

Senate Commerce Committee Nominee Questionnaire, 117th Congress

Instructions for the nominees: The Senate Committee on Commerce, Science, and Transportation asks you to provide typed answers to each of the following questions. It is requested that the nominee type the question in full before each response. Do not leave any questions blank. Type “None” or “Not Applicable” if a question does not apply to the nominee. Return printed answers to Committee. Begin each section (i.e., “A”, “B”, etc.) on a new sheet of paper.

A. BIOGRAPHICAL INFORMATION AND QUALIFICATIONS

1. Name (Include any former names or nicknames used):

Steven Scott Cliff

2. Position to which nominated:

Administrator, National Highway Traffic Safety Administration

3. Date of Nomination:

October 21, 2021

4. Address (List current place of residence and office addresses):

Home:



Office: 1200 New Jersey Ave. SE, Washington, DC 20590

5. Date and Place of Birth:

January 30, 1970. Napa, California

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

Maureen Michelle Palmer. Genetic Counselor Manager, Natera, Inc.

Evelyn Maeve Cliff (daughter) 23

Grayson Palmer Cliff (son) 19

7. List all college and graduate degrees. Provide year and school attended.

Chemistry B.S., 1992 University of California, San Diego

Chemistry Ph.D., 1998 University of California, San Diego

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

Management Level Jobs Related to Nominated Position:

- 2021-Present: Deputy Administrator, National Highway Traffic Safety Administration
- 2017-2021: Deputy Executive Officer, California Air Resources Board
- 2016-2017: Senior Advisor to the Chair, California Air Resources Board (appointed by Governor Jerry Brown)
- 2014-2016: Assistant Director for Sustainability, California Department of Transportation (appointed by Governor Jerry Brown)
- 2013-2014: Assistant Chief, Stationary Source Division, California Air Resources Board
- 2011-2013: Chief, Climate Change Markets Branch—Stationary Source Division, California Air Resources Board
- 2008-2011: Manager, Program Development Section—Office of Climate Change, California Air Resources Board
- 2020-2021: Research Professor II, Air Quality Research Center/Institute of Transportation Studies, University of California-Davis
- 2016-2020: Research Professor I, Air Quality Research Center/Institute of Transportation Studies, University of California-Davis
- 2013-2016: Associate Research Professor IV, Air Quality Research Center/Institute of Transportation Studies, University of California-Davis
- 2011-2013: Associate Research Professor II, Air Quality Research Center/Institute of Transportation Studies, University of California-Davis
- 2009-2011: Associate Research Professor I, Department of Applied Science, University of California-Davis
- 2006-2009: Assistant Research Professor IV, Department of Applied Science, University of California-Davis
- 2007-2008: Admissions Chair-Atmospheric Science Graduate Group, University of California-Davis
- 2003-2006: Assistant Research Professor III, Department of Applied Science, University of California-Davis
- 2001-2003: Assistant Research Professor II, Department of Applied Science, University of California-Davis

Non-Management Level Jobs:

- 2008: Air Pollution Specialist—Office of Climate Change, California Air Resources Board
- 2004-2020: Approved Program Coordinator— Advanced Light Source BL 10.3.1, Lawrence Berkeley National Laboratory

- 2003-2021: Atmospheric Science Graduate Group faculty member, University of California-Davis
- 2001-2004: Beamline Scientist and Primary Research Team Coordinator—Advanced Light Source BL 10.3.1, Lawrence Berkeley National Laboratory
- 2001-2003: Academic Federation Rep.—Chancellor’s Committee on Childcare, University of California-Davis
- 1998-2001: Postdoctoral Research Fellow, Land Air and Water Resources, University of California-Davis
- 1997-2001: Graduate Research Assistant, University of California-San Diego
- 1993-1994: Staff Research Associate, University of California-San Diego

9. Attach a copy of your resume.

See attached.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years.

I served on the U.S. Environmental Protection Agency’s Mobile Sources Technical Review Subcommittee of the Clean Air Act Advisory Committee from ca. September 2017 to January 2021. Details about the Subcommittee are available at: <https://www.epa.gov/caaac/mobile-sources-technical-review-subcommittee-mstrs-caaac>.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

- **Director (vice-president) of Creamery at Alkali Flat Homeowners Association (10/2020 to 10/2021 [resigned 10/13/21])**
- **Sole-proprietor Steven Cliff, dba Elite Arms (Retail Sporting Goods/Firearms) (ca. 1/2011 – ca. 6/2017)**

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization. (For this question, you do not have to list your religious affiliation or membership in a religious house of worship or institution.). Include dates of

membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

- **US Coast Guard Auxiliary (2000 to present). Volunteer CG activities. Past Flotilla Safety Officer, Coxswain, Operational Auxiliarist, and boating safety instructor.**
- **National Rifle Association (member, expired ca. 2015)**
- **BMW Motorcycle Owners Association (member, expired ca. 2015)**
- **Sacramento Gun Club (member, shooting range access and competition pistol events, canceled membership ca. June 2020)**
- **Folsom Shooting Club (shooting range access and competition shooting events, expired ca. Dec. 2019)**
- **Coon Creek Trap and Skeet Club (member, volunteer coach for youth trap team, expired ca. 2014)**
- **Transportation Research Board (current Executive Committee [ex officio], former chair of sustainable transportation committee and former Group Chair)**
- **American River Conservancy (past member, expired ca. 2014)**
- **American Geophysical Union (member, expired ca. 2012)**
- **American Chemical Society (member, expired ca. 2012)**
- **American Association for the Advancement of Science (AAAS) (member expired ca. 2013)**
- **Air and Waste Management Association (member, expired ca. 2015)**
- **Trojan Athletic Fund-USC Athletics (booster, not current)**
- **Rio Americano High School Band Booster (fundraising for son's high school band program, last active 2020)**
- **Arden Hills Country Club (member, swim and tennis club, canceled ca. 2017)**
- **Mondavi Center for the Arts (annual member, expired)**
- **Capitol Public Radio [KXJZ, local NPR affiliate] (semi-frequent annual member, not current)**

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt.

No.

14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities.

None.

15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past ten years.

None.

16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

- **California Air Resources Board – Gold Superior Achievement Award 2008 and 2010**
- **California Air Resources Board – Sustained Superior Achievement Award 2012**

17. Please list each book, article, column, Internet blog posting, or other publication you have authored, individually or with others. Include a link to each publication when possible. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

Please see below for the most up-to-date list of publications, speeches and presentations that I have been able to compile, to the best of my recollection and ability. Should any additional information be identified, I will promptly let the Committee know.

