



REPUBLIKA HRVATSKA

MINISTARSTVO ZAŠTITE
OKOLIŠA I PRIRODE

PRILAGODBA KLIMATSKIM PROMJENAMA

Aktivnosti na europskoj i nacionalnoj razini

Ministarstvo zaštite okoliša i prirode
Žana Počuča

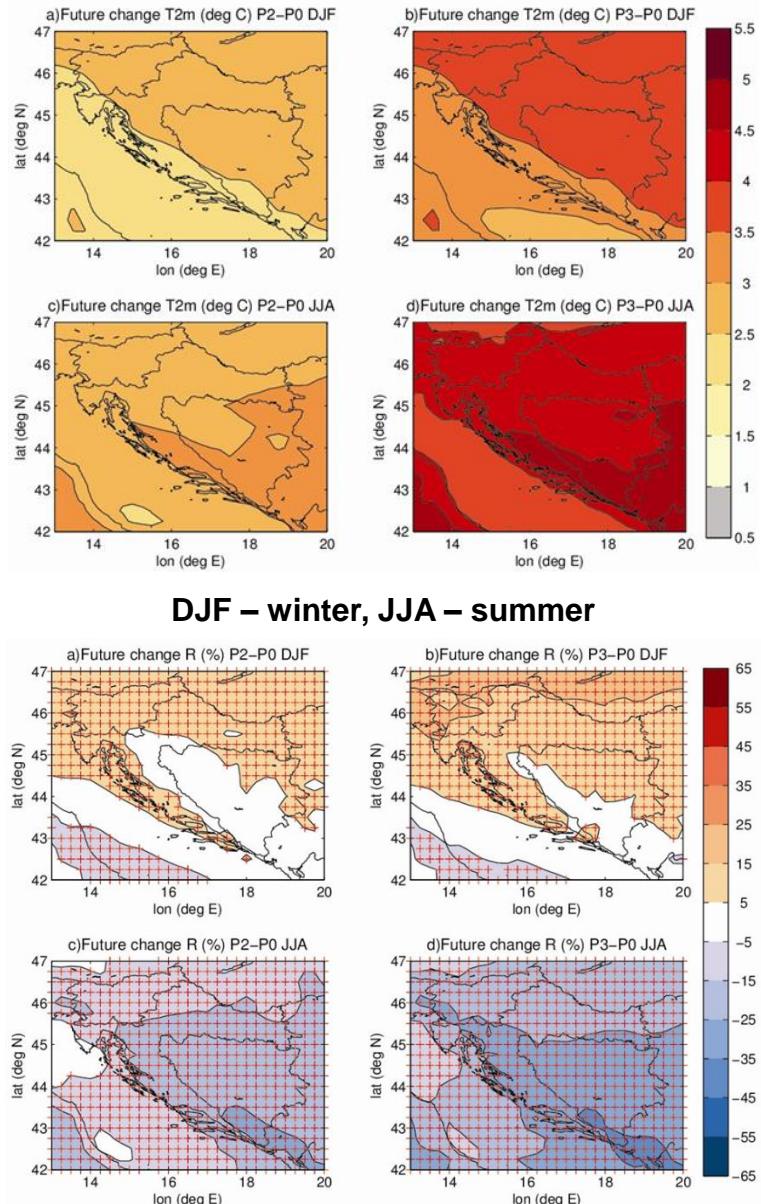
Međunarodni skup:
Klima se mijenja. Hrana i poljoprivreda moraju također.
Osijek, 14. listopada 2016.

Do kraja 21. stoljeća:

- analiza je pokazala **značajan porast temperature** u Hrvatskoj
- veći dijelovi Hrvatske bit će izloženi promjeni u količinama oborina - umjerena do visoka mogućnost **povećanja padalina** u zimskim i smanjenje ukupne količine padalina u ljetnim mjesecima

Izvor: DHMZ i 6. Nacionalno izvješće Republike Hrvatske prema UNFCCC (2014)

- dodatna analiza u okviru projekta izrade Strategije prilagodbe klimatskim promjenama

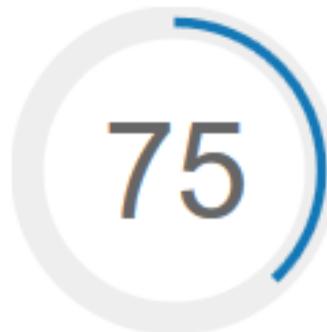


Pariški sporazum (2015.)



