



Water, a fragile resource

Title	Climate change and water resources
Content/ Key words	Resources / resources overexploitation / hydraulic stress/ shortage/ pollution
Description	<p>Water, a vital resource endangered by climate change.</p> <p><u>Climate disruption affects the entire water cycle:</u></p> <ul style="list-style-type: none"> • Modifications of the rainfall frequency, of the streaming process, rise of the sea level, desertification process, etc. • Negative impacts on the quality and quantity of the water resources, increase of the water stress and increase in the risks of natural disasters. • Generally speaking, the inequalities in water distribution are going to increase: drought episodes will become more frequent in arid regions when water should become more available in the Northern parts of our planet. <p>In the PACA region, climate change will have an impact on hydrologic and hydrogeologic regimes because of the evolution of rainfall frequency and the increase in evapotranspiration linked to the evolution of temperatures. The current estimations are expecting a decrease in precipitations, mainly during summer time, and a bigger variability as regards to their density. This evolution will probably have an impact on the recharge, which is very uncertain because of the complexity of the mechanisms at stake.</p> <p><u>Underground water is more and more overexploited</u></p> <ul style="list-style-type: none"> • Underground water is currently the first source of drinkable water on earth, and two billion people use it to drink, and also for irrigation purposes. • A groundwater table is slow to refill through rainfall, a phenomenon called « recharging ». Then it discharges in lakes, rivers or oceans in





	<p>order to balance its level.</p> <ul style="list-style-type: none"> ● According to a study published in the magazine Nature Climate Change, underground reserves are already under pressure because of the explosion of the global population and of the food production linked to it. Those reserves are being drained and its quality is decreasing because the industrial and agricultural pollution. But extreme meteorological events (drought, record precipitations...), which multiply due to the heating up of our planet's atmosphere, could have a lasting impact on the speed with which the ground water tables replenish. ● The excessive uses increase the risks in landslides and favour salt infiltration, which make the water impossible to consume. With the rising of the sea level, big cities are concerned with the diminishing of the quality in their freshwater resources. Islands in the Pacific Ocean such as Tuvalu and Samoa need to import more and more drinkable water. The salt infiltration is also a source of concern in the French Mediterranean regions. ● In the PACA region, the underground water use is three times inferior to the national average (covering 14% of the needs). This is the result of a particular situation marked by the transfers upstream-downstream of the Durance-Verdon rivers network. Water resources are nonetheless an important source of supply for drinkable water and are locally an important resource for territories which are not irrigated by surface water streaming. This could be identified as a potential way to adapt to climate evolutions. <p>Renewable resource: A resource which renews itself constantly. It can be used but without overpassing its capacity to renew itself, if not it gets drained.</p> <p>Renewable water: Underground water or surface water which renews itself within the water cycle.</p> <p>Hydraulic stress – that is to say, an insufficient resource to meet the human</p>
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	<p>activity needs and the needs of the environment – starts when the water availability is inferior to 1700 cubic metres per year and per inhabitant.</p>
<p>Link to a national support by country</p>	<p>Croatian:</p> <ul style="list-style-type: none"> • { HYPERLINK xxxxxxxx} For the links, when you past them must appear { HYPERLINK xxxxxxxx} That shows that the link is working, even when it past in PDF or on internet. <p>Greek:</p> <ul style="list-style-type: none"> • XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX • XXXXXXXXXXXXXXXXXXXXXXXX <p>Italian:</p> <ul style="list-style-type: none"> • XXXXXXXXXXXXXXXXXXXXXXXX • XXXXXXXXXXXXXXXX <p>French: Pourquoi l'eau est-elle devenue une ressource menacée? Explications en cartes https://www.youtube.com/watch?v=E894IUSvf7I ressources utilisables par les élèves et les professeurs: https://www.mtaterre.fr/ https://www.mtaterre.fr/</p>
<p>Links to activity/project sheets</p>	<p>sheet n°2: My environment is changed</p> <p>sheet n°9: Drawing your climate reality</p> <p>sheet n°15: Activity to design an ecological house model</p> <p>Sheet project J: Waterap</p>

Only 2,5% of the water resources on earth are drinkable.





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