Regional and global perspectives on climate change and health: focusing on solutions

Europe

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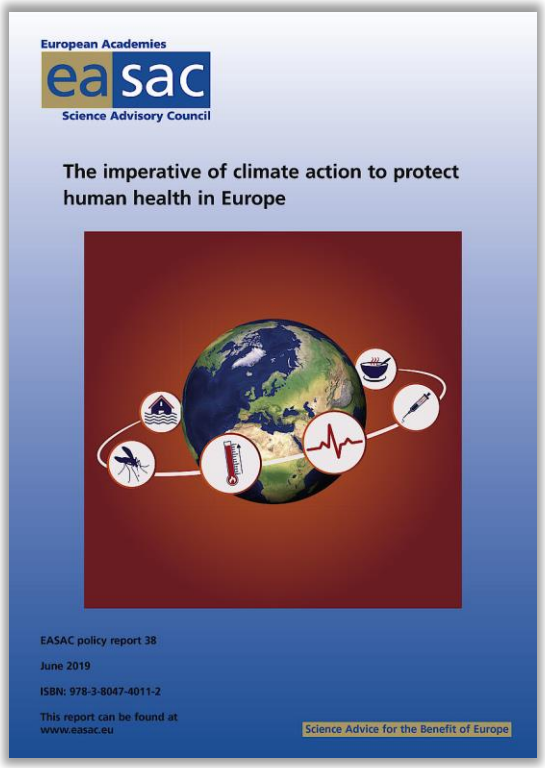
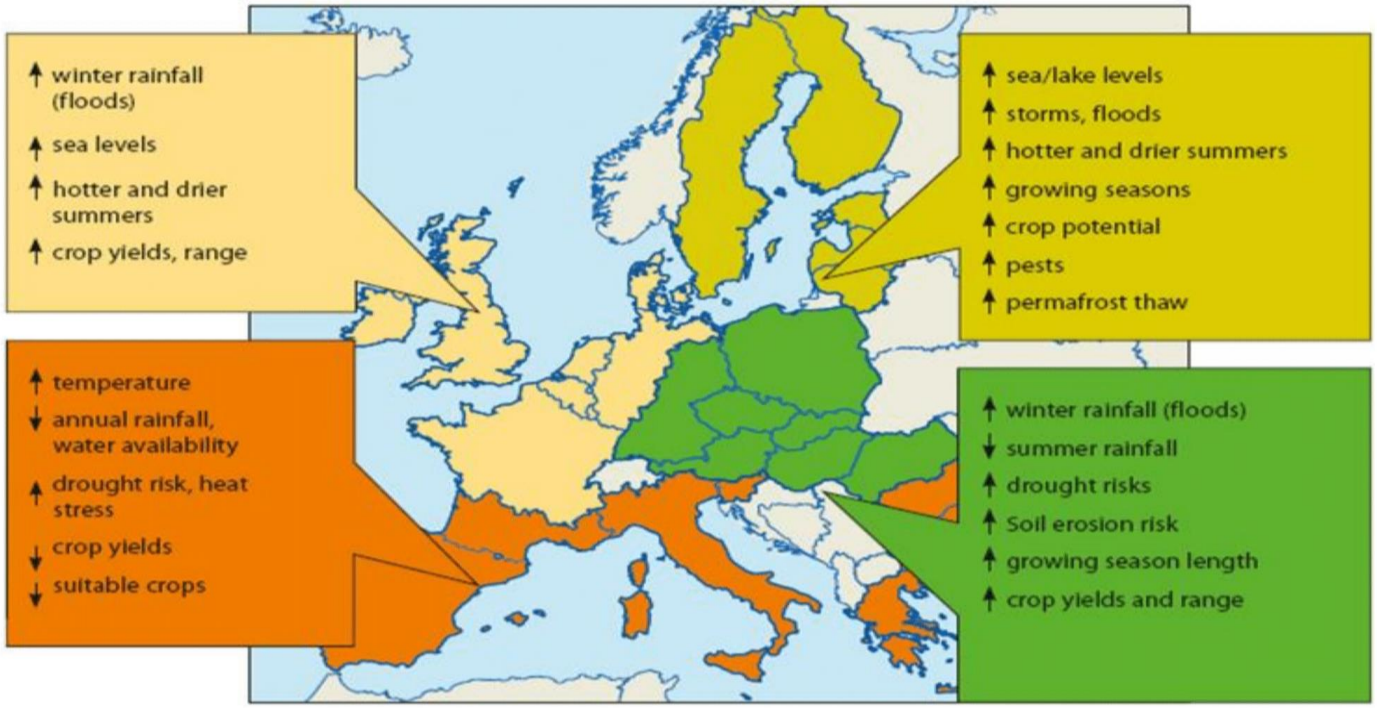


