



S E C A P

# Methodologies for climate adaptation

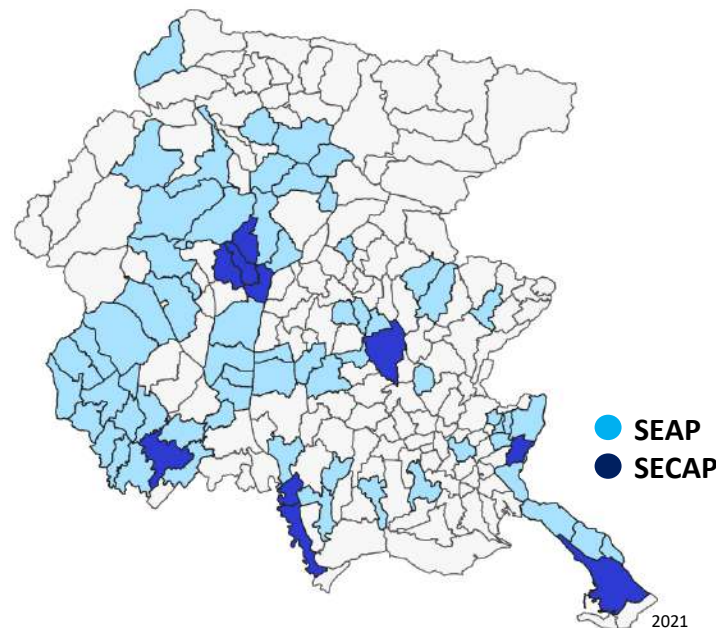
Nikola Holodkov, Area Science Park

*Online, 30 March 2022*



# Sustainable Energy and Climate Action Plan (SEAP/SECAP)

- Long-term vision
- Baseline emission inventory (BEI)
- Risk and vulnerability assessment (RVA)
- Mitigation actions (-40% CO<sub>2</sub> by 2030)
- Adaptation actions
- ...
- Monitoring Emission Inventory (MEI)



**S E C A P**

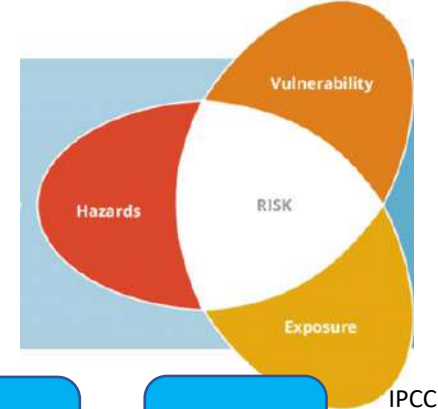
# Risk and vulnerability assessment (RVA)

<u>Climate hazards</u>	<< Current <u>risk</u> of hazard occurring >>		<< Future hazards >>		
	Probability of hazard	<u>Impact</u> of hazard	Expected change in hazard intensity	Expected change in hazard frequency	<u>Timeframe(s)</u>
	Single choice:  Low Moderate High Not known	Single choice:  Low Moderate High Not known	Single choice:  Increase Decrease No change Not known	Single choice:  Increase Decrease No change Not known	Multiple choice:  Short-term Mid-term Long-term Not known
<u>Extreme heat</u>	[Please choose]	[Please choose]	[Please choose]	[Please choose]	[Please choose]
<u>Extreme cold</u>	[Please choose]	[Please choose]	[Please choose]	[Please choose]	[Please choose]
<u>Heavy precipitation</u>	[Please choose]	[Please choose]	[Please choose]	[Please choose]	[Please choose]

