

CRISIS HANDLING UNDER COVID-19 AND LESSONS RELEVANT TO NUCLEAR EMERGENCY PREPAREDNESS AND RESPONSE

Astrid Liland

Director for Emergency Preparedness and
Response

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Direktoratet for
strålevern og atomsikkerhet

Norwegian Radiation
and Nuclear Safety Authority

The Covid-19 pandemic

Situation by WHO Region



Daily Weekly

Cases Deaths

Count

Europe 218 995 871 confirmed

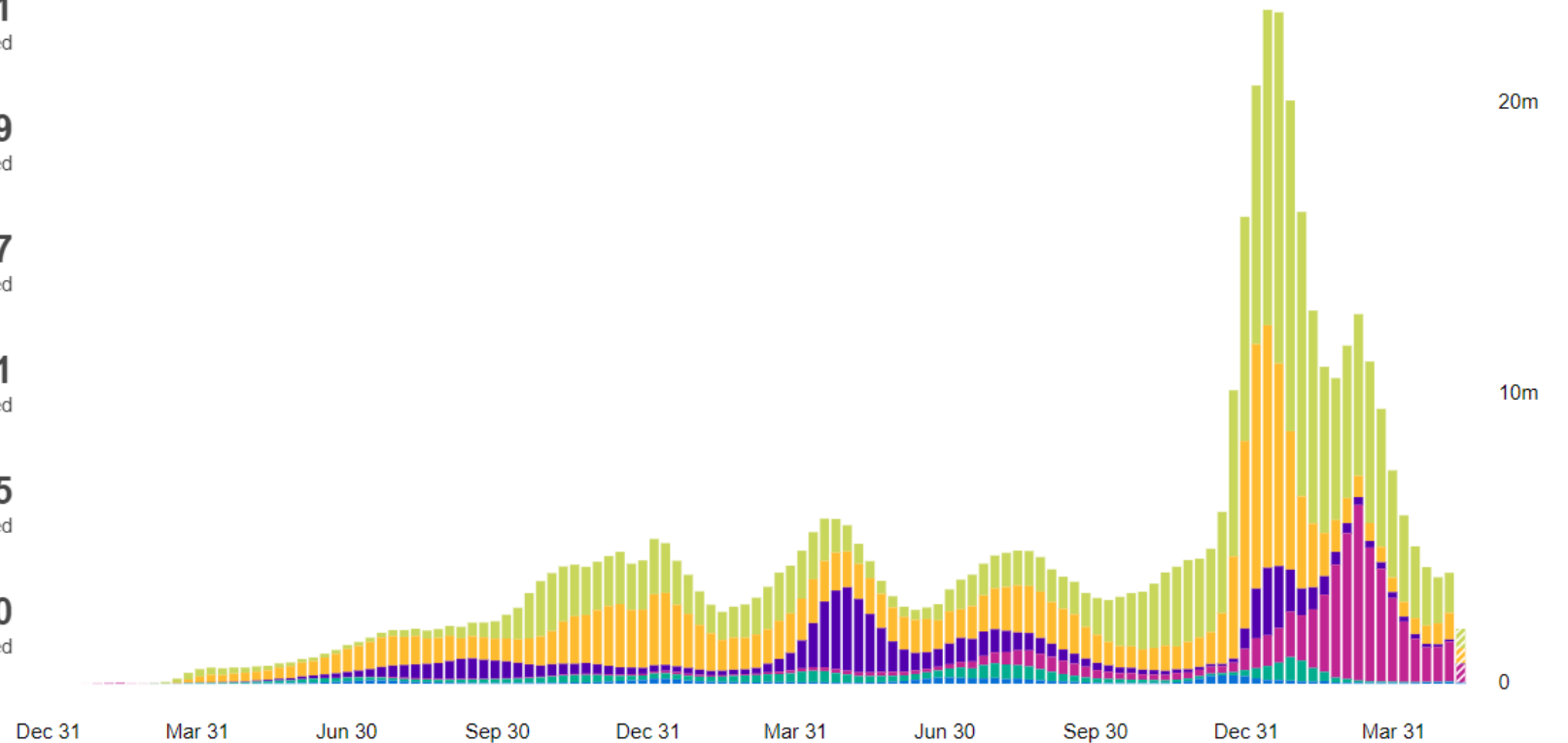
Americas 155 357 749 confirmed

South-East Asia 58 047 397 confirmed

Western Pacific 57 837 461 confirmed