European recommendations on strengthening and using the evidence base on climate change and health

- Linking research outputs and policy development:
  - For achieving resilience, adaptation, mitigation, and minimizing unintended consequences
- Health risk communication:
  - Countering misinformation; understanding and informing individual and institutional behaviour
- Using evidence already available:
  - “Health in all policies”; aligning with existing initiatives
- Generating new evidence:
  - Priorities for filling knowledge gaps using new, robust and relevant research, e.g. on vulnerable groups

European recommendations on strengthening and using the evidence base on climate change and health



Source: http://adapt2clima.eu/en/climate-change-agriculture

EASAC analysis for sustainable, healthy diets
1) Adaptation

- Impacts of climate change on food systems:
  - Mediated by temperature, precipitation, carbon dioxide, pests and diseases: will vary across region
  - Impact on cereal yield, fruit and vegetable vitamin and mineral content, fisheries e.g. WHO scenario that southern Europe could experience 25% food production loss; drought in 2018 caused most severe problems in EU fruit and vegetable sector for 40 years; reduction in maize growing season >20d between 1981-2019 (Lancet Countdown)
- Opportunities for adaptation:
  - Biosciences research and plant breeding for resistance to stresses
  - Social sciences research for understanding farmer behaviour
  - Coordinated policy development

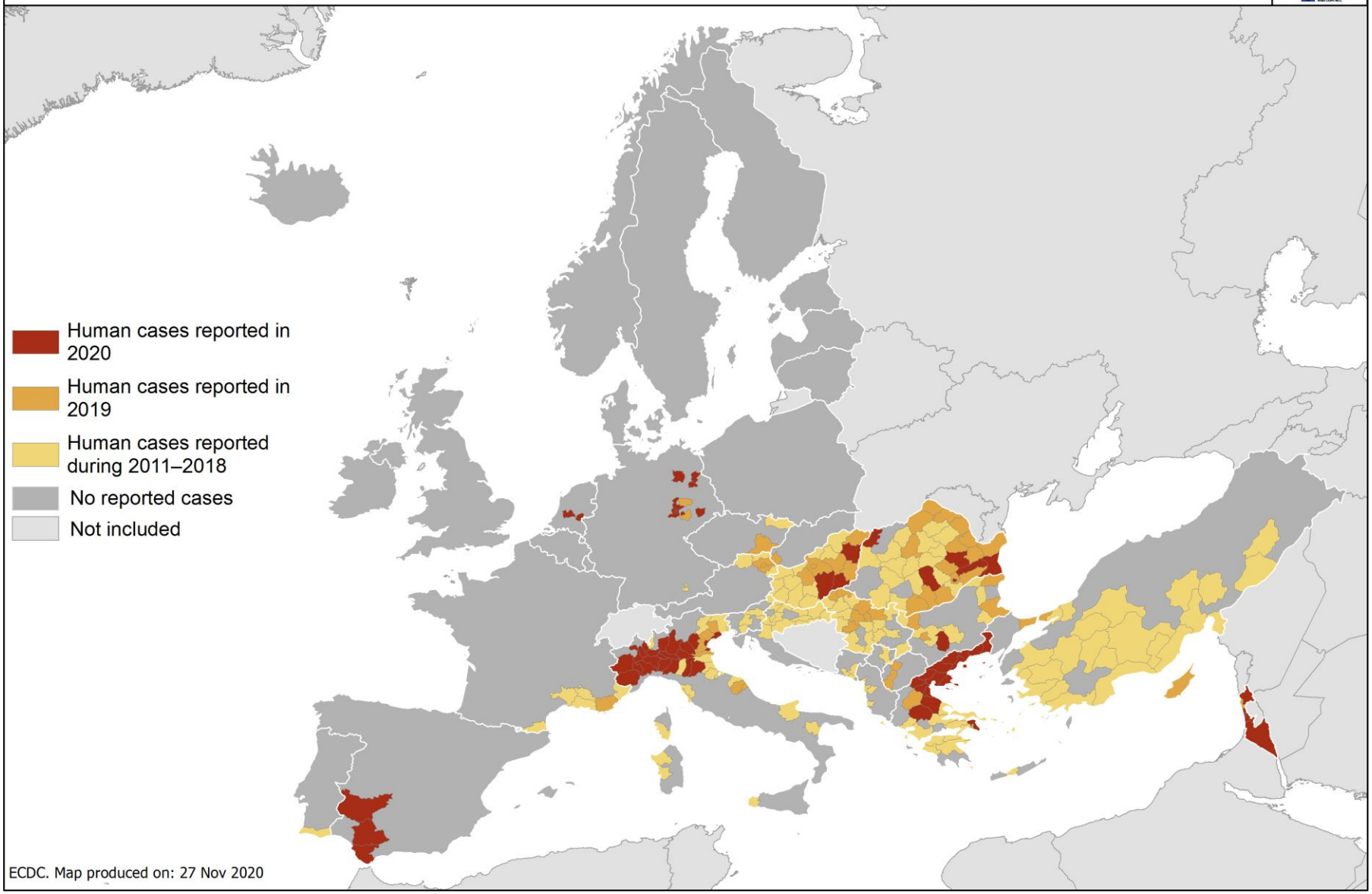
EASAC analysis for sustainable, healthy diets
2) Mitigation

