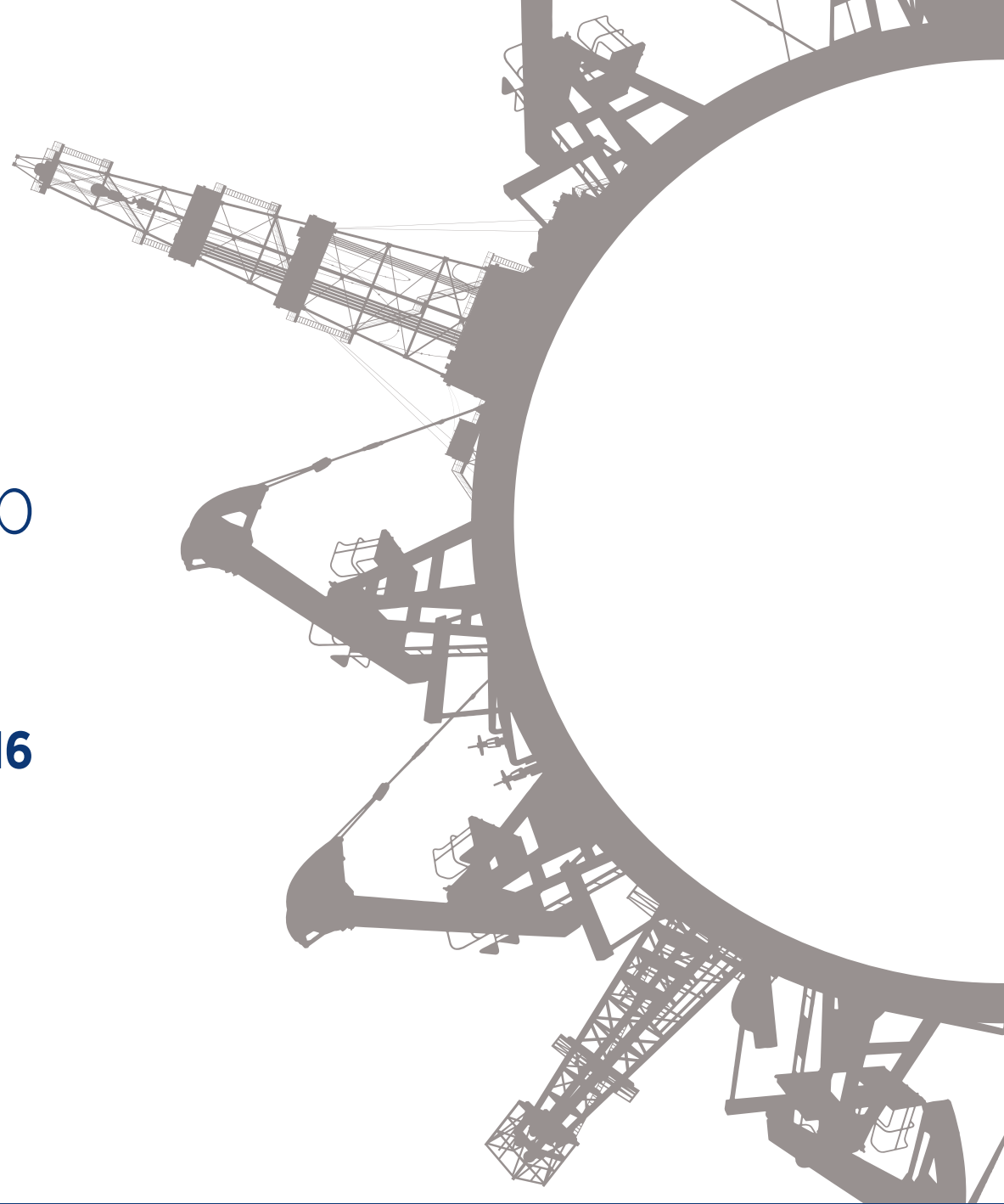


# 2016 SPE Membership Salary Survey

**Highlight Report – November 2016**



Society of Petroleum Engineers

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# 2016 SPE Membership Salary Survey Highlight Report

On 14 July 2016, Society of Petroleum Engineers (SPE) sent invitations to 84,599 professional members to participate in the annual *SPE Membership Salary Survey* by completing an online survey. By the close of the survey on 13 August 2016, 4,763 members responded, of which 3,015 provided valid compensation data, resulting in a 5.6% response rate. This sample of completed responses produces a margin of error of  $\pm 1.38\%$  at a 95% confidence level. Salary information and other data in the report are entirely self-reported.

