

Gaian Methodologies: An Emergent Confluence of Sustainability Research Innovation

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Gaia Methods - Overview

- Definitions & Wellsprings
- Four Unifying Characteristics
 - Embed & Embody
 - Connect & Collaborate
 - Extend & Extol
 - Thrum & Thrive
- Transdisciplinary Flourishing
- Campus Revitalization
- Resources



Welcome from Gaia...

Welcome, Gaia is
glad you are here!

“The world feels our seeing, and sees us right back, even the trees and the bushes, even the rocks. And certainly, if you have ever spent a night alone in the rain forest or the woods, you will know that the quality of your seeing and of your being are felt and known by more than the human world. You will sense that you are definitely being seen and known as you really are...you are an intimate part of this animate and sensuous world.” - *Jon Kabat-Zinn, 2005, p. 200.*

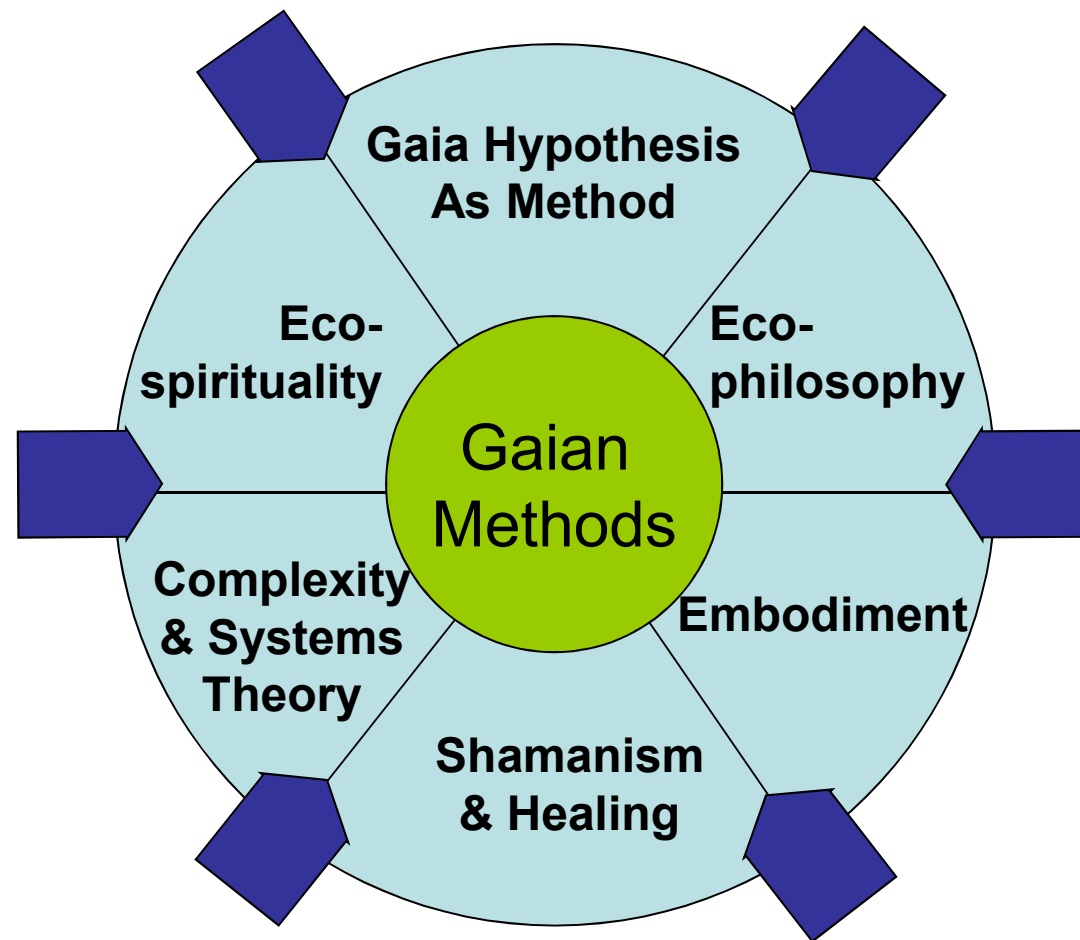


Definitions & Wellsprings

- Gaian Methodologies: **A set of transdisciplinary methods for researching as the Earth researches**, connected to Earth as a planetary, living system. A convergence of six sources with four shared characteristics, featuring holistic, embodied, connected ways of knowing.
- Inspired by the scholarship of Prescott College's Pramod Parajuli on methodological ecotones (2008).