Related Speeches:

- Road to Zero Annual Meeting. February 2, 2021.
<https://www.nhtsa.gov/speeches-presentations/road-zero-annual-meeting-remarks>

- SAE/NHTSA Cybersecurity Workshop. February 5, 2021.
<https://www.nhtsa.gov/speeches-presentations/saenhtsa-cybersecurity-workshop-remarks>
- NHTSA Public Service Awards. April 27, 2021.
<https://www.nhtsa.gov/speeches-presentations/nhtsa-public-service-awards>
- Securing America's Future Energy (SAFE) AV Event, May 13, 2021.
<https://www.nhtsa.gov/speeches-presentations/securing-americas-future-energy-safe-av-event>
- Drive Sober Campaign Kickoff, August 17, 2021.
<https://www.nhtsa.gov/speeches-and-presentations/2021-drive-sober-virtual-event>

Peer-reviewed Journal Manuscripts:

- Cliff, S.S. and M.H. Thiemens. "High-Precision Isotopic Determination of the $^{18}\text{O}/^{16}\text{O}$ and $^{17}\text{O}/^{16}\text{O}$ Ratios in Nitrous Oxide," *Anal. Chem.*, 66, 2791-2794. 1994
- Johnston, J. C., S. S. Cliff and M. H. Thiemens. "Measurement of Multioxygen Isotopic ($\delta^{18}\text{O}$ & $\delta^{17}\text{O}$) Fractionation Factors in the Stratospheric Sink Reactions of Nitrous Oxide," *J. Geophys. Res.*, 100, 16,801-16,804. 1995
- Glickman, M. H., S.S. Cliff, M.H. Thiemens and J.P. Klinman.
- "Comparative Study of ^{17}O and ^{18}O Isotope Effects as a Probe for Dioxygen Activation: Application to the Soybean Lipoxygenase Reaction," *J. Am. Chem. Soc.*, 119, 11,357-11,361. 1997
- Huff, A.K., S.S. Cliff and M.H. Thiemens. "Portable Cryogenic Collection of Atmospheric Nitrous Oxide and Carbon Monoxide for High Precision Isotopic Analysis," *Anal. Chem.*, 69, 4267-4270. 1997
- Cliff, S.S. and M.H. Thiemens. "The $^{18}\text{O}/^{16}\text{O}$ and $^{17}\text{O}/^{16}\text{O}$ Ratios in Atmospheric nitrous oxide: A Mass-Independent Anomaly," *Science*, 278, 1774-1776. 1997
- Cliff, S. S., C.A.M. Brenninkmeijer and M.H. Thiemens. "The $^{18}\text{O}/^{16}\text{O}$ and $^{17}\text{O}/^{16}\text{O}$ Ratios in Stratospheric nitrous oxide: A Mass-Independent Anomaly," *J. Geophys. Res.*, 104, 16,171-16,175. 1999
- Shutthanandan V. S. Thevuthasan, R. Disselkamp, A. Stroud, A. Cavanagh, E.M. Adams, D.R. Baer, L.A. Barrie, S.S. Cliff, and M. Jimenez-Cruz M. "Development of PIXE, PESA and transmission ion microscopy capability to measure aerosols by size and time," *Nuclear Instruments & Methods in Physics Research Section B-Beam. Interactions with Materials & Atoms*, 189:284-288, April. 2002

- Bench, G., P.G. Grant, D. Ueda, S.S. Cliff, K.D. Perry and T. A. Cahill. "The use of STIM and PESA to measure profiles of aerosol mass and hydrogen content, respectively, across mylar rotating drums impactor samples," *Aerosol Science & Technology*, 36(5):642-651. 2002
- Reuter, J.E., T.A. Cahill, S.S. Cliff, C.R. Goldman, A.C. Heyvaert, A.D. Jassby, S. Lindstrom, and D.M. Rizzo. "An Integrated Watershed Approach to Studying Ecosystem Health at Lake Tahoe, CA-NV," *Managing for Healthy Ecosystems*, D.J Rapport, W.L. Lasley, D.E. Rolston, N.O., Nielson, C.O. Qualset and A.B. Damania, (ed), Lewis Publishers, Boca Raton, Florida, 1283-1297, January. 2003
- Reid, J.S., Halflidi, H.J., H.B. Maring, A. Smirnov, D.L. Savoie, S.S. Cliff, E.A Reid, J.M. Livingston, M.L. Meier, O.Dubovik, and S.-C. Tsay. "Comparison of Size and Morphological Measurements of Coarse Mode Dust Particles from Africa," *J. Geophys. Res.*, 108(D19), 8593. 2003
- Reid, E.A., J.S.Reid, M.M. Meier, M. Dunlap, S.S. Cliff, K.D. Perry, and H. Maring. "Characterization of African Dust Transported to Puerto Rico by Individual Particle and Size Segregated Bulk Analysis," *J. Geophys. Res.*, 108(D19), 8591. 2003
- Shackelford, J.F., P.B. Kelly, S.S. Cliff, M. Jimenez-Cruz, and T.A. Cahill. "Characterizing Particulate Emissions Using Micrometer Scale X-Ray Fluorescence," *Ceramic Transactions*, 143 59-66. 2003
- Cahill, T.A., Cliff, S.S., Perry, K.D., Jimenez-Cruz, M., Bench, G., Grant, P.G., Ueda, D., Shackelford, J.F., Dunlap, M., Meier, M., Kelly, P.B., Riddle, S., Selco, J. and Leifer, R. "Analysis of Aerosols from the World Trade Center Collapse Site, New York, October 2 to October 30, 2001," *Aerosol Science and Technology*, 38, 165-183. 2004
- J. S. Han, K. J. Moon, J. Y. Ahn, Y. D. Hong, Y. J. Kim, S. Y. Ryu, S. S. Cliff and T. A. Cahill. "Characteristics of Ion Components and Trace Elements of Fine Particles at Gosan, Korea in Springtime from 2001 to 2002," *Enviro. Monit. and Assess*, 92, 73-93, March. 2004
- Uno, I., S.Satake, G.R. Carmichael, Y.Tang, Z.Wang, T.Takemura N.Sugimoto, A.Shimizu, T. Murayama, T.A. Cahill, S.S. Cliff, M. Uematsu, S. Ohta, P.K. Quinn, T. S. Bates. "Numerical study of Asian dust transport during the springtime of 2001 simulated with the Chemical Weather Forecasting System (CFORS) model," *J. Geophys. Res.*, 109, D19S24. 2004
- Perry K. D., S. S. Cliff, M. P. Jimenez-Cruz. "Evidence for hygroscopic mineral dust particles from the Intercontinental Transport and Chemical Transformation Experiment," *J. Geophys. Res.*, 109, D23S28. 2004