United Nations
Framework Convention on
Climate Change

- zadržati porast globalne temperature ispod 2°C (i „nastojati” postići najviše 1.5°C)
- što je prije moguće poduzeti brzo smanjenje emisija
- ojačati sposobnost društva za nošenje s utjecajima klimatskih promjena i osigurati podršku državama u razvoju



75 Parties have ratified of 197 Parties to the Convention

On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved. The Paris Agreement will enter into force on 4 November 2016. The first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) will take place in Marrakech in conjunction with COP 22 and CMP 12. More information available soon.

1. Promicanje aktivnosti država članica

- Poticanje država da usvoje nacionalne strategije prilagodbe
- Osiguravanje финансиранја прилагодбе климatskim promjenama
- Proračun EU 2014.-2020. – 20% za klimatske aktivnosti kroz sve finansijske programe EU za 2014.-2020.
 - Europski strukturni i investicijski fondovi (ESI)
 - Obzor 2020
 - LIFE program, tj. LIFE Climate Action
- Europska investicijska banka i Europska banka za obnovu i razvoj
- Ostali posebni fondovi (npr. za poplave, suše)
- **Podrška aktivnostima na lokalnoj razini**
 - poticanje gradova na aktivnosti prilagodbe – ranije Mayors Adapt, sada Covenant of Mayors for Climate and Energy

EU Strategija prilagodbe klimatskim promjenama (2013.)

2. Donošenje odluka potkrijepljeno činjenicama

- Premostiti „rupe” u znanju i informacijama
- Daljnji razvoj internetske platforme Climate-ADAPT

The screenshot shows the European Commission's Climate Action website. The main navigation bar includes links for Home, About us, EU Action, Citizens, News, and Contact & Grants. A large banner image shows a tree standing alone in a field under a cloudy sky. Below the banner, the 'Adaptation to climate change' section features a 'Policy' button, a 'Documentation' button, and a 'FAQ' button. A 'Read more' link leads to 'Publications Climate-ADAPT'. The 'Latest news' section includes a link to '18/06/2013 - Council conclusions on the EU adaptation Strategy'. The 'Adaptation Strategy' section lists '18/06/2013 - Council conclusions on the EU adaptation Strategy' and '18/06/2013 - EU Adaptation Strategy Package'. The 'White Paper' section lists several documents from 2009, such as 'COM(2009)3147 - White Paper on adapting to climate change' and 'SEC(2009)0387 - Impact assessment on the White Paper on adapting to climate change'. The 'Latest events' section lists '26/04/2013 Launch event: EU strategy on adaptation to climate change'. The 'Latest consultations' section lists '01/04/2014 - Consultation on the White Paper'.

http://ec.europa.eu/clima/policies/adaptation/documentation_en.htm

The screenshot shows the European Climate Adaptation Platform (Climate-ADAPT) website. The top navigation bar includes links for Sign In, Glossary, Contact, Sitemap, Legal notice, About, and Help. A search bar is also present. The main content area features a large image of the Thames Barrier. The 'About Climate Change Adaptation in Europe' section explains the platform's mission to support Europe in adapting to climate change. It includes a list of expected outcomes: 'Expected climate change in Europe', 'Current and future vulnerability of regions and sectors', 'National and transnational adaptation strategies', 'Adaptation case studies and potential adaptation options', and 'Tools that support adaptation planning'. Below this, there are sections for 'New to adaptation? Use the Adaptation Support Tool', 'What are European countries doing?', 'Find case studies on adaptation in Europe', 'Share your information', 'News', 'Events', 'EU sector policies', and 'EU information systems'. The 'EU sector policies' section includes links for 'Agriculture & Forestry', 'Water management', and 'View all sectors'. The 'EU information systems' section includes links for 'Mayors Adapt' and 'WISE'.

<http://climate-adapt.eea.europa.eu/>



Agriculture

Climate change has complex effects on the bio-physical processes that underpin agricultural systems, with both negative and positive consequences in different EU regions. Rising atmospheric CO₂ concentration, higher temperatures, changes in precipitation patterns and in frequency of extreme events both affect the natural environment as well as the quantity, quality and stability of food production. Climatic variations impact on water resources, soils, pests and diseases, leading to significant changes in agriculture and livestock production.

