

# «Climate Change Risk Assessment»

## *Final Report –(Evidence Report)*

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ΥΠΟΥΡΓΕΙΟ ΓΕΩΡΓΙΑΣ, ΑΓΡΟΤΙΚΗΣ  
ΑΝΑΠΤΥΞΗΣ  
ΚΑΙ ΠΕΡΙΒΑΛΛΟΝΤΟΣ

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# Cross cutting issues

## Interdependencies

e.g

Tourism may be affected by changes in biodiversity and the attractiveness of natural areas.

The presence of “greenspace” or “green infrastructure” in urban areas can have important benefits for biodiversity.

Wildfires extend across sectors and may also affect Biodiversity, Agriculture, Forestry and Built Environment.

Invasive non-natives, pests and diseases. Increased risk from pests and diseases have important impacts also for Agriculture, Forestry and Marine and Fisheries.

Overall changes in the water balance could create increasing pressures on the costs of water.

# Cross cutting issues

## Social vulnerability

e.g

Outdoor workers are more vulnerable to heat related risks.


Higher food or water prices have a greater impact on low income people.


An aging population is more vulnerable to heat stress.


# Cross cutting issues

## Resilience to plausible extreme events

“The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner”. *UN International Strategy for Disaster Reduction*

**Major drought**  Adoption of the EU guidelines on water and drought management

**Earthquake/tsunami**  Plan annually tested with the "EGKELADOS" Exercise  
Trained rescue crews  
Trained engineers to inspect buildings after earthquakes  
School buildings & Refugee settlements evaluation

**Floods**  Horizontal Prevention/Protection/Preparedness/Rehabilitation Measures  
Specific technical and warning measures

**Heatwave or cold snap**  Implementation of Agricultural Policy (compensations)?

# CC RISK

## Moderate CC Scenario – 2050

Metric Code	Metric Name	Confidence	2050s
			RCP4.5
<b>F02</b>	Increased risk of pests, pathogens and diseases	L	3
<b>HE2</b>	Temperature Morbidity	L	3
<b>MA1</b>	Breakwaters exposed to significant risk of instability	L	3
<b>BU4</b>	Tourism product diversification	M	3
<b>HE1</b>	Temperature Mortality	M	3
<b>MA3</b>	Potential disruption of fish production	M	3
<b>MA6</b>	Changes in fish catches and gene pool	M	3
<b>MA7</b>	Exerting pressure on fish physiological thermal limits	M	3

# CC RISK

## More pessimistic CC Scenario – 2050

Metric Code	Metric Name	Confidence	2050s
			RCP8.5
<b>BD4 &amp; BD5</b>	Increased risks from pests, diseases and invasive species	L	3
<b>BU3</b>	Tourist assets at risk from flooding due to SLR	L	3
<b>HE2</b>	Temperature Morbidity	L	3
<b>MA1</b>	Breakwaters exposed to significant risk of instability	L	3
<b>BU4</b>	Tourism product diversification	M	3
<b>F03</b>	Increased risk of drought damage / loss of productivity	M	3
<b>HE1</b>	Temperature Mortality	M	3
<b>MA3</b>	Potential disruption of fish production	M	3
<b>MA4</b>	Shifts affecting producers and consumers	M	3
<b>MA6</b>	Changes in fish catches and gene pool	M	3
<b>MA7</b>	Exerting pressure on fish physiological thermal limits	M	3
<b>F04</b>	Changes in tree species suitability	H	3

# CC RISK

## Moderate CC Scenario – 2080

Metric Code	Metric Name	Confidence	2080s
			RCP4.5
<b>BD4 &amp; BD5</b>	Increased risks from pests, diseases and invasive species	L	3
<b>F02</b>	Increased risk of pests, pathogens and diseases	L	3
<b>HE2</b>	Temperature Morbidity	L	3
<b>MA1</b>	Breakwaters exposed to significant risk of instability	L	3
<b>W2</b>	Higher cost of water supply due to increased desalination	L	3
<b>BU1</b>	Extension of summer season	M	3
<b>BU4</b>	Tourism product diversification	M	3
<b>BD3</b>	Changes in distribution of priority species	M	3
<b>BD9</b>	Major drought events, Impact on Water Quantity and Increased Societal Water Demand	M	3
<b>F03</b>	Increased risk of drought damage / loss of productivity	M	3
<b>HE1</b>	Temperature Mortality	M	3
<b>MA3</b>	Potential disruption of fish production	M	3
<b>MA4</b>	Shifts affecting producers and consumers	M	3
<b>MA5</b>	Potential disruption coastal nurseries	M	3
<b>MA6</b>	Changes in fish catches and gene pool	M	3
<b>MA7</b>	Potential disruption of fish production	M	3
<b>BD1</b>	Species unable to find suitable microclimate/habitats	H	3
<b>BD7</b>	Coastal evolution impacts	H	3
<b>F04</b>	Changes in tree species suitability	H	3

