

RURAL ECONOMY AND CONNECTIVITY COMMITTEE

SUBMISSION FROM REFORESTING SCOTLAND

THE DRAFT CLIMATE CHANGE PLAN (RPP3)

Thank you for the opportunity to comment on the draft RPP3. The following comments will cover:

- progress to date on the forestry-related targets in RPP2;
- reasons for the shortfall in woodland creation;
- whether the revised targets in RPP3 are likely to be achieved under the current policies and proposals;
- whether the revised targets are sufficient;
- what new proposals might increase the chance of meeting or exceeding the targets; and
- opportunities to secure wider benefits from the proposals.

Progress to date on RPP2 targets

1. The new woodland creation targets of 10,000ha per year laid out in RPP2 have not been met. The promising trend in planting noted in RPP2 stalled the same year and has remained stagnant since, with the result that there is by now a 13,500ha deficit compared to the targets.ⁱ
2. We believe that there have been two major reasons for this shortfall:
 - the poorly functioning tree planting grant and approval system in place; and
 - the current system of land-based subsidy which makes tree planting unattractive compared to activities which make a large relative loss when subsidies are excluded.
3. The first issue was the subject of a recent report by James Mackinnonⁱⁱ. We believe that this report ably describes the problem and that the solutions proposed would go a long way towards solving it.
4. Unfortunately, however, we do not believe that this in itself will be sufficient to meet the targets due to the second problem. Much of the land suitable for afforestation in Scotland, both for timber production and for native woodland is currently subsidised for other uses. These subsidies vary for different uses and in places create a non-level playing field which seriously skews management choices towards options which are in themselves unprofitable and unproductive and which do not contribute to climate targets.
5. Ongoing research by SAC Consulting at Eskdalemuirⁱⁱⁱ is comparing the actual returns on an area of upland forestry with typical returns from a comparable area of hill sheep farm. The latest results show the forestry making a moderate profit and receiving a small public subsidy while the hill sheep farming makes a small loss offset by a far larger subsidy.

	Income	Subsidy	Total
Forestry	£205	£16	£221
Hill sheep	-£47	£79	£32

Figures per hectare from Eskdalemuir study – 2014 update.

We will come back below to the question of the wider benefits of different upland land uses but for now we note that the public subsidy to hill sheep farming is sufficient to swing it from loss to profit and significantly reduce the attractiveness of switching to forestry. It is highly likely that there are areas, still marginal for sheep farming but by a lesser degree than that in the study, where sheep farming is more profitable than forestry with the subsidy despite being less so without.

6. Note that this is not meant as an attack on sheep farming. On improved in-bye land sheep farming can still be productive and profitable. However there are large areas of Scotland that are comparable to the area of the Eskdalemuir study, where the economics can be expected to be similar.
7. Another perverse subsidy is the support of grouse moorlands with agricultural subsidy, either directly or by subsidising the use of sheep as ‘tick mops’. These are recreational areas that cannot be called agricultural by any stretch of the imagination. The regular burning of grouse moors prevents forest regeneration. We believe that there should be an aim of reducing public subsidy of grouse moors to zero.
8. The root cause of these perverse subsidies is the EU Common Agricultural Policy (CAP), which currently constrains Scottish policy options. The CAP is concerned with maintaining the supply of agricultural land and defines agricultural land not by its productivity or profitability (it may be unproductive and loss-making) but by the absence of trees and native vegetation.

We are currently faced with the prospect of Scotland leaving the EU and hence the CAP. Most Scots did not vote for and do not support this option, but it remains to be seen whether Scotland will find a way to remain in the EU or will be taken out along with the rest of the UK. We believe that it is necessary to make parallel plans for either option, either for taking full advantage of the opportunity to reform land subsidy that exit would bring or for making the most of the limited options within the CAP.

Targets

9. We welcome the increased woodland creation targets but feel that there is room for further ambition. The aim of 21% forest cover is low considering that the European average is closer to 33%. While Scotland has larger areas than most European countries which are naturally treeless, a target of 25% ought to be reasonable and achievable.
10. The RRP3 targets focus solely on planned woodland creation. However much new woodland worldwide and in Europe has been the result of unplanned natural regeneration. We believe that policies should also acknowledge the need to create favourable conditions for the natural regeneration of woodland.