[Read more](#)

Search results

- [Publications and reports \(238\)](#)
- [Information portals \(61\)](#)
- [Indicators \(10\)](#)
- [Guidance \(49\)](#)
- [Tools \(14\)](#)
- [Research and knowledge projects \(154\)](#)
- [Adaptation options \(17\)](#)
- [Case studies \(7\)](#)
- [Organisations \(20\)](#)

[Share your information](#)

Indicators

- [Irrigation water requirement](#)
- [Water-limited crop productivity](#)
- [Soil organic carbon](#)
- [Soil moisture](#)
- [Growing season for agricultural crops](#)

Resources

- [Assessing Agriculture Vulnerabilities for the design of Effective Measures for Adaption to Climate Change \(AVEMAC Project\)](#)
- [The economics of climate change adaptation](#)
- [Rural development Programme\(s\) 2014-2020](#)
- [Delegated acts on the CAP Reform – an explanation of the main elements](#)
- [Policy overview 2014-2020 –EU rural development Programme\(s\)](#)
- [IPCC Fifth Assessment Report, WGI Chapter 7: Food security and food production systems](#)

Multimedia

- [Carbon farmers: Environmental Atlas of Europe - Italy](#)
- [Cross border nature: Environmental Atlas of Europe - Germany France](#)
- [Rain on snow: Environmental Atlas of Europe — Sweden](#)
- [Food - adapting to change by sharing information](#)
- [Adapting Agriculture to Climate Change – A Role for Public Policies \(OECD Food, Agriculture and Fisheries Papers No. 85\)](#)


[Log in](#)
[Search Search...](#)

Type of Data

 All types
 A selection of types
 Adaptation options
 Case studies
 Guidance
 Indicators
 Information Portals
 Maps, graphs and databases
 Mayors Adapt city profiles
 Organisations
 Publication and Reports
 Research and knowledge projects
 Tools

Adaptation sectors

 Exclude sectors as a filter criteria
 Any of the sectors selected below
 Agriculture
 Biodiversity
 Energy
 Environment
 Floods and coastal areas
 Forests
 Health
 Land and soil
 Water

The database contains quality checked information and is annotated by climate adaptation experts with keywords.

Search the database using the keywords field below and filter the results using one or more of the filters from the left side bar.

Keywords:

[Search](#)

Search results: 24

[Adaptation options \(17\)](#)
[Show 10+ entries](#)
[Search:](#)

- Adaptation of drought and water conservation plans - The purpose of a drought management plan is to reduce risk and therefore economic, social, and environmental drought impacts. Water conservation plans aims to...
- Adaptation of fire management plans - Climate change has already increased fire risk in forests. Climate change scenarios for Mediterranean Europe forecast an increase in the number of years with high fire danger...
- Adaptation of groundwater management - Sea level rise, just like overexploitation of coastal aquifers, increases the chance of saltwater intrusion in groundwater bodies, particularly in low-lying areas. In gene...
- Adaptation of integrated land use planning - Integrated land use planning is a strategy to prevent climate impacts as there are flooding, drought, water scarcity and heat stress, as well as to avoid exposure of...

Explore adaptation options

- Private adaptation
- Adaptation
- Climate Impact
- Sector
- Water recycling
- Improved water retention in agricultural areas
- Awareness campaigns for behavioural change
- Water sensitive urban and building design
- Adaptation or improvement of dikes and dams
- Groynes, breakwaters and artificial reefs
- Improvement of irrigation efficiency
- Adaptation of urban planning: water and energy
- Financial tools for risk management
- Adaptation of flood management plan

[View all](#)

- Adapting to climate change
- Sea level rise
- Flooding
- Drought
- River flow
- Precipitation extremes
- Forest fires
- River floods
- Floods and health

[Share your information](#)

Food – adapting to change by sharing information

[Log in](#)
[Topics: Agriculture Biodiversity Climate change](#)

Food. We all need it. But most of us take it for granted. A changing climate brings with it a destabilizing effect on food crop production. With the pressure on food resources, we need to look at new solutions. We need to bring people, their stories and data together.



flowplayer
© 2008-2010 Flowplayer Ltd

Time: 0:30
Author: EEA / Ace&Ace
Published: 2011-12-13

ECDC Climate Change Decision-Making Tool for Food and Waterborne Diseases

Food and Waterborne Diseases (FWBD) are of high interest because both growth and exposure for these pathogens agents are linked with environmental determinants under direct influence of climatic factors. Food- and Water-borne diseases are caused by pathogens that are transported through food, water and surface soil. The change of occurrence of food & frequency could thus lead to a modification of disease epidemiology. This is particularly true for FWBD that may be affected by climatic parameters growth, survival and/or inactivation of pathogens vary in function of temperature, humidity and sunlight. The runoff of water-borne pathogens by extreme rainy events can be hazard to animal health.

