CLIMSAVE MACSUR IMPRESSIONS

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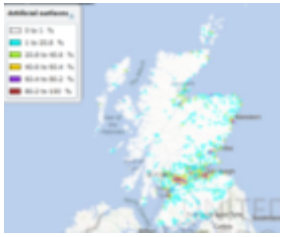
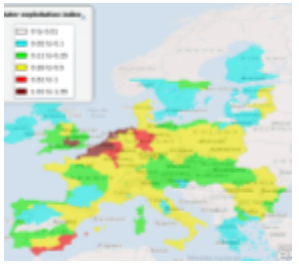
The CLIMSAVE project

Climate Change Integrated Assessment Methodology for Cross-Sectoral Adaptation and Vulnerability in Europe





Climate & socio-economic scenarios

Urban

Snow cover

Crop yields

Forestry

Pests & diseases

Hydrology

Water availability

Flooding

Rural land allocation

Water use

Biodiversity

The CLIMSAVE project

Climate Change Integrated Assessment Methodology for Cross-Sectoral Adaptation and Vulnerability in Europe

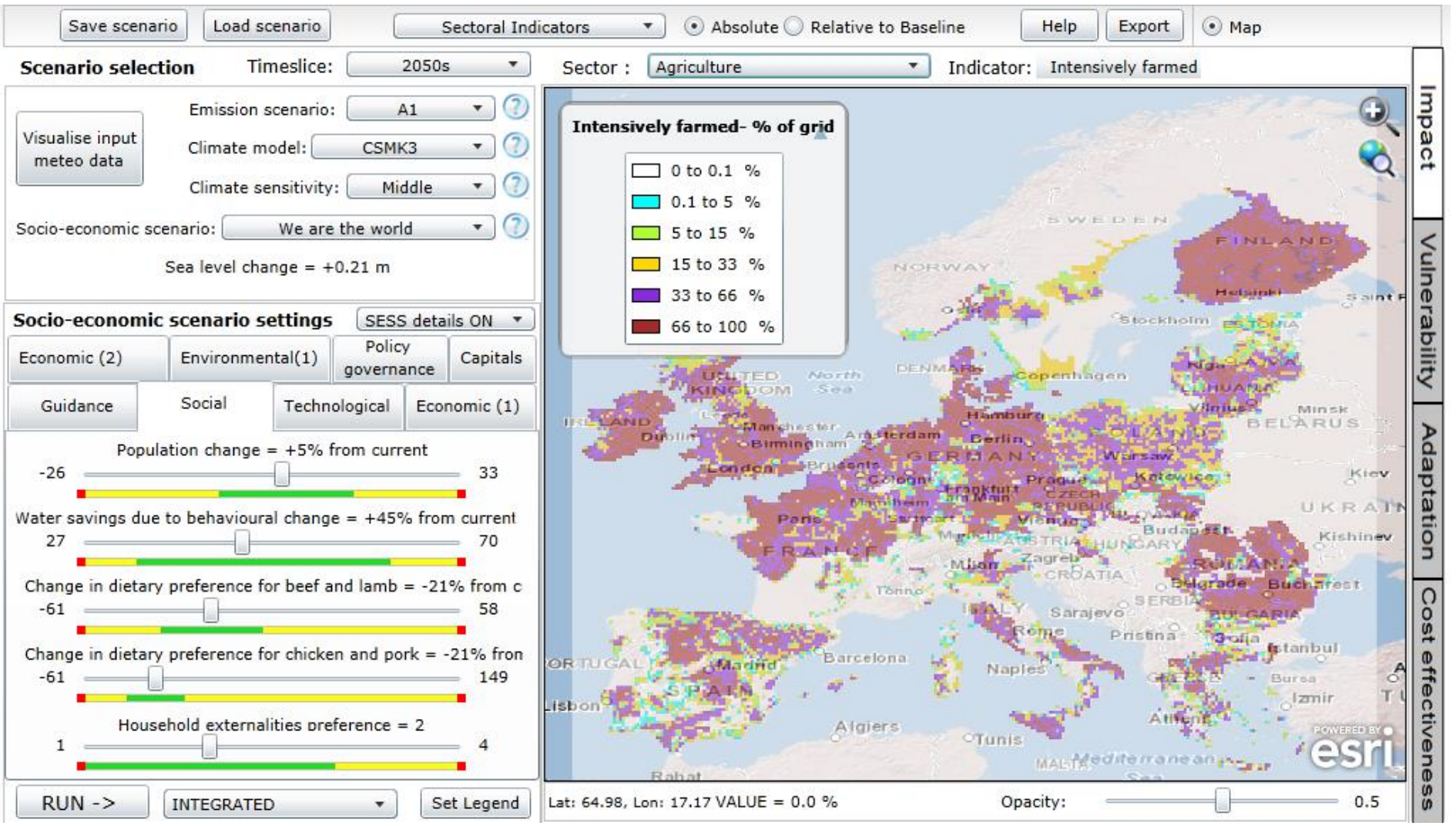
The CLIMSAVE Integrated Assessment Platform (IAP) is a web-based tool to enable you to explore climate change from regional to EU scales

