ITRC Library

Resources on Building Personal and Psycho-Social-Spiritual Resilience for Climate Change

This library includes journal articles, books, websites, and organizations focused on the personal mental health and psycho-social-spiritual impacts of climate change. Also included is information about skills, methods, and policies that can help build the capacity of individuals, groups, organizations, and communities to use the adversities generated by climate change as transformational catalysts to learn, grow, and thrive.

Many of the journal articles, books, and resources included in this library do not directly address climate change. Instead, they describe common human reactions to traumas and toxic stresses that are similar to those generated by rising global temperatures, but don't directly link those factors to climate change. For example, most studies on the mental health impacts of heat waves do not link those events to anthropogenic climate change. However, rising global temperatures will cause more frequent heat waves, which makes the research relevant. Similarly, most of the information describing methodologies for building personal and psycho-social-spiritual resilience do not necessarily focus specifically on the adversities generated by climate change, but they are nonetheless helpful because they offer insights and tools to help foster for resilience for similar types of traumas and toxic stresses.

The information included in this library is by no means inclusive. Indeed, it is merely a starting point. There are many additional journal articles, books, handbooks, and resources that are likely to be relevant to building personal and psycho-social-spiritual resilience for climate change. The sources provided here will, however, provide anyone interesting in investigating the field with ample information to begin their journey. As resources become available we will update and add to this library. (Note: most of the documents included in the library are listed in alphabetical order).

Credits and Thanks

Much of this library was compiled in the summer of 2016 by Katie Gloede when she was a Fellow from the University of New Hampshire Sustainability Institute working with the ITRC. We thank Katie for her outstanding work!

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I. <u>Systems Thinking</u>

Systems thinking (also called systems dynamics) offers a way to understand direct and indirect feedbacks and causality within complex coupled human-ecological systems. A systems approach is very helpful in understanding linkages between the physical and ecological effects of climate change, the personal mental health and psycho-social-spiritual impacts, and efforts to build transformational resilience within individuals, organizations, and communities. This section includes resources on these issues.

Anderson, V., & Johnson, L. (1997). *Systems Thinking Basics: From Concepts to Casual Loops*. Waltham, MA: Pegasus Communications.

Boardman, J. and B. Sauser. (2008). *Systems Thinking: Coping with 21st Century Problems*. Boca Raton, FL: Taylor & Francis.

Doppelt, B. (2008). *The Power of Sustainable Thinking*, Earthscan, UK

Doppelt, B. (2003). *Leading Change Toward Sustainability*, Greenleaf Publishing, UK

Hoagland, M.B. Dodson, and Mauck J. (2001). *Exploring the Way Life Works*. Burlington, MA, USA: Jones and Bartlett Publishers, Inc.

Kim, D. (1999). *Introduction to Systems Thinking*. Waltham, MA: Pegasus Communications

Lawson, H. (2010). *A Journey Through the Systems Landscape*. London, UK: College Publications, Kings College, UK.

Meadows, D.H. and Wright, D. (2008). *Thinking in systems: A primer*. Chelsea Green Publishing.

Midgley, G. (ed.). (2003). *Systems Thinking*. Thousand Oaks, CA: Sage Publications Ltd.

Odum, H. (1994). *Ecological and General Systems: An Introduction to Systems Ecology (Revised Edition).* Boulder, CO: University Press of Colorado.

Perrow, C. (1999). *Normal Accidents: Living with High-Risk Technologies.* Princeton University Press

Pattee, H. (ed.) (1973). *Hierarchy Theory: The Challenge of Complex Systems*. New York, NY: George Braziller.

Taleb, N. N. (2012). *Antifragile: Things That Gain From Disorder* (Vol. 3). Random House.

Resources

The SIDElab: A Lab Exploring Systems, Integrative, Design, and Evaluative Thinking Systems Thinking Resources: thesidelab.com/system-thinking-resources/

ISEEE Systems: http://www.iseesystems.com/

Stella Architect: http://www.iseesystems.com/softwares/Stella-iThink.aspx

II. <u>The Causes and Physical Impacts of Anthropogenic Climate Change</u>

A solid understanding of the causes, current, and likely future physical impacts of climate change is necessary to understand the impacts on personal and psycho-social-spiritual wellbeing. This section provides resources on the impacts of anthropogenic climate change.