Due to the complexity of climate change under different environmental conditions, assessing relative risks of climate-change-associated Food- and Water-borne diseases must be based on multivariate strategies. Among these approaches, quantitative microbial risk assessment (QMRA) is a tool helping to estimate relative public health risks. The quantitative microbial risk assessment describes each hazard in a compartmental framework. The combination of these compartments, such as building blocks, aims to quantify the microbial risk. QMRA requires knowledge of the relationships between meteorological and environmental factors and the occurrence of food-borne diseases. In order to support framework of the EU Strategy, which Member States surveillance and...



Your CDF plug
Please make sure you have supported browser installed and restarting the browser if that doesn't work.
If that doesn't work, reinstall CDF_F3

Background info
In order to run it

Your CDF plug
Please make sure you have supported browser installed and restarting the browser if that doesn't work.
If that doesn't work, reinstall CDF_F3

Observations and scenarios
For the assessment of climatic change and its impacts, both observations of past and present conditions, and scenarios for future developments are required. This section provides access to information on observations and scenarios for the atmosphere, the cryosphere, water systems, oceans, the terrestrial biosphere and urban areas and health

Background info
In order to run it

Your CDF plug
Please make sure you have supported browser installed and restarting the browser if that doesn't work.
If that doesn't work, reinstall CDF_F3

Selected indicators

- [IPCC Fifth Assessment Report, Synthesis Report](#)
- [Regional Climate Model \(RCM\) data portal of the FP7 ENSEMBLES project](#)
- [European Floods Portal - YEAR of LAUNCH](#)

[Share your information](#)

Publications & reports

- [European Drought Observatory \(EDO\)](#)

Information portals

- [Regional Climate Model \(RCM\) data portal of the FP7 ENSEMBLES project](#)
- [European Floods Portal - YEAR of LAUNCH](#)

[Share your information](#)

Vulnerabilities and risks

Vulnerability assessment is the analysis of the expected impacts, risks and the adaptive capacity of a region or sector to the effects of climate change. Vulnerability is often assessed using a three-prong approach: measurement of the potential impact by events resulting from climate change; it includes an assessment of the region's or sector's ability to adapt. The term vulnerability is used differently in the climate change context. The *Glossary of the IPCC Fifth Assessment Report* defines vulnerability as "the propensity to be adversely affected". Vulnerability encompasses a variety of concepts including sensitivity or ability to harm and lack of capacity to cope and adapt". It is noted explicitly "Reflecting progress in science, this entry differs in breadth and focus from the entry used in the Fourth Assessment Report and other IPCC

[Read more](#)

Selected indicators

- [European Drought Observatory \(EDO\)](#)

Publications & reports

- [EM-DAT: The International Disaster Database - Year of launch](#)

Information portals

- [European Floods Portal - YEAR of LAUNCH](#)

Search results

- [Publications and reports \(287\)](#)
- [Information portals \(62\)](#)
- [Indicators \(41\)](#)
- [Guidance \(15\)](#)
- [Tools \(23\)](#)
- [Research and knowledge projects \(184\)](#)
- [Organisations \(18\)](#)

[Share your information](#)

Interactive maps

[Explore pan european maps](#)

3. Promicanje prilagodbe u ključnim ranjivim sektorima

- Integracija prilagodbe klimatskim promjenama sve sektore (npr. zajednička poljoprivredna politika, zdravlje, zgradarstvo/infrastruktura...)
- Korištenje zelene infrastrukture (prirodna rješenja, zeleni prostori,...)
- Promicanje korištenja osiguranja od prirodnih katastrofa i onih koje je uzrokovao čovjek

Druga polovica 2017. godine

Izvješće Europske komisije prema Europskom parlamentu i
Vijeću o statusu provedbe Strategije EU za prilagodbu
klimatskim promjenama

Fokus na:

- procjenu napretka DČ
- uključivanju prilagodbe u ključne politike i EU fondove
- informiranom odlučivanju (procjena dostupnog znanja i podataka, Climate-ADAPT)
- osvrt na nove zahtjeve (IPCC, UNFCCC, DRR)

Ako se procijeni da provedba nije zadovoljavajuća, moguć je prijedlog usvajanja obavezujućih propisa.