- **Impacts** – simulates how climate and socio-economic change may affect urban, flooding, agriculture (arable and grassland), forest, water resources and biodiversity
- **Vulnerability** – identify 'hot spots' in Europe
- **Adaptation** – assess how adaptation can reduce impacts
- **Accessible at www.climsave.eu**

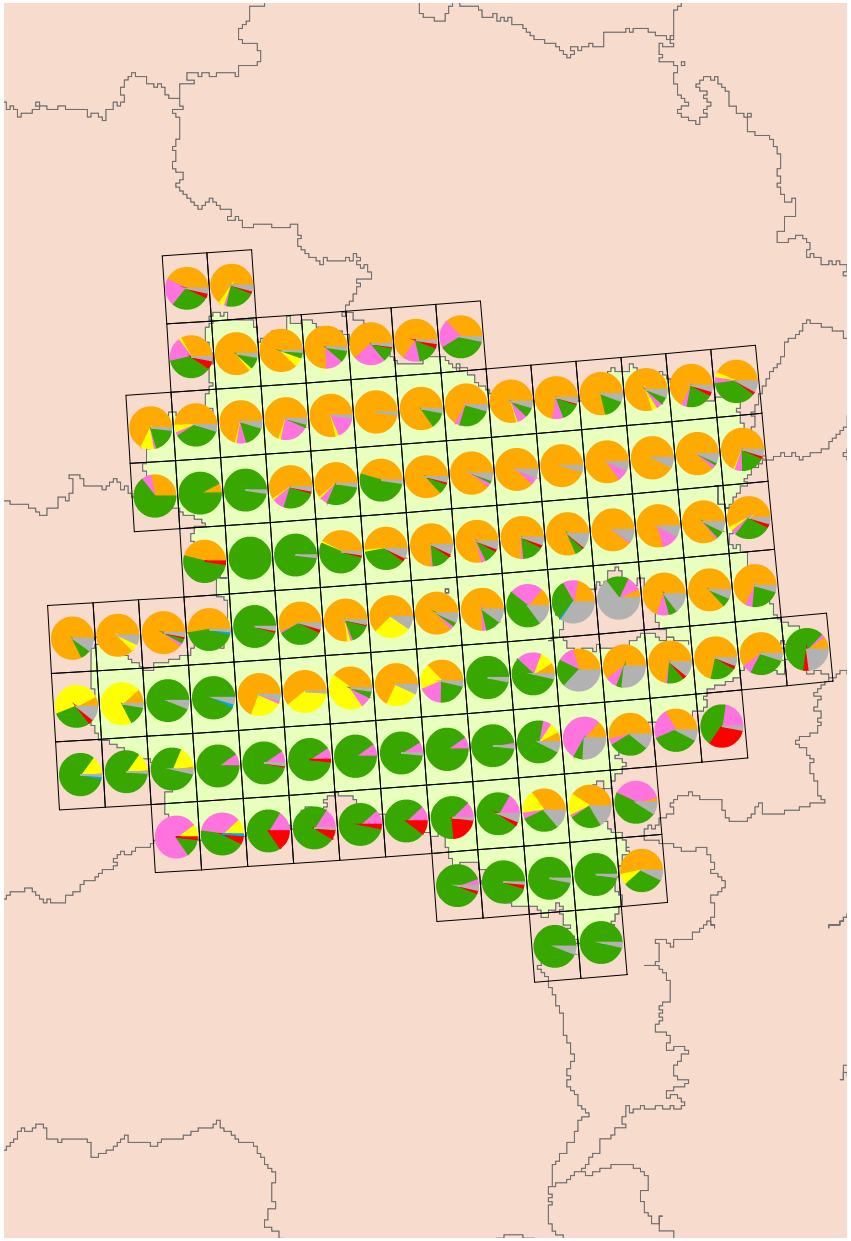
http://ec.europa.eu/research/fp7/Funded under the European Commission
Seventh Framework Programme
Contract Number: 244031