Eastern Mediterranean 21 745 075 confirmed

Africa 8 927 940 confirmed



Norwegian White Papers on corona handling

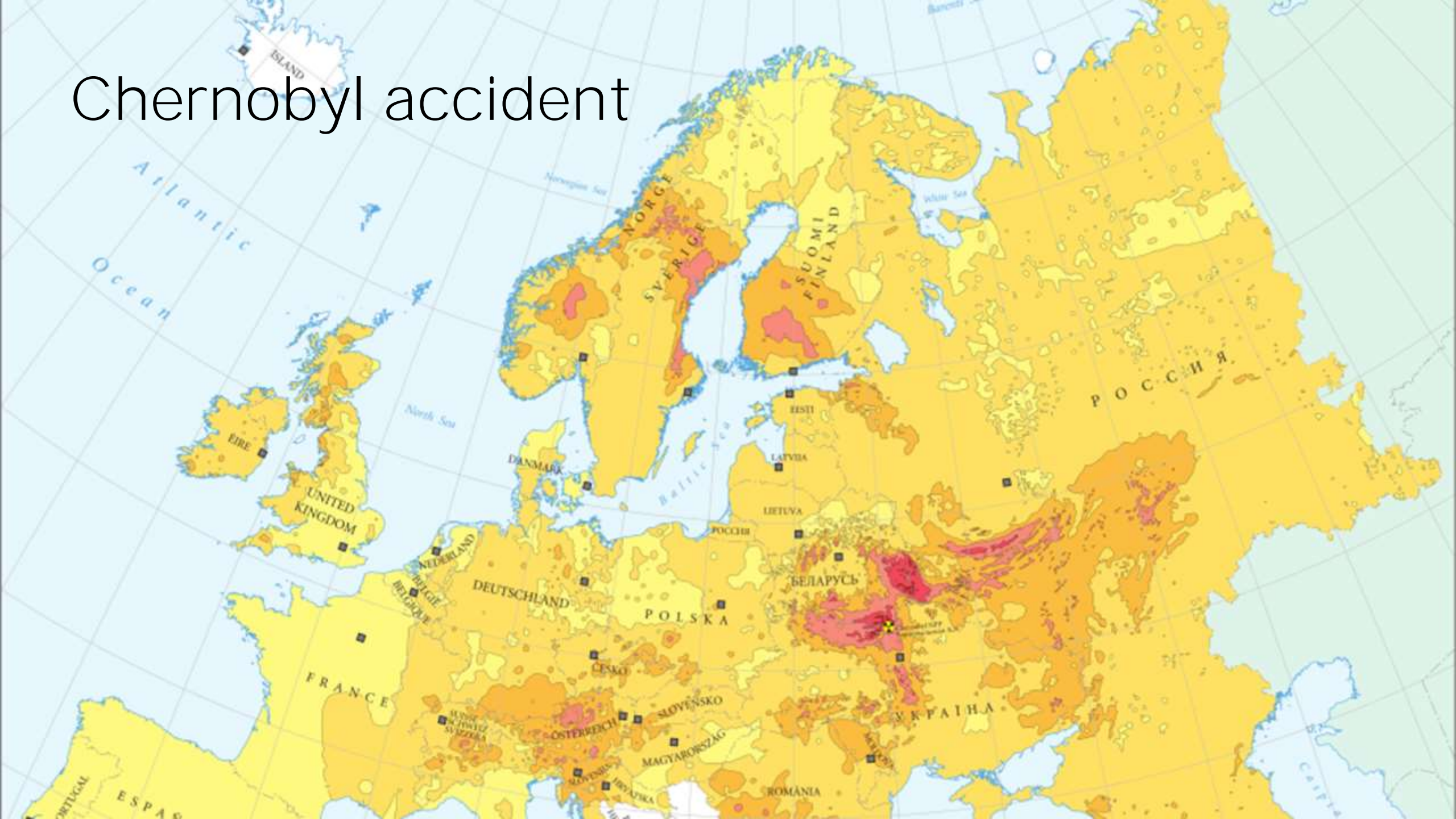


Drawing: S.S. Tenmann, 6 y
Illustration: B Sæthren/07 Media

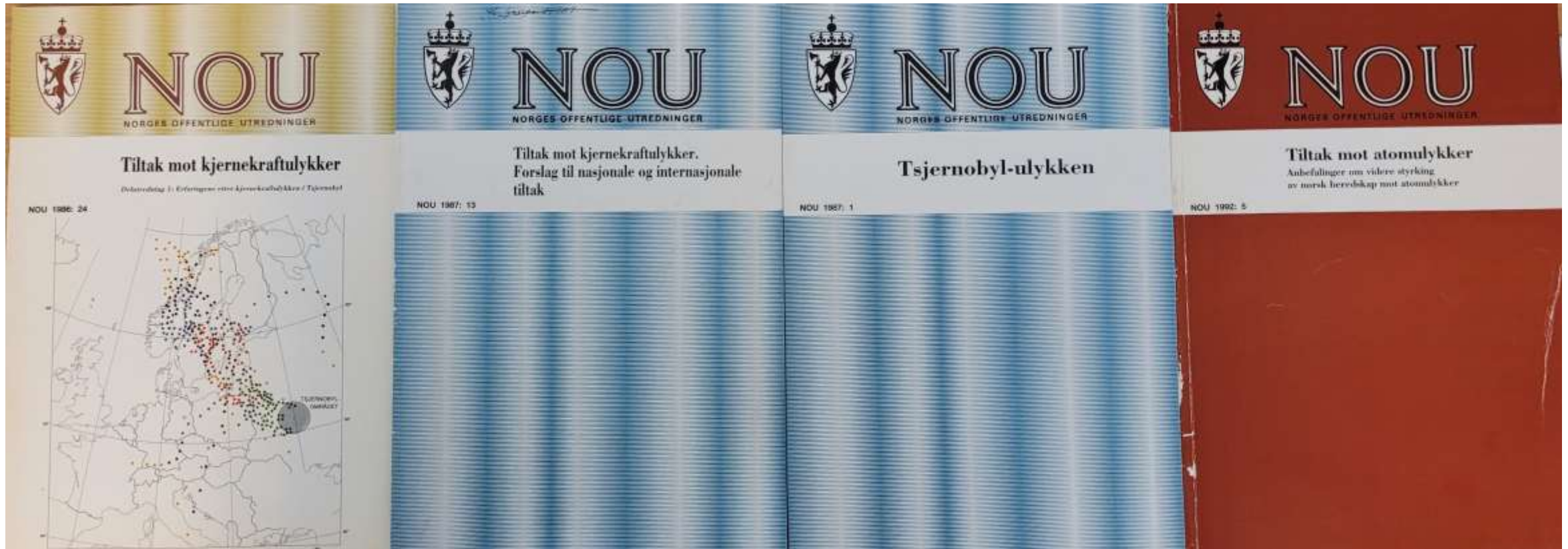