Ursula Goodenough: "Blessed be the tie that binds. It anchors us. We are embedded in the great evolutionary story of planet Earth, the spare, elegant process of mutation and selection and bricolage. And this means that we are anything but alone." (The Sacred Depths of Nature, 1998, p. 75)

Convergence of Gaian Methods

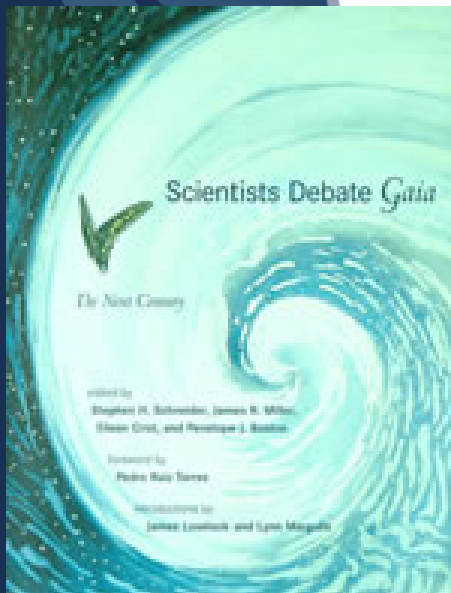


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The Gaia Hypothesis

- Also known as Gaia Theory
- Lynn Margulis & James Lovelock
- Examples in *Scientists Debate Gaia* (MIT, 2004)
- Earth is a self-regulating, complex planetary system

Lynn Margulis: "...The planet's surface is not just physical, geological, and chemical, or even just geochemical. Rather, it is geophysiobiological: it displays the attributes of a living body composed of the aggregate of Earth's incessantly interactive life." (*Symbiotic Planet*, p. 123)