The CLIMSAVE project

Climate Change Integrated Assessment Methodology for Cross-Sectoral Adaptation and Vulnerability in Europe



Results: AT12 **current** land use



Land use (% of grid)

- Not land
- Intensive arable
- Dairy
- Extensive
- Forest
- Abandoned
- Flood
- Urban

Results: Production

Europe

Scenario		Total Production (Mt)					(kMlitre)	%
Socio	Climate	Cereal	Oilseed	Potato	Soya	Meat	Milk	Agric Land Change
Current	Current	468	55	266	0.8	812	48	0
SSP2		501	59	282	1.0	906	49	-10
SSP3		545	58	275	0.7	875	65	-2.5
SSP2	IPCM4	503	59	308	0.8	880	46	-18.1
	HADGEM	492	58	285	0.8	875	57	-15.2
SSP3	IPCM4	530	59	296	0.8	872	55	-12
	HADGEM	512	58	287	0.8	895	54	-10.1

Results: Land Change

Austria NUTS2 = AT12

Scenario		Land use (kha)			
Socio	Climate	Intensive	Extensive grazing	Forest	Abandoned
Current	Current	962	121	701	
SSP2		938	50	679	117
SSP3		975	120	689	-1
SSP2	Current	938	50	679	117
	IPCM4	948	42	539	255
	HADGEM	1121	69	415	178
SSP3	Current	975	120	689	-1
	IPCM4	816	78	585	304
	HADGEM	976	81	423	303

- The results are not just dependent on AT12
- Prices depend largely on
  - EU population
  - Level of yield increases from breeding
  - Level of imports

Results: Land Change

Italy ITG2

Scenario		Land use (kha)			
Socio	Climate	Intensive	Extensive grazing	Forest	Abandoned
Current	Current	1002	260	362	
SSP2		1227	85	128	183
SSP3		1240	230	153	0
SSP2	Current	1227	85	128	183
	IPCM4	711	68	132	711
	HADGEM	953	83	112	476
SSP3	Current	1240	230	153	0
	IPCM4	575	33	107	908
	HADGEM	914	51	136	522

- SSP2 is bad for extensive grazing
- Scenarios are good for agriculture (lots of forage maize)
- Climate is bad for agriculture
- IPCM4 is worst

Results: W.Wheat Yield

Italy ITG2

Scenario		Yield, % of …		
Socio	Climate	…baseline	…current climate	Scenario
Current	Current	8.3t/ha		
SSP2		117%		+22%, less N
SSP3		113%		+12%
SSP2	IPCM4	125%	107%	
	HADGEM	125%	107%	
SSP3	IPCM4	116%	102%	
	HADGEM	122%	107%	

- Scenario 22% yield increase tempered by increase in area
- Average is different because of change in amount of land used
  - More land means more poorer land