International Governmental Panel on Climate Change. (2016). *Fifth Assessment Report (AR5)*: https://www.ipcc.ch/report/ar5/

Hansen, J., et al. (2015). Ice melt, sea level rise and superstorms: Evidence from paleoclimate data, climate modeling, and modern observations that 2°C global warming is highly dangerous. *Atmospheric Chemistry and Physics*.

U.S. Environmental Protection Agency. *Climate Change Science*: https://www3.epa.gov/climatechange/science/

Australian Academy of Sciences. *The Science of Climate Change*: https://www.science.org.au/learning/general-audience/science-booklets-0/science-climate-change

UK Committee on Climate Change. *The Science of Climate Change*: https://www.theccc.org.uk/tackling-climate-change/the-science-of-climate-change/

National Atmospheric and Space Administration. *The Consequences of Climate Change*: http://climate.nasa.gov/effects/

State of California, Governor's Office of Planning and Research: List of Worldwide Scientific Organizations. *Scientific Organizations That Hold the Position That Climate Change Has Been Caused by Human Action*: https://www.opr.ca.gov/s_listoforganizations.php

III. __The Psychobiology of Trauma and Toxic Stress__

Traumas and toxic stresses such as those directly or indirectly generated by climate change can have significant affects on the human mind and body. This section includes research describing the natural human psychobiological impacts of trauma and toxic stress (note that many of the resources included here include more than a description of the psychobiology of trauma and stress).

Aldwin, C. (2007). *Stress, Coping, and Development; An Integrated Perspective.* New York: The Guilford Press.

Collingwood, J. (April, 2007). The physical effects of long term stress. *PsychCentral.* http://psychcentral.com/lib/the-physical-effects-of-long-term-stress

Hanson, R. (2009). *Buddha's Brain: The practical neuroscience of happiness, love, and wisdom.* New Harbinger Publications.

Herman, J. (1992). *Trauma and Recovery.* New York, NY: Basic Books.

Janoff-Bulman, R. (1992). *Shattered Assumptions: Towards a New Psychology of Trauma.* The Free Press.

Lazarus, R., & Folkman, S. (1984). *Stress, Appraisal, and Coping.* New York, NY: Springer Publishing.

Levine. P. (2015). *Trauma and Memory: Brain and Body in a Search for the Living Past: A Practical Guide for Understanding and Working with Traumatic Memory.* North Atlantic Books.

Monat, A., & Lazarus, R. S. (1991). *Stress and Coping: An anthology.* Columbia University Press.

Pliszka, S. (2016). *Neuroscience for the Mental Health Clinician*, Second Edition. Guilford Press.

Siegel, D. J. (2007). *The Mindful Brain: Reflection and attunement in the cultivation of well-being* (Norton series on interpersonal neurobiology). WW Norton & Company.

Seigel, D. (2012). *Pocket Guide to Interpersonal Neurobiology: An Integrative Handbook of the Mind.* Norton WW & Company.

Van Der Kolk, B. (2014). *Trauma, Attachment & Neuroscience with Bessel van der Kolk, M.D.: Brain, Mind & Body in the Healing of Trauma*. Eau Claire, WS: PESI Publishing & Media*.*

Van der Kolk, B.A. et al. (Eds.) (1996). *Traumatic Stress: The effects of overwhelming experience on mind, body, and society.* New York: Guilford Press.

Zak. P. (2013). *The Moral Molecule: How Trust Works*. New York: Plume

IV. Impacts of Climate Change on Personal Mental Health

The psychological traumas resulting from more frequent and extreme weather events as well as the overwhelming persistent (i.e. toxic) stresses generated by rising global temperatures have significant impacts on mental health. Sources provided here include recent studies which directly or indirectly link climate change to mental health impacts.

