

**Mountains in a Changing World, Grenoble (MCW)
summer school program*****

June 22-July 10

Université Grenoble Alpes (France)

WEEK 1 The physical environment					
Location	Monday June 22 Grenoble	Tuesday June 23 Grenoble	Wednesday June 24	Thursday June 25	Friday June 26
09h00-10h30	OPENING SESSION General information Quick overview and introduction of participants	Exhibition "Alpine mountain shelters: from bare shelter to altitude tourism"	Transect on the Way (early departure from Grenoble)	3-day Lautaret Field trip (>2000 altitude)	The <i>Sentinels of the Alps</i> Project *Role of shelters in scientific observation + * Meet shelter keepers
Break					
10h45-12h15	Questions and Answers Tour of key points on campus	Musée Dauphinois	Geology and Geodynamics of the Alps	Hike to the geological phenomenon called "Ophiolites", Mount Chenaillet	Science Tourism *Outdoor itinerary + *University Alpine Botanical Garden
Lunch Break	Break	Break			
13h30-15h00	*The physical Alps, notions of geology (class) +	Physiology and sport at altitude	Field observations at Villard- Reymond & Col d'Ornon		
Break	*Overlook of the valley from the Bastille fort (outing)	Break			
15h15-16h45		Mountains and Borders			
Evening	Night in Grenoble	Restaurant outing	Night near Briançon	Night at Villar d'Arene	Optional return to Grenoble with the group Organization of the week-end is not included in the program



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WEEK 2 Human populations over Time						
Location	Monday June 29 Grenoble	Tuesday June 30 Chartreuse range	Wednesday July 1 Grenoble	Thursday July 2 Grenoble	Friday July 3 Vercors range	
09h00-10h30	An overview of Alpine Prehistory	<u>Chartreuse Regional Park</u> *Park management: challenges, opportunities *Wood exploitation *Reintroduction of ibex individuals	Role and Missions of the House of the Mountain	Pre-field trip class encounter	Field trip to the Vercors range: *Field observation *Encounters with specialists	
Break						The Vercors range: mid-altitude mountains adapting to climate change. Aspects in Agriculture, Forestry, Tourism...
10h45-12h15				Movie		
Lunch Break	Break		Break	Break		
13h30-15h00	An overview of Alpine History	<u>Local structures</u> *Visit of Raid Light : diversifying tourism through outdoor sports *The Grande Chartreuse Monastery museum	The Anthropocene	<u>Territory</u> Dialogue with Grenoble's Town council, the Urban Planning Agency and Metropolitan area representatives		
Break						*The relationships between towns and mountains *Observation of climate change in inhabited areas *Impacts and adaptations
15h15-16h45						
Evening	Night in Grenoble	Night in Grenoble	Night in Grenoble	Night in Grenoble	Organization of the week-end is not included in the program	



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WEEK 3 Changes: Where are we now, Where are we going					
	Monday July 6	Tuesday July 7	Wednesday July 8	Thursday July 9	Friday July 10
Location	Grenoble	Grenoble	2-day Field trip to Chamonix and the Mont-Blanc		Grenoble
09h00-10h30	History of alpine glaciations	Pollution of Aquifers: the case of the Himalayas	Field trip to Chamonix	Panorama from the Brevent over the White valley and glaciers	Surprise Speaker
Break	Break	Break	<u>State and fate of glaciers</u> What do we know? How do we measure and model it?		Break
10h45-12h15	From crystal growth to avalanche: why and how avalanche hazard is impacted by climate change	Rivers and intensive use of waters			Impact of temperature on Glaciers
Lunch Break	Break	Break	<u>Observation in Chamonix</u> Witness of mass tourism in mountain areas	The Emosson altitude lake-dam (Switzerland)	Break
13h30-15h00	Impact of climate change on the Increase of gravitary risks	<u>Volcanic eruptions</u> Risk management + "The mysterious volcanic eruption of the Middle Ages" (movie)			Night in Chamonix (White Valley)
Break	Break				FAREWELL
15h15-16h45	Rock fall in hazardous mountain zones: measuring the impact on the field of political decisions				
Evening	Night in Grenoble	Night in Grenoble			