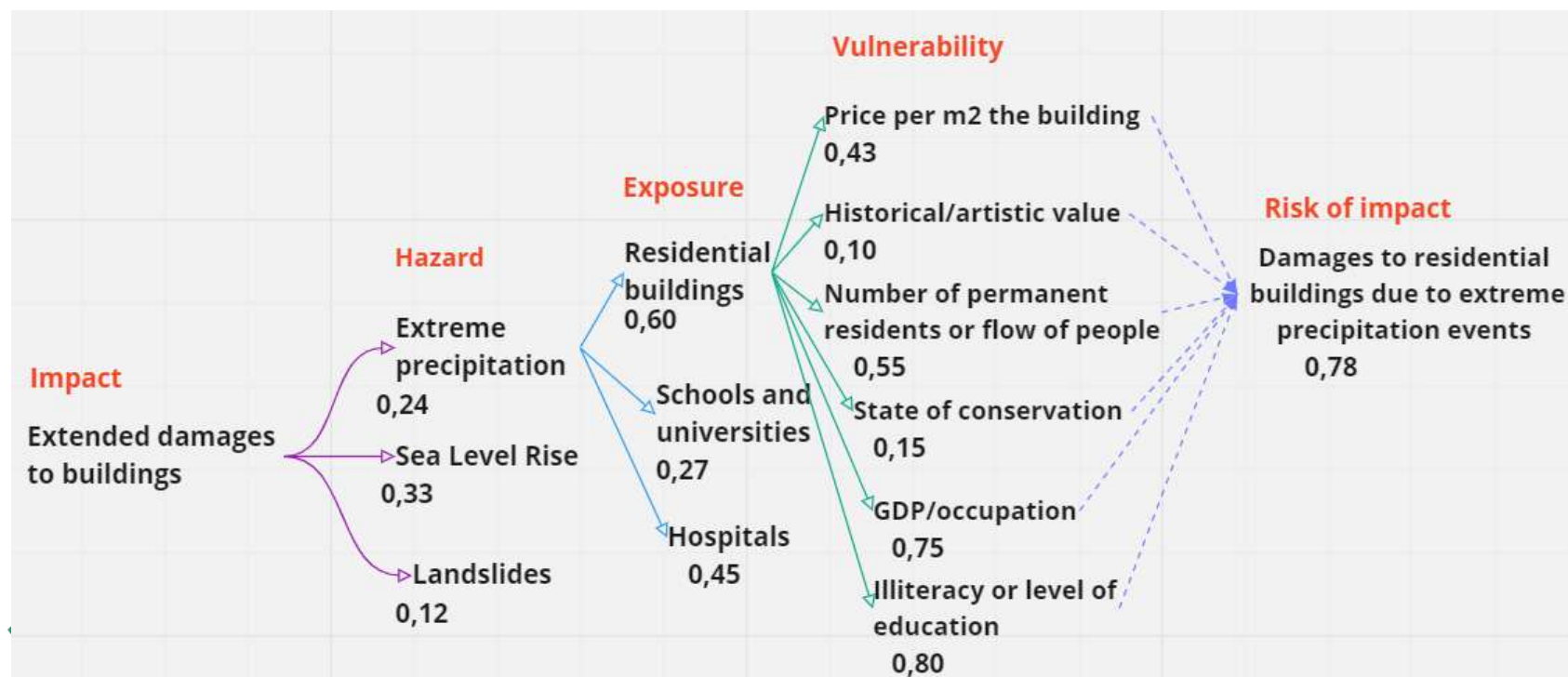
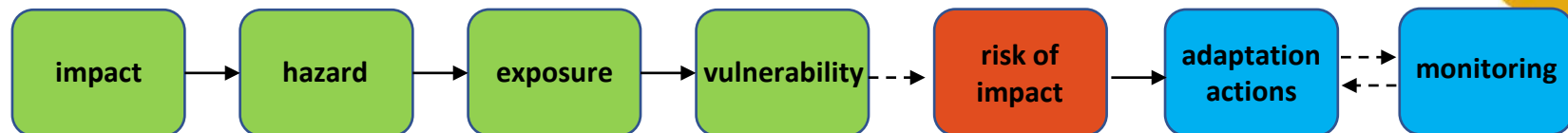
Climate hazards	Relevant vulnerable sector(s)	Current vulnerability level
	Multiple choice:  Buildings Transport Energy Water	Single choice:  Low Moderate High Not known
<u>Extreme heat</u>	[Choose from the list above]	[Please choose]
<u>Extreme cold</u>	[Choose from the list above]	[Please choose]
<u>Heavy precipitation</u>	[Choose from the list above]	[Please choose]

