

HUMBOLDT COUNTY COMMUNITY WILDFIRE PROTECTION PLAN, 2019

APPENDIX F — CLIMATE RESEARCH SUMMARY

NAME	YEAR	AUTHORS	URL	CITATION
A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands.	2015	Butz, J.R., Sawyer S. and Safford	https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd490216.pdf	Butz, J.R., Sawyer S. and Safford H., 2015. A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands. USDA FS Report, 38 p.
A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands.	2010	Butz, R. J. and Safford H.	https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5251124.pdf	Butz, R. J. and Safford H., 2010. A summary of current trends and probable future trends in climate and climate-driven processes for the Six River National Forest and surrounding lands. USDA Forest Service Report, 18 p.
Adapt to more wildfire in western North American forests as climate changes.	2017	Schoennagel, T., Balch, J.K., Brenkert-Smith, H., Dennison, P.E., Harvey, B.J., Krawchuk, M.A., Mietkiewicz, N., Morgan, P., Moritz, M.A., Rasker, R. and Turner, M.G.	http://www.pnas.org/content/114/18/4582.short	Schoennagel, T., Balch, J.K., Brenkert-Smith, H., Dennison, P.E., Harvey, B.J., Krawchuk, M.A., Mietkiewicz, N., Morgan, P., Moritz, M.A., Rasker, R. and Turner, M.G., 2017. Adapt to more wildfire in western North American forests as climate changes. Proceedings of the National Academy of Sciences, 114(18), pp.4582-4590.
Adapting forests to climate change.	2017	Marshall, A., S. Kocher, A. Kerr, P. Stine	http://anrcatalog.ucanr.edu	Marshall, A., S. Kocher, A. Kerr, P. Stine, 2017. Forest Stewardship Series 25: Adapting Forests to Climate Change. 14p. University of California-Agricultural and Natural Resources.
Beyond a warming fingerprint: individualistic biogeographic responses to heterogeneous climate change in California.	2014	Rapacciuolo, G., Maher, S.P., Schneider, A.C., Hammond, T.T., Jabis, M.D., Walsh, R.E., Iknayan, K.J., Walden, G.K., Oldfather, M.F., Ackerly, D.D. and Beissinger, S.R.	https://onlinelibrary.wiley.com/doi/full/10.1111/qcb.12638	Rapacciuolo, G., Maher, S.P., Schneider, A.C., Hammond, T.T., Jabis, M.D., Walsh, R.E., Iknayan, K.J., Walden, G.K., Oldfather, M.F., Ackerly, D.D. and Beissinger, S.R., 2014. Beyond a warming fingerprint: individualistic biogeographic responses to heterogeneous climate change in California. Global change biology, 20(9), pp.2841-2855.

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Carbon dynamics in the future forest: the importance of long-term successional legacy and climate–fire interactions.	2013	Loudermilk, E.L., Scheller, R.M., Weisberg, P.J., Yang, J., Dilts, T.E., Karam, S.L. and Skinner, C	https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.12310	Loudermilk, E.L., Scheller, R.M., Weisberg, P.J., Yang, J., Dilts, T.E., Karam, S.L. and Skinner, C., 2013. Carbon dynamics in the future forest: the importance of long-term successional legacy and climate–fire interactions. <i>Global Change Biology</i> , 19(11), pp.3502-3515.
Climate and Natural Resources Analysis And Planning For The North Coast Resource Partnership [report and tables] and Map And Time Series Data Visualizations [maps]	2018	Micheli, L., C. D., Pepperwood and L. Flint.	https://northcoastresourcepartnership.org/site/assets/uploads/2018/06/NCRP_Report_Pepperwood_v3.pdf	Micheli, L., C. D., Pepperwood and L. Flint, 2018. Climate And Natural Resources Analysis And Planning For The North Coast Resource Partnership. USGS report.
Climate change and disruptions to global fire activity.	2012	Moritz, M.A., Parisien, M.A., Batllori, E., Krawchuk, M.A., Van Dorn, J., Ganz, D.J. and Hayhoe, K.	https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/E511-00345.1	Moritz, M.A., Parisien, M.A., Batllori, E., Krawchuk, M.A., Van Dorn, J., Ganz, D.J. and Hayhoe, K., 2012. Climate change and disruptions to global fire activity. <i>Ecosphere</i> , 3(6), pp.1-22.
Climate change and future fire regimes: examples from California.	2016	Keeley, J.E. and Syphard, A.D.	http://www.mdpi.com/2076-3263/6/3/37/html	Keeley, J.E. and Syphard, A.D., 2016. Climate change and future fire regimes: examples from California. <i>Geosciences</i> , 6(3), p.37.
Climatic stress increases forest fire severity across the western United States.	2013	van Mantgem P. J., J. C. B. Nesmith, M. Keifer, E. E. Knapp, A. Flint and L. Flint	https://www.fs.fed.us/psw/publications/knapp/psw_2013_knapp001_vanmantgem.pdf	van Mantgem P. J., J. C. B. Nesmith, M. Keifer, E. E. Knapp, A. Flint and L. Flint, 2013. <i>Ecology Letters</i> 16: pp.1151–1156
County-level analysis of the impact of temperature and population increases on California wildfire data	2013	Baltar, M., Keeley, J.E. and Schoenberg, F.P.	https://onlinelibrary.wiley.com/doi/full/10.1002/env.2257	Baltar, M., Keeley, J.E. and Schoenberg, F.P., 2014. County-level analysis of the impact of temperature and population increases on California wildfire data. <i>Environmetrics</i> , 25(6), pp.397-405.
Cultural impacts to tribes from climate change influences on forests.	2013	Voggesser, G., Lynn, K., Daigle, J., Lake, F.K. and Ranco, D.	https://link.springer.com/article/10.1007/s10584-013-0733-4	Voggesser, G., Lynn, K., Daigle, J., Lake, F.K. and Ranco, D., 2013. Cultural impacts to tribes from climate change influences on forests. <i>Climatic change</i> , 120(3), pp.615-626.