Photo: Eirik Brække/Bergens Tidende/NTB

Chernobyl accident



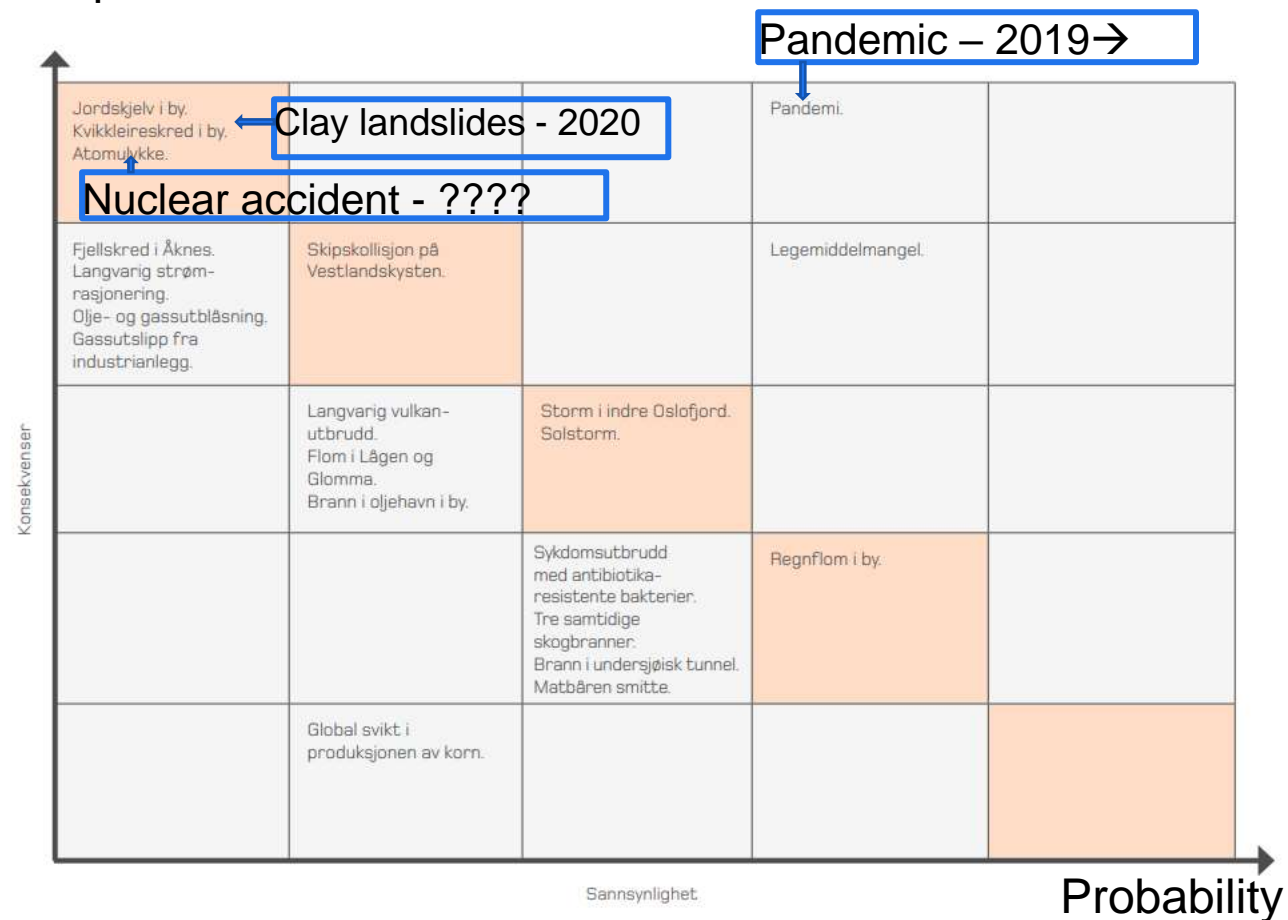
Norwegian White Papers on Chernobyl



Preparedness



Consequences

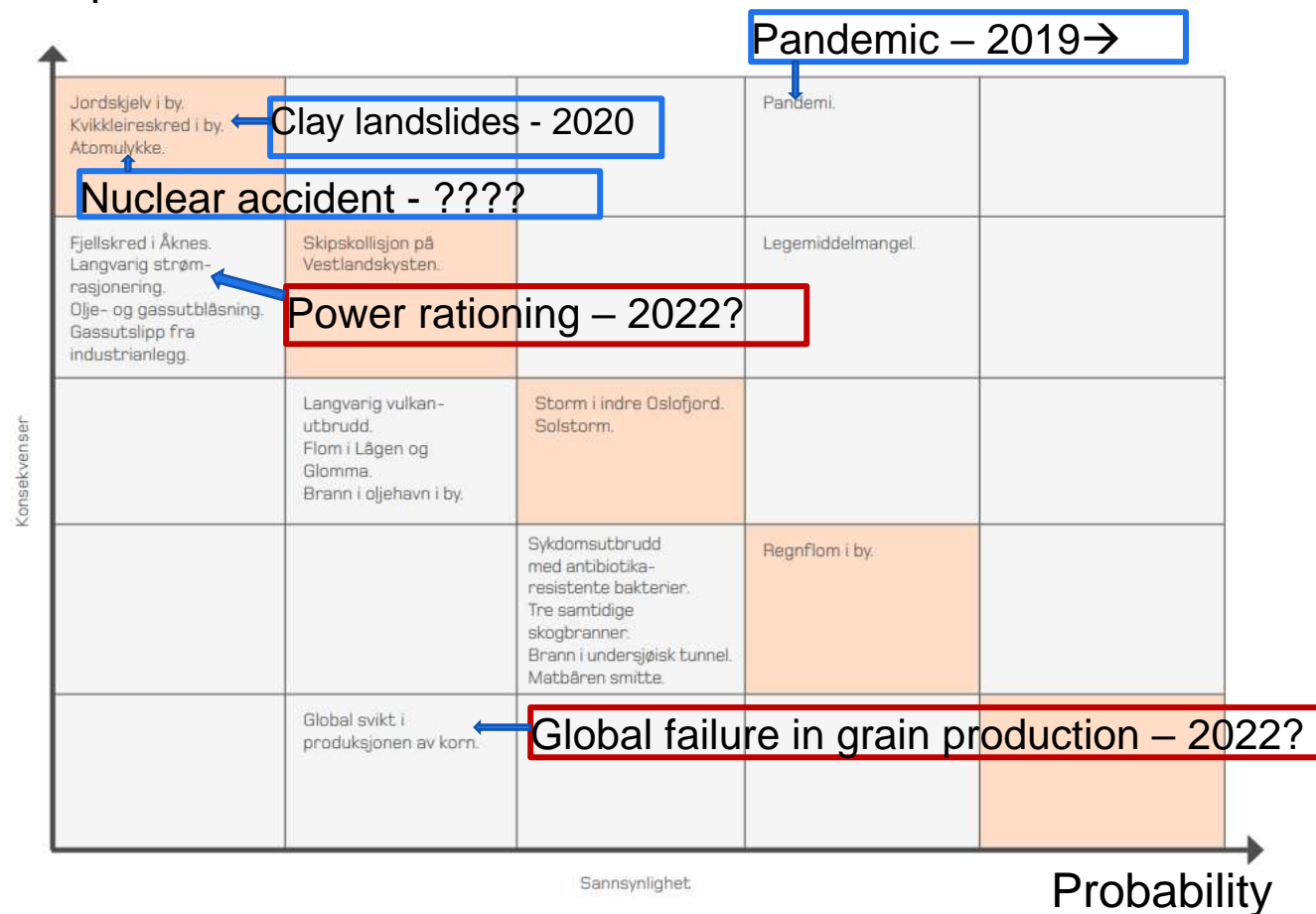


FIGUR 14. Risikomatrix med de 21 utslåttede hendelsene i AKS. Utslåttede hendelser er utelatt i matrisen. Hendelser i samme rute har omtrent lik risiko.

Preparedness



Consequences



FIGUR 14. Risikomatrix med de 21 utsiktede hendelsene i AKS. Utsiktede hendelser er utelatt i matrisen. Hendelser i samme rute har omtrent lik risiko.

Preparedness – for the right scenarios?