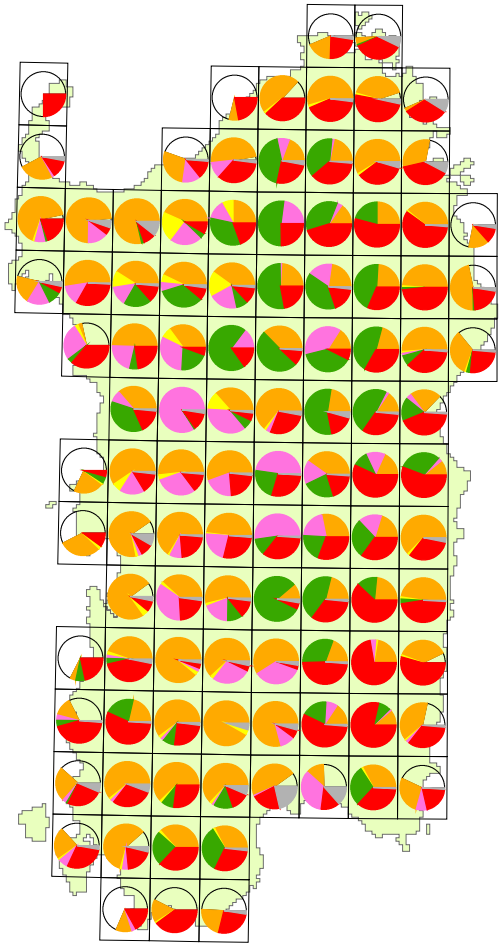
Results: Land Change

Finland FI13

Scenario		Land use (kha)			
Socio	Climate	Intensive	Extensive grazing	Forest	Abandoned
Current	Current	39	923	5111	
SSP2		19	20	5111	922
SSP3		19	20	5111	922
SSP2	Current	19	20	5111	922
	IPCM4	0	20	3526	2526
	HADGEM	189	6	3613	2264
SSP3	Current	19	20	5111	922
	IPCM4	1202	2	2711	2157
	HADGEM	647	2	3176	2248

- Scenarios make extensive grazing unprofitable
- Climate makes forest unprofitable (is this the forest model?)
- SSP3 AND climate makes lots of arable cropping profitable

Results: ITG2 **current** land use



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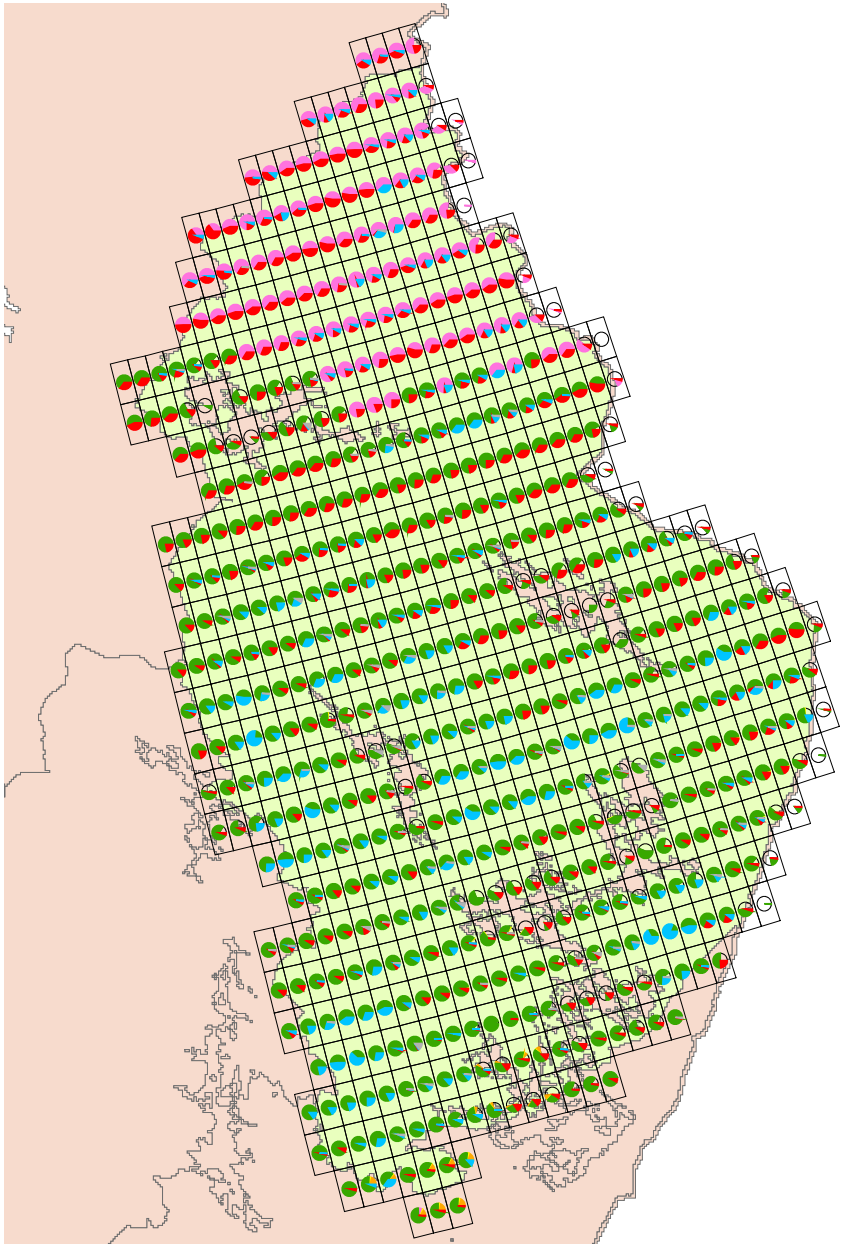
Results: FI13 **current** land use



