

2017 SPE Membership Salary Survey



2017 SPE Membership Salary Survey Highlight Report

On 12 July 2017, Society of Petroleum Engineers (SPE) sent invitations to 88,322 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 2016 to 30 June 2017. By the close of the survey on 14 August 2017, 4,106 members responded for a 4.6% response rate, of which 2,841 provided valid compensation data, resulting in a reported final 3.2% response rate and a completion rate of 69%. This sample of responses produces a margin of error of $\pm 1.81\%$ at a 95% confidence level. Salary information and other data in the report are entirely self-reported.

Participants in the *2017 SPE Membership Salary Survey* are based in 81 countries and 39 US states. More than three-fourths (78.8%) are citizens of the countries in which they work. Their employers' headquarters are based in 82 countries. Half (50.3%) of the reported respondents are based in countries outside of the United States. The percentage of female participants included in the report remained 13.7% in 2017, exactly matching the 2016 female participation rate. However, there has been an increase in female participants over the past five years, with female participation growing by more than 2% from 2012 to 2017. This growth seems to have slowed starting in 2014 (13.7% in 2016; 13.3% in 2015; 13.3% in 2014; 12.2% in 2013; 11.3 % in 2012).

Respondents were asked to provide their employment status, using the status that described them for the majority of period of 30 June 2016 to 30 June 2017. The majority (92.0%) of respondents indicated they are full-time, regular payroll employees. A small percentage of respondents (4.2% in 2017) are contract, freelance, or part-time employees. With the current industry climate, this segment seems to be growing (3.2% in 2016; 2.4% in 2015; 2.2% in 2014). This year, 3.0% identified as self-employed or business owners, which is another increase from recent years (up from 2.6% in 2016; 1.7% in 2015).

The composition of respondents by job function remains consistent year over year. One-fifth (20.4%) of participants in this year's survey are primarily engaged in Reservoir Engineering (similar to the 2016 population with 19.5% Reservoir Engineering), while 14.7% reported a focus on Engineering – Other or Combination (14.2% in 2016), and 10.7% are involved in Production Engineering (11.4% in 2016).

Nearly one-third (32.3%) of respondents work for an independent oil and gas company. More than one-fourth (27.8%) are employed by a service or manufacturing company. Almost one-fifth (18.1%) are employed by an integrated oil and gas company, and fewer than one-tenth (6.1%) work for a national oil and gas company. This year, 7.6% of members reported working for a consulting company, which is an increase from prior years and makes consulting one of the top four employer types of respondents for the period. This could be an indication of changing market trends. In previous years, "consulting company" was consistently the fifth most selected employer type by respondents behind "national oil and gas company."

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

Calculated mean base pay reported in 2017 (USD 151,122) increased from last year (USD 143,006 in 2016; USD 153,492 in 2015; USD 156,439 in 2014). Other compensation (including bonuses) increased for the first time since 2013 (USD 64,000); although the average other compensation for 2017 (USD 43,712 in 2017) is still considerably lower than in the past (USD 41,995 in 2016; USD 52,931 in 2015; USD 57,889 in 2014).

As in the past, the number of professionals receiving a car allowance has also continued to decline. In 2017, the number of respondents who reported receiving a car allowance was 23.2%. In previous years, this number has ranged from about one-fourth to one-third of respondents (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 is consistent with the last six 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 37.

The level of experience professionals have in the industry remained consistent with recent years, with the average at 18 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 2017 is 19.4 years for males and 12.7 years for females. This was a small increase for male professionals; although it is the first one in several years (18.9 years in 2016; 18.9 years in 2015; 18.8 years in 2014). Female professionals saw a slight decrease in average years of experience after seeing a jump in 2016 (13.0 years in 2016; 11.8 years in 2015; 11.1 years in 2014).