Policies and proposals

11. We welcome all the policies and proposals on forestry in the draft report.
12. However, we do not believe that the policies and proposals are sufficient to meet either the draft targets or the more ambitious ones that we believe are possible. The reason for this is the subsidy of competing land uses described above. If Scottish forests and forestry are to meet their full potential on climate change this issue has to be addressed.
13. Subsidy 'bidding wars' of one land use against another do not achieve land use change but simply create a subsidy to land ownership in general. Guaranteed subsidies are factored into land prices and therefore rents. As such, this land subsidy does not even support rural communities in areas of tenant farming.
14. One proposal should therefore be to commission an assessment of the current subsidy regime and possible alternatives in terms of their climate impacts. This would then inform policy in the event of Scotland leaving the EU. To leave this assessment until events dictate would be to leave it too late.
15. Proposals should also take account of the potential for agroforestry or silvopastoralism, the growing of trees in combination with pasture, to have a significant impact. Research by the James Hutton Institute at Glen Saugh has shown this potential in a Scottish context^{iv}. On trial plots, the right density of planting was shown to maintain grass production under the trees even as wood yields increased, due to the shelter effect. In other words, wood production and carbon storage come for free in terms of grass and animal production.

For a long time agroforestry has been impossible under CAP rules but a recent change now allows up to 60 trees per hectare. This has been built into the Scottish SRDP but much more could be done to promote what is still an unfamiliar concept, including further research and extension work. In the longer term, we suggest that agroforestry should be required as a condition to any subsidy of grazing land.

16. Proposals should also consider influences on woodland health and regeneration beyond tree planting and planned woodland creation. It is widely acknowledged that deer numbers are at a historical, unsustainable high and that browsing and grazing are preventing both the regeneration of existing woodlands and their spread to new areas by natural regeneration. The spread of tree pests and diseases by trade in plants and timber also has the potential to disrupt forestry and kill large numbers of trees.

Wider benefits

17. The wider benefits of increased woodland creation are considerable and include rural wealth creation and the support of rural communities, improved wildlife habitat, increased shelter for livestock, improved recreational amenity, landscape enhancement and downstream flood protection. All these benefits are dependent on good forest design, without which there may also be negative impacts.

18. It is worth repeating the figures from the Eskdalemuir study cited earlier. The forestry studied brought in an annualised income of £550 and received a subsidy of £16 per hectare per year. With costs of £345 this gives a profit of £205 per hectare per year before subsidy. By contrast the hill sheep studied produced an income of £117 and received a subsidy of £79 per hectare per year. With costs of £164 that results in a loss before subsidy of £47 per year.

The two areas compared were chosen to be as similar as possible, so if we assume that the costs of each activity are spent within the local area we can say that in the study area the annual subsidy of £79 per hectare for hill sheep is in fact impoverishing the rural economy by £433 per hectare as a consequence of displacing forestry. If we focus instead only on profit, the figure is £252. The Eskdalemuir study also found that the forestry created 30% more employment than the hill sheep.

Therefore it seems clear that an expansion of forestry in comparable areas would do much to better support rural communities.

19. The benefits of flood mitigation due to forest cover are difficult to quantify, but we can compare the damage done in December 2016 in the North of England and South of Scotland by Storm Desmond with that done in South West Norway by the same storm, there called Synne. Both delivered comparable amounts of rain to similar areas of land. In the Norwegian regions most affected the average insurance claim per person for damage by the flood was less than a ninth of that in Scotland and England. Many factors will have affected this but the main difference between the two areas is that Southern Norway is heavily wooded, largely by recent natural regeneration, and without drainage ditches. Further research into which factors influence flood damage would be beneficial.^v

20. The key to delivering most of the wider benefits of forestry is multi-purpose forestry, in which timber production is integrated with a network of native woodland and open space which opens up the whole for recreation and wildlife use, improves visual impact and absorbs water.