SECAP



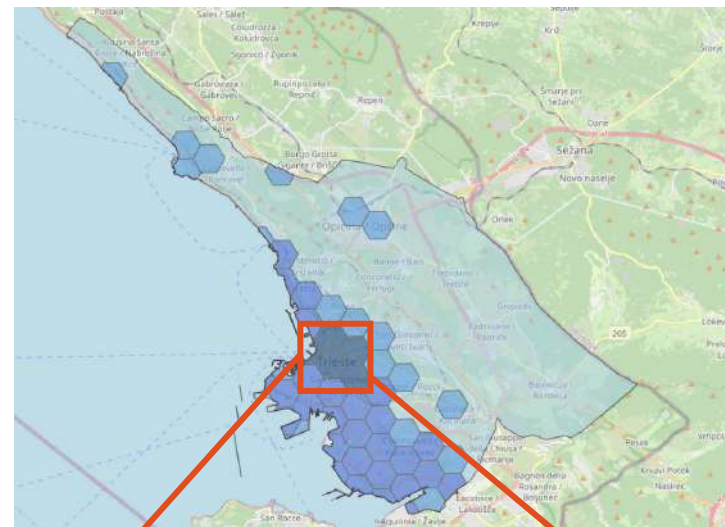


## AREA method - methodology for RVA

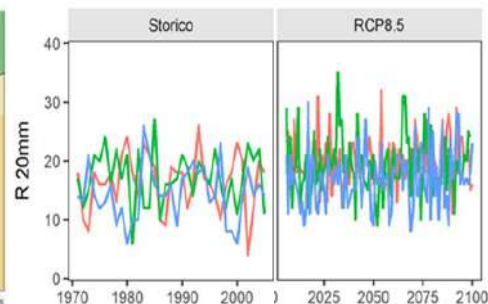
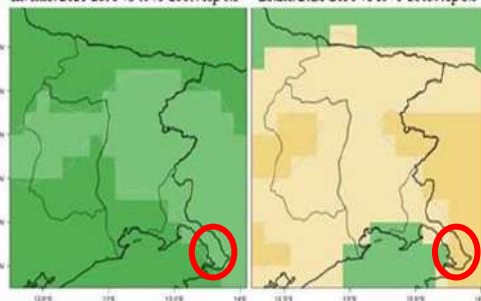


SECAP

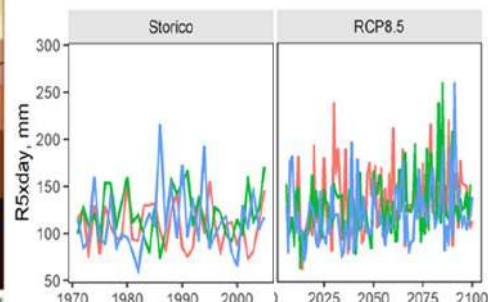
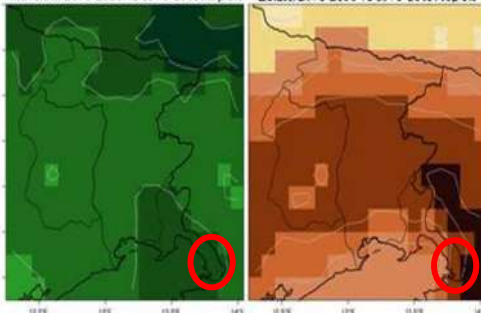




c) Inverno: 2021-2050 vs 1976-2005: rcp 8.5 Estate: 2021-2050 vs 1976-2005: rcp 8.5



d) Inverno: 2071-2100 vs 1976-2005: rcp 8.5 Estate: 2071-2100 vs 1976-2005: rcp 8.5



— EC-EARTH\_CCLM4  
— HadGEM2-ES  
— EC-EARTH\_RACMO



A P





**S E C A P**



AA: Floods & storm surges

CE: Extreme heat

Fr: landslides

Impacts	AA	CE	Fr
<b>Water</b>			
Damage to water pipelines	0,70		0,70
Reduction in the quality and quantity of drinkable water		0,82	
Reduction in the land water content		0,92	
<b>Agriculture and forestry</b>			
Reduction in forest density		0,69	
Increase of forest fires and extension of fire seasons		0,69	
Loss of forest biodiversity		0,69	
Loss in agricultural productivity		0,92	
<b>Environment &amp; Biodiversity</b>			
Alteration in the land-water and sea-water chemistry and physics	0,91	0,97	
Alteration in trophic networks		0,97	
Increase in alien species		0,99	
Alteration of marine organisms' physiology		0,97	
Loss of land-water and sea-water biodiversity		0,64	
Erosion of soil			0,64
Loss of terrestrial habitat and biodiversity		0,78	





## Attack, defend, or retreat?



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THANK YOU

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