



Georgia Urban Forestry Innovation Award

US Department of
Agriculture

Georgia Urban
Forest Council

Georgia Forestry
Commission

USDA Forest Service
Region 8

Guidance for selecting a project: **Georgia Urban Forestry Innovation Award (Senior Division)**

Things to consider...

While GSEF projects don't lend themselves to multiyear observations and experiments and trees grow slowly (when compared to most vascular plants used in GSEF studies of plant growth and characteristics), there are many single-year projects that are broadly defined within the urban forestry "umbrella" that are feasible.

Within the general areas outlined below, basic and applied research projects might incorporate tree entomology, pathology, or biology, and could include studies more typically defined within mathematics (statistics), chemistry, computer science, or geography.

Urban forestry projects can be either in-situ (e.g. a mortality study of 2 and 3 year old tree plantings) or conducted in a laboratory (e.g. a tree mulching study looking at water and air infiltration, nutrient availability, or suitability for beneficial soil organisms).

The GSEF Criteria Summary:

Awarded to the Senior Division project that uniquely addresses urban forestry issues in one of the following sub-categories:

1) urban forest and/or tree management, 2) urban planning & green infrastructure, 3) urban forest or tree measurements, 4) tree related energy conservation, 5) tree growth modeling, 6) urban mapping accuracy and techniques, 7) urban watershed and/or riparian management, 8) use of technology to manage urban trees.

General urban forestry areas for consideration...

- a) urban forest and/or tree management
 - i. urban watershed and/or urban riparian management (for stormwater or water quality)
 - ii. urban planning & green infrastructure development or management
 - iii. urban wood utilization/wood technology (decay resistance, strength, composition)
 - iv. tree and/or forest health (insects & disease)
- b) climate change
 - i. tree related energy conservation
 - ii. carbon sequestration
- c) biometrics
 - i. inventory (urban forest or tree measurements)
 - ii. urban natural resource/tree/forest mapping accuracy and techniques
 - iii. tree growth modeling
 - iv. biomass modeling
 - v. phenology

Some ideas & examples...

- (a) (i) – investigate urban forested landcover or riparian zones to determine characteristics that have the most impact on stormwater runoff (water quantity and/or quality)
- (a) (ii) – investigate spatial characteristics of green infrastructure and model optimal placement for (e.g.) 1) urban recreation (i.e. proximity & accessibility), 2) stormwater management, 3) air quality improvements within an airshed
- (a) (iv) – investigate insect or disease preferences on cultivars of a species (e.g. red maple, Chinese elm, willow oak), or a specific species/cultivar growing in different micro-environments



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- (b) (i) – investigate the impact of shade on residential energy use or recreational space exposure to UV, humidity, or heat
- (b) (ii) – investigate sequestration potential for various tree species/cultivars and/or under different management regimes
- (c) (i) – investigate data collection efficiency and/or accuracy
- (c) (i) – document and evaluate tree mortality in young trees (e.g. as associated with root collar depth of planting)
- (c) (ii) – investigate the relative accuracy and precision of readily available GPS devices (e.g. smartphones, recreational GPS)
- (c) (iii)- develop growth models (e.g.. diameter, tree height) for a single species growing in diverse micro-environments (e.g. along a street, in a park, in a urban natural area)
- (c)(iv) – investigate tree form to develop locally specific mathematic models of tree biomass in branches and/or structural limbs, and/or trunk

Who can help...

- a) your science or biology teacher
- b) a researcher at a nearby university or college in a relevant field (entomology, plant pathology, ecology, biology, soil science, forestry, hydrology)
- c) your city forester or arborist; a university/college campus arborist (see the TreeCampus USA system)
- d) a commercial arborist in your community
- e) a consulting arborist/urban forester
- f) local tree oriented non-profits (e.g. TreesAtlanta; Savannah Tree Foundation, community Tree Boards)

While the sponsors can provide some assistance to high school teachers and students, we need to be sufficiently “distant” from your project so that the integrity of the judging is not compromised.

We can best assist by:

- helping your teacher or other mentor “flesh out” details of your project to make it interesting and exciting to you, and meet criteria for the award
- pointing you toward current literature appropriate for your project problem statement or objective
- identifying additional mentors within your community that would be willing to work with you and your teacher
- assisting with location of established trees/samples/areas that are within your population of interest for the project

Judging Criteria...

- GSEF Guidelines for Judges
- General presentation; format, completeness, and quality
- Scientific merit (problem statement, hypothesis, methods, data collection, results, and discussion)
- Research background (i.e. literature search) for the topic
- Project logbook that documents the project and supports the poster
- Interview student...
 - ✓ Importance or applicability of their project to urban forestry, your community, and you
 - ✓ For general knowledge of project topic (i.e. the “big” picture)
 - ✓ To determine understanding of the scientific method, their problem, protocol, results, and interpretation
 - ✓ Get a sense of their “enthusiasm” for the science and the project
 - ✓ Clarify any poster/logbook questions or discrepancies
 - ✓ To ask “[Is there a/What’s your] next step for this project?”

Other related Special Awards to consider...

- Natural Resources Conservation Service Award of Excellence (Junior & Senior)
- UGA Warnell School Of Forestry and Natural Resources Award (Junior & Senior)
- US Forest Service, Best Award for Integration of Social & Physical/Biological Sciences (Junior & Senior)