Many postwar plantations are now being restructured along the principles of multi-use forestry. This is very much to be welcomed, but does come with a risk. A restructured forest is optimised for a wide range of economic and public benefits, not just for timber production, so it is inevitable that the timber production per hectare of a restructured forest falls. This risks displacing Scottish timber demand overseas and contributing to global deforestation. The only way to take full advantage of the synergies between timber production and wider benefits is to expand the total area of woodland.

21. Finally, a wider benefit not mentioned in the current draft is the ability of woodland creation to contribute towards the establishment of wildlife corridors for climate change resilience. Climate change will require many species to move their ranges and it is important that they be able to do so. The Forestry

Commission (Scotland) should be given the task of identifying key core areas and corridors and provided with extra funding for woodland creation in those areas.

Peat

22. We also welcome the policies and proposals included in the section on peat. Clearly woodland expansion should not be at the expense of peatland and the carbon store that it represents.

ⁱ 'Analysis of Current Arrangements for the Consideration and Approval of Forestry Planting Proposals' by James Mackinnon CBE (2016), <http://www.gov.scot/Resource/0051/00511591.pdf>

ⁱⁱ *ibid*

ⁱⁱⁱ 'Eskdalemuir: A comparison of forestry and hill farming; productivity and economic impact' by SAC

Consulting (2014), available at

<http://www.forestryscotland.com/media/284436/eskdalemuirreportmay2014.pdf>. Summary of 2015 update including 2014 data available at

http://www.forestryscotland.com/media/302976/33_eskdalemuir2015execsummary.pdf

^{iv} <http://www.hutton.ac.uk/about/facilities/glensaugh/agroforestry>

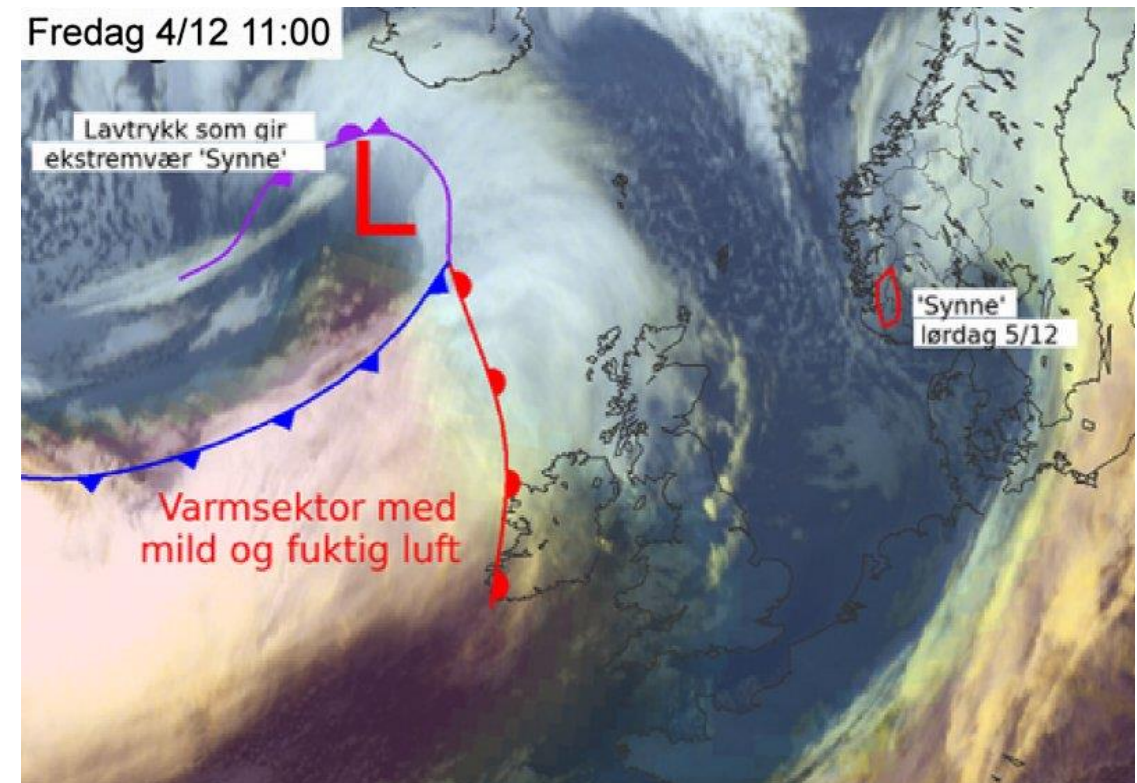
^v 'Comparison of Storm Desmond (Synne) Economic Damage in SW Norway and N England/S Scotland' by Dr Duncan Halley, unpublished work (attached)