Participants in the 2016 *SPE Membership Salary Survey* are based in 83 countries and 38 US states. More than three-fourths (79.1%) are citizens of the countries in which they work. Their employers' headquarters are based in 80 countries. Nearly half (49.4%) of the respondents are based in countries outside of the United States. The percentage of female participants was 13.7% in 2016, which was similar to previous years (13.3% in 2015, 13.3% in 2014, 12.2% in 2013, and 11.3% in 2012).

Respondents were asked to provide their work status in 2016. The majority (95.9%) of respondents indicated that they are full-time, regular payroll employees (consistent with 95.6% respondents reporting they were full-time employees in 2015). A small percentage (3.2%) of respondents are contract, freelance, or part-time employees, which is an increase from 2.4% in 2015. Another 2.6% are self-employed or business owners, which is also up from 1.7% reported self-employed or business owners in 2015.

Nearly one-fifth (19.5%) of participants in this year's survey are primarily engaged in Reservoir Engineering (similar to the 2015 population with 20.2% Reservoir Engineering), while 14.2% reported a focus on Engineering – Other or Combination, and 11.4% are involved in Production Engineering.

Nearly one-third (30.3%) of respondents work for an independent oil and gas company. More than one-fourth (27.6%) are employed by a service or manufacturing company. Almost one-fifth (18.9%) are employed by an integrated oil and gas company, and close to one-tenth (7.9%) work for a national oil and gas company. This is similar to the 2015 results (31.3% worked for an independent oil and gas company; 26.7% worked for a service or manufacturing company; 20.6% worked for an integrated oil and gas company; 8.3% worked for a 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 15 August 2016, 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 185,001 in 2016, less than reported in previous years (USD 206,020 in 2015; USD 214,328 in 2014; USD 203,557 in 2013).

Although 2016 reported compensation is less than in 2015, 35.9% of this year's respondents indicated their base pay increased from 2015 to 2016. However, this is a smaller figure than the previous two years' percentage increases in base pay (58.5% saw an increase in 2015 and 82.2% saw an increase in 2014 up from the previous year). Those who experienced a gain in base pay saw their pay increase by an average of 8.0% over the past year (the same as in 2015). For respondents whose base pay decreased, the decline was by an average of 22.0% (18.4% in 2015).

Calculated mean base pay reported in 2016 declined (USD 143,006) from previous years (USD 153,492 in 2015; USD 156,439 in 2014; USD 153,620 in 2013). Other compensation (including bonuses) has been declining since 2013 (USD 64,000). In 2016, members reported an average of USD 41,995 in other compensation. Again, this was a decrease from previous years (USD 52,931 in 2015; USD 57,889 in 2014).

The number of professionals receiving a car allowance has also continued to decline. In 2016, the number of respondents who reported receiving a car allowance was 24.6%. In previous years, this number has ranged from about one-fourth to one-third of respondents (26.3% in 2015; 28.4% in 2014; 31.0% in 2013).

The average age of energy and petroleum professionals reported in the survey is 43 years old, which is consistent with the previous five 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 38.

The level of experience professionals have in the industry remained consistent with previous 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 2016 is 18.9 years for males and 13.0 years for females. This is consistent for male professionals (18.9 years in 2015; 18.8 years in 2014), but up from previous years for female professionals (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 43.8% in 2016 and is comparable with the previous two years (44.2% in 2015; 43.2% in 2014).

