – Chemical/Chemistry	\$165,345	\$27,991	\$100,830	\$130,843	\$92,582	\$123,172	\$23,445	\$168,152	\$89,818	\$76,788	<b>\$124,130</b>
Engineering – Civil/Construction/Facilities	\$156,190	\$56,918	\$78,749	\$68,316	\$111,697	\$118,009		\$55,692	\$59,163	\$94,494	<b>\$118,318</b>
Engineering – Completions	<b>\$181,693</b>	\$117,405	\$71,230	\$106,135	\$165,690	\$118,738	\$71,613	\$56,778	\$164,258	\$90,037	<b>\$157,437</b>
Engineering – Drilling	<b>\$196,276</b>	\$138,754	\$157,603	\$93,871	\$151,727	<b>\$137,370</b>	\$124,540	\$85,992	\$145,096	\$102,523	<b>\$155,843</b>
Engineering – Health/Safety/Environment	<b>\$172,602</b>	\$43,036	\$185,141	\$121,956		\$103,357		\$63,275	\$43,811	\$209,096	<b>\$137,640</b>
Engineering – Production	<b>\$157,661</b>	\$78,201	\$153,062	\$102,939	\$104,171	\$137,001	\$70,829	\$120,138	\$81,925	\$66,106	<b>\$131,167</b>
Engineering – Reservoir	<b>\$188,960</b>	\$137,061	<b>\$163,728</b>	<b>\$107,874</b>	\$150,004	<b>\$128,263</b>	\$62,262	<b>\$249,952</b>	\$79,410	<b>\$105,202</b>	<b>\$164,840</b>
Engineering – Other or Combination of Above	<b>\$186,679</b>	\$68,389	\$145,387	<b>\$112,205</b>	\$119,923	<b>\$131,917</b>	\$27,581	\$60,687	\$198,562	\$111,260	<b>\$150,533</b>
Finance or Administration	\$237,488			\$132,077	\$114,998	\$102,831	\$20,749	\$114,095		\$176,480	<b>\$164,919</b>
Geophysics/Petrophysics/Physics	\$186,334	\$197,717	\$207,456	\$106,433	\$68,288	\$132,501	\$47,691	\$87,885	\$105,841	\$52,571	<b>\$128,741</b>
Non-Engineering Technical	<b>\$122,016</b>	\$41,917	\$127,668	\$86,027	\$90,177	\$80,264	27959.8794	\$1,749,184		\$61,560	<b>\$188,487</b>
Professional Training	\$168,063			\$15,181	\$115,568						\$144,620
Research	<b>\$124,501</b>		\$121,371	\$92,226	\$58,871	\$109,930	\$45,717	\$82,114	\$73,662	\$31,527	<b>\$105,258</b>
Sales or Marketing	<b>\$140,209</b>	\$27,892	\$100,729	\$87,429	\$171,253	\$250,191	\$70,279	\$133,947	\$130,567	\$54,997	<b>\$148,747</b>
Other or Combination of Above	<b>\$221,311</b>	\$77,820	\$182,837	\$172,153	\$183,218	\$143,656	\$21,962	\$117,945	\$47,616	\$147,096	<b>\$181,971</b>

**Figure 5**

**The Impact of Gender – Experience Level and Compensation**

Females continue to earn less than their male counterparts at all levels, most notably at the Executive / Top Management level, where females received over one third less in overall compensation than males. However, female professionals at the Executive/Top Management and Manager/Director level did see a notable increase in other compensation from 2017 to 2018 (in 2017, Executive/Top Management reported an average bonus of USD \$18,004 in 2017 for Executive/Top Management and USD \$31,780 for Manager/Director). This contributed to an overall compensation increase year over year for females in these positions (in 2017, Executive/Top Management reported an average total compensation USD \$210,414 and USD \$187,050 for Manager/Director). Male professionals at the Supervisor/Superintendent/Lead position reported the greatest increase in compensation from 2017, with sizeable increases (17-18%) in average base pay, other compensation, and total compensation.