Amstadter, A. B. et al. (2009). Post typhoon prevalence of posttraumatic stress disorder, major depressive disorder, panic disorder, and generalized anxiety disorder in a Vietnamese sample. *Journal of Traumatic Stress*, 22,180-188.

American Psychological Association. (2009). Psychology and Global Climate Change: Addressing a Multi-faceted Phenomenon and Set of Challenges. http://www.apa.org/science/about/publications/climate-change.aspx

American Psychological Association & EcoAmerica. (2014). *Beyond Storms and Droughts: The Psychological Impacts of Climate Change.*

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Berry, H.K. et al. (2011). Climate Change and Farmer's Mental Health: Risks and Responses. *Asia-Pacific Journal of Public Health.* 23 (2 suppl), 119S-132S

Berry, H.K. et al. (2008). *Rural Mental Health Impacts of Climate Change. Commissioned Report for the Garnaut Climate Change Review.* The Australian National University, Canberra.

Carnie, T. et al. (2001). In their own words: Young people's mental health in drought-affected rural and remote NSW. Australian journal of rural health 19 (5), 244-248

Bills, C. B., et al. (2008). Mental health of workers and volunteers responding to events of 9/11: Review of the literature. *Mt. Sinai Journal of Medicine*, 75, 115-127

Coêlho, A., et al. (2004). Psychological responses to drought in northeastern Brazil. *Revista Interamericana de Psicología*, 38, 95–103.

Connolly, M. (2011). Some like it mild and not too wet: The influence of weather on subjective well-being. Available at SSRN 1879509.

Chand, P.K., & Murthy, P. (2008). Climate change and mental health. *Regional Health Forum,* 12*,* 43–48.

Caldera T. et al. (2001). Psychological impact of the hurricane Mitch in Nicaragua in a one-year perspective. Social Psychiatry and Psychiatric Epidemiology. 36:108 –14.

Denissen, J.J. et al. (2008). The effects of weather on daily mood: A multilevel approach. *Emotion*. 8(5), 662.

Doppelt, B. (2016). *Transformational Resilience: How Building Human Resilience for Climate Disruption Can Safeguard Society and Increase Wellbeing*. Greenleaf Publishing UK.

Doherty, T. J., and Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, 66(4), 265.

Evans, S. et al. (2009). Disability and Posttraumatic Stress Disorder In Disaster Relief Workers: Responding To September 11, 2001 World Trade Center disaster. *Journal of Clinical Psychology*, 65, 684-694.

Everly, G. (2008). *Psychological Issues in Escape, Rescue, and Survival in the Wake of Disaster.* Report Submitted to the National Institute of Occupational Safety and Health, Pittsburg Laboratory.

Goenjian A.K. et al. (2001). Posttraumatic stress and depressive reactions among Nicaraguan adolescents after Hurricane Mitch. *American Journal of Psychiatry.* 158:788 –94.

Goldwert, L. (2011). Climate change threatens mental health too: Droughts, floods have psychological impact. *The Daily News*.

Kar, N. (2009). Psychological impact of disasters on children: review of assessment and interventions. *World Journal of Pediatrics*, 5(1), 5-11.

Krug E.G. et al. (1998). Suicide after natural disasters. *New England Journal or Medicine.* 338:373– 8.

Lutgendorf S.K. et al. (1995). Physical symptoms of chronic fatigue syndrome are exacerbated by the stress of Hurricane Andrew. *Psychosomatic Medicine*. 57:310 –23.

McMichael, A. et al. (2010). Climate-related displacement: health risks and responses. *Climate Change and Displacement: Multidisciplinary Perspectives.*

Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: a systematic review. *Psychological medicine*, 38(04), 467-480.

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Obrien, L.V. et al. (2014). Drought as a Mental Health Exposure. *Environmental research* 131, 181-187.

Peacock, W.G. (2003). Hurricane Mitigation Status and Factors Influencing Mitigation Status Among Florida's Single-Family Homeowners. *Natural Hazards Review*. 4 (3):1–10.