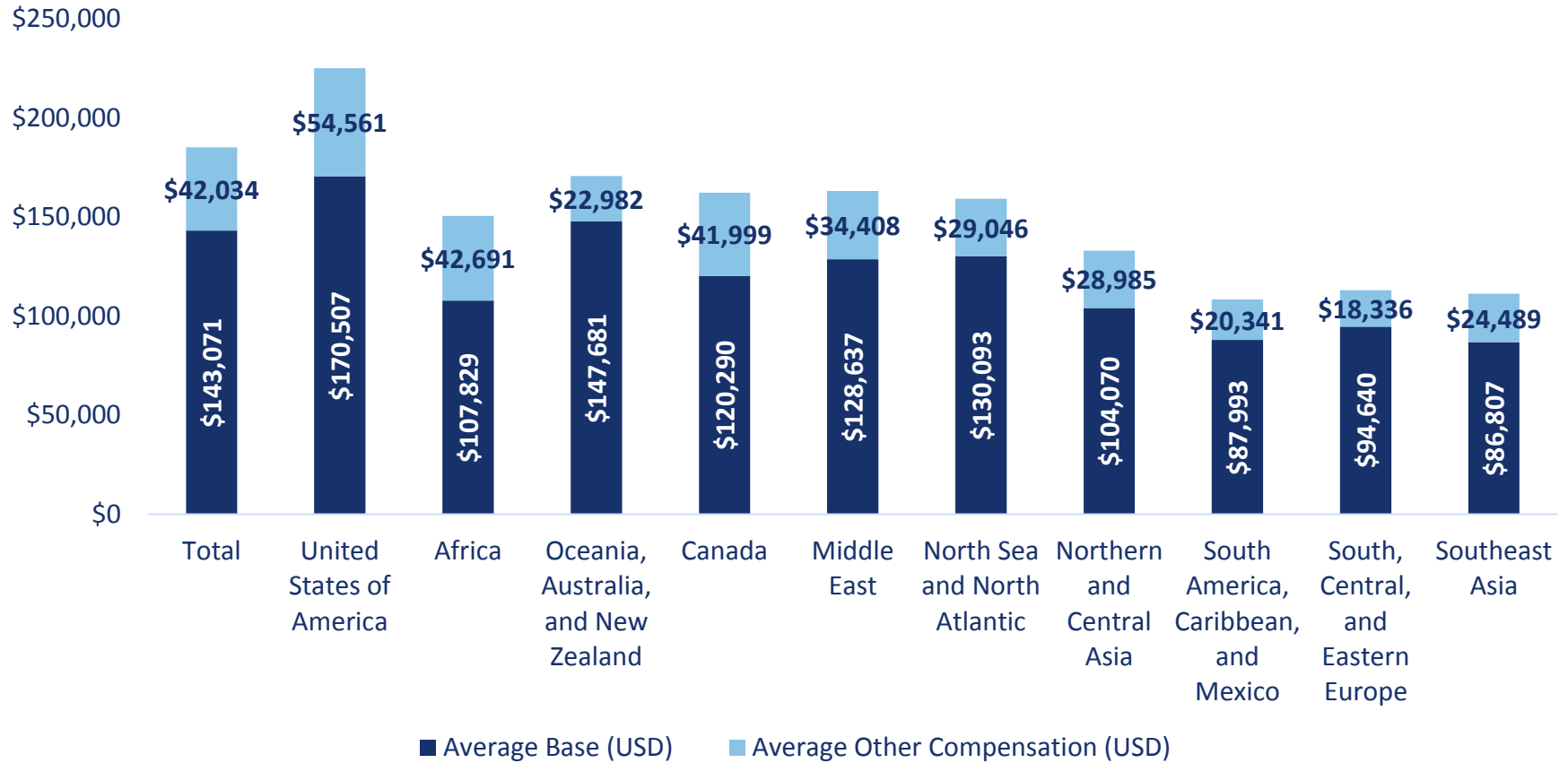
**Figure 1**

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

	Total (n=3,015)	United States of America (n=1,525)	Africa (n=82)	Oceania, Australia, and New Zealand (n=139)	Canada (n=198)	Middle East (n=159)	North Sea and North Atlantic (n=380)	Northern and Central Asia (n=53)	South America, Caribbean, and Mexico (n=222)	South, Central, and Eastern Europe (n=72)	Southeast Asia (n=179)
<b>Base Pay</b>											
Mean	\$143,006	\$170,507	\$107,829	\$147,681	\$120,290	\$128,637	\$130,093	\$104,070	\$87,993	\$94,640	\$86,807
Median	\$127,000	\$152,256	\$77,761	\$123,598	\$100,725	\$108,903	\$111,947	\$60,000	\$68,531	\$61,556	\$49,360
<b>Other Compensation</b>											
Mean	\$41,995	\$54,561	\$42,691	\$22,982	\$41,999	\$34,408	\$29,046	\$28,985	\$20,341	\$18,336	\$24,489
Median	\$16,000	\$25,000	\$9,253	\$11,515	\$14,129	\$13,421	\$14,022	\$2,911	\$4,553	\$4,194	\$3,832
<b>Total Compensation</b>											
Mean	\$185,001	\$225,068	\$150,520	\$170,663	\$162,289	\$163,045	\$159,138	\$133,054	\$108,333	\$112,976	\$111,296
Median	\$150,000	\$186,000	\$100,311	\$142,022	\$116,171	\$136,945	\$128,880	\$64,791	\$80,000	\$67,943	\$58,213
Average Base Pay % Increase	8.1%	5.4%	8.2%	5.1%	5.0%	5.4%	5.4%	6.1%	27.5%	6.7%	6.8%
% With Car Allowance	24.6%	19.3%	58.0%	12.2%	16.8%	43.0%	34.4%	26.4%	19.2%	23.6%	41.2%
Average Age	43	45	41	42	41	42	44	39	40	42	39
Average Years of Experience	18.1	19.6	15.2	16.8	16.7	16.9	18.4	15.5	14.9	15.3	14.8
% With Education Beyond Bachelor's Degree	43.8%	33.8%	53.8%	48.9%	29.1%	56.7%	69.6%	71.2%	53.5%	84.7%	34.1%
% Citizens of Work Region	79.1%	88.1%	72.0%	73.4%	88.4%	24.5%	70.8%	73.6%	84.2%	66.7%	67.0%