# CC RISK

## More pessimistic CC Scenario – 2080

Metric Code	Metric Name	Confidence	2080s
AG2	Livestock production	L	3
BD4 & D5	Increased risks from pests, diseases and invasive species	L	3
BD12	Agricultural intensification (i.e. human use of NPP)	L	3
BU3	Tourist assets at risk from flooding due to SLR	L	3
EN1	Energy Demand by Water Suppliers	L	3
F02	Increased risk of pests, pathogens and diseases	L	2
HE2	Temperature Morbidity	L	3
MA1	Breakwaters exposed to significant risk of instability	L	3
W2	Higher cost of water supply due to increased desalination	L	3
W3	Irrigation Supply Deficit	L	3
BD3	Changes in distribution of priority species	M	3
BD8	Increased soil moisture deficits and drying	M	3
BD9	Major drought events, Impact on Water Quantity /Water Demand	M	3
BD11	Changes in primary productivity	M	3
BE1	Energy demand for cooling	M	3
BE3	Energy demand for Heating	M	3
BE4	Effectiveness of Green Spaces	M	3
BU1	Extension of summer season	M	3
BU2	Loss of staff hours due to high internal building temperatures	M	3
F03	Increased risk of drought damage / loss of productivity	M	3
HE1	Temperature Mortality	M	3
MA3	Potential disruption of fish production	M	3
MA4	Shifts affecting producers and consumers	M	3
MA5	Potential disruption coastal nurseries	M	3
MA6	Changes in fish catches and gene pool	M	3
MA7	Exerting pressure on fish physiological thermal limits	M	3
BD1	Species unable to find suitable microclimate/habitats	H	3
BD2	Species unable to track changing climate space	H	3
BD6	Increased soil erosion	H	3
BD7	Coastal evolution impacts	H	3
BE5	Overheating of Buildings	H	3
BD10, F01	Increased risk of wildfires	H	3



# MONETIZATION

Metric Code	Metric Name	Confidence	2050s		2080s	
			RCP4.5	RCP8.5	RCP4.5	RCP8.5
BE1	Energy demand for cooling	M	-VH	-VH	-VH	-VH
BE2	Urban Heat Island	L	-M	-M	-M	-H
BE3	Energy demand for Heating	M	+VH	+VH	+VH	+VH
BE4	Effectiveness of Green Spaces	L	-L	-M	-M	-H
BE5	Overheating of Buildings	L	-L	-L	-M	-H
BU1	Extension of summer season	M	+VH	+VH	+VH	+VH
BU2	Loss of staff hours due to high internal building temperatures	L	-M	-M	-M	-H
BU3	Tourist assets at risk from flooding due to SLR	L		-VH		-VH
BU4	Tourism product diversification	L	+VH	+VH	+VH	+VH
EN1	Energy Demand by Water Suppliers	M			-H	-VH
F01	Increased risk of wildfires	M	-M	-H	-H	-H
F04	Changes in tree species suitability	M	-M	-M	-M	-M
FL1	Number of people exposed to significant likelihood of flooding	H	-VH	-VH	-VH	-VH
FL2	Number of properties at significant likelihood of flooding	H	-H	-H	-H	-H
FL3	Flooding of transport infrastructure, critical utilities and archaeological sites	L	-L	-L	-L	-L
FL4	Insurance premiums for flood risk	M	-H	-H	-H	-H
FL5	Land affected by coastal erosion and wave overtopping	L	-L	-L	-L	-L
HE1	Temperature Mortality	M	-VH	-VH	-VH	-VH
HE2	Temperature Morbidity	L	-H	-H	-H	-H
MA1	Breakwaters exposed to significant risk of instability	L		-L		-H
W2	Higher cost of water supply due to increased desalination	L	-M	-M	-H	-H
W3	Irrigation Supply Deficit	L	-L	-M	-M	-H

## -; + loss **benefits Cost Ranking:**

Low (L)= €10.000 – 99.000 p.a

Medium(M)=€100.000–999.000p.a

High (H) ≥ €1m per annum

Very High (VH) ≥ €10m p.a

## **Confidence:**

High, Medium, Low Confidence

in data, models&assumptions

**Ευχαριστώ για την προσοχή σας!!!**