- Cahill, T. A., Cliff, S.S., Shackelford, J.F., Meier, M., Dunlap, M., Perry, K.D., Bench, G., and Leifer, R. "Very Fine Aerosols from the World Trade Center Collapse Piles: Anaerobic incineration?" *Advances in Chemistry*. 2004
- VanCuren, R. A., S. S. Cliff, K. D. Perry, and M. P. Jimenez-Cruz. "Continental Aerosol Dominance Above the Marine Boundary Layer in the Eastern North Pacific: Continuous Aerosol Measurements From the 2002 Intercontinental Transport and Chemical Transformation Experiment (ITCT2K2)," *J. Geophys. Res.*, 110, D09S90. 2005
- Han, J.S., K.J. Moon, S. J. Lee, Y.J. Kim, S.Y. Ryu, S. S. Cliff, and S.M. Yi. "Size-resolved Source Apportionment of Ambient Particles by Positive Matrix Factorization," *Atmos. Chem. Phys. Discuss.*, 5, 5223-5252. 2005
- Gertler, Alan; Bytnerowicz, Andrzej, Cahill, Thomas A.; Arbaugh, Michael; Cliff, Steven; Kahyaoglukoracin, Julide; Tarnay, Leland; Alonso, Rocio; Fraczek, Witold. "Sources of Atmospheric Pollutants in the Lake Tahoe Basin," *California Agriculture*, 60(2):53–8. 2006
- Jiyoung Kim, Soon-Chang Yoon, Sang-Woo Kim, Fred Brechtel, Anne Jefferson, Ellsworth G. Dutton, Keith N. Bower, Steven Cliff, James J. Schauer. "Chemical apportionment of shortwave direct aerosol radiative forcing at the Gosan super-site, Korea during ACEAsia," *Atmospheric Environment*, 40:35, 6718-6729, November, ISSN 1352-2310. 2006
- Ewing, S.A., B. Sutter, R. Amundson, J. Owen, K. Nishizumi, W. Sharp, S.S. Cliff, K. Perry, W. Dietrich, and C.P. McKay. "A threshold in soil formation at Earth's arid–hyperarid transition," *Geochimica et Cosmochimica Acta*. 2006
- Patris, N., S. S. Cliff, P. K. Quinn, M. Kasem, and M. H. Thiemens. "Isotopic analysis of aerosol sulfate and nitrate during ITCT-2k2: Determination of different formation pathways as a function of particle size," *J. Geophys. Res.*, 112, D23301. 2007
- Reid, J. S., E. A. Reid, A. Walker, S. Piketh, S. Cliff, A. Al Mandoos, S. Tsay, and T. F. Eck. "Dynamics of southwest Asian dust particle size characteristics with implications for global dust research," *J. Geophys. Res.*, 113, D14212. 2008
- Nicolas Bukowiecki, Peter Lienemann, Matthias Hill, Renato Figi, Agnes Richard, Markus Furger, Karen Rickers, Gerald Falkenberg, Yongjing Zhao, Steven S. Cliff, Andre S. H. Prevot, Urs Baltensperger, Brigitte Buchmann, Robert Gehrig. "Real-World Emission Factors for Antimony and Other Brake Wear Related Trace Elements: Size-Segregated Values for Light and

- Heavy-Duty Vehicles," *Environmental Science & Technology*, 43 (21), 8072-8078. 2009
- Ngo M, Pinkerton K, Freeland S, Geller M, Ham W, Cliff S, Hopkins L, Kleeman M, Kodavanti U, Meharg E, Plummer L, Recendez J, Schenker M, Sioutas C, Smiley-Jewell S, Haas C, Gutstein J, Wexler "Airborne particles in the San Joaquin Valley may affect human health," *California Agriculture*, 64(1):12-16. 2009
 - R. C. Moffet, T. R. Henn, A. V. Tivanski, R. J. Hopkins, Y. Desyaterik, A. L. D. Kilcoyne, T. Tyliczszak, J. Fast, J. Barnard, V. Shutthanandan, Cliff, S. S., Perry, K. D. A. Laskin, M. K. Gilles. "Microscopic Characterization of Carbonaceous Aerosol Particle Aging in the Outflow from Mexico City," *Atmospheric Chemistry and Physics*, 10, 961-976, February. 2010
 - Bahadur, R., T. Uplinger, L. M. Russell, B. C. Sive, S. S. Cliff, D. B. Millet, A. Goldstein, and T. S. Bates. "Phenol Groups in Northeastern U.S. Submicrometer Aerosol Particles Produced from Seawater Sources," *Environ. Sci. Technol.*, 44(7), 2542–2548. 2010
 - Hadley, O. L., Corrigan, C. E., Kirchstetter, T. W., Cliff, S. S., and Ramanathan, V. "Measured black carbon deposition on the Sierra Nevada snowpack and implication for snowpack retreat," *Atmos. Chem. Phys.*, 10, 7505-7513. 2010
 - Ewing, S.A., J. N. Christensen, S. T. Brown, R. A. Vancuren, S.S. Cliff, and D. J. DePaolo. "Pb Isotopes as an Indicator of the Asian Contribution to Particulate Air Pollution in Urban California," *Environmental Science & Technology* 44(23): 8911-6. 2010
 - Christopher R. Williams, Kimberly A. Prather, Daniel Rosenfeld, Steven S. Cliff. An Aerosol – Meteorological Observatory to Better Isolate Aerosol Influences on Precipitation Processes. Proceedings of the 8th International Symposium on Tropospheric Profiling. 2010
 - VanCuren, R.A., T.A. Cahill, J. Burkhart, D. Barnes, Y. Zhao, K. Perry, S.S. Cliff, Joe McConnell. "Aerosols and their sources at Summit Greenland- First results of continuous size- and time- resolved sampling," *Atmospheric Environment*, 52(June): 82-97. 2012
 - Fuller, Stephen; Zhao, Yongjing; Cliff, Steven; Wexler, Anthony; Kalberer, Markus. Direct surface analysis of time-resolved aerosol impactor samples with ultra-high-resolution mass spectrometry. *Analytical Chemistry*, 84(22): 9858–9864. 2012
 - P. L. Hayes, A. M. Ortega, M. J. Cubison, K. D. Froyd, Y. Zhao, S. S. Cliff, W. W. Hu, D. W. Toohey, J. H. Flynn, B. L. Lefer, N. Grossberg, S. Alvarez, B. Rappenglück, J. W. Taylor, J. D. Allan, J. S. Holloway, J. B.