Strategija održivog razvijanja Republike Hrvatske (2008)

- prilagodba klimatskim promjenama – jedan od glavnih **preduvjeta** za budući razvoj
- „...potrebno poduzeti značajne mjere kako bi se ublažio njihov učinak i razmjeri tih promjena“

Zakon o zaštiti zraka (NN 130/11, 47/14) propisuje obavezu izrade:

Strategije prilagodbe klimatskim promjenama za razdoblje do 2040. s pogledom na 2070. godinu s akcijskim planom

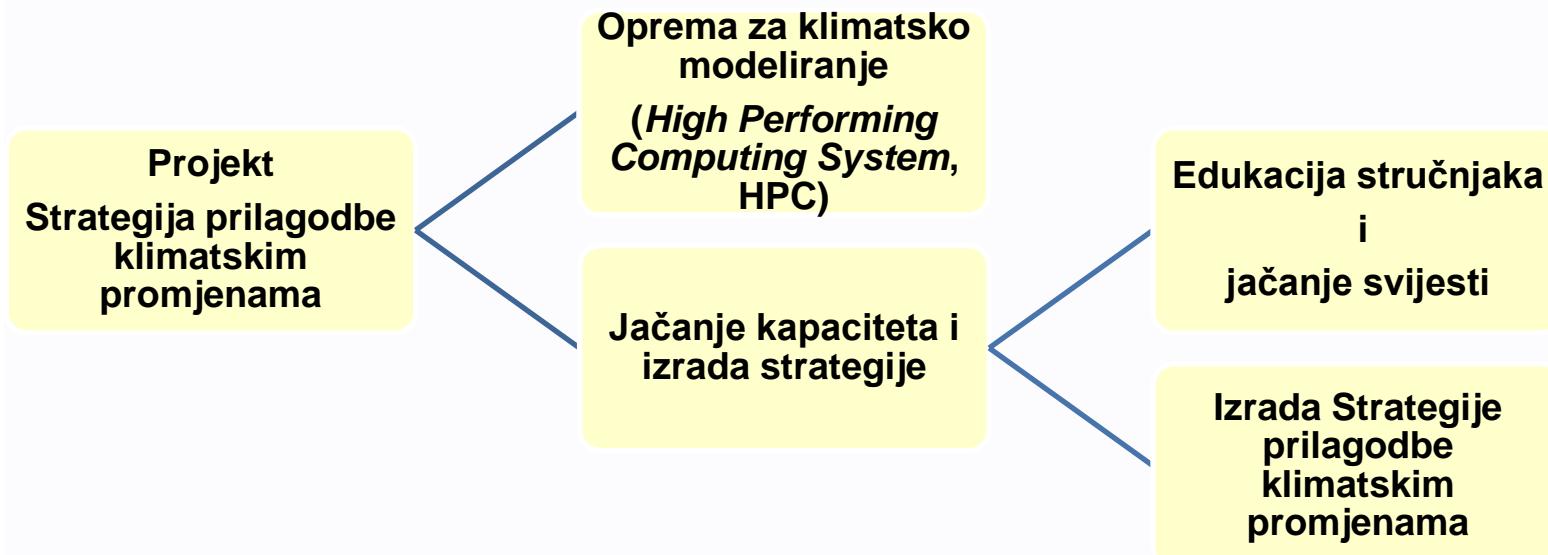
- usvajanje dokumenata do kraja 2017. godine

Zakon o zaštiti zraka – prepoznaće ranjive sektore i propisuje obavezu poduzimanja mjera prilagodbe u njima:

hidrologija i vodni resursi
poljoprivreda i ribarstvo
šumarstvo
biološka raznolikost i prirodni ekosustavi
biološka raznolikost i morski ekosustavi
obala i obalno područje
turizam
ljudsko zdravlje