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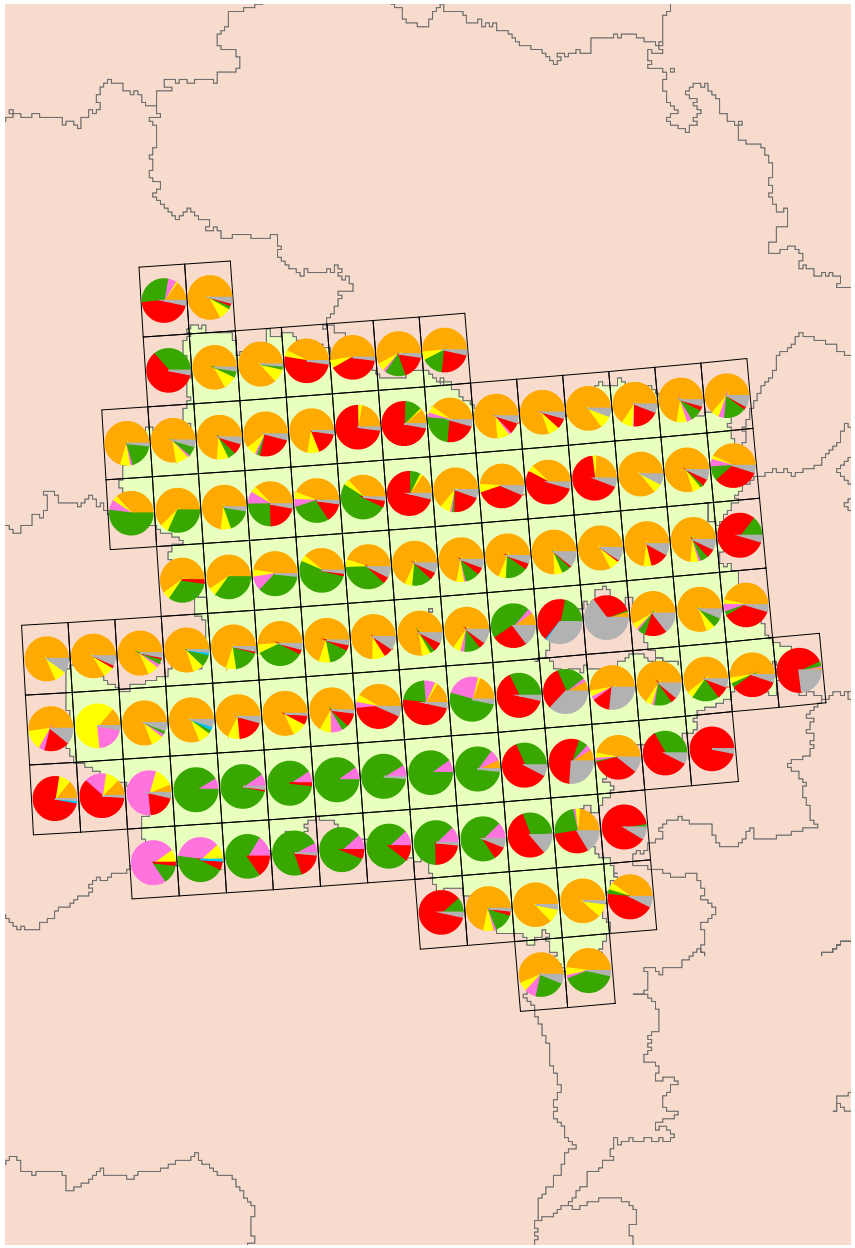
Results: AT12 **SSP3 HADGEM** land use