The number of professionals who reported an education level higher than a bachelor's degree was 44.2% in 2017 and is comparable with the preceding three years (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=2,841)	United States of America (n=1,411)	Africa (n=80)	Oceania, Australia, and New Zealand (n=147)	Canada (n=198)	Middle East (n=161)	North Sea and North Atlantic (n=390)	Northern and Central Asia (n=59)	South America, Caribbean, and Mexico (n=186)	South, Central, and Eastern Europe (n=81)	Southeast Asia (n=128)
Base Pay											
Mean	\$151,122	\$174,283	\$124,847	\$160,610	\$109,913	\$141,935	\$130,470	\$96,382	\$126,260	\$103,535	\$131,025
Median	\$130,000	\$155,000	\$91,388	\$130,343	\$99,755	\$125,000	\$115,207	\$50,759	\$72,004	\$76,712	\$99,907
Other Compensation											
Mean	\$43,712	\$56,224	\$57,031	\$25,912	\$35,819	\$41,034	\$27,902	\$32,008	\$23,259	\$21,861	\$30,317
Median	\$15,961	\$25,000	\$14,891	\$11,070	\$11,971	\$20,000	\$10,241	\$5,243	\$618	\$4,426	\$5,000
Total Compensation											
Mean	\$194,649	\$230,387	\$180,452	\$186,346	\$145,550	\$182,714	\$158,300	\$128,389	\$149,394	\$125,125	\$161,105
Median	\$153,000	\$186,095	\$114,510	\$142,982	\$119,107	\$157,284	\$130,194	\$61,685	\$82,532	\$82,613	\$117,897
Average Base Pay % Increase	8.4%	8.3%	14.5%	5.1%	4.9%	5.7%	5.4%	10.1%	21.3%	5.6%	8.6%
% With Car Allowance	23.5%	18.9%	61.5%	12.5%	11.9%	53.5%	30.4%	15.5%	17.6%	20.3%	36.8%
Average Age	43	45	42	42	40	43	44	42	40	41	41
Average Years of Experience	18.5	20.2	15.9	17.0	15.6	17.2	18.4	17.1	14.7	15.4	17.1
% With Education Beyond Bachelor's Degree	44.9%	33.8%	56.4%	43.8%	25.3%	51.6%	75.2%	70.7%	53.0%	81.0%	44.8%
% Citizens of Work Region	78.8%	89.6%	55.0%	76.9%	88.4%	23.0%	69.0%	74.6%	86.0%	69.1%	60.2%