- Gilman, W. C. Kuster, J. A. de Gouw, P. Massoli, X. Zhang, J. Liu, R. J. Weber, A. L. Corrigan, L. M. Russell, G. Isaacman, D. R. Worton, N. M. Kreisberg, S. V. Hering, A. H. Goldstein, R. Thalman, E. M. Waxman, R. Volkamer, Y. H. Lin, J. D. Surratt, T. E. Kleindienst, J. H. Offenberg, S. Dusanter, S. Griffith, P. S. Stevens, J. Brioude, W. M. Angevine, J. L. Jimenez. Organic Aerosol Composition and Sources in Pasadena, California during the 2010 CalNex Campaign. *Journal of Geophysical Research-Atmospheres*, 118(16): 9233-9257. 2013
- Samuel A. Atwood, Jeffrey S. Reid, Sonia M. Kreidenweis, Steven S. Cliff, Yongjing Zhao, Neng-Huei Lin, Si-Chee Tsay, Yu-Chi Chu, Douglas L. Westphal. Size resolved measurements of springtime aerosol particles over the northern South China Sea. *Atmospheric Environment*, 78(Oct): 134–143. 2013
 - Na Li, Philip K. Hopke, Pramod Kumar, Steven S. Cliff, Yongjing Zhao, Carmeliza Navasca. Source Apportionment of Time and Size Resolved Ambient Particulate Matter. *Chemometrics and Intelligent Laboratory Systems*, 129(Nov): 15-20. 2013
 - Yongjing Zhao, Steven S. Cliff, Anthony S. Wexler, Wasim Javed, Kevin Perry, Yuee Pan, Frank M. Mitloehner. Measurements of size and time-resolved elemental concentrations at a California dairy farm. *Atmospheric Environment*, 94: 773-781. 2014
 - Edie Chang and Steven S. Cliff. California's Climate Change Solution: An Integrated Model. *EM, Journal of the Air and Waste Management Association*, (June) 14-18. 2014
 - Reid, J. S. and Lagrosas, N. D. and Jonsson, H. H. and Reid, E. A. and Sessions, W. R. and Simpas, J. B. and Uy, S. N. and Boyd, T. J. and Atwood, S. A. and Blake, D. R. and Campbell, J. R. and Cliff, S. S. and Holben, B. N. and Holz, R. E. and Hyer, E. J. and Lynch, P. and Meinardi, S. and Posselt, D. J. and Richardson, K. A. and Salinas, S. V. and Smirnov, A. and Wang, Q. and Yu, L. and Zhang, J. Observations of the temporal variability in aerosol properties and their relationships to meteorology in the summer monsoonal South China Sea/East Sea: the scale-dependent role of monsoonal flows, the Madden-Julian Oscillation, tropical cyclones, squall lines and cold pools. *Atmospheric Chemistry and Physics*, 15(4): 1745--1768. 2015
 - Kathleen C. Kaku, Jeffrey S. Reid, Elizabeth A. Reid, Kristy Ross-Langerman, Stuart Piketh, Steven Cliff, Abdulla Al Mandoos, Stephen Broccardo, Yongjing Zhao, Jianglong Zhang, Kevin D. Perry. Investigation of the relative fine and coarse mode aerosol loadings and properties in the

Southern Arabian Gulf region. *Atmospheric Research*, 169(Part A): 171-182. 2016

- Reid, J. S., Lagrosas, N. D., Jonsson, H. H., Reid, E. A., Atwood, S. A., Boyd, T. J., Ghate, V. P., Xian, P., Posselt, D. J., Simpas, J. B., Uy, S.N., Zaiger, K., Blake, D. R., Bucholtz, A., Campbell, J.R., Chew, B. N., Cliff, S. S., Holben, B. N., Holz, R. E., Hyer, E. J., Kreidenweis, S. M., Kuciauskas, A. P., Lolli, S., Oo, M., Perry, K. D., Salinas, S. V., Sessions, W. R., Smirnov, A., Walker, A. L., Wang, Q., Yu, L., Zhang, J., and Zhao, Y. Aerosol meteorology of Maritime Continent for the 2012 7SEAS southwest monsoon intensive study – Part 2: Philippine receptor observations of fine-scale aerosol behavior. *Atmos. Chem. Phys.*, 16: 14057–14078. 2016
- Elizabeth C. Asher John N. Christensen Andrew Post Kevin Perry Steven S. Cliff Yongjing Zhao Justin Trousdell Ian Faloon. The Transport of Asian Dust and Combustion Aerosols and Associated Ozone to North America as Observed From a Mountaintop Monitoring Site in the California Coast Range. *Journal of Geophysical Research-Atmospheres*, 123(10): 5667-5680. 2018
- Cecilia Leoni, Petra Pokorná, Jan Hovorka, Mauro Masiol, Jan Topinka, Yongjing Zhao, Kamil Křemal, Steven Cliff, Pavel Mikuška, Philip K. Hopke. Source apportionment of aerosol particles at a European air pollution hot spot using particle number size distributions and chemical composition. *Environmental Pollution*, 234(March 2018): 145-154.
- Hilario, M. R. A., Cruz, M. T., Cambaliza, M. O. L., Reid, J. S., Xian, P., Simpas, J. B., Lagrosas, N. D., Uy, S. N. Y., Cliff, S., and Zhao, Y. Investigating size-segregated sources of elemental composition of particulate matter in the South China Sea during the 2011 Vasco Cruise. *Atmospheric Chemistry and Physics*. 2020
- Petra Pokorná, Cecilia Leoni; Jaroslav Schwarz; Jakub Ondráček; Lucie Ondráková; Petr Vodíka; Nadžda Zíková; Pavel Moravec; Miroslav Klán; Jan Hovorka; Yongjing Zhao; Steven Cliff; Philip Hopke. Spatial and temporal variability of source contributions to aerosol particles at a European air pollution hot spot using chemical composition and particle number size distributions. *Science of the Total Environment*. 2020

Most publications may be found at:

<https://www.researchgate.net/profile/Steven-Cliff>.

Book Chapters:

- Cliff, S.S. and T.A. Cahill: "Air Quality in the Lake Tahoe Basin," U.S.F.S. PSW-GTR 175, In The Lake Tahoe Watershed Assessment, D. D. Murphy and C.M. Knopp, (ed), 129-211 U.S.F.S. PSW-GTR 175, May. 2000
- Cliff, S. S., et al: "Climate Change Proposed Scoping Plan," Volume II (Measure Documentation Appendix I), California Air Resources Board, October 15. 2008

Books Edited:

- L.J. Amstutz: How Can We Reduce Transportation Pollution?, Searchlight Books, Lerner Publishing Group, Inc., Minneapolis. 2015
- L.E. Carmichael: How Can We Reduce Agricultural Pollution?, Searchlight Books, Lerner Publishing, Inc., Minneapolis. 2015

Limited Distribution Publications:

- Cliff, S.S., J.E. Reuter T.A. Cahill, A. Gertler, M.J. Kleeman, J. Lin, D. Niemeier, and R.A. VanCuren. "The Lake Tahoe Air Quality Research Scoping Document: Determining the Link Between Water Quality, Air Quality and Transportation," Report to the Tahoe Regional Planning Agency, 93 pp. July. 2000
- Cahill, T.A., S.S. Cliff, T.M. Cahill, and K.D. Perry. "Correlation Between Aerosols and Gases at Mauna Loa Observatory," in Climate Monitoring and Diagnostics Laboratory Summary Report No. 25 1998-1999, R.C. Schnell, (ed), United States Department of Commerce, p. 117, January. 2001
- Cahill, T.A., S.S. Cliff, M.P. Jimenez-Cruz, S.G. Riddle, P.B. Kelly, and K.D. Perry. "Size-resolved Trace Elemental and Organic Aerosols at Mauna-Loa Observatory, Spring 2000," in Climate Monitoring and Diagnostics Laboratory Summary Report No. 26 2000-2001, R.C. Schnell and D.B. King, (ed), United States Department of Commerce p. 139, January. 2002
- Steven S. Cliff. "Air Quality Progress in the Lake Tahoe Basin," Final Report on Tahoe Regional Planning Agency Contract No. 99-00129V, December. 2002
- Thomas A. Cahill and Steven S. Cliff, co-PI's. "Time and Compositionally-Resolved Minor and Trace Elements in Aerosols at the Fresno Super-Site," Final Report on California Air Resources Board Contract No. 00-521. Submitted January. 2003
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Annual Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, February. 2003

