

The environmental control and life support system (ECLSS) provides a pressurized and livable environment for the orbiter's crew. This environment is not only important for the crew, but it is essential to the protection and proper functioning of the onboard avionics. An additional function of the ECLSS is the management, storage, and disposal of water and crew waste. Below and to the left is a diagram of the orbiter and the individual parts that make up the ECLSS.

ECLSS: Four Main Sub-Systems

1. **Pressure Control System:** maintains a pressure of 14.7 psia of a breathable mixture of oxygen and nitrogen in the crew compartment. Nitrogen also is used to pressurize wastewater tanks.
2. **Atmospheric Revitalization System:** uses circulated air and water coolant loops to remove heat, control humidity, and purify the air in the cabin.
3. **Active Thermal Control System:** uses two Freon loops to collect heat from the orbiter's waste systems and transfer it overboard.
4. **Supply & Wastewater System:** stores water that is produced by the fuel cells for use by the orbiter crew (drinking, cooking, hygiene). It also stores liquid waste produced by the crew, as well as wastewater collected from the humidity separator. It has the ability to dump both supply and wastewater overboard.