Figure 2

Base Pay and Other Compensation by Work Region

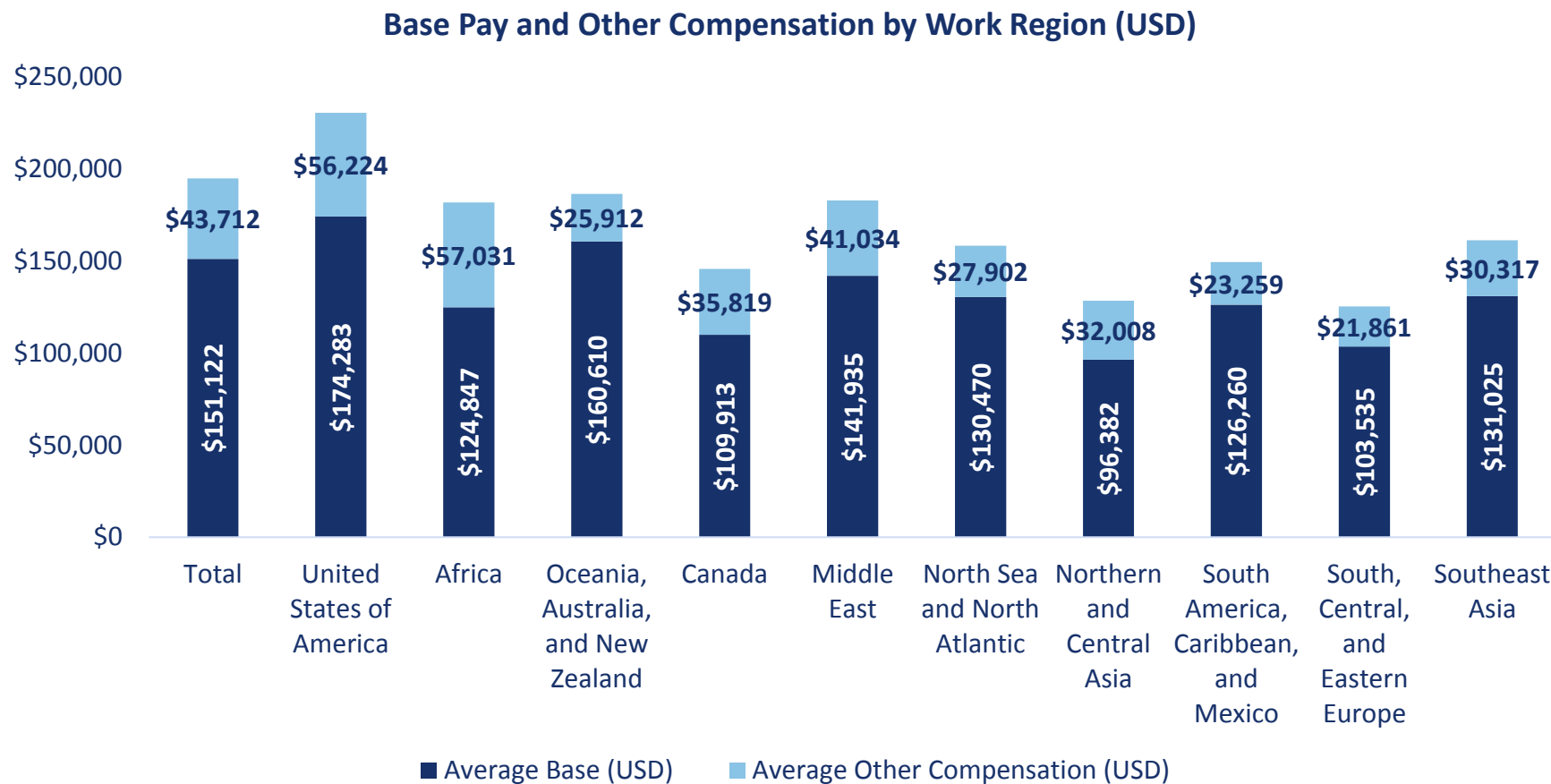


Figure 3

Job Categories and Total Compensation

The global mean for total compensation increased for every job category from 2016 to 2017. The most marked increases are from the top tier professionals from the South America, Caribbean, and Mexico; South, Central, and Eastern Europe; and Southeast Asia regions.

The higher job category tiers reported the highest number of increases in total compensation, both in frequency and amount. 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=1411)	Africa (n=80)	Oceania, Australia, and New Zealand (n=147)	Canada (n=198)	Middle East (n=161)	North Sea and North Atlantic (n=390)	Northern and Central Asia (n=59)	South America, Caribbean, and Mexico (n=186)	South, Central, and Eastern Europe (n=81)	Southeast Asia (n=128)	Global Mean
Executive/Top Management	\$388,403	\$211,600	\$307,021	\$320,838	\$320,872	\$251,871	\$500,000	\$331,442	\$520,896	\$239,741	\$351,200
Manager/Director	\$280,420	\$333,347	\$217,306	\$181,328	\$228,247	\$211,268	\$241,571	\$152,974	\$158,254	\$253,013	\$245,997
Supervisor/Superintendent/Lead	\$222,646	\$170,327	\$213,460	\$120,281	\$161,740	\$164,631	\$87,378	\$187,810	\$153,960	\$172,648	\$186,299
Professional/Individual Contributor	\$190,857	\$102,435	\$147,830	\$125,605	\$154,850	\$128,469	\$65,763	\$126,130	\$74,625	\$93,346	\$160,052
Technician/Specialist/Support Staff	\$129,521	\$126,670	\$197,517	\$100,645	\$110,934	\$100,397	\$56,529	\$101,185	\$66,757	\$74,590	\$110,823

