



## Physical Anthropology Section - 2013

### H105 Developing Frameworks for Regional Forensic Taphonomy Research and Practice: A Multi-Regional Symposium

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After attending this presentation, attendees will appreciate the importance of understanding regional taphonomic variation for forensic anthropology research and practice.

This presentation will impact the forensic science community by stimulating research and collaboration to establish, utilize, and refine methods and guidelines for interpreting regional taphonomy patterns, particularly decomposition.

From both a theoretical and practical point of view, forensic anthropologists need to improve their knowledge of regional and microenvironmental taphonomic variation, particularly related to the estimation of postmortem intervals. During the past 25 years, there has been an increase in attention to forensic taphonomy, but the focus has been largely on taphonomic "universals." Because there is a lack of adequate local datasets, researchers in taphonomy have tended to look where the light was best, and borrow guidelines developed in other regions.

With the expansion of forensic anthropology programs, and the proliferation of associated "body farms," there are now opportunities to rectify this research gap. But it should be done systematically and in a coordinated manner; this symposium is organized as a first step in that direction.

Attention needs to be focused on a conformation of methods and nomenclature to describe variation along a set of common taphonomic parameters, so that a more complete, multivariate taphonomic data field, based on ecological variables, can be stitched together. This includes the following examples: common ways to express access to heat, such as Accumulated Degree Days (ADD); humidity, such as Accumulated relative Humidity Days (AHD); and decomposition progress, such as Total Body Score (TBS). It also includes standardizing methods for scene investigation and data collection, particularly: (1) logging heat at the scene; (2) calibration with weather station data; (3) collecting data about solar access (e.g., percent of tree canopy and evergreen versus deciduous vegetation shading the body); (4) noting scavenger access (e.g., identifying the local scavenger guild and signatures of their presence); (5) describing seasonal and sub-seasonal patterns; (6) noting variation in the timing of metamorphosis of local sarcosaprophagous insects in terrestrial cases and in the biology of amphipods in marine cases; and, (7) noting variation in local plant distribution and biology.

In the following symposium, Nawrocki and Latham offer a re-framing of the problem of interpreting decomposition within ecozones, rather than "regions" *per se*, differentiating between "core" processes that are more predictable and "peripheral" processes that are more stochastic and disruptive of core process predictability. Simmons and Moffat review non-human animal experiments done in the United Kingdom (U.K.) over five years to validate the relationship between TBS and ADD across variation in climatic conditions and observers. Carter et al. present an effort to validate a universal formula for estimating postmortem interval across regional variation. Dirkmaat and Cabo emphasize the criticality of taphonomy as an integrating principle within forensic anthropology. Milligan et al. provide an overview of issues and patterns related to northern California; Galloway to the California mid-coast; Connor and France to the Colorado Plateau; Bytheway to an arid Texas environment; Dabbs and Martin to southern Illinois; Woods and Pokines to terrestrial and coastal Massachusetts; Anderson and Bell to western Canadian coastal waters; and Sorg and Wren to northern New England.

The papers in this symposium are offered as still-isolated examples of work being done in the U.S., Canada, and the U.K. Work needs to be done via publications and professional conferences, and funded research, in order to cultivate this growing edge of the field. It is interdisciplinary and will require cooperation among disciplines and regions. A proposal is made in this symposium for creating a Regional Forensic Taphonomy Network ([regionaltaphonomy.net](http://regionaltaphonomy.net)) as a framework for taphonomy research.

The symposium represents early steps rather than conclusions. There are programs that are not represented, but which are hereby invited to participate in the Network as it progresses forward.

**Taphonomy, Regional Variation, Decomposition**