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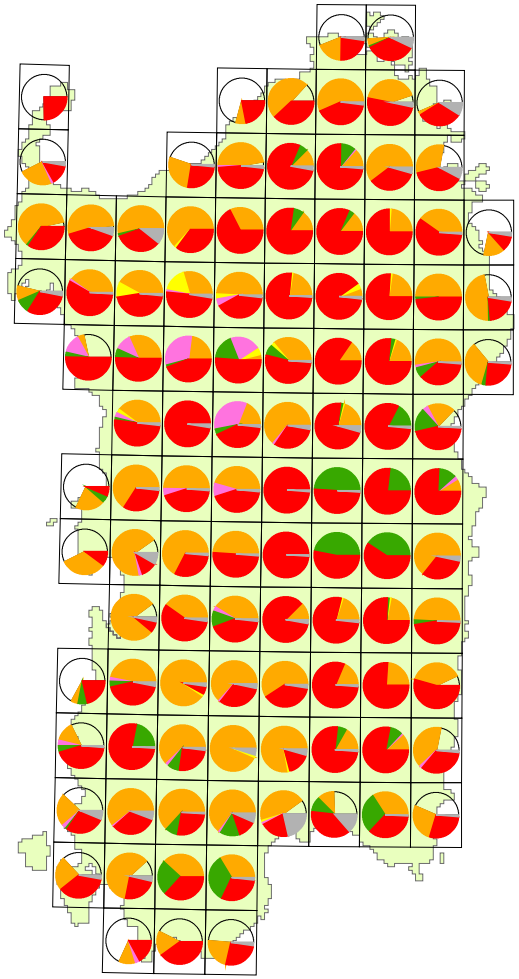

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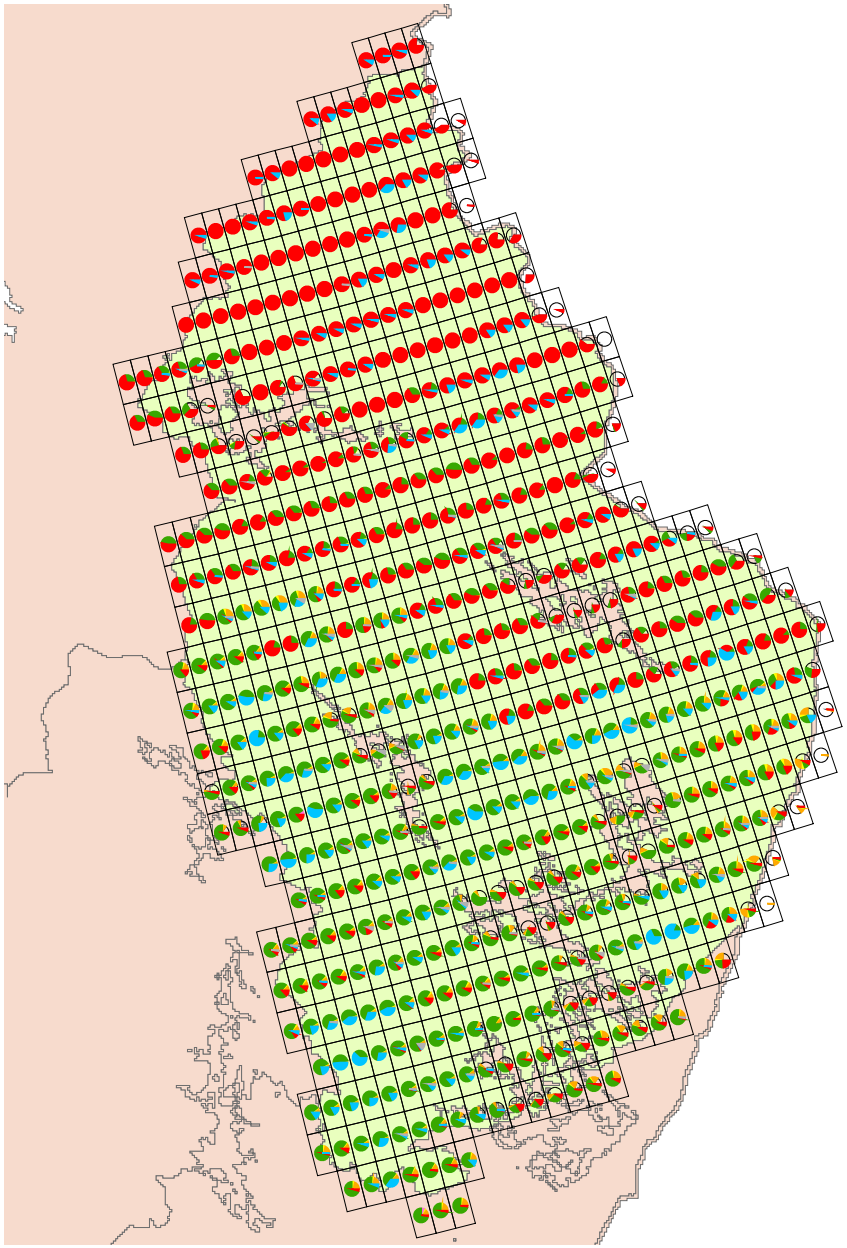

