

SCAC slutkonferens 19 Maj 2020

It all started with science.....



1970s evidence of acidification of lakes and waterways in Sweden and Norway

1980s evidence of increased damage of forests in Europe

1990s focus on health effects from air pollutants

2000s synergies with climate change

2010s Integrated approaches

2020s How to build back better ?



.....and it continues with science

Swedish research programs

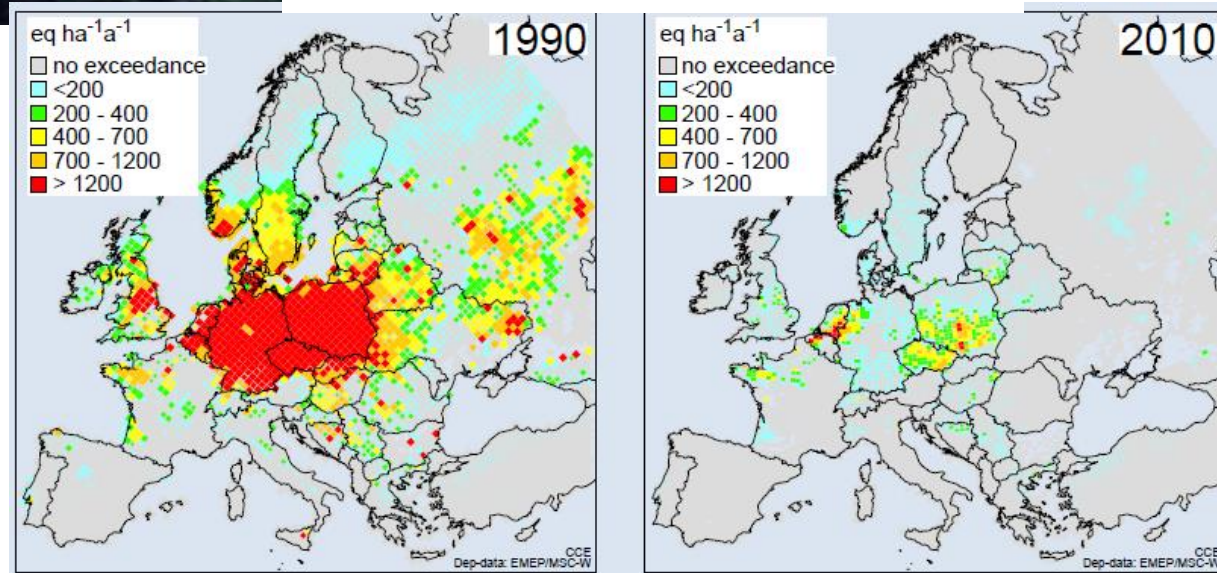
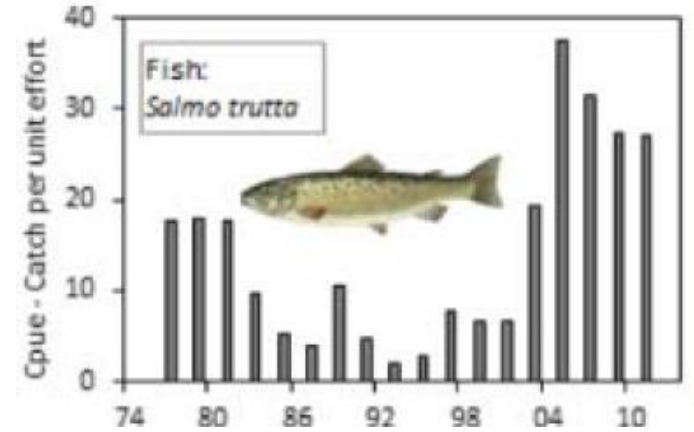
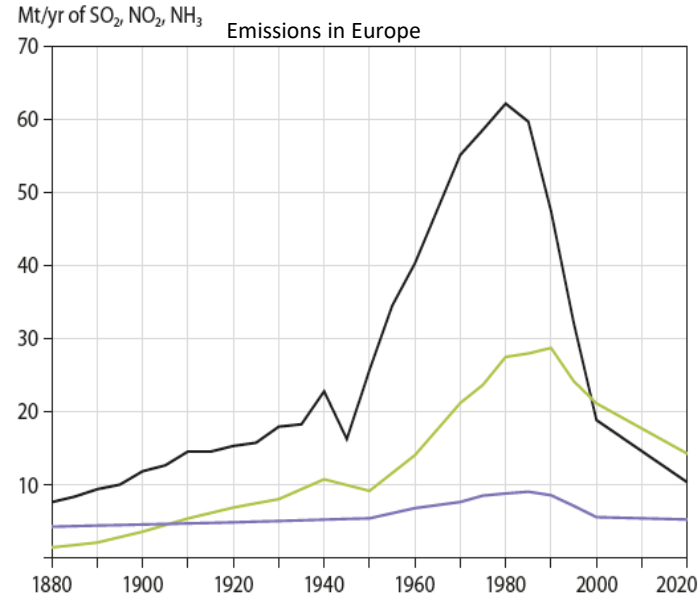
- ASTA (Mistra), 1999-2007
- SNAP, 2001-2006
- SCARP, 2006-2012
- CLEO, 2010-2015
- SCAC, 2017-2020