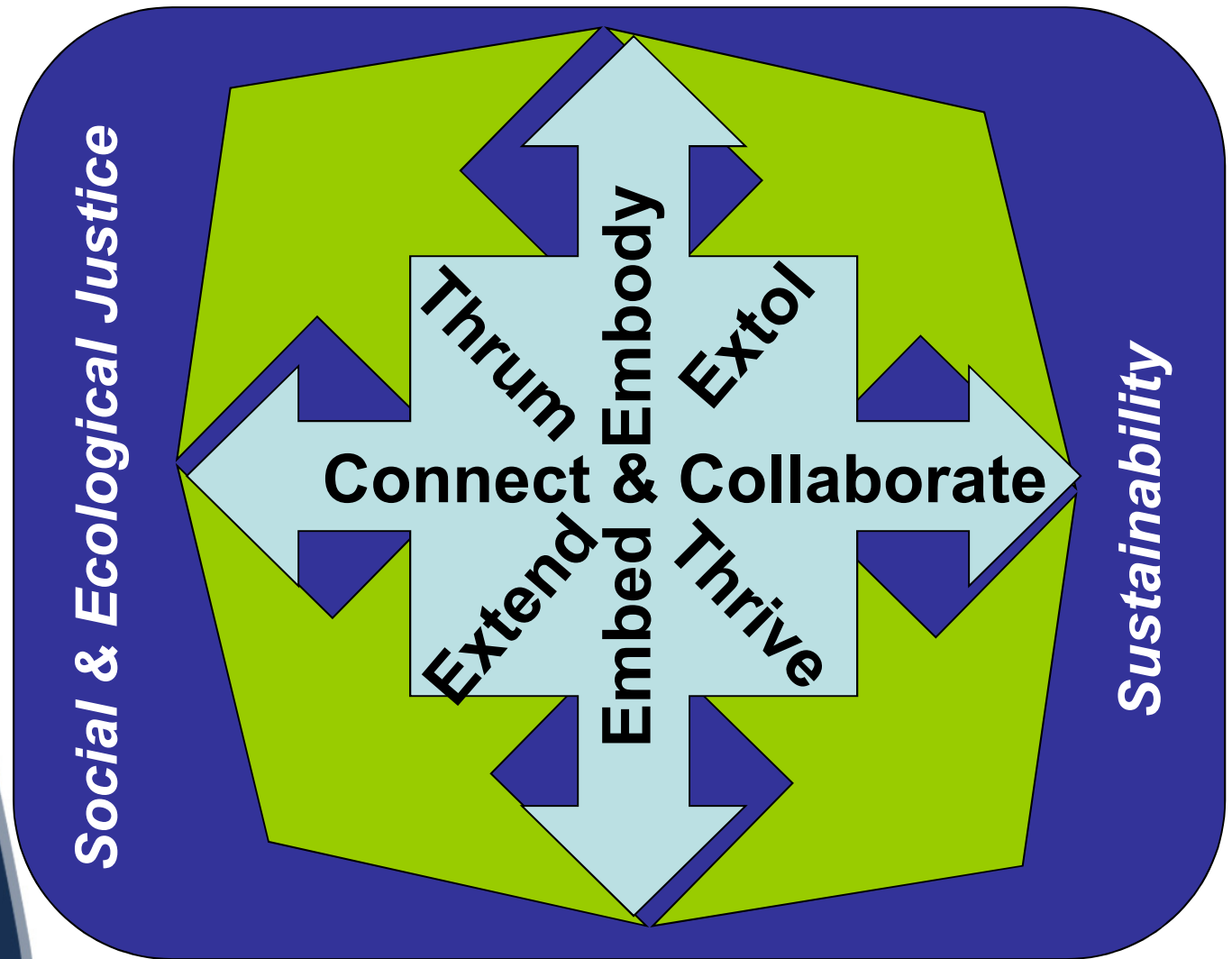
Four Characteristics...

Shared by most Gaian Methods

List is suggestive not exhaustive...

- Embed & Embody
- Connect & Collaborate
- Extend & Extol
- Thrum & Thrive

Four Characteristics - A Gaian Lens Emerges



Embed & Embody

Embed: Research is aware of and honors the large systems of which it is a part.

Embody. Researchers are in bodies that relate to the Earth's body. Using all senses as data: gaze, sniff, savor, listen, touch.



Sonoran Ground Snake, 2007

Andrea Olsen writes in *Body and earth: an experiential guide*, “**What is out there is in us, and what is in us, is out there**” (2008, p. xi).

*Hold oceans in our hands, cloudscapes in velvet,
and savour the taste of peaches*

Embed & Embody Example

- Embodiment Research: Andrea Olsen's *Body and Earth*



- *This dancer and scientist developed a series of daily embodiment, writing, creative, and other prompts connecting awareness of our bodies made up of the same substances of Earth.*

- Inspiring Boulder Gaian Arts Based Research/Producer: Kirsten Wilson

ROCKS KARMA ARROWS



Boulder Sesquicentennial 2009

- *2009: Produced dance theater event “Rocks Karma Arrows” explored the layers of stories embedded in the land, from geological formation and including the discrimination, genocide, and racism underlying Boulder’s history. The 180 degree theatrical space embedded the audience and actors as co-participants.*

Connect & Collaborate

- Connection instead of reduction
- Generate listening to the wisdom of the Earth - the Earth is an active co-researcher
- With who else on campus and in our communities could we foster greater connection in order to generate novel approaches?
- How can our research and its fruits connect learners with planetary process and the appreciation and restoration of the living systems of our campus, neighborhood, bioregion, biome, and planet?