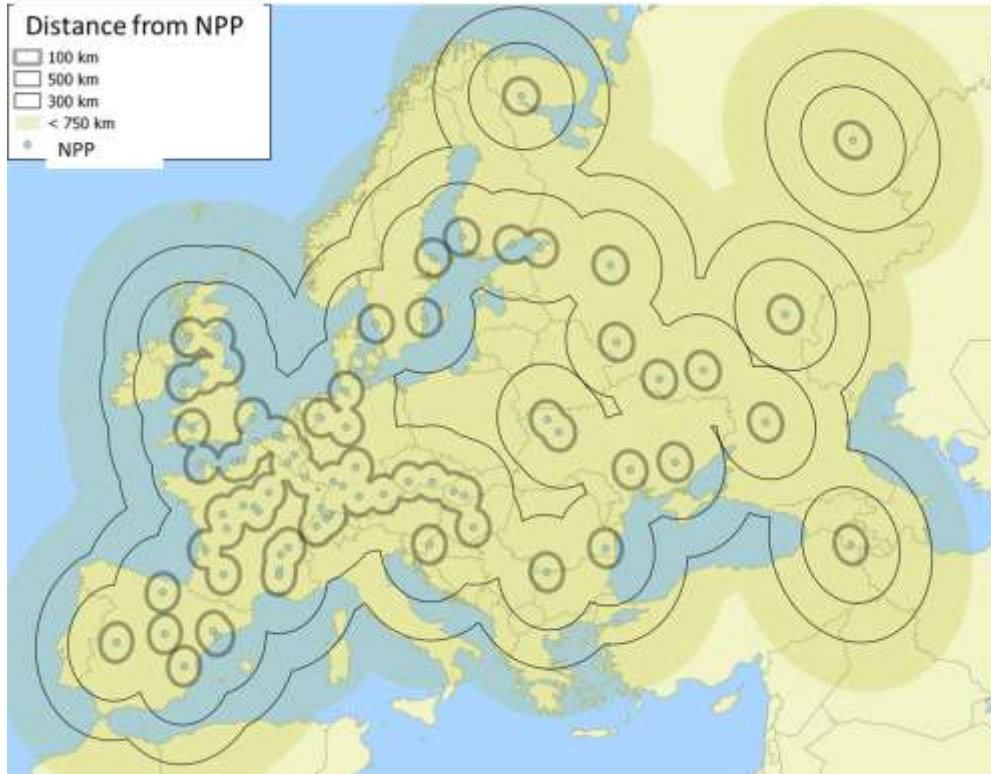


Photo: EPA



Floating NPP - Akademik Lomonosov (Photo: DSA)

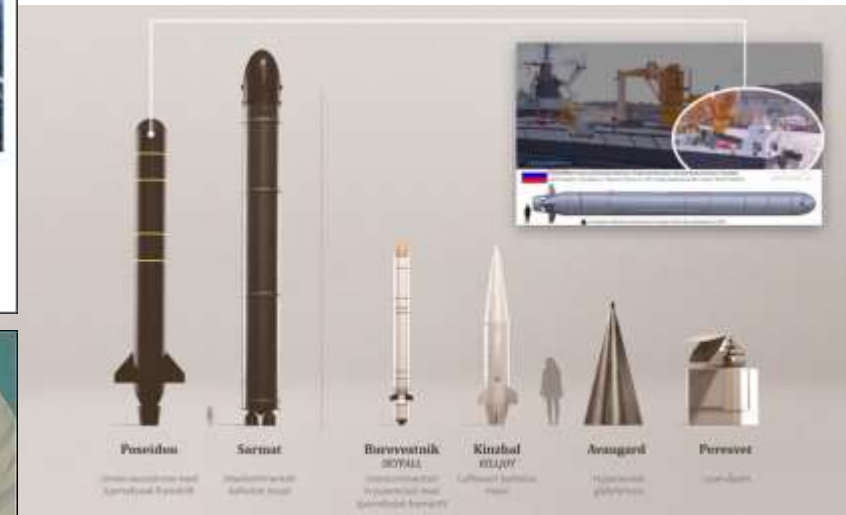


Illustration: The Norwegian Armed Forces

And now Ukraine...

- Risk at NPPs
- Loss of control over R/N sources
- Migration
- Grain and fertilizer shortage
- Production and logistical shortages
- Nuclear weapons?



Maps / images credit: British Ministry of Defence

Preparedness for pandemic - shortcomings

- EPR plans not sufficiently elaborated for a pandemic
- No national pandemic exercises
- No established EPR system for assessment of the societal consequences as a whole
- Lack of emergency stockpiles for protective equipment and drugs
- Too few intensive care units

National level management - shortcomings

- Too slow to take actions
- Not able to foresee the development of the crisis
- Public restrictions and advice elaborated in haste and subject to constant changes
- The Norwegian government was involved in too many decisions, from the strategic, important ones to smaller, more circumscribed ones
- The established system for crisis management was not fully used

Information and communication

- Targeted, direct, open and honest
- The information to certain immigrant groups was not sufficient
- The information to municipality doctors, border police, school owners etc. was imprecise and came too late for them to prepare adequately
- Fake news and conspiracies



Protective actions - shortcomings

- Not sufficiently pre-planned
- Many changes and differences between national and regional/local restrictions and advice
- Knock-on effects on other sectors not foreseen
- Large economic impact, need to develop compensation schemes
- Highest negative impact on children and other vulnerable groups

Protective actions cont'd

- Information in many languages needed
- The public largely followed the restrictions and advice – high trust probably a significant reason



ORIGINAL ARTICLE | [Open Access](#) |

How would citizens react to official advice in a nuclear emergency? Insights from research in three European countries

Catrinel Turcanu , Roser Sala, Tanja Perko, Bieke Abelshausen, Christian Oltra, Yevgeniya Tomkiv, Deborah Oughton, Astrid Liland, Nadja Zeleznik

First published: 03 October 2020 | <https://doi.org/10.1111/1468-5973.12327>

Jodtabletter ved atomulykker

Er du under 40 år, gravid, ammende eller har barn som bor hjemme? Da anbefaler vi deg å ha jodtabletter hjemme. Tablettene kan gi beskyttelse mot radioaktivt jod ved atomulykker, og skal bare tas etter råd fra myndighetene.