- Important contributions to the international research on air pollutants and their effects.
- Essential to bring issues of swedish concern into the process
- Important input to negotiations between countries
- Important for the development of national strategies



Acidification: large improvements since 1979



CLRTAP Long term strategy 2020-2030



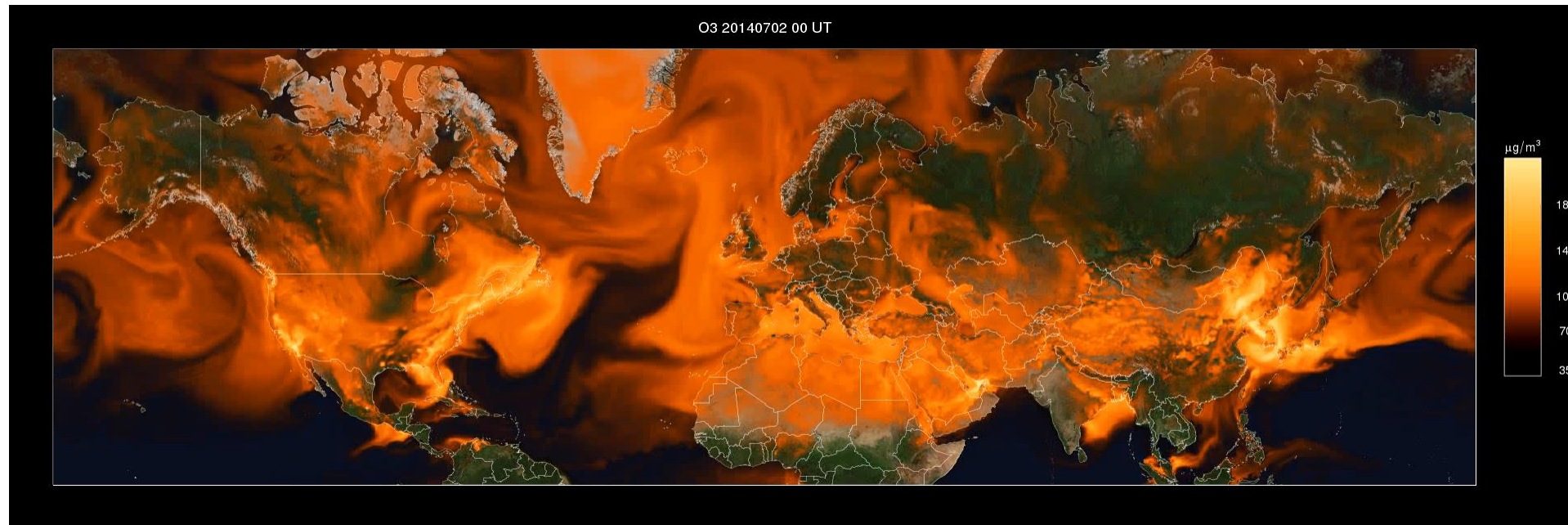
- Ratification and implementation
- Focus on the EECCA region
- Increased cooperation with other regions
- Improve the scientific and technical basis

Priority challenges include

- Effects of ozone and particles (and their precursors)
- The global and regional nitrogen cycles
- Long-term risks related to POPs and HMs
- Transcontinental transport of air pollution (increased importance in the UNECE)
- The importance of long-range transport of air pollutants for air quality in cities / scales
- Links between air pollution, ecosystems and climate change