Bilby, 2010.

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Connect & Collaborate Examples

Earth-based peace-making

- Arava Institute (www.arava.org) -
New Crops for Arid and Saline Zones -
Israeli/Jordanian Collaboration - Also Social
Ecological Research Initiatives

<http://arava.org/cat.asp?catid=1&subcatid=88>

- Friends of the Earth Middle East

Good Water Neighbors - Sharing Water Across
Borders - Palestinians, Israelis, Jordanians: -
Water-wise model buildings along the border;
Develop Water Trustees & Youth Based Initiatives

http://foeme.org/www/?module=projects&project_id=32



Extend & Extol

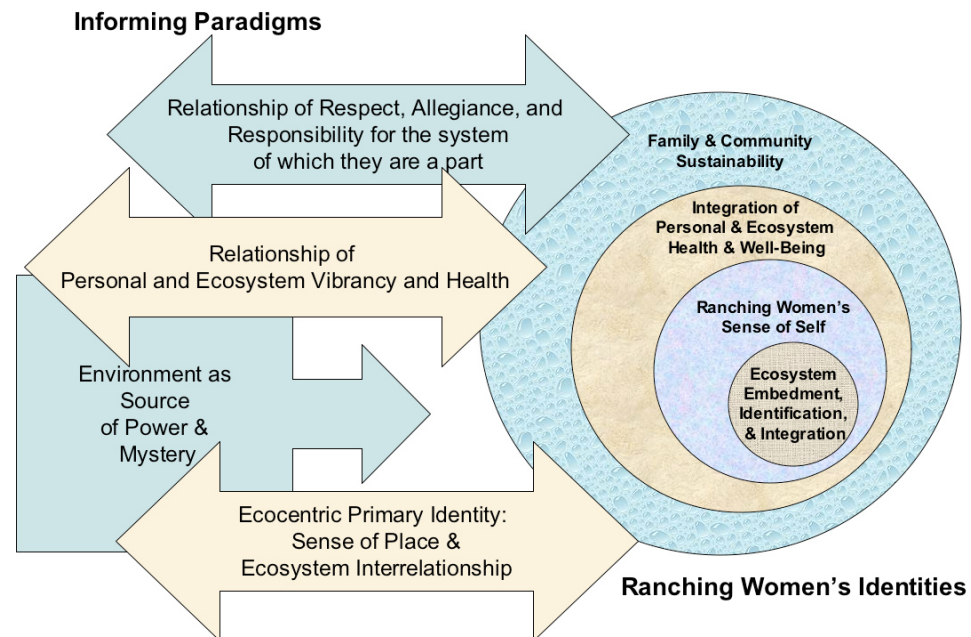
- If we think to focus on a campus, how could this research also harvest wisdom that could be extended to other campuses?
- How can we situate ourselves on the edges, the ecotones, and design our solutions to cultivate resilience and diversity?
- How can our research be a form of praise, extolling the vibrant life of the planet? How can we research and produce research that increases awe and wonder?



DeChambeau, 2010.

Extend & Extol - Examples

- Daisyworld Scenarios
- Noël Cox Caniglia's research (2010) - Ecocentric Identities of Ranching Women as Ecojustice Educators



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Thrum & Thrive



DeChambeau, 2010.

- Follow mystery and mysticism. The imaginal is research data.
- Aim for flourishing and delight. Researchers follow their bliss and passion, studying what excites them or calls to them.
- By wholeness, the Earth comes alive. How can we design research to nurture and increase Earth aliveness.



Thrum & Thrive - Examples

- ***Earth's Blanket***
 - Ethnobotanicals and indigenous cultural wisdom strategies
 - Stories carry the plant-human heritage
- **Luisa Maffi and *TerraLingua***
 - Places of greatest biodiversity are also the places of greatest cultural diversity - International movements for native language, culture, and inextricably connected ecologies - new biocultural ways of understanding “wilderness”

Gaian Research Emerges

In summary, the four characteristics of Gaian Research

- Embed & Embody
- Connect & Collaborate
- Extend & Extol
- Thrum & Thrive

Synergize to produce emergent life, the life of Gaia, the living Earth. If our research resonates with these characteristics of the living Earth, our research as well will come to life and **breathe new life** into our campuses and communities.