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Effects of drought on forests and rangelands in the United States: a comprehensive science synthesis.	2016	Vose, James M.; Clark, James S.; Luce, Charles H.; Patel-Weynand, Toral	https://www.fs.usda.gov/treesearch/pubs/50261	Vose, James M.; Clark, James S.; Luce, Charles H.; Patel-Weynand, Toral, eds. 2016. Effects of drought on forests and rangelands in the United States: A comprehensive science synthesis. Gen. Tech. Rep. WO-93b. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 289 p.
Factors influencing fire severity under moderate burning conditions in the Klamath Mountains, northern California, USA.	2017	Estes, B.L., Knapp, E.E., Skinner, C.N., Miller, J.D. and Preisler	https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/ecs2.1794	Estes, B.L., Knapp, E.E., Skinner, C.N., Miller, J.D. and Preisler, H.K., 2017. Factors influencing fire severity under moderate burning conditions in the Klamath Mountains, northern California, USA. Ecosphere, 8(5).
Contingent Pacific- Atlantic influence on multicentury wildfire synchrony over western North America.	2007	Kitzberger, T., P.M. Brown, E. K. Heyerdahl, T. W. Swetnam and T.T. Veblen.	http://www.pnas.org/content/104/2/543.short	Kitzberger, T., Brown, P.M., Heyerdahl, E.K., Swetnam, T.W. and Veblen, T.T., 2007. Contingent Pacific–Atlantic Ocean influence on multicentury wildfire synchrony over western North America. Proceedings of the National Academy of Sciences, 104(2), pp.543-548.
Greenhouse gas emissions assessment roadmap for the North Coast Resource Partnership Region.	2017	Carman, J.	http://www.northcoastresourcepartnership.org/files/managed/Document/9629/NCRP_Tech-Area-3_FINAL_2017-05-18.pdf	Carman, J. 2017. Greenhouse gas emissions assessment roadmap for the North Coast Resource Partnership Region. Final Technical Report, 49 p.
High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest.	2011	North, M.P. and Hurteau, M.D.	https://www.sciencedirect.com/science/article/pii/S037811271000753X	North, M.P. and Hurteau, M.D., 2011. High-severity wildfire effects on carbon stocks and emissions in fuels treated and untreated forest. Forest Ecology and Management, 261(6), pp.1115-1120.
Human presence diminishes the importance of climate in determining U.S. fire activity.	2017	Syphard, A., J.E. Keeley, A. Pfaff, and K. Ferschweiler	http://www.pnas.org/content/early/2017/12/05/1713885114.short	Syphard, A., J.E. Keeley, A. Pfaff, and K. Ferschweiler. 2017. Human presence diminishes importance of climate in driving fire activity across the United States. PNAS 114(52): 13750- 13755. doi: 10.1073/pnas.1713885114