Figure 4

Job Function and Work Region

Base Pay by Job Function and Work Region	United States of America (n=1411)	Africa (n=80)	Oceania, Australia, and New Zealand (n=147)	Canada (n=198)	Middle East (n=161)	North Sea and North Atlantic (n=390)	Northern and Central Asia (n=59)	South America, Caribbean, and Mexico (n=186)	South, Central, and Eastern Europe (n=81)	Southeast Asia (n=128)	Global Mean
College/University/Academic	\$158,704		\$107,039	\$107,735	\$150,775	\$67,844	\$13,361	\$35,052	\$106,216	\$29,985	\$104,591
Computer or Information Technology	\$155,735		\$88,870	\$55,065		\$104,020	\$36,257	\$19,942	\$53,108	\$29,002	\$113,844
Earth Science/Geology	\$170,635	\$48,337	\$176,555	\$97,261	\$151,797	\$121,526	\$96,541	\$349,314	\$125,591	\$116,300	\$170,096
Engineering – Chemical/Chemistry	\$153,998	\$43,630	\$94,787	\$71,789	\$115,798	\$137,983		\$34,883	\$66,312	\$52,671	\$124,672
Engineering – Civil/Construction/Facilities	\$176,527	\$127,183	\$276,484	\$160,406	\$138,486	\$236,070	\$116,401	\$80,828	\$74,351	\$215,365	\$163,347
Engineering – Completions	\$156,702	\$123,775	\$134,192	\$97,820	\$151,992	\$150,601	\$127,168	\$118,857	\$262,416	\$134,723	\$145,157
Engineering – Drilling	\$194,945	\$142,411	\$195,634	\$128,603	\$124,779	\$134,604	\$122,350	\$102,885	\$111,389	\$157,443	\$160,026
Engineering – Health/Safety/Environment	\$167,148	\$59,610	\$84,525	\$115,716	\$80,113	\$124,490		\$38,924	\$25,740	\$161,796	\$134,528
Engineering – Production	\$162,599	\$110,864	\$159,969	\$106,397	\$108,552	\$124,565	\$81,898	\$120,571	\$60,744	\$70,070	\$138,481
Engineering – Reservoir	\$198,284	\$91,068	\$148,691	\$131,139	\$143,527	\$139,447	\$46,707	\$93,521	\$68,262	\$93,941	\$158,964
Engineering – Other or Combination of Above	\$174,954	\$112,649	\$180,202	\$109,675	\$183,422	\$127,902	\$154,103	\$135,044	\$154,778	\$164,712	\$160,693
Finance or Administration	\$191,760		\$355,480	\$119,706	\$67,192	\$91,450	\$60,840	\$66,646		\$212,500	\$146,098
Geophysics/Petrophysics/Physics	\$186,429	\$302,500	\$162,650	\$108,198	\$160,984	\$103,678	\$74,518	\$73,676	\$73,783	\$130,281	\$141,970
Non-Engineering Technical	\$138,037		\$193,539	\$81,699	\$101,563	\$136,320			\$285,000	\$121,891	\$131,126
Professional Training	\$141,000		\$71,096	\$16,759	\$177,275	\$70,404			\$94,414		\$127,148
Research	\$150,532		\$80,970	\$107,279	\$137,493	\$102,178	\$36,335	\$70,483	\$77,892		\$122,071
Sales or Marketing	\$132,439	\$83,531	\$98,546	\$106,219	\$136,561	\$121,015	\$78,555	\$73,775	\$108,651	\$77,778	\$123,433
Other or Combination of Above	\$197,292	\$199,751	\$205,006	\$109,322	\$175,631	\$148,423	\$68,224	\$218,351	\$109,126	\$265,647	\$182,204

Figure 5**The Impact of Gender – Experience Level and Compensation**

Base pay and total compensation continues to vary by gender, with male professionals earning more than their female counterparts. Experience slightly decreased or remained the same year over year across every category, regardless of gender. Female Supervisor/Superintendent/Lead professionals reported a sizeable increase in reported total compensation last year (USD 137,302 in 2016). Male professionals at the Executive/Top Management level reported notable increases in both their base pay and total compensation (Executive/Top Management reported an average base pay USD 226,358, total compensation USD 342,613 in 2016).