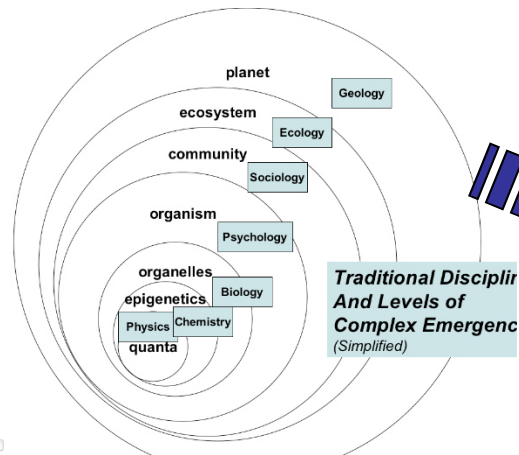


Transdisciplinary Thinking

- Donella Meadows & Diana Wright (2008). *Thinking in Systems: A Primer*.

"In spite of what you majored in, or what the textbooks say, or what you think you're expert at, follow a system wherever it leads. It will be sure to lead across traditional disciplinary lines....Seeing systems whole requires more than being 'interdisciplinary,' if that word means, as it usually does, putting together people from different disciplines and letting them talk past each other. Interdisciplinary communication works only if there is a real problem to be solved, and if the representatives from the various disciplines are more committed to solving the problem than to being academically correct. They will have to go into learning mode. They will have to admit ignorance and be willing to be taught, by each other and by the system." (p. 183)

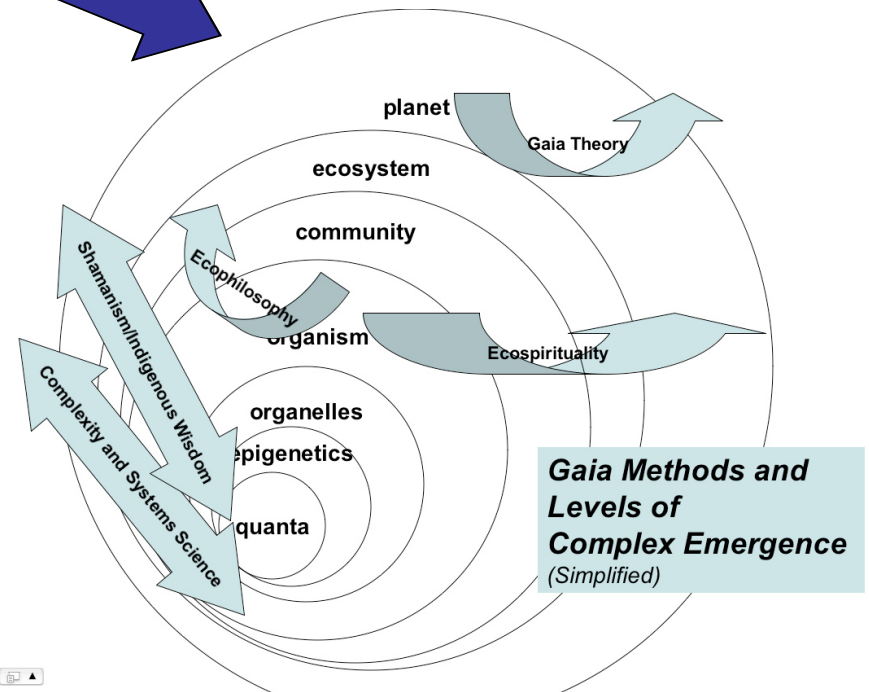
Transdisciplinary Flourishing



Increase connections and collaboration across campus

Expand learners' sense of curiosity, capacity, effectiveness

Education becomes integrated across realms of experience and holistic across disciplines



Inspiration

"Reincorporating the knowing body, the creative cosmos, and the complex sense of place into ways in which we think about life would reconstitute our sense of nearly every public debate and crisis..."