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Managing forests and fire in changing climates.	2013	Stephens, S.L., Agee, J.K., Fulé, P.Z., North, M.P., Romme, W.H., Swetnam, T.W. and Turner, M.G	http://science.sciencemag.org/content/342/6154/41	Stephens, S.L., Agee, J.K., Fulé, P.Z., North, M.P., Romme, W.H., Swetnam, T.W. and Turner, M.G., 2013. Managing forests and fire in changing climates. Science, 342(6154), pp.41-42.
NCRP climate and natural resources analysis and planning for the North Coast Resource Partnership, map and time series data visualizations.	2016	Micheli, L., Dodge, C. and Flint, L.	http://www.northcoastresourcepartnership.org/files/management/Document/9631/16-12-30%20PW-USGS%20NCRP%20map%20and%20data%20visualizations%20deck.pdf	Micheli, L., Dodge, C. and Flint, L., 2016. Climate And Natural Resources Analysis And Planning For The North Coast Resource Partnership.
North Coast Integrated Regional Planning – healthy communities, functional watersheds and viable economies. Technical Memo: baseline data assessment and analysis.	2017	Micheli L., C. Dodge and L. Flint	http://www.northcoastresourcepartnership.org/app_pages/view/9634	Micheli L., C. Dodge and L. Flint, 2017. North Coast Integrated Regional Planning – healthy communities, functional watersheds and viable economies. Technical Memo: baseline data assessment and analysis.
North coast regional climate adaptation strategies.	2018	Reza, K. & Tinsman, R.	http://www.northcoastresourcepartnership.org	Reza, K. & Tinsman, R. 2018. North coast regional climate adaptation strategies. North Coast Regional Climate Adaptation Strategies Report, 51 p.
North coast resource partnership integrated strategic plan.	2017	Zoellick, J. & Harris, A.	http://www.northcoastresourcepartnership.org	Zoellick J. and Harris, A. 2017. North coast resource partnership integrated strategic plan. North Coast Regional Climate Adaptation Strategies Report.
Projected effects of climate and development on California wildfire emissions through 2100.	2014	Hurteau, M.D., Westerling, A.L., Wiedinmyer, C. and Bryant, B.P.	https://pubs.acs.org/doi/abs/10.1021/es4050133	Hurteau, M.D., Westerling, A.L., Wiedinmyer, C. and Bryant, B.P., 2014. Projected effects of climate and development on California wildfire emissions through 2100. Environmental science & technology, 48(4), pp.2298-2304.
Restoring fire-prone Inland Pacific landscapes: seven core principles	2015	Hessburg, P.F., Churchill, D.J., Larson, A.J., Haugo, R.D., Miller, C.,	https://www.fs.fed.us/pnw/pubs/journals/pnw_2015_hessburg001.pdf	Hessburg, P.F., Churchill, D.J., Larson, A.J., Haugo, R.D., Miller, C., Spies, T.A., North, M.P., Povak, N.A., Belote, R.T., Singleton, P.H. and Gaines, W.L., 2015. Restoring fire-prone Inland

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		Spies, T.A., North, M.P., Povak, N.A., Belote, R.T., Singleton, P.H. and Gaines		Pacific landscapes: seven core principles. Landscape Ecology, 30(10), pp.1805-1835.
The fire frequency-severity relationship and the legacy of fire suppression in California forests	2015	Steel, Z.L., Safford, H.D. and Viers, J.H.	https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/ES14-00224.1	Steel, Z.L., Safford, H.D. and Viers, J.H., 2015. The fire frequency-severity relationship and the legacy of fire suppression in California forests. Ecosphere, 6(1), pp.1-23.
The impact of climate change on wildfire severity: a regional forecast for northern California	2004	Fried, J.S., Torn, M.S. and Mills, E.	https://link.springer.com/article/10.1023/B:CLIM.0000024667.89579.ed	Fried, J.S., Torn, M.S. and Mills, E., 2004. The impact of climate change on wildfire severity: a regional forecast for northern California. Climatic change, 64(1-2), pp.169-191.
Trees already stressed by drought may be more likely to die from fire.	2013	USGS Western Ecological Research Center	https://static1.squarespace.com/static/545a90ede4b026480c02c5c7/t/5528b863e4b02488e95eca46/1428732003590/WERC+PubBrief+201309+van+Montgomery+-+Climatic+Stress.pdf	USGS Western Ecological Research Center, 2013. Trees already stressed by drought may be more likely to die from fire. USGS Publication Brief. www.werc.usgs.gov
Trends and causes of severity, size, and number of fires in northwestern California, USA.	2012	Miller, J.D., Skinner, C.N., Safford, H.D., Knapp, E.E. and Ramirez, C.M	https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/10-2108.1	Miller, J.D., Skinner, C.N., Safford, H.D., Knapp, E.E. and Ramirez, C.M., 2012. Trends and causes of severity, size, and number of fires in northwestern California, USA. Ecological Applications, 22(1), pp.184-203.
Twentieth-century shifts in forest structure in California: denser forests, smaller trees, and increased dominance of oaks.	2015	McIntyre, P.J., Thorne, J.H., Dolanc, C.R., Flint, A.L., Flint, L.E., Kelly, M. and Ackerly, D.D	http://www.pnas.org/content/112/5/1458.short	McIntyre, P.J., Thorne, J.H., Dolanc, C.R., Flint, A.L., Flint, L.E., Kelly, M. and Ackerly, D.D., 2015. Twentieth-century shifts in forest structure in California: Denser forests, smaller trees, and increased dominance of oaks. Proceedings of the National Academy of Sciences, 112(5), pp.1458-1463.