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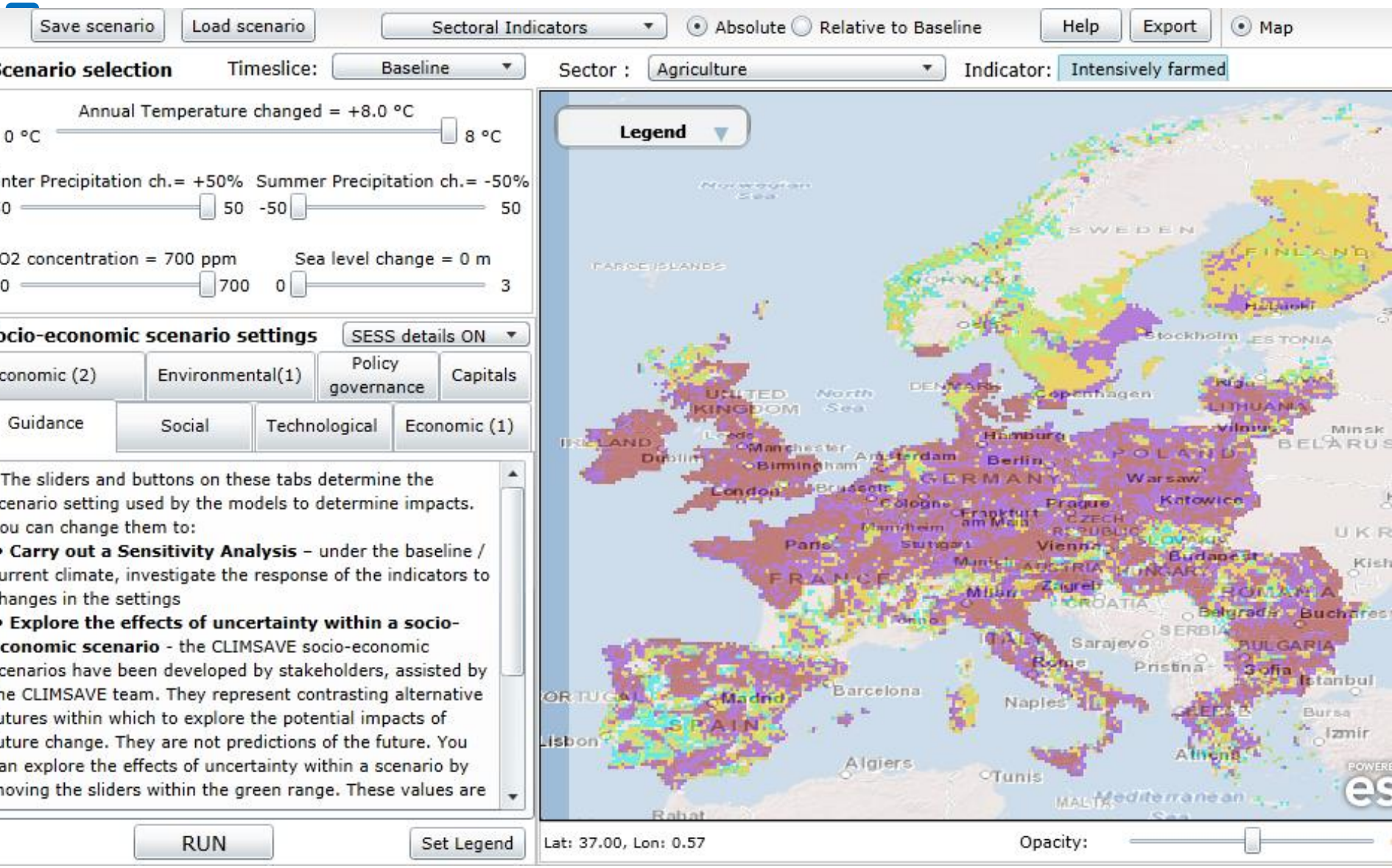