- Spretnak, 1997, p 8



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Campus Revitalization with Gaian Methods

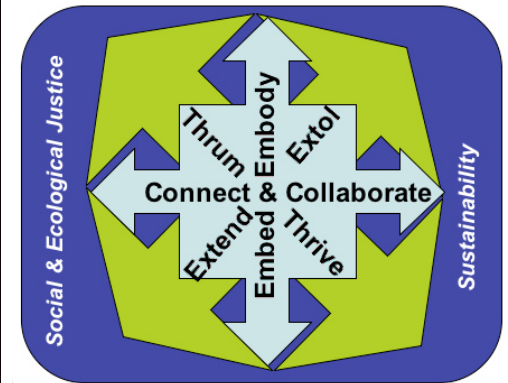
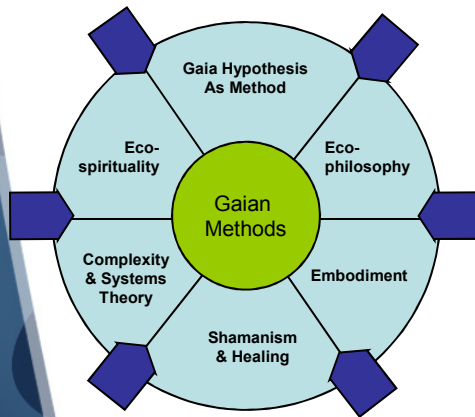
- Integrated Campus Facilities Design as Gaian Participatory Action Research (PAR)
- Gaian Arts-Based Research (ABR) and Campus Performances
- Swarthmore's campus and community composting diverts "waste" from incinerators polluting nearby communities of color
- CU-Boulder Group: 180 Degree Shift at the 11th Hour

Join the Conversation

Gaian Methodologies Website

<http://www.earthregenerative.org/gaiamethods>

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Gaian Methods Example

Organic Inquiry: The process of research is alive. Jeanine Canty (2010) shares:

The role of synchronicity within organic research is inseparable from the natural intelligence of the earth and larger cosmos, the realms of consciousness and creativity, and feminine ways of knowing such as intuition. Moreover, synchronicity is a form of cosmic storytelling where unfolding events can be followed and interpreted into some sort of metaphoric advice. Combs and Holland relay that synchronicities are "...best comprehended in the language of myth" (1996, p. xxxix). The use of synchronicity within organic research sanctions a feminine, earth based wisdom that is not rational in terms of western culture and is extremely personal.

Organic inquiry has **five stages**:

- Sacred: Preparing the soil
- Personal: Planting the seed
- Chthonic: The roots emerge
- Relational: Growing the tree
- Transformative: Harvesting the fruit

(Clements, et al, 1998, p. 117)



Gaian Quotes (1)

- Abram (1990) on Gaia: "For by explicitly showing that self-organization is a property of the surrounding biosphere, Gaia shifts the locus of creativity from the human intellect to the enveloping world itself. The creation of meaning, value, and purpose is no longer accomplished by a ghostly subject hovering inside the human physiology. For these things — value, purpose, meaning — already abound in the surrounding landscape. The organic world is now filled with its own meanings, its own syntheses and creative transformations. The cacophony of weeds growing in an "empty" lot is now recognized for its essential, almost intelligent role in the planetary homeostasis, and now even a mudflat has its own mysteries akin to those of the human organism."