Dealing with ozone requires international cooperation

- Because of long lifetime in the atmosphere
- Fluctuations according to solar radiation variations
- Precursors are emitted by the city centers (NO_x) but highest values are observed in rural areas



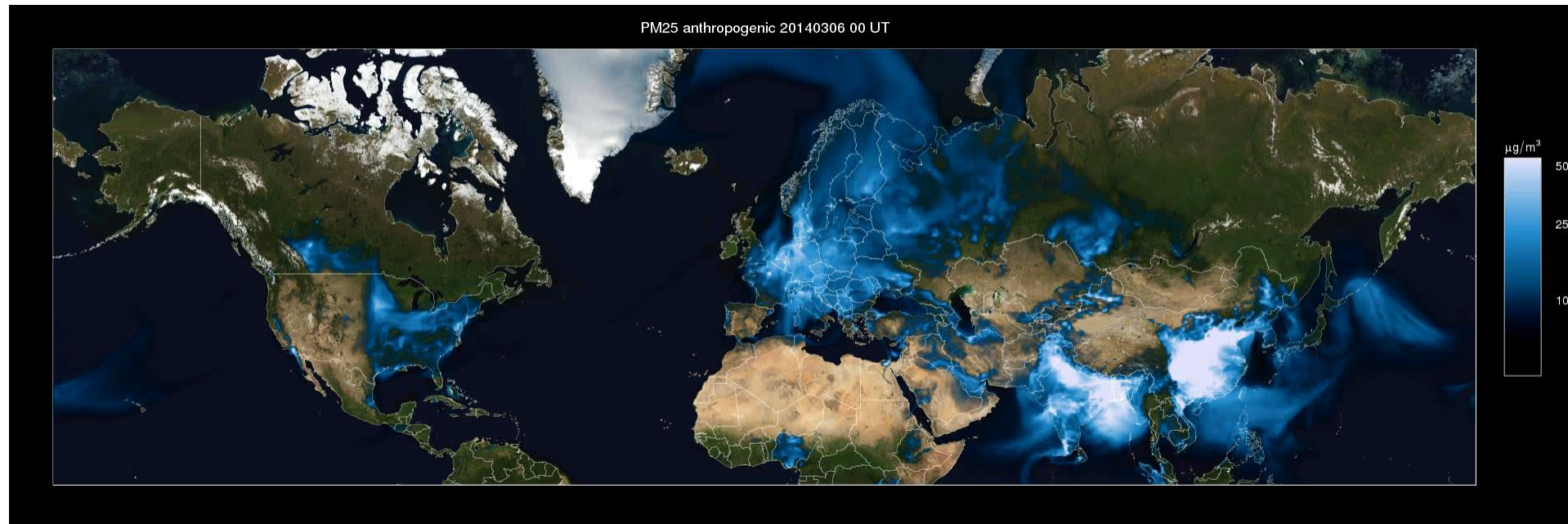
High resolution (7km) CHIMERE runs in summer 2014

Source: Ineris

PM2.5 : complex air pollution patterns

Episodes and high concentrations result from local sources in the cities (traffic and residential heating) and transboundary sources (agriculture)

→ **Development of local/national/sectoral action plans is essential**



High resolution (7km) CHIMERE runs in March 2014
(ammonium nitrate episode in Europe)

Source: Ineris

Whats next ?



- Implementation of the NECD and the revised Gbg protocol
- Result of the fitness check of the EU ambient AQ directives
- Review of the Gbg protocol, start spring 2020
- Next generation of policy instruments ?
- New focus ? New substances ? (Methane, BC , Hg....)
- Focus on specific sources ? (Shipping ,Agriculture, small scale solid fuel burning)
- Reactive Nitrogen
- Air pollution and health – urban/city focus
- Synergies with other policy areas like energy, transport, agriculture and climate.



To summarise

- A lot has been achieved but more needs to be done
- Science drives policy –policy drives science
- Close cooperation between science and policy is key to success
- SCAC has given important contributions to the international research processes
- SCAC has been of great importance for the Swedish participation in the international processes
- SCAC has contributed with input to national strategies
- Further research needed