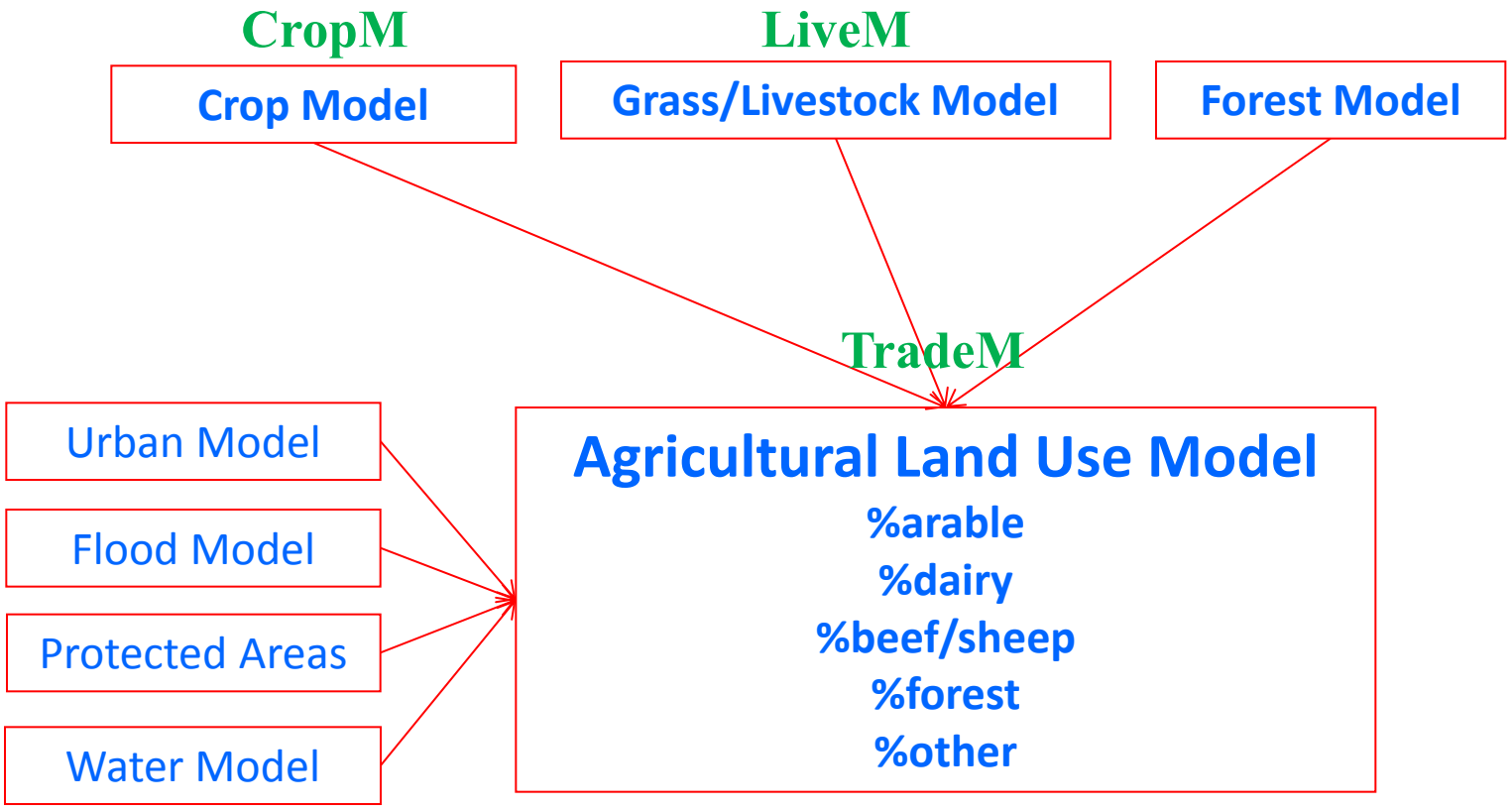
High End scenarios and Transient land change





Have crop, livestock and trade models