Compensation by Gender and Experience										
	Female					Male				
	Executive/ Top Management	Manager/ Director	Supervisor/ Superintendent/ Lead	Professional/ Individual Contributor	Technician/ Specialist/ Support Staff	Executive/ Top Management	Manager/ Director	Supervisor/ Superintendent/ Lead	Professional/ Individual Contributor	Technician/ Specialist/ Support Staff
Average Years of Experience	27	19	17	11	14	30	25	20	16	16
Number of Records	11	47	66	222	29	203	475	431	1,116	144
Average Base Pay (USD)	\$179,777	\$153,817	\$121,895	\$106,650	\$93,789	\$264,961	\$178,894	\$177,122	\$129,505	\$95,388
Average Other Compensation (USD)	\$56,115	\$57,540	\$19,465	\$21,945	\$7,875	\$116,931	\$62,536	\$46,453	\$37,808	\$14,619
Average Total Compensation (USD)	\$235,892	\$211,357	\$141,361	\$128,595	\$101,664	\$381,892	\$241,430	\$223,576	\$167,313	\$110,006

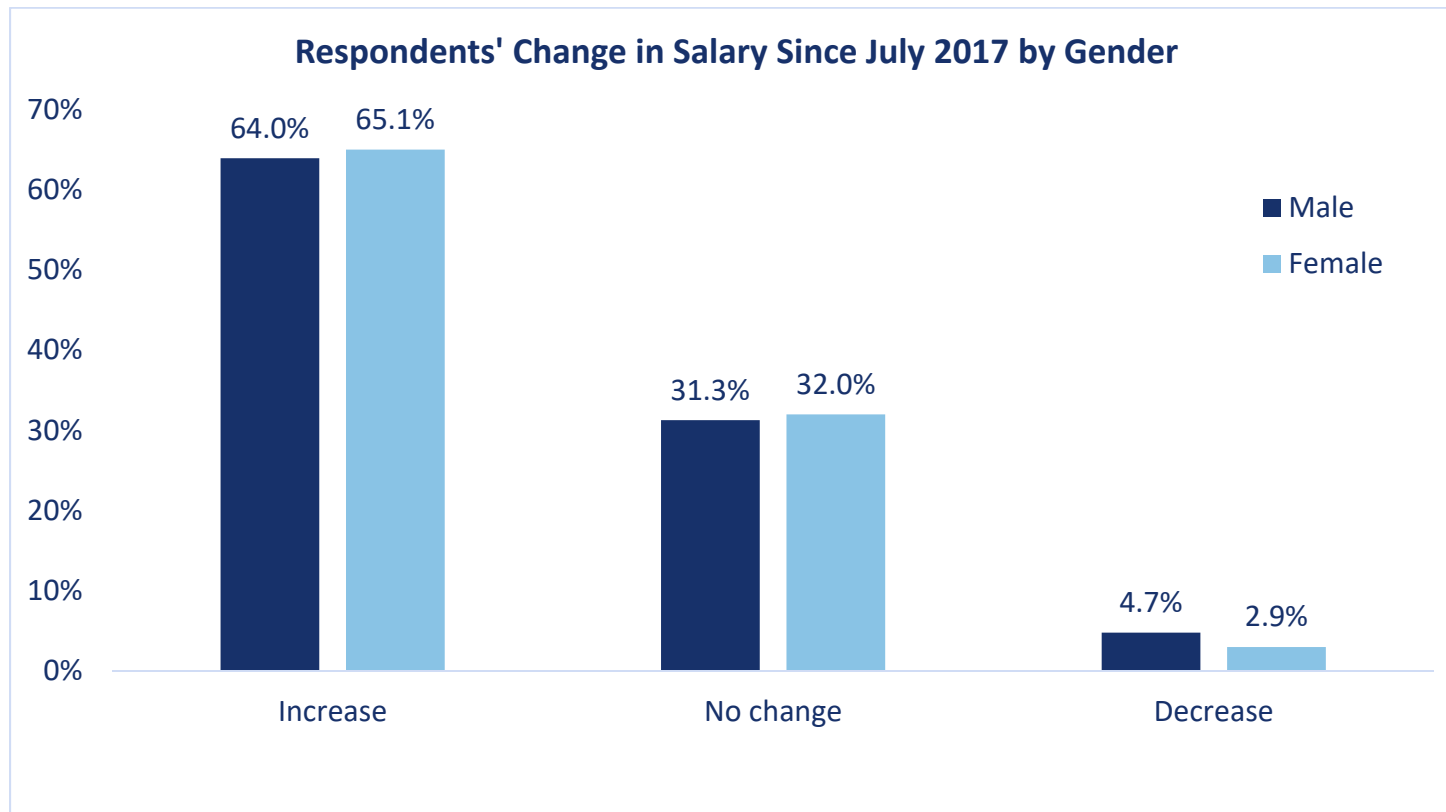


**Figure 6**

### The Impact of Gender – Base Pay Increase and Decrease

The majority of respondents reported either an increase or no change to their base pay since 2017, with males and females reporting similar levels of change in 2018.

For the second year in a row, the number of respondents reporting an increase in base pay improved year over year for both males (48.3% in 2017, 35.0% in 2016) and females (57.2% in 2017, 41.4% in 2016). Similarly, both males (42.3% in 2017, 50.7% in 2016) and females (38.7% in 2017, 48.9% in 2016) saw a decrease in the number of respondents reporting no change in base pay, showing an ongoing downward trend since 2016.



## Figure 7

### Change in Base Pay by Region

Nearly two thirds of respondents (64.0%) reported an increase in base pay during the period of June 2017 to June 2018. This continues a steep upward trend from the previous two years (49.7% in 2017 and 35.9% in 2016). The average percentage of base pay increase went up from previous years, from 8.1% in 2016 to 8.4% in 2017 to 8.9% in 2018.

Respondents from Oceania, Australia, and New Zealand saw the greatest increase in base pay from 2017 to 2018 (65.2% in 2018, 39.5% in 2017). The United States of America also saw a notable increase in base pay since 2017 (70.7% in 2018, 54.8% in 2017). All regions saw an increase since 2017 in those reporting higher base pay and a decrease since 2017 in those reporting no change in base pay.