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Vulnerability to forest loss through altered postfire recovery dynamics in a warming climate in the Klamath	2017	Tepley, A.J., Thompson, J.R., Epstein, H.E. and Anderson-Teixeira, K.J.	https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.13704	Tepley, A.J., Thompson, J.R., Epstein, H.E. and Anderson-Teixeira, K.J., 2017. Vulnerability to forest loss through altered postfire recovery dynamics in a warming climate in the Klamath Mountains. <i>Global change biology</i> , 23(10), pp.4117-4132.
What's exacerbating California fires?	2015	Central and Southern California Team- USGS.	-	Central and Southern California Team- USGS, 2015. What's exacerbating California fires? - Research Brief for Resource Managers.
Structure, Diversity, and Biophysical Properties of Old-Growth Forests in the Klamath Region, USA	2015	Van Mantgem, P. J., and D. A. Sarr.	https://pubs.er.usgs.gov/publication/70157197	Van Mantgem, P. J., and D. A. Sarr. 2015. Structure, diversity, and biophysical properties of old-growth forests in the Klamath region, USA. <i>Northwest Science</i> 89:170-181.
Interactions of climate, fire, and management in future forests of the Pacific Northwest	2014	Wimberly, M.C. and Z. Liu	https://www.sciencedirect.com/science/article/pii/S0378112713006579	Wimberly, M. C., and Z. Liu. 2014. Interactions of climate, fire, and management in future forests of the Pacific Northwest. <i>Forest Ecology and Management</i> 327:270-279.
Wildfire trends in northwestern California forests.	2012	Northern California Fire Science Delivery Consortium	http://www.cafiresci.org/research-publications-source/category/wildfire-trends-in-northwestern-california-forests-1?rq=Wildfire%20trends%20in%20northwestern%20California%20forests	Northern California Fire Science Delivery Consortium, 2012. Wildfire trends in northwestern California forests - Research Brief for Resource Managers.
Warming and earlier spring increase western U.S. forest wildfire activity.	2006	Westerling, A.L., Hidalgo, H.G., Cayan, D.R. and Swetnam, T.W	https://www.fs.usda.gov/treesearch/pubs/download/24813.pdf	Westerling, A.L., Hidalgo, H.G., Cayan, D.R. and Swetnam, T.W., 2006. Warming and earlier spring increase western US forest wildfire activity. <i>science</i> , 313(5789), pp.940-943.
Large wildfire trends in the western United States, 1984–2011.	2014	Dennison, P.E., Brewer, S.C., Arnold, J.D. and Moritz, M.A	https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2014GL059576	Dennison, P.E., Brewer, S.C., Arnold, J.D. and Moritz, M.A., 2014. Large wildfire trends in the western United States, 1984–2011. <i>Geophysical Research Letters</i> , 41(8), pp.2928-2933.

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Impact of anthropogenic climate change on wildfire across western US forests.	2016	Abatzoglou, J.T. and Williams, A.P	http://www.pnas.org/content/113/42/11770.full	Abatzoglou, J.T. and Williams, A.P., 2016. Impact of anthropogenic climate change on wildfire across western US forests. Proceedings of the National Academy of Sciences, 113(42), pp.11770-11775.