

Name: _____

Date: _____

Class: _____

IB Environmental Systems and Societies

4.1 Introduction to water systems

Significant ideas:

The hydrological cycle is a system of water flows and storages that may be disrupted by human activity.



The water budget

1. State the energy source that drives the water cycle.

2. Draw a diagram to summarise the relative proportions of the Earth's storages of water.

3. Roughly how long is the turnover time for water in each of the following storages?

Storage	Turnover time
Oceans	
Groundwater	
Atmosphere	
Icecaps	
Rivers	



3. Draw a systems diagram of the hydrological cycle. Include the following:

Storages	Flows
<ul style="list-style-type: none">• Organisms• Oceans• Groundwater• Lakes• Soil• Rivers• Atmosphere• Glacier and ice caps	<ul style="list-style-type: none">• Evapotranspiration• Sublimation• Evaporation• Advection• Precipitation• Melting• Freezing• Flooding• Surface run-off• Infiltration• Percolation• Stream flow



Human Activities

1. Outline how the following human activities can impact the water cycle:

Withdrawals

Discharges

Changing the speed of flow

Diverting rivers

2. Explain how urbanisation can lead to flash floods.