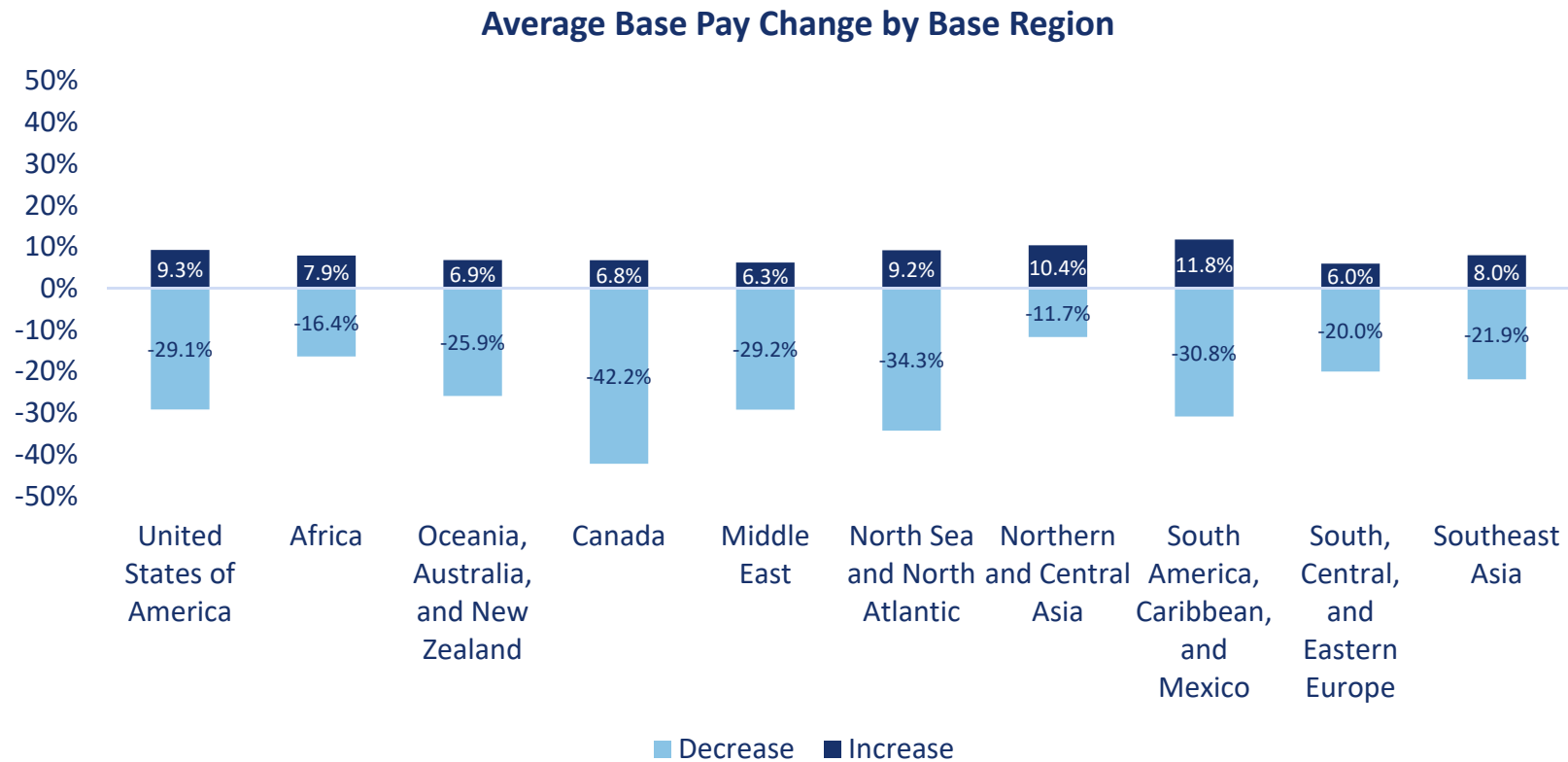
Base Region	Increase in Base Pay	No Change in Base Pay	Decrease in Base Pay
United States of America	70.7%	25.1%	4.2%
Africa	63.5%	33.7%	2.9%
Oceania, Australia, and New Zealand	65.2%	28.8%	6.1%
Canada	53.3%	41.7%	5.0%
Middle East	53.0%	42.5%	4.5%
North Sea and North Atlantic	59.5%	35.3%	5.1%
Northern and Central Asia	47.2%	48.6%	4.2%
South America, Caribbean, and Mexico	55.3%	38.9%	5.8%
South, Central, and Eastern Europe	52.2%	44.6%	3.3%
Southeast Asia	59.9%	35.2%	4.9%

## Figure 8

### Average Base Pay Change by Region

The overall trends in change in average base pay by region remained consistent with the trends seen in 2016 and 2017.

The biggest change year over year in increase in base pay was seen in the South America, Caribbean, and Mexico region. Although this region saw the highest average increase in base pay compared to other countries in 2018, it is down from 21.3% in 2017.



### How to Learn More

This report represents a sample of current compensation in the industry. This report is available at [www.spe.org/industry/oil-and-gas-salary-survey](http://www.spe.org/industry/oil-and-gas-salary-survey). A detailed summary report containing charts and descriptive statistics of trends and more information on the jobs, geographies, and employer types will be available through the SPE Bookstore at <http://store.spe.org/> in December 2018.

SPE will make the detailed PDF summary report available to download through the SPE Bookstore at a USD 50 member price and USD 125 nonmember price.

A file containing the raw data from the survey responses will be made available for download through the bookstore to provide the opportunity for individual analysis and localization of data. Pricing for access to data for analysis will be USD 225 for SPE members and USD 425 for nonmembers, also available in December 2018. The data file comes bundled with the detailed summary report.

Inquiries regarding purchase may be addressed through the SPE Bookstore website. Other questions regarding the survey can be addressed to [speresearch@spe.org](mailto:speresearch@spe.org).

Thank you for your interest in this important project and your continued support of SPE.

The SPE Research Team