Gaian Quotes (2)

- C. Chalquist (2010) on Gaia: “The more we learn about this ancient and indescribably complex planet we live on, the greater grows our appreciation of its intrinsic intelligence. To take a single example from the multitude of self-regulating systems that keep the world in balance, the fungi below our feet (we learned recently) extends its threadlike mycelia through most fertile soil to intersect with the tiny plant roots it feeds. Acting somewhat like brains, fungi nets the size of large cities regulate entire ecosystems by distributing chemical messengers through vast underground networks, even down to diverting extra nutrients to trees deprived of sunlight. This is just one planetary system that works intelligently without the benefit of a primate nervous system, functioning every moment with a sophistication we only begin to fathom. If Systems Theory is correct, then the interactions of this system combine with those of other systems to produce emergent levels of complexity irreducible to their lower-level design elements.” (pp. 24-25)



References (1)

- Abram, D. (1990). "The perceptual implications of Gaia." In A. H. Badine, Ed., *Dharma Gaia: A harvest of essays in Buddhism and ecology*. Berkeley, California: Parallax Press.
- Arava Institute (2010). [Website]. <http://arava.org/cat.asp?catid=1&subcatid=88>
- Chalquist, C. (2010). Earthrise. Mythos Foundation. Unpublished Manuscript.
- Clements, J., Ettling, D., Jenett, D., & Shields, L. (1998). Organic research: Feminine spirituality meets transpersonal research. In Braud, W. & Anderson, R. *Transpersonal research methods for the social sciences: Honoring human experience* (pp.114-127). Thousand Oaks, CA: SAGE Publications.
- Cox Caniglia, N. (2010). Ranching Women as Ecojustice Educators. Unpublished dissertation. Union University.
- Goodenough, U. (1998). *The Sacred Depths of Nature*. New York, NY: Oxford University Press.
- Friends of the Earth Middle East. (2010). Good Neighbors Project. [Website]. http://foeme.org/www/?module=projects&project_id=32
- Kabat-Zinn, J. (2005). *Coming to our senses: Healing ourselves and the world through mindfulness*. New York: Hyperion.



References (2)

- Lovelock, J. (2000). *Gaia: The practical science of planetary medicine*. New York: Oxford.
- Margulis, L. (1998). *Symbiotic planet: A new look at evolution*. New York: Basic Books.
- Maffi, L. (2007). Biocultural diversity and sustainability. Chapter 18 in *The Sage handbook of environment and society*. Los Angeles: Sage Publications.
- Meadows, D. H., & Wright, D. (2008). *Thinking in systems: A primer*. White River Junction, Vt: Chelsea Green Pub.
- Parajuli, Pramod. (2008). Notes on research design and methodological ecotones. Unpublished manuscript, Prescott College, AZ.
- Olsen, A. *Body and earth: An experiential guide*. (2002). Lebanon, NH: University Press of New England Press.
- Spretnak, C. (1999). *The resurgence of the real: Body, nature, and place in a hypermodern world*. New York: Routledge.
- Turner, N. J. (2005). *The earth's blanket: Traditional teachings for sustainable living*. Seattle: University of Washington Press.



Image References

- Arizona Herpatological Association (2010). [Website].
<http://www.azreptiles.com/forums/showthread.php?p=63486>
- Bilby (2010). Bees in a natural hive, located at Coromandel Valley, South Australia. CC-BY-3.0. Wikimedia Commons.
http://commons.wikimedia.org/wiki/File:Natural_Behive.jpg
- Colorado Herpetofaunal Atlas Map
<http://ndis.nrel.colostate.edu/herpatlas/coHerpAtlasD/viewer.htm?SPECIESID=207&SPNAME=GROUND%20SNAKE>
- DeChambeau, A. (2009). Beluga whales [Photograph]. Private collection.
- DeChambeau, A. (2010). Sally the horse at home [Photograph]. Private collection.
- NASA Ames Research Center (2007). Image of Earth [Image on Website].
http://researchpark.arc.nasa.gov/lecture%20series/archive/Benson_Lecture.html
- Sullivan, J. (2004). Bee collecting pollen Del Mar Fairgrounds Wikimedia, open copyright -
http://wikimediafoundation.org/wiki/File:Bees_Collecting_Pollen_2004-08-14.jpg
- Wilson, K. (2009). Rocks Karma Arrows [Advertisement]. Atlas Theater.



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Gaian Methodologies - Resources Join the Conversation!

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