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	21	20	14	10	13	30	25	19	15	15
Number of Records	12	51	64	238	25	204	553	395	1,084	155
Average Base Pay (USD)	\$192,411	\$155,271	\$122,697	\$110,047	\$85,178	\$250,523	\$187,085	\$150,805	\$133,876	\$97,407
Average Other Compensation (USD)	\$18,004	\$31,780	\$39,715	\$20,397	\$13,044	\$112,770	\$65,940	\$39,173	\$32,459	\$15,293
Average Total Compensation (USD)	\$210,414	\$187,050	\$162,412	\$130,444	\$98,222	\$363,292	\$253,025	\$189,978	\$166,335	\$112,700

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 2016; about half of male respondents (48.3%) and nearly three-fifths of female respondents (57.2%) reported an increase in base pay.

The number of respondents reporting an increase in base pay improved year over year for both males (35.0% in 2016) and females (41.4% in 2016). Both males (50.7% in 2016) and females (48.9% in 2016) saw a decrease in the number of respondents reporting no change in base pay since 2016. From 2016 to 2017, both genders saw a decline in the number of respondents reporting a decrease in base pay [males (14.4% in 2016) and females (9.7% in 2016)].

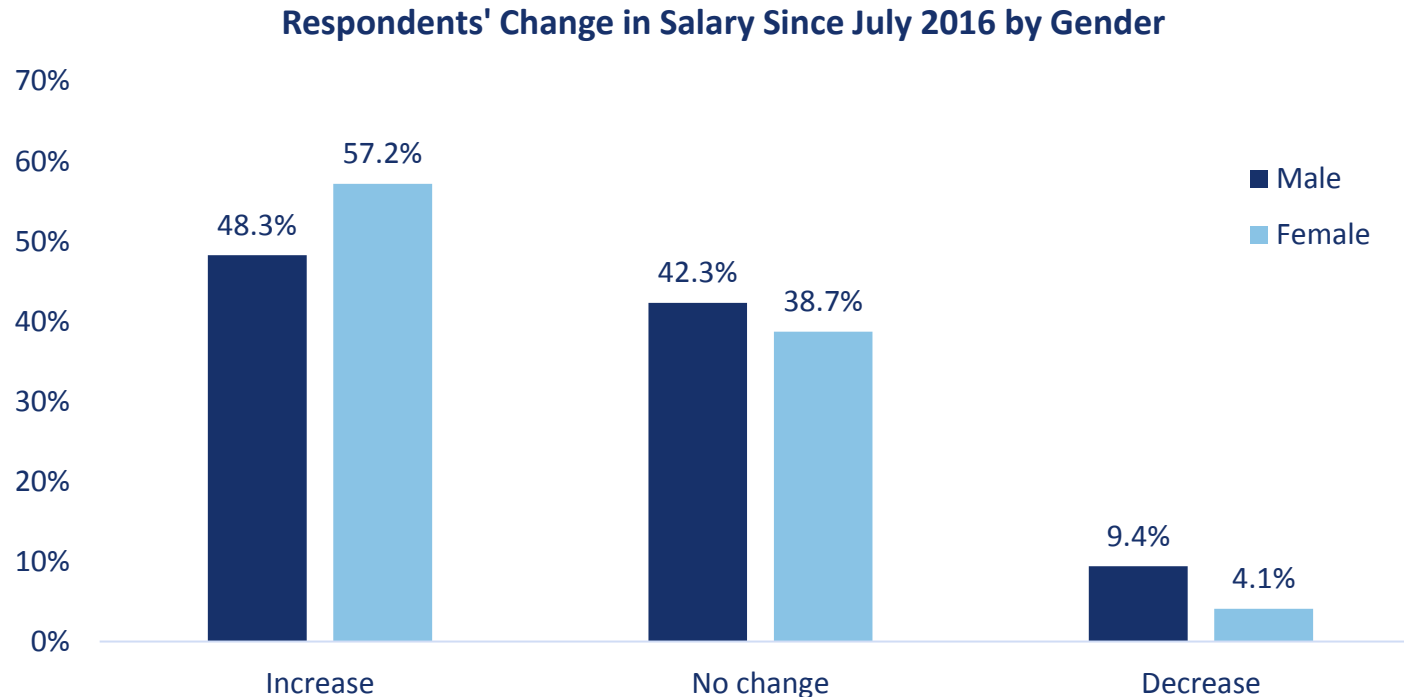


Figure 7

Change in Base Pay by Region

Overall, nearly half (49.7%) of respondents reported a pay increase during the period of June 2016 to June 2017, which is a significant increase from last year (35.9% in 2016). However, the average increase in average base pay for 2017 was still lower than the figures reported in 2015 (58.5%). The average percentage of base pay increase also went up from year last year, from 8.1% in 2016 to 8.4%. Respondents who experienced a drop in base pay (8.5%) saw more of a decrease than in 2016 (29.5% in 2017, 22.0% in 2016); although overall, fewer respondents reported decreases (13.8% in 2016).

Respondents from the United States of America; Canada; and South, Central, and Eastern Europe regions reported the largest year over year changes, with the United States of America up 22.6%; Canada up 15.2%; and the South, Central, and Eastern Europe region up 21.6%. Notable changes in decreases were seen in some of the same regions. The United States of America and Canada regions experienced fewer decreases in base pay (6.95% for the United States of America and 13.14% for Canada in 2017, an improvement from 2016). There were only two regions that reported a higher average decrease in base pay for 2017: the South America, Caribbean, and Mexico region, which has experienced a volatile economy over the past year, and the Oceania, Australia, and New Zealand region.