**Figure 2**

**Base Pay and Other Compensation by Work Region (USD)**



### Figure 3

## Job Categories and Total Compensation

The global mean for total compensation declined for every job category from 2015 to 2016. The most marked declines are from the top tier professionals from the Africa; Oceania, Australia, and New Zealand; and South, Central, and Eastern Europe regions.

The professional and technician categories maintained the highest stability overall. For these two categories, nearly half of the regions were able to maintain or increase their level of compensation from 2015. Those who saw a decrease in salary experienced less of a decline in their compensation overall than the top tier of professionals.

Total Compensation by Job Category and Work Region	United States of America (n=1,525)	Africa (n=82)	Oceania, Australia, and New Zealand (n=198)	Canada (n=198)	Middle East (n=159)	North Sea and North Atlantic (n=381)	Northern and Central Asia (n=53)	South America, Caribbean, and Mexico (n=222)	South, Central, and Eastern Europe (n=72)	Southeast Asia (n=179)	Global Mean
Executive/Top Management	<b>\$395,952</b>	\$133,335	\$259,219	\$364,121	\$240,838	\$202,941	\$451,877	\$188,527	\$183,241	\$108,080	<b>\$334,072</b>
Manager/Director	<b>\$274,083</b>	\$249,516	<b>\$234,274</b>	<b>\$180,396</b>	<b>\$190,798</b>	<b>\$202,065</b>	\$265,270	\$190,075	\$189,454	<b>\$185,174</b>	<b>\$240,695</b>
Supervisor/Superintendent/Lead	<b>\$227,012</b>	\$167,563	\$156,925	\$137,514	<b>\$162,106</b>	<b>\$163,867</b>	\$62,151	<b>\$120,477</b>	\$147,807	<b>\$128,689</b>	<b>\$177,904</b>
Professional/Individual Contributor	<b>\$181,915</b>	<b>\$94,258</b>	<b>\$140,227</b>	<b>\$132,763</b>	<b>\$157,045</b>	<b>\$142,957</b>	\$68,197	<b>\$77,927</b>	\$64,538	<b>\$69,705</b>	<b>\$151,602</b>
Technician/Specialist/Support Staff	<b>\$130,050</b>	\$43,178	\$107,908	\$95,316	\$108,493	<b>\$92,095</b>	\$69,431	<b>\$102,301</b>	\$32,747	\$83,569	<b>\$103,513</b>

