



Cofinancé par le  
programme Erasmus+  
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# Climate change and flash floods

<b>Title</b>	Climate change and flash floods
<b>Problematic</b>	<b>Extreme weather processes in temperate zones.</b>
<b>Content/ Key words</b>	Catchment, flood risk, informed decisions, human encroachments, institutions' cooperation, empathy, adaptation, rules enforcement
<b>Description</b>	<p>A warmer climate, with its increased climate variability, increases the risk of both floods and droughts, according to scientists. This risk depends on several factors influencing flood impacts. Floods depend on precipitations intensity, volume, timing, antecedent conditions of rivers and their drainage basins. Human encroachment into flood plains and lack of flood response plans increase the potential damages. The energy associated with meteorological events in the temperate zones increases with global warming. This directly affects the risk of flash flooding and urban flooding. Storm drainage systems have to be adapted to accommodate increasing rainfall intensity resulting from climate change.</p> <p>In Greece, the destabilization of climate due to human intervention has started to occur, at least in the last 40 years and it is due to increase in the next 100 years. In November 2017 there were flash floods caused by heavy rain in Mandra, a small town on the western outskirts of Athens. Twenty people died, while houses and other properties and infrastructures were totally destroyed. According to scientist and specialist on climate change Mr Zerefos «there was a synergy of three factors : 1) An extreme meteorological condition combined to: 2) Deforestation and erosion due to forest fires and 3) human encroachments to the streams of the area».</p> <p>In Italy, a similar event occurred in Alba in 1994, in which 70 people died and 2.226 were made homeless. After the disaster, prevention measures were implemented which have worked so far in preventing other human losses.</p>
<b>Type of support</b>	School books, text books, video, websites





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<p><b>Bibliographic links</b></p>	<ul style="list-style-type: none"> <li>● Climate Change and Flash-Floods <a href="http://swicca.eu/start/implemented-cases-of-local-change-adaptation/climate-change-and-flash-floods/">http://swicca.eu/start/implemented-cases-of-local-change-adaptation/climate-change-and-flash-floods/</a></li> <li>● Greece: Deadly floods hit Mandra, Nea Peramos and Megara <a href="https://www.bbc.com/news/world-europe-41998374">https://www.bbc.com/news/world-europe-41998374</a></li> <li>● Attribution of Extreme Weather Events in the Context of Climate Change <a href="https://www.nap.edu/login.php?record_id=21852&amp;page=https%3A%2F%2Fwww.nap.edu%2Fdownload%2F21852">https://www.nap.edu/login.php?record_id=21852&amp;page=https%3A%2F%2Fwww.nap.edu%2Fdownload%2F21852</a></li> <li>● IPCC Fourth Assessment Report: Climate Change 2007 <a href="https://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf">https://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf</a></li> <li>● National Geographic (greek) <a href="https://www.inedivim.gr/images/ng-egkykpolaideia/ng-egkykpolaideia-perivalon-2-klimatiki-allagi.pdf">https://www.inedivim.gr/images/ng-egkykpolaideia/ng-egkykpolaideia-perivalon-2-klimatiki-allagi.pdf</a></li> <li>● Impacts of climate change to development - Dianeosis (greek) <a href="https://www.dianeosis.org/wp-content/uploads/2017/06/climate_change10.pdf">https://www.dianeosis.org/wp-content/uploads/2017/06/climate_change10.pdf</a></li> <li>● Environmental, financial and social impacts of climate change in Greece : Bank of Greece <a href="https://www.bankofgreece.gr/bogekdoseis/%CE%A0%CE%BB%CE%B7%CF%81%CE%B7%CF%82%CE%95%CE%BA%CE%B8%CE%B5%CF%83%CE%B7.pdf">https://www.bankofgreece.gr/bogekdoseis/%CE%A0%CE%BB%CE%B7%CF%81%CE%B7%CF%82%CE%95%CE%BA%CE%B8%CE%B5%CF%83%CE%B7.pdf</a></li> <li>● Scientific description of how the floods happened in Alba in 1994 (in Italian only): <a href="https://www.arpa.piemonte.it/approfondimenti/temi-ambientali/geologia-e-dissesto/pubblicazioni/immagini-e-files/interregitafra/InterregIcprincipalieventialluvionalicap20.pdf">https://www.arpa.piemonte.it/approfondimenti/temi-ambientali/geologia-e-dissesto/pubblicazioni/immagini-e-files/interregitafra/InterregIcprincipalieventialluvionalicap20.pdf</a></li> <li>● Collection of memories of witnesses of the floods in 1994 in Alba (in Italian only): <a href="http://langhe.net/9425/ricordi-20-anni-alluvione-tanaro-94/">http://langhe.net/9425/ricordi-20-anni-alluvione-tanaro-94/</a></li> </ul> <p><b>VIDEO</b></p> <ul style="list-style-type: none"> <li>● Video watch from Mandra's flood (15-11-2017): <a href="https://www.youtube.com/watch?v=gPsXl91j0ok">https://www.youtube.com/watch?v=gPsXl91j0ok</a></li> <li>● Video watch of the Rhone - Mediterranean and Corsica Water Agency "How to manage rivers": <a href="https://www.youtube.com/watch?v=lzrwF4XKUBk">https://www.youtube.com/watch?v=lzrwF4XKUBk</a></li> <li>● The Big Floods of 1994 (video in italian) <a href="https://www.youtube.com/watch?v=n1zMlOUR_lw">https://www.youtube.com/watch?v=n1zMlOUR_lw</a></li> </ul> <p><b>FR: Local example: Vaison la Romaine ( Vaucluse, 22 09 1992) Official webpage of metefrance, scientific data <a href="http://pluiesextremes.meteo.fr/france-metropole/Vaison-la-">http://pluiesextremes.meteo.fr/france-metropole/Vaison-la-</a></b></p>
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	<p><a href="http://Romaine-la-catastrophe.html">Romaine-la-catastrophe.html</a></p> <p>Video: news, archives: <a href="http://www.francetvinfo.fr/meteo/video-les-inondations-sont-encore-dans-les-memoires-a-vaion-20-ans-apres_144221.html">http://www.francetvinfo.fr/meteo/video-les-inondations-sont-encore-dans-les-memoires-a-vaion-20-ans-apres_144221.html</a></p> <p><a href="https://www.ina.fr/video/CAB92054146/factuel-vaion-la-romaine-video.html">https://www.ina.fr/video/CAB92054146/factuel-vaion-la-romaine-video.html</a></p>
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