Strategija prilagodbe klimatskim promjenama

Puni naziv projekta	Jačanje kapaciteta Ministarstva zaštite okoliša i prirode za prilagodbu klimatskim promjenama te izrada nacrta Strategije prilagodbe klimatskim promjenama
Radni naziv projekta	Strategija prilagodbe klimatskim promjenama
Trajanje projekta	17. svibnja 2016. – 17. studenoga 2017.
Financiranje	Prijelazni instrument
Korisnik	 Ugovaratelj  REPUBLIKA HRVATSKA MINISTARSTVO ZAŠTITE OKOLIŠA I PРИРОДЕ



Strategija prilagodbe klimatskim promjenama

Komponenta 1:

Edukacija stručnjaka i podizanje razine svijesti javnosti o prilagodbi klimatskim promjenama



Aktivnost I – Jačanje kapaciteta stručnjaka

- Studija procjene potreba za jačanje kapaciteta stručnjaka u području prilagodbe klimatskim promjenama
- radionica za prijenos iskustava država članica EU koje su razvile i provode strategije prilagodbe klimatskim promjenama
- 10 radionica za trening stručnjaka - o klimatskom modeliranju, scenarijima, procjeni utjecaja i mjerama, itd.

IN PROGRESS

IN PROGRESS



Aktivnost II – Edukacija o utjecajima klimatskih promjena i o mjerama prilagodbe

- izrada Komunikacijskog plana Radionice za službenike na lokalnoj i regionalnoj razini te zainteresiranu javnost
- Informativna brošura Internetska stranica projekta (projektne aktivnosti, opće informacije)

IN PROGRESS

IN PROGRESS

Strategija prilagodbe klimatskim promjenama

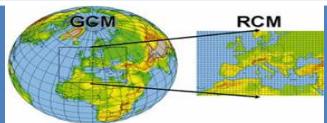
Komponenta 2:

Izrada nacrta Strategije prilagodbe klimatskim promjenama i Akcijskog plana



Aktivnost I – Identificiranje ranjivih sektora

IN PROGRESS



Aktivnost II – Klimatsko modeliranje

IN PROGRESS



Aktivnost III – Procjena ranjivost i mogućih mjera prilagodbe

OPTION 1

OPTION 3

OPTION 2

Aktivnost IV – Procjena opcija prilagodbe i pregled mjera po sektorima



Aktivnost V – Analiza troškova i koristi



Aktivnost VI – Izrada Strategije prilagodbe klimatskim promjenama u Republici Hrvatskoj za razdoblje do 2040. s pogledom na 2070. te nacrtu Akcijskog plana

Strategija prilagodbe klimatskim promjenama

„VELEbit”
HPC sustav za klimatsko modeliranje



- High Performing Computer System (HPC), nazvan „VELEbit”, smješten u Sveučilišni računski centar (SRCE)
- u suradnji s Državnim hidrometeorološkim zavodom (DHMZ)
- RegCM model, RCP4.5 scenarij
 - Projekcije do 2040. i 2070. godine
 - Rezolucija - 50 km i 12.5 km
- Osvrnut će se i na „najgori“ scenarij RCP8.5
- Rezultati:
 - bit će dostupni hrvatskoj i europskoj znanstvenoj i istraživačkoj zajednici
 - izradit će se Izvješće o provedenom modeliraju i koristiti za procjenu utjecaja i ranjivosti, procjenu mjera

Program poticanja istraživačkih i razvojnih aktivnosti u području klimatskih promjena za razdoblje od 2015. do 2016. godine

- dio prikupljenih finansijskih sredstva od prodaje emisijskih jedinica dodijelit će se **za primjenjena istraživanja i razvoj** vezano uz prilagodbu klimatskim promjenama

Operativni program *Konkurentnost i kohezija* 2014. – 2020.

- korištenje sredstava iz EU fondova u skladu s prioritetima utvrđenima u okviru buduće Nacionalne strategije prilagodbe; do tada, okvir i preduvjeti za aktivnosti prilagodbe klimatskim promjenama prema 6. Nacionalnom izvješću RH prema UNFCCC (2014.)