**Figure 4**

**Job Function and Work Region**

Base Pay by Job Function and Work Region	United States of America (n=1,525)	Africa (n=82)	Oceania, Australia, and New Zealand (n=139)	Canada (n=198)	Middle East (n=159)	North Sea and North Atlantic (n=380)	Northern and Central Asia (n=53)	South America, Caribbean, and Mexico (n=222)	South, Central, and Eastern Europe (n=72)	Southeast Asia (n=179)	Global Mean
College/University/Academic	\$114,962	\$12,896	\$83,294	\$82,583	\$132,890	\$128,144	\$80,000	\$37,946		\$38,712	<b>\$91,383</b>
Computer or Information Technology	\$159,029		\$65,253	\$96,777	\$78,410	\$111,558	\$18,770	\$79,633	\$50,328	\$36,056	<b>\$118,248</b>
Earth Science/Geology	<b>\$189,671</b>	\$38,032	\$141,946	\$114,467	\$112,614	<b>\$110,053</b>	\$116,107	\$68,311	\$67,972	\$112,899	<b>\$125,109</b>
Engineering – Chemical/Chemistry	<b>\$162,046</b>	\$21,941	\$121,260	\$76,338	\$108,731	\$96,490	\$108,408	\$55,547	\$44,400	\$59,738	<b>\$116,078</b>
Engineering – Civil/Construction/Facilities	<b>\$155,437</b>	\$101,103	\$97,041	\$94,125	\$96,159	\$175,893	\$19,588	\$113,895	\$35,212	\$32,580	<b>\$127,373</b>
Engineering – Completions	<b>\$165,950</b>	\$142,132	\$143,771	\$106,530	\$151,956	\$126,848	\$253,155	\$92,294	\$130,031	\$85,813	<b>\$148,917</b>
Engineering – Drilling	<b>\$187,652</b>	\$113,812	\$188,465	\$108,357	\$124,695	<b>\$199,678</b>	\$136,823	\$82,540	\$135,191	\$99,799	<b>\$159,472</b>
Engineering – Health/Safety/Environment	<b>\$156,804</b>	\$87,092	\$180,407	\$122,326	\$90,295	\$119,843	\$29,114	\$72,254	\$99,237	\$57,210	<b>\$119,887</b>
Engineering – Production	<b>\$160,425</b>	\$90,667	\$155,298	\$163,076	\$118,309	<b>\$124,902</b>	\$44,089	\$83,957	\$104,396	\$95,821	<b>\$138,662</b>
Engineering – Reservoir	<b>\$181,559</b>	\$113,519	\$129,989	<b>\$121,014</b>	\$160,736	<b>\$141,341</b>	\$83,647	<b>\$81,146</b>	\$67,326	<b>\$69,899</b>	<b>\$147,701</b>
Engineering – Other or Combination of Above	<b>\$178,341</b>	\$127,013	\$153,099	<b>\$126,064</b>	\$108,318	\$138,815	\$140,840	\$116,509	\$113,230	\$112,451	<b>\$157,691</b>
Finance or Administration	\$173,518		\$93,658	\$152,629	\$189,606	\$86,110		\$128,160	\$202,536	\$131,725	<b>\$148,335</b>
Geophysics/Petrophysics/Physics	<b>\$160,952</b>	\$208,624	\$144,315	\$127,552	\$129,343	\$95,517	\$91,728	\$86,995	\$104,294	\$121,407	<b>\$134,835</b>
Non-Engineering Technical	\$106,884	\$112,690	\$237,983	\$93,874	\$54,451	\$92,424		\$232,800	\$81,643	\$22,022	<b>\$103,152</b>
Professional Training	\$132,778			\$94,373	\$142,474	\$103,360					\$121,421
Research	<b>\$146,804</b>		\$80,607	\$88,859	\$66,672	\$98,085		\$76,976	\$34,116	\$40,062	<b>\$114,205</b>
Sales or Marketing	<b>\$143,380</b>	\$148,886	\$119,432	\$89,860	\$117,915	\$113,938	\$87,729	\$55,905	\$150,613	\$108,444	<b>\$127,707</b>
Other or Combination of Above	<b>\$195,717</b>	\$138,193	\$206,655	\$138,336	\$146,052	<b>\$117,558</b>	\$165,000	\$113,641	\$104,055	\$68,420	<b>\$167,238</b>