- N. Bukowiecki, F. Hegedüs, U. Baltensperger, G. Falkenberg, and S.S. Cliff. "Measuring size-segregated ambient aerosol filter samples with high time resolution using SR-XRF," Annual Report on HASYLAB-DESY (Hamburg, Germany Synchrotron facility) grant, December. 2003
- N. Bukowiecki, F. Hegedüs, U. Baltensperger, G. Falkenberg, S.S. Cliff. "Size-segregated ambient aerosol filter sample analysis with high time resolution using Synchrotron-XRF," Annual Report on Paul Scherrer Institut (Villigen PSI Switzerland) collaborative project, December. 2003
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Annual Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, February. 2004
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Annual Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, February. 2005
- Steven S. Cliff, PI. "Quality Assurance Analysis of Filter Samples Collected during the Lake Tahoe Atmospheric Deposition Study using Synchrotron X-Ray Fluorescence (LTADS-sXRF QA)," Final Report on California Air Resources Board Contract No. 03-344. Submitted April. 2005
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Annual Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, August. 2005
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Annual Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, August. 2006
- Steven S. Cliff, PI. "Long-range Transport of Aerosols from Asia to the United States," Final Report on National Oceanic and Atmospheric Administration grant No. NA16GP2360, August. 2007
- Cliff, S.S. "TransPacific Air Pollution Transport from Asia to the U.S.," Report to the Natural Resources Defense Council, September. 2007
- Kuhns, H. and S.S. Cliff et al. (D. Zhu, J. Gilles, A. Gertler, Y. Zhao, S. Brown, D. Fellers, M. Pook). "Examination of Dust and Air-Borne Sediment Control Demonstration Projects at Lake Tahoe." 2010
- Brian Kim, Jawad Rachami, Daniel Robinson, Brandon Robinette, Kazumi Nakada, Saravanan Arunachalam, Neil Davis, Bok Haeng Baek, Uma Shankar, Kevin Talgo, Dongmei Yang, Adel F. Hanna, Roger L. Wayson, George Noel, Steven S. Cliff, Yongjing Zhao, Philip K. Hopke and Pramod Kumar. Guidance for Quantifying the Contribution of Airport Emissions to Local Air Quality. Airport Cooperative Research Program, ACRP(71): 78 pp. 2012

- Ethan Elkind. Moving Dollars: Aligning Transportation Spending with California's Environmental Goals. 2015
- Steven S. Cliff, Phillip T. Dube, and Simon Edwards. Decarbonizing Transport for a Sustainable Future: Mitigating Impacts of the Changing Climate. National Academies Proceedings. 2017

Published Abstracts (each of these abstracts was accompanied by an oral presentation of the same name/topic at a scientific conference):

- Cliff, S.S. and M.H. Thiemens. "Isotopic Analysis of Both d18O and d17O in Atmospheric Nitrous Oxide: New Insights From an Observed Mass-Independent Anomaly," U.S.G.S. Circ., 1107,63. 1994
- Cliff, S.S. and M.H. Thiemens. "Multioxygen Isotopic Analysis of Atmospheric Nitrous Oxide: Insights From an Observed Mass-Independent Anomaly," Eos Trans. AGU 76, F116, November. 1995
- Cliff, S.S. and M.H. Thiemens. "Isotopic Analysis of Atmospheric Nitrous Oxide: New Insights from and Observed Mass-Independent Anomaly," Eos Trans. AGU 77, F121. 1996
- Cliff, S.S. and M.H. Thiemens. "Isotopic Analysis of Atmospheric Nitrous Oxide. A New Atmospheric Process Indicated by an Observed Mass Independent Anomaly," Eos Trans. AGU 78, S83, May. 1997
- Cliff, S.S. and M.H. Thiemens. "Atmospheric Nitrous Oxide: New Insights From Long-Term Oxygen Isotopic Analysis," Eos Trans. AGU 78, F105, November. 1999
- Cahill, T.A., K.D. Perry, and S.S. Cliff. "Transport of Asian Dust and Anthropogenic Pollutants to Hawaii and the Eastern Pacific," Proceedings of the NOAA-CMDL Annual Meeting, Boulder, Colorado, May. 1999
- Cliff, S.S., T.A. Cahill, K.D.Perry, and M.P. Jimenez Cruz. "Size and Time Resolved Anthropogenic Components of Aerosols via Synchrotron X-Ray Fluorescence: Application to Asian Aerosol Transport," EOS Trans. AGU 80, F148, November. 1999
- Wilcox, B.P., S.S. Cliff, M.P. Jimenez-Cruz, Thomas A. Cahill, Alan W. Gertler, and Peter B. Kelly. "Source Apportionment of Ambient Particles Between Heavy-Duty and Light-duty Vehicles from Relative Mass Spectra Intensities of Pyrene and Hydroxypyrene by Laser Desorption Ionization Time of Flight Mass Spectrometry," EOS Trans. AGU 81, F66, November. 2000
- Reuter, J.E., A.D. Jassby, S.S. Cliff, M.S. Liu, C.R. Goldman, and T.A. Cahill. "The Importance of Phosphorous Loading to Lake Tahoe by Direct

- Atmospheric Deposition: Implications for Ecosystem Management," EOS Trans. AGU 81, F175, November. 2000
- Kelly, P.B., S.S. Cliff, M.P. Jimenez-Cruz, and Thomas A. Cahill. "Organic Aerosol Characterization at Mauna Loa Observatory by Laser Desorption/Ionization-TOF-Mass Spectroscopy: Size Segregated Temporal Analysis during the Spring 2000 Asian Transport Period," EOS Trans. AGU 81, F65, November. 2000
 - Cliff, S.S., K.D. Perry, T.A. Cahill, M.R. Dunlap, and J.S. Reid. "Trace Elemental Composition of Time and Size Resolved Aerosols During the Puerto Rico Dust Experiment (PRIDE)," EOS Trans. AGU 81, F71, November. 2000
 - Cahill, T.A., K.D. Perry, and S.S. Cliff. "Direct Measurement of Size-Resolved Organic Aerosols at Mauna Loa Observatory," Proceedings of the NOAA-CMDL Annual Meeting, Boulder, Colorado, May.2001
 - Cliff, S. S., K.D. Perry, M.P. Jimenez-Cruz, and T.A. Cahill. "Application of Synchrotron-XRF to Quantitative Elemental Aerosol Analysis," EOS Trans. AGU 82, F85, November. 2001
 - Cahill, T.A., S.S. Cliff, M.P. Jimenez-Cruz, and K.D. Perry. "ACE-Asia: Size/Time/Compositionally resolved Aerosols During ACE-Asia Using Continuously Sampling DRUM Technology and Synchrotron-XRF Analysis," EOS Trans. AGU 82, F81, November. 2001
 - Bench, G., P. Grant, D. Ueda, S.S. Cliff, K.D. Perry, and T. Cahill. "The use of STIM and PESA to respectively measure profiles of aerosol mass and hydrogen content across Mylar rotating DRUM impactor samples," EOS Trans. AGU 82, F71, November. 2001
 - Jimenez-Cruz, M.P. S.S. Cliff, T.A. Cahill, K.D. Perry, and T.S. Bates. "ACE- Asia: Size-Resolved Sampling of Aerosols on the Ronald H. Brown and U.S. Western Receptor Sites," EOS Trans. AGU 82, F64, November. 2001
 - Cahill, C.F. K.D. Perry, S.S. Cliff, M.P. Jimenez-Cruz, and T.A. Cahill. "ACE- Asia: Asian Aerosol Transport into Alaska," EOS Trans. AGU 82, F63, November. 2001
 - Tohno, S., R. Hoeller, K. Ito, Y. Onishi, C.J. Ma, M. Kasahara, T.A. Cahill, and S.S. Cliff. "Analysis of Aerosol Physical and Chemical Properties on the Coast of the Japanese Sea (Tango Peninsula) During ACE-Asia," EOS Trans. AGU 82, F49, November. 2001
 - Disselkamp, R.S. L.A. Barrie, S. Shutthanadan, S.S. Cliff, and T. Cahill. "Size-Segregated Aerosol Composition and Mass Loading of Atmospheric