Phifer, J. F. (1990). Psychological distress and somatic symptoms after natural disaster: Differential vulnerability among older adults. *Psychology and Aging*, 5, 412-420.

Polain, HD. et. al. Rapid Change, Climate Adversity and the Next 'Big Dry'" Older farmer's Mental Mealth. *Australian Journal of Rural Health* 19 (5), 239-243.

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Shukla, J. (2013). Extreme Weather Events and Mental Health: Tackling the Psychosocial Challenge. *ISRN Public Health*,

Sabin-Farrell, R., and Turpin, G., (2003). Vicarious traumatization: Implications for the mental health of health workers? *Clinical Psychology Review*, 2003, 449-480.

Tedeschi, R. G., and Kilmer, R. P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology: Research and Practice*, 36, 230-237

The Daily Herald. (2014). Sandy's mental health impact looms large. *The Daily Herald.* http://www.dailyherald.com/article/20141029/news/141028083/

Van Sustern, L., & Coyle, K. (2012). The psychological effects of global warming in the United States: And why the mental health system is not adequately prepared. Reston, VA: National Wildlife Federation

Vilarrasa, A.B. et al. (2006). Psychiatric effects of heat waves [16]. *Psychiatric Services*, 57(10).

Walsh, F. (2007). Traumatic loss and major disasters: Strengthening family and community resilience. *Family Process*, 46, 207-227.

Witters, D., and Ander, S. (2014). Depression increases in areas Superstorm Sandy hit hardest: Daily worry and anger also increase in most affected areas. Gallup-Healthways poll.
http://www.gallup.com/poll/159704/depression-increases-areas-superstorm-sandy-hit-hardest.aspx

V. <u>Resources on the Impacts of Climate Change on Physical Health—Which Are Often Aggravated By Mental Health Impacts</u>

The mental health and psycho-social-spiritual impacts of the traumas and toxic stresses associated with climate change often contribute to illnesses, diseases, and other physical health problems. This section describes research on these links.

US Global Change Research Program (2016). *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*.

Bourque, L,B. et al. (2006). Weathering the storm: The impact of hurricanes on physical and mental health. *The Annals of the American Academy of Political and Social Science*, 604(1), 129-151.

Gregoire, C. (2014). The surprising ways the weather affects your health and well-being. *The Huffington Post*. http://www.huffingtonpost.com/2014/01/14/climate-health_n_4568505.html

Jones, B. et al. (2015). Future population exposure to US heat extremes. *Nature Climate Change*, 5(7), 652-655.

Sartore, G.M., et al. (2008). Control, uncertainty, and expectations for the future: A qualitative study of the impact of drought on a rural Australian community.

Rupa, B. (2014). The impacts of recent heat waves on human health in California. *Insurance NewsNet*. http://insurancenewsnet.com/oarticle/2014/01/24/the-impact-of-recent-heat-waves-on-human-health-in-california-a-449609.html

World Health Organization. (2008). *World Health Day 2008: Protecting Health from Climate Change.*

VI. Impacts of Climate Change on Spiritual Wellbeing

The impacts of climate change lead to many spiritual problems including rising levels of helplessness and hopelessness. This section describes research on these outcomes.

Balmford, A., & Bond, W. (2005). Trends in the state of nature and their implications for human well-being. *Ecology Letters*, 8(11), 1218-1234.

Craig, C. D., & Sprang, G. (2010). Compassion satisfaction, compassion fatigue, and burnout in a national sample of trauma treatment therapists. *Anxiety, Stress and Coping*, 23, 319-39.

Dugan, B. (2007). Loss of identity in disaster: How do you say goodbye to home? *Perspectives in Psychiatric Care*, 43, 41-46.

Daly, E. S. et al. (2008). Disaster mental health workers responding to ground zero: One year later. *Journal of Traumatic Stress*, 21, 227-230.

Everly. G. et al. (2008). *Psychological Issues in Escape, Rescue and Survival in the Wake of Disasters.* Report Submitted to the National Institute of Occupational Safety and Health, Pittsburg Research Laboratory.