Ministarstvo zahtijeva da se prilagodba klimatskim promjenama uključuje u Strateške procjene utjecaja na okoliš, Procjene utjecaja na okoliš, Elaborate zaštite okoliša i druge dokumente

Prijevod smjernica EU

- Smjernice za voditelje projekata - Kako povećati otpornost ranjivih ulaganja na klimatske promjene (**prevedeno**), http://www.mzoip.hr/doc/smjernice_za_voditelje_projekta.pdf
- Smjernice za uključivanje klimatskih promjena i bioraznolikosti u SPUO, Smjernice za uključivanje klimatskih promjena i bioraznolikosti u PUO

- Ministarstvo zaštite okoliša i prirode

<http://www.mzoip.hr/hr/klima/prilagodba-klimatskim-promjenama.html>

- Strategija prilagodbe klimatskim promjenama - Projekt

<http://prilagodba-klimi.hr/>

REPUBLICA HRVATSKA
MINISTARSTVO ZAŠTITE
OKOLIŠA I PŘRODE

Tržnica

Zelena knjiga

Knjiga staklenih plina

Prilagodba klimatskim promjenama

Sustav izgovara emisije staklenih plina

Zelita otvorenog slaga i izvoranih staklenih plina

Otvoreni izvor

Održiva razvojna i potrošnja

Održiva razvoj

Strategija, planovi i programi

Obrada i očitka

Propisi i međunarodni ugovori

Dosjevići i istraživa

Kontakt

Kontakt

- Obrana i progres za život
- Obranici
- Publikacije
- Propisi i međunarodni ugovori
- Započetnici
- Zemaljski rezervat
- Ekološki i ekološko-ekonomski
- Površine i podzemne informacije
- Geodetske i zemljemisne informacije

Prilagodba klimatskim promjenama

Istraživanja pokazuju da se maloček porast globalne temperature zraka prejelo tijekom zadnjih desetak godina, to jest od 1971. do 2010. godine. Za dovet od deset godina u razdoblju 2001. – 2010. temperatura zraka je bila iznad prosječne, a najveća godina u povijesnoj je 2010.

Medunarodno tijelo za klimatske promjene (IPCC – Intergovernmental Panel on Climate Change), 2012. godine objavio je svoju 5. izlogodbu na kojem su radili stručni znanstvenici iz cijelog svijeta, a koje daje jošuti i aktuelan pogled trenutnih znanstvenih podataka vezanih uz klimatske promjene. U izlogdu se navodi da klimatske promjene imaju širok utjecaj na ljudske i prirodne sustave te da će nastavak emisija staklenih plina uokviriti dolje zagrijavanje i uvelikom obliku i negativne utjecaje na ljudi i ekosustave. Organizacije klimatske promjene zadržavaju smanjenjem emisija, zajedno s prigodom klimatskih promjena, mimo značajno smršnje rizika.

Zbog svojih klimatskih i geografskih odličja Hrvatska je pripremala koe dijaločno rješenja na klimatske promjene s kojima se već i susreće. Nade se očekuju velik porez na razinu mora, promjene padobanja i migraljnih stvaraca morali rabe zbog zagrijavanja morse vrlo, često su određeni utjecaji na hidrologiju i vode resurse, klimatska, poljoprivreda, hrvatskih rizika itd. Stoga je ključno, interesante te riječi smršnje emisija staklenih plina, pripremati učlanjivanje posljedica te projektni i smanjivanje rizika od klimatskih promjena.

Detaljnije informacije o očekivanim utjecaju klimatskih promjena u Republici Hrvatskoj mogu se pronaći u 6. nacionalnom izlogodu prema UNFCCC.

Projekti klimatske strategije prilagodbe klimatskim promjenama

Kako će klimatske promjene utjecati na društvo?

Zato su moramo prilagoditi?

Tko treba Šta poduzeti?

Prilagodba u Evropskoj uniji

STRATEGIJA PRILAGODBE
KLIMATSKIM
PROMJENAMA

Jedinstveni klimatski izazivi u Republici Hrvatskoj u sklopu strategije prilagodbe klimatskim promjenama te primjene Noći izbjegavanja prilagodbe klimatskim promjenama

Projekt financira: episa

O projektu

Najave

Vijesti

Opis, Budžet i D. Kako informacijski centar, radionicice za obrazovanje i razvoj, i obrazujući radni težišti za zadržavanje prirodnih i prirodnih resursa u kontekstu klimatskih promjena

22/09/2014



Hvala na pažnji!