Informasjon på flere språk

- Nordsamisk: [Juddatableahtat atomalihkohisvuodaid oktavuodas](#)
- Sørsamisk: [Jodtabledth atovmeovlahkojne](#)
- Lulesamisk: [Jodtablehta atomsårme diehti](#)
- Engelsk: [Taking iodine tablets in the event of a nuclear accident](#)
- Russisk: [Таблетки йода при ядерных авариях](#)
- Polsk: [Tabletki z joden w przypadku awarii jądrowych](#)
- Litauisk: [Jodo tabletės branduolinės nelaimės atveju](#)
- Latvisk: [Joda tabletes kodolavārijas gadījumā](#)
- Estisk: [Jooditabletid tuumaõnnetuste korral](#)
- Arabisk: [أقرص اليود في حالة حصول حوادث نووية](#)
- Urdu: [ٹیوکلائبر حادثات کی صورت میں آیوڈین کی گولیوں](#)
- Tyrkisk: [Nükleer kazalarda iyot tablet kullanımı](#)
- Vietnamesisk: [Viên iodine trong trường hợp có tai nạn hạt nhân](#)
- Tamil: [உட்கரு விபத்துகளின் நிகழ்விற்கான அயோடின் மாத்திரைகள்](#)
- Somalisk: [Cunista kaniiniyada iodine haddii uu dhaco shil hubka nukleerka ah](#)

Emergency stockpiles

- Prior to Covid-19: no need to stockpile, we can buy from the global market
- Challenges:
 - Few producers of vital raw material or essential components
 - All countries in need at the same time
 - Restrictions on travels
 - Export restrictions
 - Geo-political disturbances and war

For RN emergencies

- Personal Protective Equipment
- Instrumentation
- Dosimeters
- Antidotes
- K fertiliser
- Prussian blue
- Clean fodder
- Imported food



Positive lessons learned from Covid-19

- Overall, a good handling by authorities and the public - low mortality rates, less restrictive infection control regimes and smallest declines in economic activity
- Many people did an extraordinary effort, at all levels
- High trust between people and towards the authorities – high rate of vaccination
- Social model (solid, well-structured economy, a public welfare system and an organised working life) was an advantage
- Well-developed health and care services and the generally high competence level of its public sector

- The Government has been both visible and active:
 - Results were usually best when the authorities employed established work processes
 - Cooperation, flexibility, adaptability and readiness to act were crucial to achieving positive results
 - When public communication was targeted, direct, open and honest, it tended to achieve the desired behavioural changes and preserve public trust

Concluding words

- Planning is key
- Dare to investigate worst case scenarios
- Plan for combined emergencies
- Revisit your EPR plans and organisation – are adjustments needed?
- Need for equipment upgrade?
- Share your competence
- Learn from the past and from R&D
- Explore all media channels to reach out with your message
- Target information to the public, in several languages
- Arrange, invite and participate in EPR exercises, both national and Nordic/international

MASS MEDIA COMMUNICATION OF EMERGENCY ISSUES AND COUNTERMEASURES IN A NUCLEAR ACCIDENT: FUKUSHIMA REPORTING IN EUROPEAN NEWSPAPERS

Eduardo Gallego ✉, Marie Claire Cantone, Deborah H. Oughton, Tanja Perko, Iztok Prezelj, Yevgeniya Tomkiv

Radiation Protection Dosimetry, Volume 173, Issue 1-3, April 2017, Pages 163–169, <https://doi.org/10.1093/rpd/ncw334>

Journal of Risk Research
Volume 22, 2019 - Issue 2

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Pages 243-267 | Received 23 Dec 2016, Accepted 20 Jul 2017, Published online: 22 Sep 2017

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EcoFood - A tool for assessment of radiation exposure in terrestrial environments impacted by airborne releases

Hosseini, A.¹
Avila, R.²
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Brown, J.¹
Peltonen, T.³
Virtanen, S.³
Nielsen, S.⁴
Gudnason, K.⁵

Questions?

astrid.liland@dsa.no