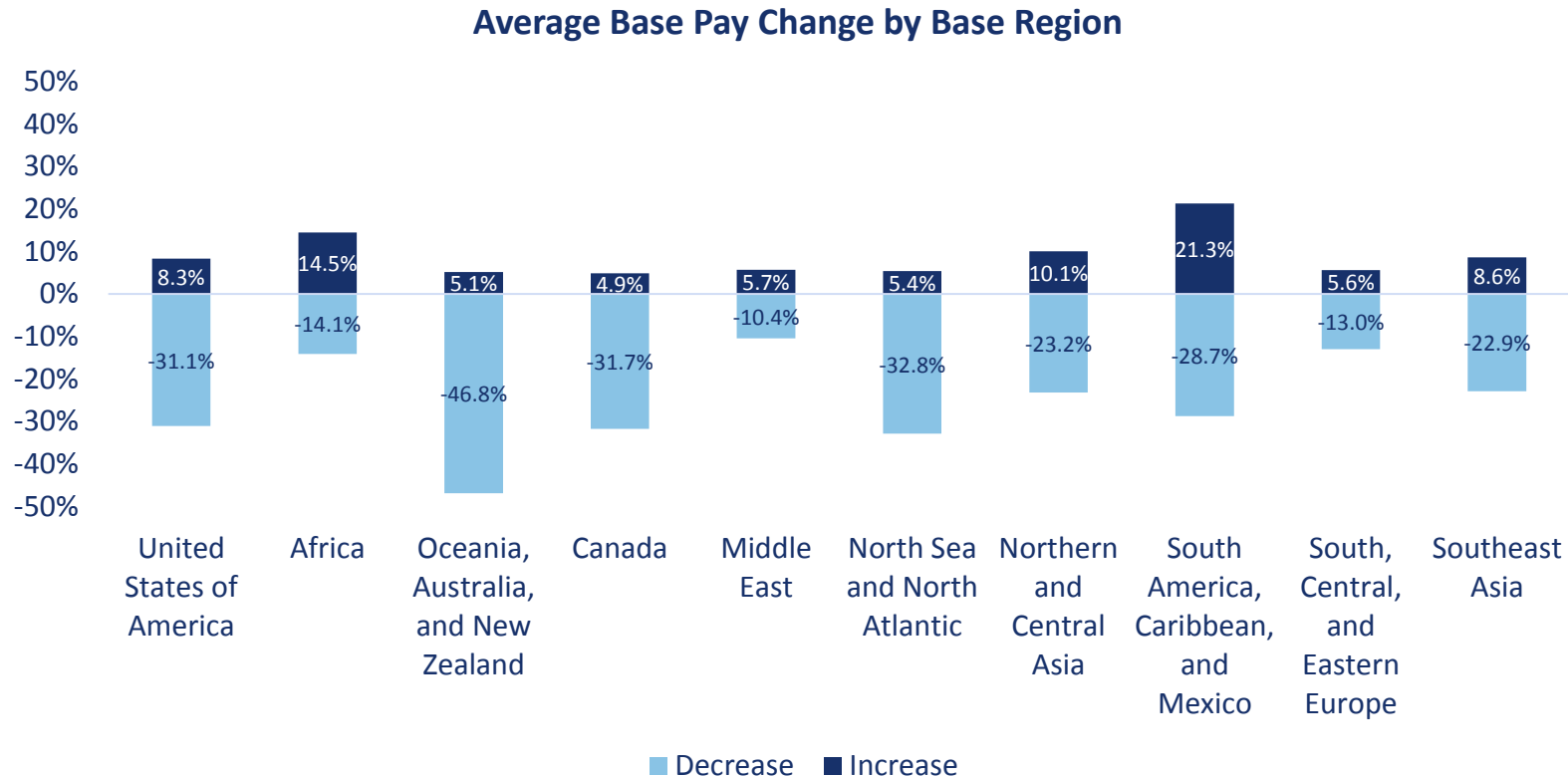
Base Region	Increase in Base Pay	No Change in Base Pay	Decrease in Base Pay
United States of America	54.8%	38.9%	6.3%
Africa	60.0%	33.8%	6.3%
Oceania, Australia, and New Zealand	39.5%	47.6%	12.9%
Canada	39.4%	50.0%	10.6%
Middle East	39.8%	48.4%	11.8%
North Sea and North Atlantic	48.2%	41.3%	10.5%
Northern and Central Asia	37.3%	52.5%	10.2%
South America, Caribbean, and Mexico	45.2%	43.5%	11.3%
South, Central, and Eastern Europe	49.4%	48.1%	2.5%
Southeast Asia	46.1%	39.8%	14.1%

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. There were a few notable changes over the past year. The Canada region saw a sizeable change in decrease of average base pay (-14.0% in 2016), which was reported by 21.2% of those with Canada as their base region. The Northern and Central Asia (-8.5% in 2016) and Oceania, Australia, and New Zealand (-31.9% in 2016) regions saw almost as much change in their respective base pay decreases since 2016.

The increases to base pay were much less drastic year over year, with the highest increase in base pay seen in the Africa region (8.2% in 2016). Although quantity of the increase might not be substantial, the overwhelming majority (90.6% of respondents with Africa as their base region) reported increases in their base pay over the past year.



How to Learn More

This report represents a sample of current compensation in the industry. This report, as well as an interactive chart and viewable infographic, is available at 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 November 2017.

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 to 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 November 2017. The data file comes bundled with the detailed summary report.

In addition to our annual reports, SPE publishes a historical summary of *SPE Membership Salary Survey Highlights*, updated each year, dating back to the first survey in 1967. The *SPE Membership Salary Survey* became an annual study beginning in 1984, with previous editions having been conducted in alternate years. The archive document includes the highlights through 2017. The archive PDF document will be available through the SPE Bookstore at a price of USD 125 for SPE members and USD 325 for nonmembers.

Inquiries regarding purchase may be addressed through the SPE Bookstore website. Other questions regarding the survey can be addressed to speresearch@spe.org.

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

The SPE Research Team