Fritze, J.G. et al. (2008). Hope, despair and transformation: Climate change and the promotion of mental health and wellbeing. *International Journal of Mental Health Systems*, 2(1) 1.

New York Disaster Interfaith Services (NYDIS). (2007). *Spiritual care and mental health for disaster response and recovery*. Reverend Harding, editor.

Norris, F. H. et al. (2002b). 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry*, 63, 240-260.

Pottmeyer, H. B., & Scott, D. A. (2008). Effects of bereavement and grief on adolescent development. *Grief Digest*, 5, 24-25.

Prigerson, H. et al. (1995). Inventory of complicated grief: A scale to measure maladaptive symptoms of loss. *Psychiatry Research*, 59, 65-79.

Searle, K., and Gow, K. (2010). Do concerns about climate change lead to distress? *International Journal of Climate Change Strategies and Management*, 2(4), 362-379.

VI. Resources on the Psychosocial Impacts of Climate Change

The traumas and toxic stresses generated by climate are directly producing and indirectly aggravating psychosocial problems such as family abuse, crime, and interpersonal and collective violence. This section includes research on these maladies.

Anderson, C.A. and Anderson, K.B. (1996). Violent crime rate studies in philosophical context: a destructive testing approach to heat and southern culture of violence effects. *Journal of Personality and Social Psychology*, 70(4), 740.

Anderson, C.A. et al. (1997). Hot years and serious and deadly assault: empirical tests of the heat hypothesis. *Journal of personality and social psychology*, 73(6), 1213.

Brewin, C. R. et al. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68, 748- 766

Bushman, B. (2013). Global warming can also increase aggression and violence: Hot temperatures can lead to hot tempers. *Psychology Today.*

Dash, N. and Morrow B.H. (2007). Lasting Effects of Hurricane Andrew on a Working-Class Community. *Natural Hazards Review* 8 (1):13–21.

Enarson, E. (1999). Violence Against Women in Disasters: A Study of Domestic Violence Programs in the US and Canada. *Violence Against Women* 5 (7):742–768

EcoAfrica. Video: How Climate Change Fuels Violence: http://www.dw.com/en/how-climate-change-fuels-conflict/a-19448450

Foa, E.B. et al. (2006). Symptomology and psychopathology of mental health problems after disaster. *Journal of Clinical Psychiatry*, 67 Supplement 2, 15-25.

Fullerton, C.S., et al. (2004). Acute stress disorder, posttraumatic stress disorder, and depression in disaster or rescue workers. *American Journal of Psychiatry*, 161, 1370-1376.

Friel, S. et al. (2014). The impact of drought on the association between food security and mental health in a nationally representative Australian sample. *BMC Public Health.* 14 (1), 1.

Galea, S. et al. (2005). The epidemiology of post-traumatic stress disorder after disaster. *Epidemiologic Reviews*, 27, 78-91.

Gamble, J.L., and Hess, J.J. (2012). Temperature and violent crime in Dallas, Texas: relationships and implications of climate change. *Western Journal of Emergency Medicine*, 13(3).

Heidel SH. (2003). Emotional crises in the workplace. In Kahn JP and Langlieb AM (Eds.). *Mental health and productivity in the workplace*. Jossey-Bass, San Francisco.

Hsiang, S. M., Burke, M., & Miguel, E. (2013). Quantifying the influence of climate on human conflict. Science, 341(6151).

Johnston, I. (2016). Climate change increases the risk of war, scientists prove. *The Independent*.

MSNBC. Video: Study: Link Between Climate Change & Violence
http://www.msnbc.com/msnbc/watch/study-link-between-climate-change-violence-569394243720

Neria Y. et al. (2008). Post-traumatic stress disorder following disasters: a systematic review. *Psychological Medicine* 38:467-480.

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Paranjothy, S. et al. (2011). Psychosocial impact of the summer 2007 floods in England. *BMC public health*, 11(1), 1.

