CWSF 2019 - Fredericton, New Brunswick

Elisa Ward

Adaptable Invaders

Challenge: Environment
Category: Intermediate
Region: Windsor
City: Windsor, ON
School: Academie Ste. Cecile International
Abstract: "Adaptable Invaders" is an Invasive Predictive Scheme that models invasive species in an aquatic ecosystem using agent-based modeling. It takes into account evolution, global warming, and human impact through introduction and preventative and remedial measures.

Biography

Elisa Ward is a 15-year-old highschooler in Grade 10. She goes to Academie Ste Cecile in Windsor, Ontario and plans to work in engineering and computer sciences. Along with her love of coding and building, she also likes to draw, make animations, and play tennis. For the past few years, she's been working on simulations using agent-based modeling to demonstrate different impacts and factors in aquatic ecosystems. Adaptable Invaders, her most recent project involves using agent-based modeling to demonstrate the impacts of invasive species, evolution, and global warming. The idea came from reading an article that proposed that the invasive zebra mussel could be very beneficial to the Great Lakes, and she decided to explore more in-depth on what factors result in the introduced species being beneficial or harmful to their new environment. She plans to calibrate and validate her model using real-world data and disseminate information about the applicability of agent-based techniques in the invasive species field. "Whenever you have an idea for anything, whether it be an experiment, an innovation, or just an idea, write it down. You never know when it could be useful or how far it can take you."