- Particles as part of the Pacific Northwest (PNW 2001) Air Quality Study in Puget Sound," EOS Trans. AGU 82, F37, November. 2001
- Cliff, S.S., M.P. Jimenez-Cruz, and K.D. Perry. "Continuous Aerosol Elemental Analysis at 5 Sites During the 2002 Intercontinental Transport and Chemical Transformation Experiment (ITCT-2K2)," EOS Trans. AGU 83, F76, November. 2002
 - Perry, K.D., S.S. Cliff, M.P. Jimenez-Cruz, and T.A. Cahill. "Comparison of Size-Resolved Aerosol Chemical Composition Measurements Made Under Ambient and Low Relative Humidity Conditions at Trinidad Head During the ITCT 2K2 Experiment," EOS Trans. AGU 83, F89, November. 2002
 - VanCuren, R.A., S.S. Cliff, and M.P. Jimenez-Cruz. "The View from the Mountain—Comparing ITCT 2K2 Aerosol Data with the Long-Term Aerosol Record at Mount Lassen, California," EOS Trans. AGU 83, F89, November. 2002
 - Robertson, S.A., K.D. Perry, S.S. Cliff, M.P. Jimenez-Cruz, and T.A. Cahill. "Determination of Chemical and Size-Resolved Mineral Dust Source Profiles During ACE-Asia Using Positive Matrix Factorization," EOS Trans. AGU 83, F130, November. 2002
 - Jimenez-Cruz, M.P. T.A. Cahill, K.D. Perry, S.S. Cliff, C.F. Cahill, and R.S. Disselkamp. "Aerosol Transport to the U.S. Receptor Sites During ACE-Asia," EOS Trans. AGU 83, F130, November. 2002
 - Cahill, T.A., S.S. Cliff, M.P. Jimenez-Cruz, and K.D. Perry. "Dust and Non-Dust Aerosol Outflow from Asia by Size, Time, and Composition, Spring and Summer 2001," EOS Trans. AGU 83, F130, November. 2002
 - Reid, E.A., J.S. Reid, D. Westphal, S.S. Cliff, and M. Dunlap. "Mineral Dust Analysis and Application in Refining Source-Region Information for the Sahara and East Asia Deserts," EOS Trans. AGU 83, F132, November. 2002
 - Cliff, S.S. and T. VanCuren. "Estimate of Nutrient Input to the Pacific Ocean from Long-Range Transport of Aerosols," EOS Trans. AGU 84(46), Abstract B21F-0768. November. 2003
 - Patris, N., S.S. Cliff, K.D. Perry, and M.H. Thiemens. "Oxygen Isotopic Anomaly in Sulfate and Nitrate as a Tracer of Chemistry During Trans-Pacific Pollution Transport," EOS Trans. AGU 84(46), Abstract A22F-02. November. 2003
 - Perry, K. D., S.S. Cliff, M.P. Jimenez-Cruz, Y. Wu, C. Xie, J. Zhou. "Evidence of Soluble Sulfate Coatings on Aged Mineral Dust Particles in the East Asian Region," Eos Trans. AGU 85(47), Abstract A33C-02. Fall Meeting Supplement. 2004

- Harada, Y., J.A. Waddell, S.S. Cliff, K.D. Perry, P.B. Kelly. "Chemical Analysis of Aerosols for Characterization of Long-Range Transport at Mt. Lassen, CA," Eos Trans. AGU 85(47), Abstract A31C-0063. Fall Meeting Supplement. 2004
- Indresand, H., J.A. Waddell, S.S. Cliff, K.D. Perry, K. Yttri, C. Dye, P.B. Kelly. "Time Resolved Chemical Analysis of anthropogenic Aerosol in Norway, a Study of Long-Range Transport," Eos Trans. AGU 85(47), Abstract A31C-0067. Fall Meeting Supplement. 2004
- Cahill, T.A., S.S. Cliff, M.P. Jimenez-Cruz, L. Portnoff, K. Perry, J. McConnell, J. Burkhart, R.C. Bales. "Aerosol Transport to the Greenland Summit Site, June 2003 to August 2004," Eos Trans. AGU 85(47), Abstract A11C-0074. Fall Meeting Supplement. 2004
- Johnson, B.E., M.P. Jimenez-Cruz, S.S. Cliff, and J.R. Hunt. "Enhancing Spatial and Temporal Resolution of Trace Elements in Sediment Cores," Eos Trans. AGU 85(47), Abstract PP43A-0595. Fall Meeting Supplement. 2004
- Cliff, S.S. and K.D. Perry. "Particulate Transport During ICARTTITCT-2K4: Aerosol Characterization from Time-Resolved and Size-Segregated Continuous Sampling and Analysis," Eos Trans. AGU 86(52), Abstract A31A-0816. Fall Meeting Supplement. 2005
- Christensen, J.N., S.S. Cliff, R.A. VanCuren, L. Tomutsa, K.D. Perry, and D.J. DePaolo. "Using Isotopes to Track the Passage of a Spring 2002 Dust Storm Over Hefei, China," Eos Trans. AGU 86(52), Abstract A31B-0839. Fall Meeting Supplement. 2005
- Johnson, B.E., S.S. Cliff, K. Taylor, K.D. Perry and J.R. Hunt. "Ice Core Analysis by Synchrotron Based X-Ray Fluorescence Spectroscopy," Eos Trans. AGU 86(52), Abstract PP33C-1591. Fall Meeting Supplement. 2005
- Roy, Olivier, James Woolsey, John McCain, Tariq Ramadan, Benazir Bhutto, Shimon Peres, Jacques Attali, Walid Jumblatt, Reza Aslan, Shabtai Shavit, Graham Fuller, Carlos Fuentes, Wole Soyinka, Gary Becker, Daniel Kaheman and Steven Cliff. "We are Breathing Chinese Air," in DeGlobalize the Jihad, New Perspectives Quarterly, Fall. 2006
- VanCuren, R.A., S.S. Cliff and K.D. Perry. "Mixing of Continental and Marine Air in TransPacific Transport of Asian Dust and Pollution – A Quasi-Lagrangian Analysis of a Single Transport Event," Eos Trans. AGU 87(52), Abstract A43B-0143. Fall Meeting Supplement. 2006
- Christensen, J.N., S.S. Cliff, R.A. VanCuren, K.D. Perry, and D.J. DePaolo. "Tracking Intercontinental Dust Transport with Radiogenic Isotopes: Hefei, China to California Spring 2002," Eos Trans. AGU 87(52), Abstract A43B-0138. Fall Meeting Supplement. 2006