**Figure 5**

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

Base pay and total compensation varies by gender, with male professionals earning more than their female counterparts.

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	23	21	14	11	16	30	25	19	14	15
Number of Records	13	47	75	248	30	201	557	490	1,171	137
Average Base Pay (USD)	\$143,275	\$147,289	\$111,385	\$107,158	\$84,657	\$226,358	\$181,399	\$143,119	\$128,386	\$88,294
Average Other Compensation (USD)	\$43,831	\$46,820	\$25,916	\$21,776	\$18,644	\$116,255	\$62,817	\$40,815	\$28,873	\$15,421
Average Total Compensation (USD)	\$187,106	\$194,109	\$137,302	\$128,935	\$103,301	\$342,613	\$244,216	\$183,933	\$157,259	\$103,715



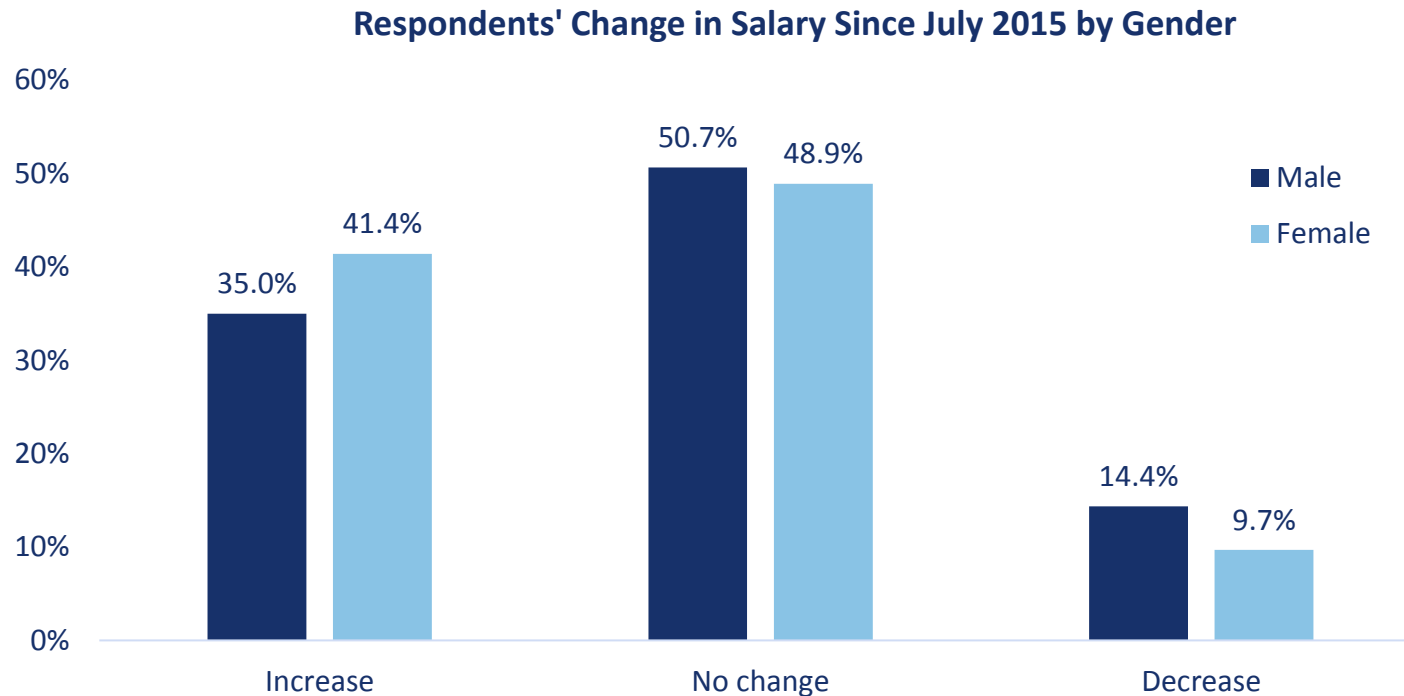
## Figure 6

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

About half of professionals of both genders did not experience any change in their salary since 2015, which is a noticeable difference from the 34.6% of males and 34.3% of females who reported no change to their salary in the 2015 results.

The number of respondents reporting an increase in salary growth decreased for both males (35.0%) and females (41.4%), as compared to 58.4% of males and 61.1% of females reporting salary increases in 2015.

However, the percentage of respondents reporting a decrease in salary more than doubled in 2016 for both males (14.4%) and females (9.7%) from the 2015 figures of 7.0% for males and 4.6% for females reporting salary decreases.



## Figure 7

### Change in Base Pay by Region

Overall, 13.8% of respondents reported a decline in their base pay in 2016, and 35.9% of respondents reported an increase, a clear change from 2015 survey results (6.6% of respondents saw a decline; 58.5% of respondents saw an increase).

Although the percentages stayed consistent for decrease in base pay across the regions from 2015 to 2016, there were a few considerable differences from 2015 for some of the regions for increase in base pay. The United States of America, Canada, and Middle East regions had fewer respondents who saw an increase in their base pay in 2016, with the US down 28.4%, Canada down 27.6%, and the Middle East region down 25.8% from last year.