Powers, J.R. et al. (2015). Lack of association between drought and mental health in a cohort of 45-61 rural Australian women. Australian and New Zealand journal of public health 39 (6), 518-523

Ranson, M. (2014). Crime, weather, and climate change. *Journal of environmental economics and management*, 67(3), 274-302.

Reifels, L. et al. (2013). Lessons learned about psychosocial responses to disaster and mass trauma: an international perspective. *European Journal of Psychotraumatology.*

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Schleussner, C F. et al. (2016). Armed-conflict risks enhanced by climate-related disasters in ethnically fractionalized countries. *Proceedings of the National Academy of Sciences.*

Ursano, R.J. et al. (Eds.) (1994). *Individual and community responses to trauma and disaster: The structure of human chaos*. Cambridge University Press.

Weems, C.F. et al. (2007). The psychosocial impact of Hurricane Katrina: Contextual differences in psychological symptoms, social support, and discrimination. *Behaviour research and therapy*, 45(10), 2295-2306.

VIII. Building Transformational Resilience Within Individuals for the Traumas and Toxic Stresses Associated with Climate Change

Resilience is commonly defined as "bouncing back" to previous conditions following adversity. While it is important for people to become stabilized after major shocks, this is not sufficient to address the traumas and stresses associated with climate change. That's because the adversities will often not occur as one-time weather disasters followed by long periods of calm that allow ample time for recovery. In addition, many adversities involve persistent overwhelming (i.e. toxic) stresses from which there is no escape. For these reasons, personal resilience must not only involve stabilization, it must also help individuals use adversity as a catalyst to learn, grow, and increase their wellbeing above the levels that existed before the crisis. In psychology this is called post-traumatic growth. Research on methods to build this type of transformational resilience is included in this section.

Affleck G and Tennen H. (1996). Constructing benefits from adversity: Adaptational significance and dispositional underpinnings. *Journal of Personality.* 64**:**899–822

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Allen, S.F. et al. (2016). Resilience and coping intervention with youth in an at-risk neighborhood. *Journal of Loss and Trauma: International Perspectives on Stress & Coping*, 21(2), 85-98. DOI: 10.1080/15325024.2015.1072014

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Begley, S. and Davidson, R. (2012). *The emotional life of your brain: How its unique patterns affect the way you think, feel, and live-and how you can change them*. Hachette UK.

Berry, H. L., et al. (2010). Mind, body, spirit: co-benefits for mental health from climate change adaptation and caring for country in remote Aboriginal Australian communities. *New South Wales Public Health Bulletin*, 21(6), 139-145.

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Bonanno, G. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 20-28.

Bonanno, G.A. et. al. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and communities. *Psychological Science in the Public Interest*, 11, 1– 49

Brach, T. (2013). *Radical Acceptance: Embracing Your Life with The Heart of a Buddha*. Bantam Books.

Brenner G.H. et al. (2010)*. Creating Spiritual and Psychological Resilience: Integrating Care in Disaster Relief.* Taylor and Francis.

Calhoun, L.G. and Tedeschi, R.G. (Eds.). (1999). *Facilitating Posttraumatic Growth: A clinician's guide*. Routledge.

Clukey, L. (2010). Transformative experiences for Hurricanes Katrina and Rita disaster volunteers. *Disasters*, 34, 644-656.

Curie, C. et al. (2004). Resilience-Building Prevention Programs That Work: A Federal Perspective. Chapter 22 in Claus-Ehlers et al. (eds) *Community Planning to Foster Resilience in Children*. Springer-Science, New York.

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Gabriel. RM, Et al, (1996). Building relationships and resilience in the prevention of youth violence. *American Journal of Preventative Medicine*. 5 Supplemental: 48-55.

