Eric Audsley,
Institute for Health Environment Risks and Futures
Cranfield University
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://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

Scenario selection
Timeslice: 2050s
Sector: Agriculture
Indicator: Intensively farmed

Visualise input meteo data

Emission scenario: A1
Climate model: CSMK3
Climate sensitivity: Middle
Socio-economic scenario: We are the world
Sea level change = +0.21 m

Socio-economic scenario settings
SESS details ON

Economic (2)
Environmental (1)
Policy governance
Capitals
Guidance
Social
Technological
Economic (1)

Population change = +5% from current
Water savings due to behavioural change = +45% from current
Change in dietary preference for beef and lamb = -21% from current
Change in dietary preference for chicken and pork = -21% from current
Household externalities preference = 2

Intensively farmed - % of grid

0 to 0.1%
0.1 to 5%
5 to 15%
15 to 33%
33 to 66%
66 to 100%

Lat: 64.98, Lon: 17.17 VALUE = 0.0 %
Opacity: 0.5
Results: AT12 current land use

Land use (% of grid)

- Not land
- Intensive arable
- Dairy
- Extensive
- Forest
- Abandoned
- Flood
- Urban
## Results: Production

### Europe

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Production (Mt)</th>
<th>(kMlitre)</th>
<th>%</th>
<th>Agric Land Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socio</strong></td>
<td><strong>Climate</strong></td>
<td>Cereal</td>
<td>Oilseed</td>
<td>Potato</td>
</tr>
<tr>
<td>Current</td>
<td>Current</td>
<td>468</td>
<td>55</td>
<td>266</td>
</tr>
<tr>
<td>SSP2</td>
<td></td>
<td>501</td>
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<td>282</td>
</tr>
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<td>SSP3</td>
<td></td>
<td>545</td>
<td>58</td>
<td>275</td>
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<tr>
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<td>IPCM4</td>
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<td>59</td>
<td>308</td>
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<tr>
<td>SSP3</td>
<td>IPCM4</td>
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<tr>
<td>HADGEM</td>
<td></td>
<td>512</td>
<td>58</td>
<td>287</td>
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</table>
## Results: Land Change

### Austria NUTS2 = AT12

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Socio</th>
<th>Climate</th>
<th>Intensive</th>
<th>Extensive grazing</th>
<th>Forest</th>
<th>Abandoned</th>
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<tbody>
<tr>
<td>Current</td>
<td>Current</td>
<td>962</td>
<td>121</td>
<td>701</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSP2</td>
<td>Current</td>
<td>938</td>
<td>50</td>
<td>679</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>SSP3</td>
<td>Current</td>
<td>975</td>
<td>120</td>
<td>689</td>
<td>-1</td>
<td></td>
</tr>
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</table>

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<td>679</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IPCM4</td>
<td>948</td>
<td>42</td>
<td>539</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HADGEM</td>
<td>1121</td>
<td>69</td>
<td>415</td>
<td>178</td>
<td></td>
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<td>120</td>
<td>689</td>
<td>-1</td>
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<tr>
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<td>HADGEM</td>
<td>976</td>
<td>81</td>
<td>423</td>
<td>303</td>
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</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Land use (kha)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Socio</td>
<td>Climate</td>
</tr>
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<td>SSP3</td>
<td></td>
<td>HADGEM</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Yield, % of ...</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio</td>
<td>Climate</td>
<td>...baseline</td>
</tr>
<tr>
<td>Current</td>
<td>Current</td>
<td>8.3t/ha</td>
</tr>
<tr>
<td>SSP2</td>
<td>IPCM4</td>
<td>125%</td>
</tr>
<tr>
<td>SSP3</td>
<td>HADGEM</td>
<td>125%</td>
</tr>
</tbody>
</table>

- 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

<table>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intensive</td>
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<tr>
<td>Socio</td>
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</tbody>
</table>

- 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

Land use (% of grid)

- Not land
- Intensive arable
- Dairy
- Extensive
- Forest
- Abandoned
- Flood
- Urban
Results: FI13 current land use

Land use (% of grid)

- Not land
- Intensive arable
- Dairy
- Extensive
- Forest
- Abandoned
- Flood
- Urban
Results: AT12 SSP3 HADGEM land use

Land use (% of grid)
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Results: ITG2 SSP3 HADGEM land use

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Results: FI13 SSP3 HADGEM land use

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High End scenarios and Transient land change

The sliders and buttons on these tabs determine the scenario setting used by the models to determine impacts. You can change them to:
- **Carry out a Sensitivity Analysis** – under the baseline / current climate, investigate the response of the indicators to changes in the settings
- **Explore the effects of uncertainty within a socio-economic scenario** - the CLIMSAVE socio-economic scenarios have been developed by stakeholders, assisted by the CLIMSAVE team. They represent contrasting alternative futures within which to explore the potential impacts of future change. They are not predictions of the future. You can explore the effects of uncertainty within a scenario by moving the sliders within the green range. These values are
Have crop, livestock and trade models