



Snow observatory

In Lebanon, the snowpack plays an essential role as a reservoir (winter) and supply for springs (spring, summer). It is the main source for groundwater.

Objectives : Define a water resource monitoring system based on satellite imagery and data from stations regularly distributed in time and space.

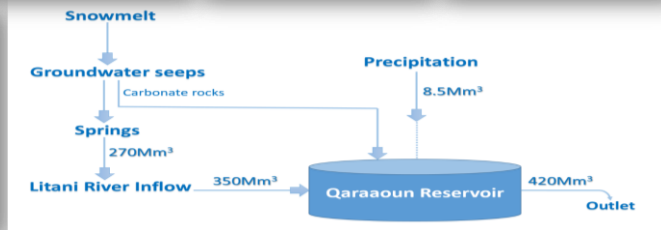
Actions: Characterization of spatial and temporal variations of snow cover, estimation of surfaces, link with large-scale circulation and low-frequency circulation in the Atlantic basin



Contribution of snow to water budget for coastal basins: 30-50%



From global to local scales



unicef | for every child



Sites (in-situ) Instrumentation



unicef | for every child



Observatory

- Collaboration between CESBIO and IRD (FR), CNRS (LB) and USJ
- Three automatic stations (1850, 2300 and 2850 m)
- Operational since 2012

Settings (every 30 min)

- precipitation,
- short wave radiation
- snow height
- air temperature,
- air humidity,
- wind speed and direction,
- atmospheric pressure
- Stereoscopic photos
- Sublimation





Snow monitoring



Fieldwork



Snow pit



Snow profile



Snowpack volume



Density sampling



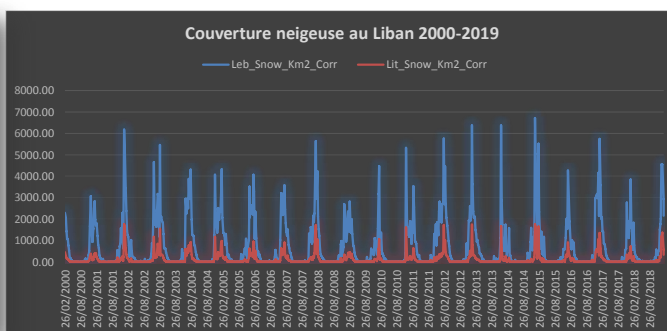
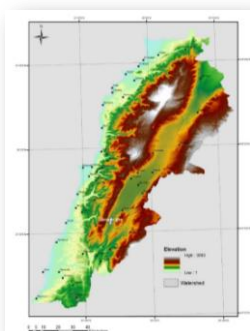
Dust/ storm event



Snowpack temperature

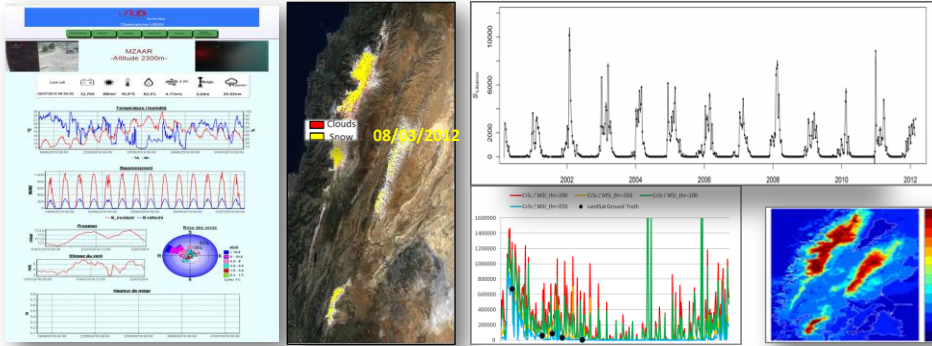


From satellite to indicator for management





From satellite to indicator for management



From satellite to indicator for management

