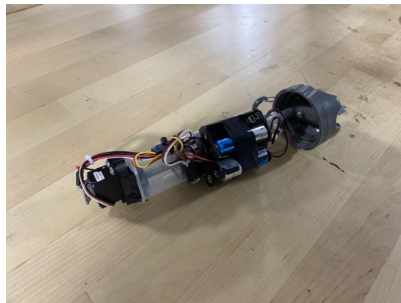


GO-BGC Float - The Rays

Our float mainly uses a syringe and a motor as its buoyancy motor. There's a 3D-printed nut that is driven by a bolt. The bolt is spun by a continuous servo motor moving the nut up and down the bolt. If we combine this motion with the syringe we can suck water in and out, changing the buoyancy of our float.



Buoyancy motor of the float
Photo Credit: Dwayne Wallace



Electronics of the Float
Photo Credit: Dwayne Wallace

The whole system is controlled by an Arduino Pro Mini, which sends the appropriate signal to the servo motor. There is also an IR receiver allowing us to remotely control the ROV with an IR remote. There is also a limit switch included that allows the float to recalibrate where the syringe is and reset it correctly. It also stops the syringe from bottoming out and damaging the servo motor.

All of this is put inside of a water bottle where it is easily and safely kept waterproof. The drinking hole is used for the syringe to suck water in and out. On the outside, we have attached two large stainless steel weights with a 3D-printed clamp. This gets the buoyancy just right to make the float easily go up and down.



GO-BGC Float
Photo Credit: Dwayne Wallace