- Agriculture's contribution to GHG emissions:
  - Agri-food systems worldwide account for about 30% GHGs
  - Animal-based foods responsible for about 75% European agricultural land use and high proportion of GHGs
- Mitigation – sustainable, healthy diets:
  - Requires combination of measures – reduction in food waste, improvement of farming practices, change in diets
  - Changing diets can also bring health co-benefits (for obesity, NCDs)
  - Issues for vulnerable groups and how to influence consumer choice

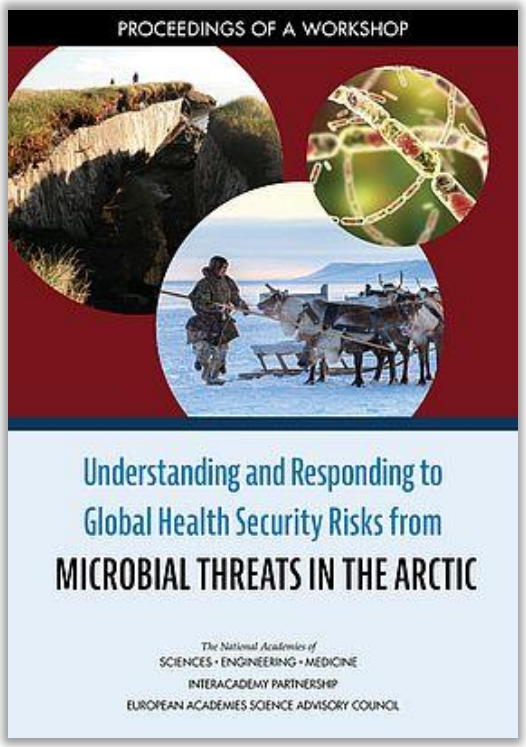
Climate change and infectious disease in Europe

- Vector-borne:
  - Human e.g. West Nile Virus, Lyme disease, dengue, chikungunya
  - Animal e.g. African swine fever
- Water-borne:
  - e.g. *Vibrio*
- Food-borne:
  - e.g. *Salmonella*
- Mechanisms for increasing threats:
  - e.g. increasing geographical distribution and replication rate, human exposure and other ecosystem changes

Distribution of West Nile virus infections in humans by affected areas in the EU/EEA countries and EU neighbouring countries
Transmission season 2020 and previous transmission seasons; latest data update 26 Nov 2020



Arctic permafrost thawing and (re-)emerging pathogens



EASAC key points from the Arctic workshop

https://easac.eu/news/details/arctic-warming-and-microbial-threats-perspectives-from-iap-and-easac-following-an-international-academies-workshop/

- Researchers should engage with local communities/access indigenous knowledge
- Need to develop standardised surveillance systems
- One Health perspective for reporting and response systems across public health/animals as food sources/other wildlife
- Connecting different public sector research networks and sharing novel technologies e.g. data mining
- Using data to inform policy and practice at local, regional and global levels
- Invest in basic research e.g. determinants of transmission between/within species

What lessons for climate change and infectious disease from COVID-19?

- Both climate change and COVID-19 exert additional pressures on health sector and reveal lack of preparedness in many Member States
- Both have/will have very high public health and economic impacts
- Both show disproportionate effects on vulnerable groups
- Effects may be compounded e.g. flooding impedes response to COVID-19
- Indirect effects of COVID-19, e.g. on food systems, may also compound vulnerabilities to climate change in low-income groups
- Other novel pathogens may emerge from impact of climate change/other environmental damage
- Planning for sustainable recovery after COVID-19 (low-carbon pathways) can help tackle climate change and promote health