Reforestation Scotland
26 January 2017

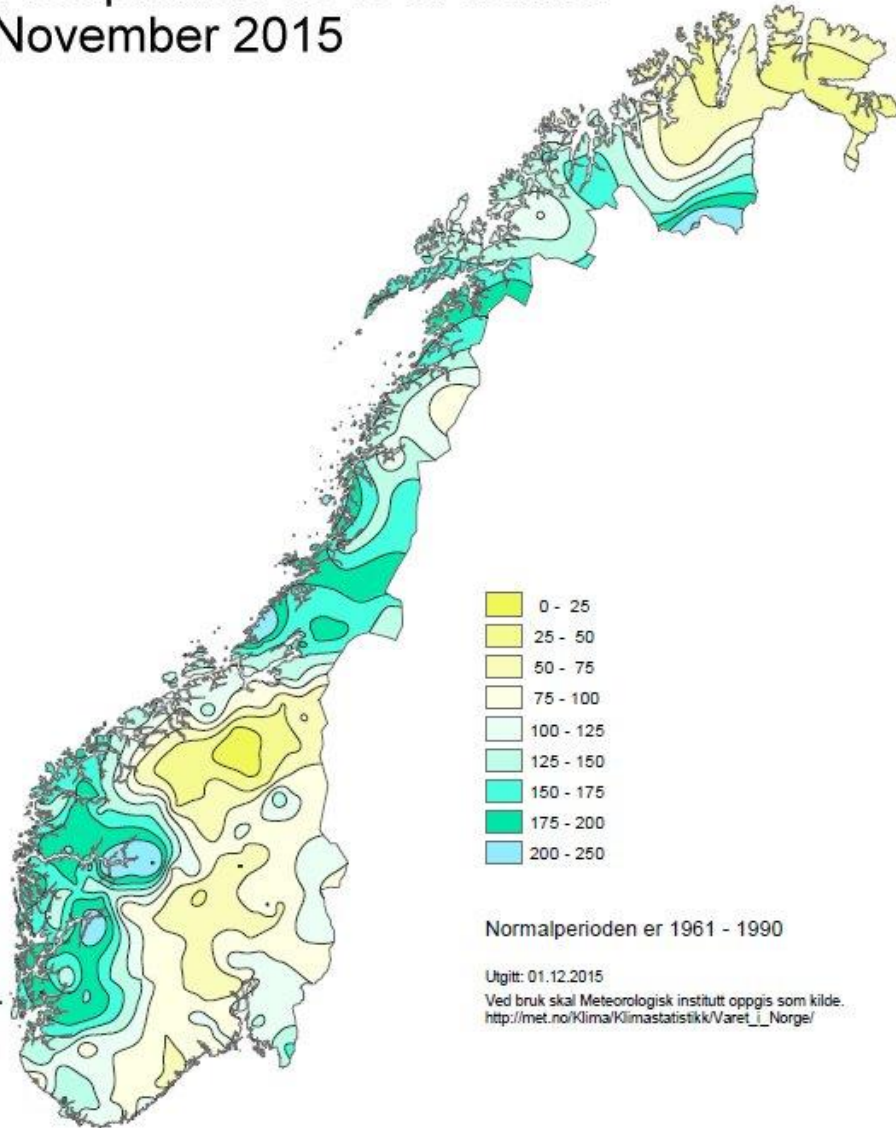
Comparison of Storm Desmond (Synne) Economic Damage in SW Norway and N England/S Scotland

Dr. Duncan Halley

- Storm Desmond affected N England/S Scotland in the period 4-6 December 2016.
- Known as Storm Synne, the same system arrived in Norway about 18 hours after its onset in Britain.
- Temperatures were above zero in all areas throughout, except a few mountain peaks. Almost all precipitation fell as rain on ground already wet from a wet November, in both Britain and SW Norway.