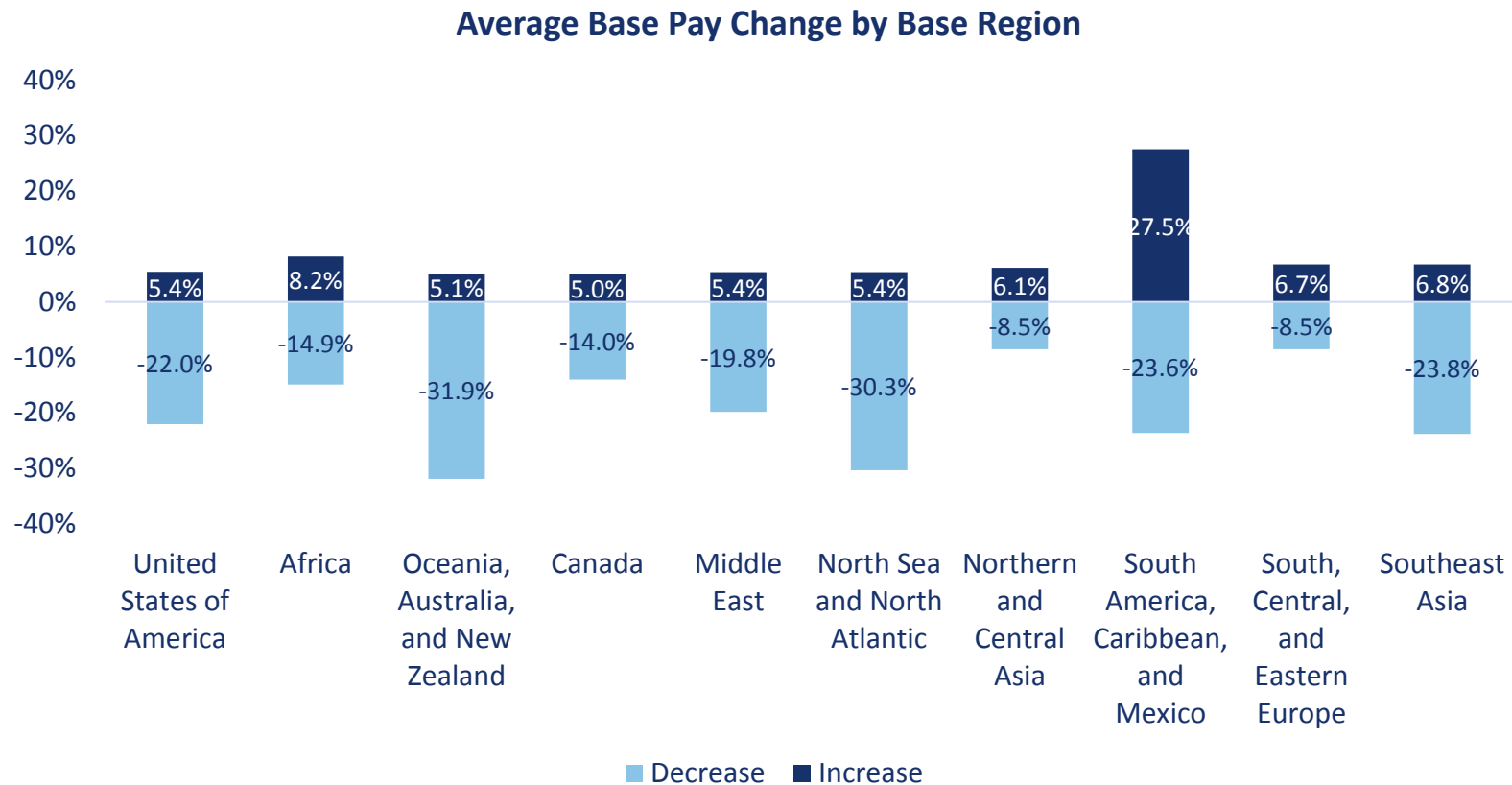
Base Region	Increase in Base Pay	No Change in Base Pay	Decrease in Base Pay
United States of America	32.2%	54.6%	13.2%
Africa	57.3%	31.7%	11.0%
Oceania, Australia, and New Zealand	37.4%	50.4%	12.2%
Canada	24.2%	52.0%	23.7%
Middle East	36.5%	45.9%	17.6%
North Sea and North Atlantic	37.4%	47.9%	14.7%
Northern and Central Asia	30.2%	50.9%	18.9%
South America, Caribbean, and Mexico	54.1%	36.5%	9.5%
South, Central, and Eastern Europe	27.8%	63.9%	8.3%
Southeast Asia	48.6%	42.5%	8.9%

## Figure 8

Increase in average base pay by region remained consistent from 2015 to 2016. While all the other regions' salary increases hovered around 5-8% (4-9% in 2015), the South America, Caribbean, and Mexico region had a 27.5% average base pay increase (25.2% in 2015).

For the most part, decrease in average base pay by region remained consistent from 2015 to 2016 as well, with a few exceptions. Oceania, Australia, and New Zealand dropped from -21.3% in 2015 to -31.9% in 2016. The North Sea and North Atlantic region (-18.7% in 2015) saw the largest percentage decline in average base pay in 2016 to -30.3%.

The Northern and Central Asia region experienced an increase in their average base pay; their average decrease in base pay went from -21.9% in 2015 to -8.5% in 2016.



## How to Learn More

This report represents a sample of current compensation in the industry. 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 [www.spe.org/store](http://www.spe.org/store) in early November 2016.

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 early November 2016. 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 2016. 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](mailto:speresearch@spe.org).

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

The SPE Research Team