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Resources

ACEs Connection Network, A Movement to Prevent ACEs, Heal Trauma, and Build Resilience: http://www.acesconnection.com/

Dr. Sandra Bloom's Sanctuary Model:
http://sanctuaryweb.com/TheSanctuaryModel.aspx

The Sanctuary Institute: http://thesanctuaryinstitute.org/

Transformational Resilience Program: The Resource Innovation Group:
http://www.theresourceinnovationgroup.org/transformational-resilience/

The International Transformational Resilience Coalition (ITRC):
http://www.theresourceinnovationgroup.org/intl-tr-coalition/

Joanna Macy's Courses on Mindfulness and Personal Adaptation:
http://www.joannamacy.net/thegreatturning/courses-and-learning-rituals.html

MBSR Training: Mindfulness Training Online: http://www.mbsrtraining.com/

NYU School of Medicine Center for Stress, Trauma, and Resilience:
www.med.nyu.edu/child-adolescent-psychiatry/research/center-stress-trauma-and-resilience

Penn Resilience Training Program:
https://ppc.sas.upenn.edu/services/penn-resilience-training

Resilience Training International: http://www.resiliencefirst.com/

Trauma Resource Institute: http://traumaresourceinstitute.com/

UMASS Medical School, Center for Mindfulness, Health Care, and Society
www.umassmed.edu/cfm

IX. Building Personal & Psycho-Social-Spiritual Transformational Resilience Within Organizations for the Traumas and Toxic Stresses of Climate Change

The capacity of any individual to use adversities such as those generated by climate change as catalysts to learn, grow, and thrive is heavily influenced by the groups they associate with. This section describes research on fostering personal and psycho-social-spiritual resilience within groups and organizations.

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Resources

Resilient Leadership: Building a Workforce Culture of Resilience: http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/PublicHealth/WorkforceResilience/George%20Everly-Resilient%20Leadership.pdf

X. Building Personal and Psycho-Social-Spiritual Transformational Resilience Within Communities for Climate Change-Enhance Traumas and Toxic Stresses

As with groups and organizations, the communities in which people live, work, and play have a significant influence on their capacity to constructively cope with and use the adversities generated by climate change as catalysts to learn, grow, and thrive. This section provides research on different approaches for building human resilience for climate change-enhanced traumas and toxic stresses within communities.

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The White House State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, United States. (2014). *Annual Report on Climate Preparedness and Resilience: Recommendations to the President*.

Resources

Cultivate Center, http://www.cultivate.ie/community-resilience, Video: Exploring Community Resilience in Times of Rapid Change http://www.treehugger.com/culture/exploring-community-resilience-times-rapid-change-inspiring-animation-video.html

Federal Emergency Management Agency's Community Emergency Response Teams: https://www.fema.gov/community-emergency-response-teams

Fiery Spirits: Community of Practice Exploring Resilience Handbook: http://fieryspirits.com/group/resilience

Hegney, D. et al. (2008). Building resilience in rural communities: toolkit. http://learningforsustainability.net/pubs/Building%20Resilience%20in%20Rural%20Communities%20Toolkit.pdf

The Health Federation of Philadelphia's Community Resilience Cookbook: http://communityresiliencecookbook.org/

International Federation of Red Cross and Red Crescent Societies: Building Safer and Resilient Communities: http://www.ifrc.org/en/what-we-do/disaster-management/preparing-for-disaster/risk-reduction/building-safer-and-resilient-communities/

Neighborhoods USA: http://www.nusa.org/

Peace4Tarpon's Resources for Creating a Trauma-Informed, Resilient Community: http://www.peace4tarpon.org/media-library/press-articles/

Transition Towns US Network: http://transitionus.org/

Trauma Resource Institute: Community Resiliency Model: http://traumaresourceinstitute.com/community-resiliency-model-crm/

XI. Building Human Resilience for Crime and Interpersonal Violence Resulting from the Traumas and Stresses Associated with Climate Change

One of the most troubling psycho-social-spiritual impacts of climate change is the rise in crime and interpersonal violence associated with the weather disasters and toxic stresses generated by rising global temperatures. This section includes research on different methods to prevent and minimize these problems.

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XII. <u>Research Measuring the Effectiveness of Human Resilience-Building Programs</u>

Measuring and assessing the effectiveness of personal and psycho-social-spiritual resilience building programs will be essential to ensure successful and efficient programs. This section provides a few resources on measurement tools and methods.

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