- Hadley, O.L., C. Corrigan, T. Kirchstetter, S.S. Cliff, and V. Ramanathan. "Carbon Mass Concentration in Mountain Snow," *Eos Trans. AGU* 88(52), Abstract C33A-07. Fall Meeting Supplement. 2007
- Cliff, S.S., R.A. VanCuren, K.D. Perry, Y. Kim, and S. Ryu. "Mixing of Continental and Marine Air masses and en route Chemical Transformation in transPacific Transport of Aerosols: Lagrangian Analysis of a Single Transport Event," *Eos Trans. AGU* 88(52), Abstract A53C-1351. Fall Meeting Supplement. 2007
- Ewing, S.A., J.N. Christensen, S.T. Brown, R.A. VanCuren, S.S. Cliff, and D.J. DePaolo. "Pb isotopes track Asian pollution," *Eos Trans. AGU* 89(52), Abstract H54C-04. Fall Meeting Supplement. 2008
- Cliff, S.S., R.A. VanCuren, K.D. Perry, and Y.J. Zhao. "Aerosols and the Sierra Nevada Snowpack: Is the Black Carbon Local?" *Eos Trans. AGU* 89(52), Abstract A41E-0168. Fall Meeting Supplement. 2008
- K.J. Moon, J. S. Han, Y. D. Hong, J. Y. Ahn, J. S. Kim, S. J. Lee, S.S. Cliff, K. D. Perry, T. A. Cahill. "Size-resolved source apportionment of ambient aerosol in Northeastern Asia during ACE-Asia." 2009
- VanCuren, R.A., S.S. Cliff, K.D. Perry, Y.J. Zhao. "Sources of Light Absorbing Aerosols Deposited to the Sierra Nevada Snowpack," *Eos. Trans. AGU*, 90(52): A34D-07. 2009
- Depaolo, D.J., J.N. Christensen, S.A. Ewing, S.S. Cliff, S.T. Brown, R.A. VanCuren. "Isotopic Tracers to Identify Far-Traveled Pollutant and Mineral Aerosols in Northern California," *Eos. Trans. AGU*, 90(52): A34D-01, Invited. 2009
- Hayes, P.L., A.M. Ortega, M. Cubison, W. Hu, D.W. Toohey, J.H. Flynn, N. Grossberg, B.L. Lefer, S.L. Alvarez, B. Rappenglueck, J.D. Allan, J. Taylor, J.S. Holloway, J.B. Gilman, W.C. Kuster, J.A. DeGouw, P. Massoli, X. Zhang, R. Weber, Y. Zhao, S.S. Cliff, A.S. Wexler, G.A. Isaacman, D.R. Worton, N.M. Kreisberg, S.V. Hering, A.H. Goldstein, J.L. Jimenez. "Aerosol Composition in the Los Angeles Basin Studied by high Resolution Aerosol Mass Spectrometry," 92(52): A22C-06. 2011
- Christensen, J.N., S.A. Ewing, S.T. Brown, R.A. VanCuren, S.S. Cliff, D.J. DePaolo. "Exploring the Temporal Relationship Between TransPacific Particulate Transport and Ozone Transport to Northern California Using Pb Isotopes," *Eos Trans. AGU*, 92(52): A23B-0133. 2011
- VanCuren, R.A., T.A. Cahill, J.F. Burkhardt, J. McConnel, D. Barnes, Y. Zhao, K.D. Perry, S.S. Cliff. "Continental, Volcanic, and Marine Aerosols Arriving at Summit Greenland as Recorded by Continuous Aerosol Monitoring," *Eos Trans. AGU*, 92(52): A33D-0245. 2011

- A Post, S A Conley, Y Zhao, S S Cliff, I C Faloon, A S Wexler, D Lighthall. Lower tropospheric ozone and aerosol measurements at a coastal mountain site in Northern California. Eos Trans. AGU, 93(52): A51-014. 2012

18. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the name of an “alias” or “handle” you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

- Facebook: <https://www.facebook.com/sscliff>
- LinkedIn: <https://www.linkedin.com/in/stevenscliff>
- Twitter: <https://twitter.com/sscliff>
- Instagram: `steve_cliff`
- Snapchat: Account deleted 9/14/21 (hadn't logged in in over 2 years, so reset password and deleted account).
- Reddit: `sscperiod`
- ResearchGate: <https://www.researchgate.net/profile/Steven-Cliff>

19. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

- **During the summer of 2017, I testified multiple times before the California State legislature (on behalf of Governor Jerry Brown) on California's Greenhouse Gas Cap-and-Trade Program. I found no records of these testimonies.**
- **On December 4, 2016, I testified at a U.S. Environmental Protection Agency hearing on “Glider Trucks” on behalf of California Air Resources Board. Details are available at:**
https://ww2.arb.ca.gov/testimony-opposing-epas-proposed-repeal-emission-requirements-glider-vehicles-glider-engines-and?utm_medium=email&utm_source=govdelivery.
- **In 2018, I testified before the California State legislature on Zero Emissions Vehicle Program on behalf of California Air Resources Board. I found no record of this testimony.**

- **I provided responses to Board member questions as staff and executive leadership during numerous occasions during CARB Board hearings from 2009-2020.**

20. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

I have served as Deputy Administrator for NHTSA since February 2, 2021. In that time, I've led the NHTSA team in all operational aspects of the agency while developing several regulations and setting the regulatory agenda, undertaking major enforcement actions and issuing the Standing General Order for Automated Vehicle technology crash reporting. Prior to joining NHTSA, I oversaw the vehicle emissions, certification and compliance regulations for the California Air Resources Board (CARB). I have a long-standing relationship with the auto industry and vast regulatory experience. I also managed a similarly sized budget and team of engineers, economists, and scientists in my CARB position. I have been a public servant my entire professional career, first as a research professor at a public university and then in California state government at two different departments, and most recently as Deputy Administrator of NHTSA. In these roles, I strive to improve the health and well-being of the public I serve. My aerosol research led to knowledge about global pollution transport, which helped improve air-quality and climate models. As a scientist at CARB, I analyzed the costs and benefits of programs to reduce air pollution and led teams developing these programs. And at the California Department of Transportation I developed programs to improve community health, local economies and access to destinations. NHTSA's mission is to save lives, prevent injuries, and reduce economic costs due to road crashes through education, research, safety standards, and enforcement. Fundamentally, this is a safety and public health mission. And like too many, I have lost loved ones to roadway crashes.

21. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

As Administrator, it is my responsibility to ensure that NHTSA is prudent with public funds and maintains records consistent with all congressionally

mandated, Department of Transportation, and Office of Management and Budget requirements to ensure accountability. This includes overseeing and approving annual budgets, spend plans, audits, and internal controls to ensure proper allocation of funds, diversity in hiring workforce development, and review of completed research to ensure evidence based economic, scientific and engineering conclusions that advance safety. I have led NHTSA since February 2, 2021, and prior to that oversaw more than 650 staff at the California Air Resources Board as Deputy Executive Officer.

22. What do you believe to be the top three challenges facing the department/agency, and why?

- **Traffic fatalities are on the rise. Each year, an epidemic of more than 38,000 deaths occurs on our nation's roads. This is unacceptable. Not only must we reverse the trend, we must put ourselves on track to eliminate roadway fatalities altogether.**
- **NHTSA is woefully behind in delivering mandated regulations due to limited resources and competing needs. We need to align resources to current challenges and workloads to deliver new, much needed safety and fuel economy improvements for the future.**
- **Automotive technology is evolving at a rapid pace. Expertise within NHTSA needs to be nimble and match that of the private sector to ensure safety on our roadways.**

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

My arrangements are fully described in Part 3 of my Public Financial Disclosure Report.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain.

No.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any potential conflicts of interest.

5. Identify any other potential conflicts of interest, and explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any potential conflicts of interest.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

None.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group? If yes:

No.

- a. Provide the name of agency, association, committee, or group;
- b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
- c. Describe the citation, disciplinary action, complaint, or personnel action;
- d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain.

No.

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain.

No.

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain.

No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination.

None.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees, and that your department/agency endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority?

Yes.

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures?

Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee?

Yes.

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so?

Yes.

(Nominee is to include this signed affidavit along with answers to the above questions.)

F. AFFIDAVIT

_____ being duly sworn, hereby states that he/she has read and signed the foregoing Statement on Biographical and Financial Information and that the information provided therein is, to the best of his/her knowledge, current, accurate, and complete.

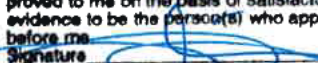


Signature of Nominee

Subscribed and sworn before me this _ day of ____, 20__.

Notary Public

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California, County of Sacramento
Subscribed and sworn to (or affirmed)
before me on this 8 day of November
2021 by Steven Scott Pitts
proved to me on the basis of satisfactory
evidence to be the person(s) who appeared
before me
Signature 
NOTARY PUBLIC



Steven S. Cliff

www.linkedin.com/in/stevenscliff

A. Academic Preparation:

1998-2001 Post-doctoral Scholar, Atmospheric Sciences, Department of Land, Air and Water Resources, University of California, Davis.
1998 Ph.D., Chemistry, University of California, San Diego.
1992 B.S. Chemistry, University of California, San Diego.

B. Appointments:

2021-Present Deputy Administrator, National Highway Traffic Safety Administration
2017-2021 Deputy Executive Officer, California Air Resources Board
2016-2017 Senior Advisor to the Chair, California Air Resources Board (appointed by Governor Jerry Brown)
2014-2016 Assistant Director for Sustainability, California Department of Transportation (appointed by Governor Jerry Brown)
2013-2014 Assistant Chief, Stationary Source Division, California Air Resources Board
2011-2013 Chief, Climate Change Markets Branch—Stationary Source Division, California Air Resources Board
2009-2011 Manager, Program Development Section—Office of Climate Change, California Air Resources Board
2008-2009 Air Pollution Specialist—Office of Climate Change, Air Resources Board
2020-2021 Research Professor II, Air Quality Research Center/Institute of Transportation Studies, UC Davis
2016-2020 Research Professor I, Air Quality Research Center/Institute of Transportation Studies, UC Davis
2013-2016 Associate Research Professor IV, Air Quality Research Center/Institute of Transportation Studies, UC Davis.
2011-2013 Associate Research Professor II, Air Quality Research Center/Institute of Transportation Studies, UC Davis.
2009-2011 Associate Research Professor I, Department of Applied Science, UC Davis.
2006-2009 Assistant Research Professor IV, Department of Applied Science, UC Davis.
2007-2008 Admissions Chair-Atmospheric Science Graduate Group, UC Davis.
2003-2006 Assistant Research Professor III, Department of Applied Science, UC Davis.
2004-2020 Approved Program Coordinator— Advanced Light Source BL 10.3.1 Lawrence Berkeley National Laboratory.
2003-2021 Atmospheric Science Graduate Group faculty
2004-2021 Applied Science Graduate Group faculty
2001-2004 Beamline Scientist and Primary Research Team Coordinator—Advanced Light Source BL 10.3.1 Lawrence Berkeley National Laboratory
2001-2003 Assistant Research Professor II, Department of Applied Science, UC Davis
2001-2003 Academic Federation Rep.—Chancellor’s Committee on Childcare, UC Davis
1998-2001 Postdoctoral Research Fellow, Land air and Water Resources, UC Davis

C. Synergistic Activities

- Member, Transportation Research Board Executive Committee (ex officio) July, 2017 to present.
- Chair, Transportation Research Board-Social and Environmental Section, April 2019-2020.

Steven S. Cliff

www.linkedin.com/in/stevenscliff

- Chair, Transportation Research Board-Committee on Sustainable Transportation, April 2016-July 2017.
- *Environmental Justice Intensive Course* (Atmospheric Aerosols and Health Program), Summer 2006-2009, Arnold, CA. Role: Mentor, Training Facilitator and Lead Student Project Evaluator.
- Executive Course: *Economics of Energy and the Environment* July-August 2010, University of California, Davis

D. Leadership, Media and Outreach Training

- *Implicit Bias Awareness-September 2021*
- *Implicit Bias Mitigation-November 2020*
- *Implicit Bias Awareness-October 2020*
- *Diversity, Inclusion and Sensitivity Awareness-June 2020*
- *Learning at the Speed of Trust* (Franklin Covey)-February 2020
- *4 Essential Roles of Leadership* (Franklin Covey)-September 2019
- Media Training—California Air Resources Board Public Information Office July 2010
- *California Climate Change Project (CCCP) and Leadership and Training Program (LTP)*—Engaging with Government on Climate Change: Inter-University Scholars' Training Stanford University—November 2006.

E. Awards

- California Air Resources Board Gold Superior Achievement Award 2008 and 2010
- California Air Resources Board Sustained Superior Achievement Award 2012

F. Peer reviewed publications: List and Copies available upon request

- Author of more than 100 manuscripts, book chapters, abstracts and conference proceedings. www.researchgate.net/profile/Steven_Cliff