

## Chapter 8. Glacial forms

### 8.1. Definitions

A glacier is a more or less extensive mass of ice formed by the settling of accumulated layers of snow. Crushed under its own weight, the snow gradually expels the air it contains, coalesces into a compact mass and transforms into ice.

Glacial morphology is linked to the formation of glaciers and to temperature variations due to freezing and thawing.

### 8.2. Different types of glacier Icefields

Alpine glaciers

#### 8.2.1. Ice sheets

An ice sheet is a very large glacier in the form of a sheet of ice covering dry land, up to several thousand meters thick. They can extend to the surface of the sea, forming ice barriers.

These are the immense polar ice caps.

#### 8.2.2. Alpine glaciers

Develop in the Alps mountain range in Europe.



Figure 8.1. The Aletsch glacier (Switzerland), the largest glacier in the Alps

### 8.3. Glacial erosion processes and forms

Glaciers have a number of ways of making their mark on the landscape. Firstly, the ice of which it is composed can act :

- By pushing, which causes fracturing and the tearing away of reliefs protruding from the bed, thus giving rise to abrupts.



Figure 8. 2. Snapping points

By abrasion, below the rimaye for a cirque glacier and on the bottom and sides of the trough for a valley glacier. Abrasion often gives rise to musty rock.



Figure 8. 3: Polished rocks

- Finally, polishing, which produces glacial polishes



Figure 8. 4. Glacial polis

Fluvioglacial erosion is the sum total of erosion phenomena caused by glaciers and subglacial rivers. Examples of glacial erosion include glacial valleys, moraines, boulders, glacial potholes and glacial tables,

#### **8. 4. Glacial accumulation forms**

- A moraine is a pile of rock debris, eroded and transported by a glacier or ice sheet.



Figure 8. 5 : Moraine