Precipitation as % of normal November 2015

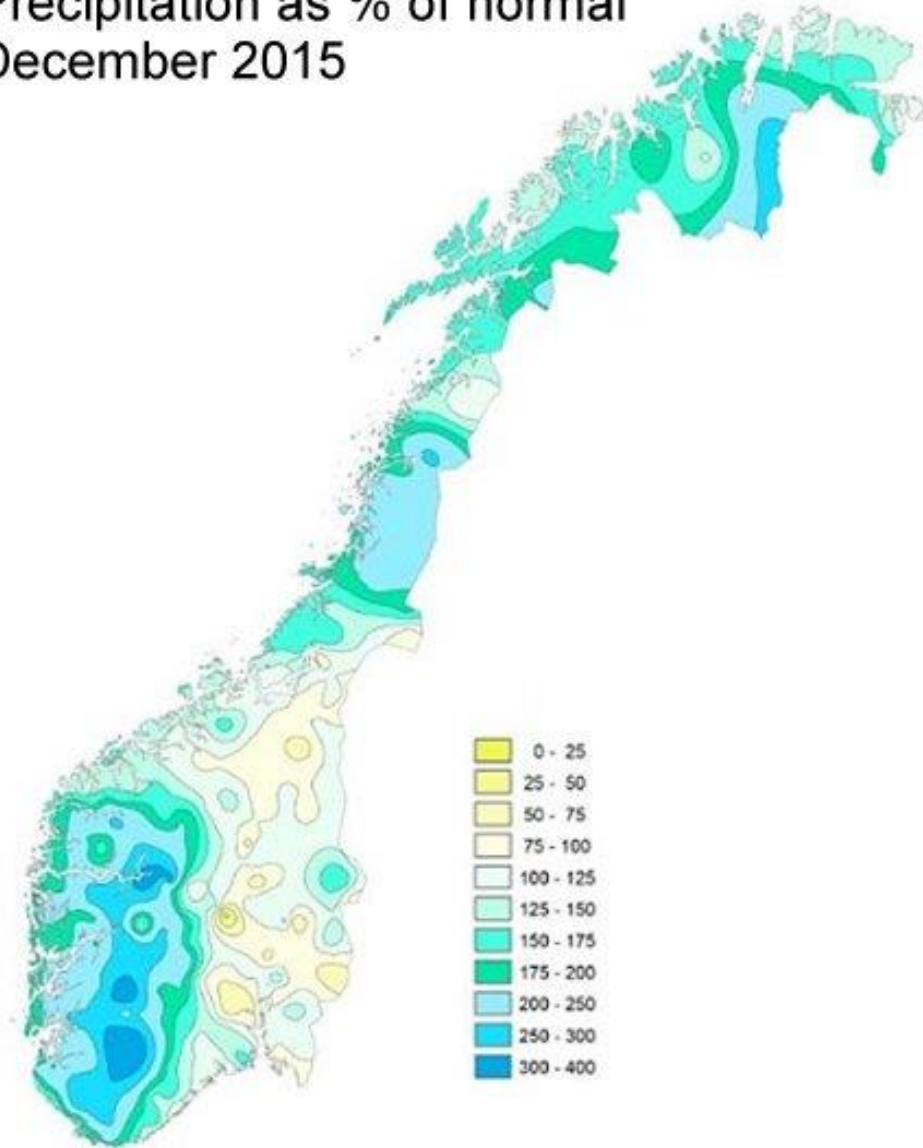


Normalperioden er 1961 - 1990

Utgitt: 01.12.2015

Ved bruk skal Meteorologisk institutt oppgis som kilde.
http://met.no/Klima/Klimastatistikk/Varet_i_Norge/

Precipitation as % of normal December 2015



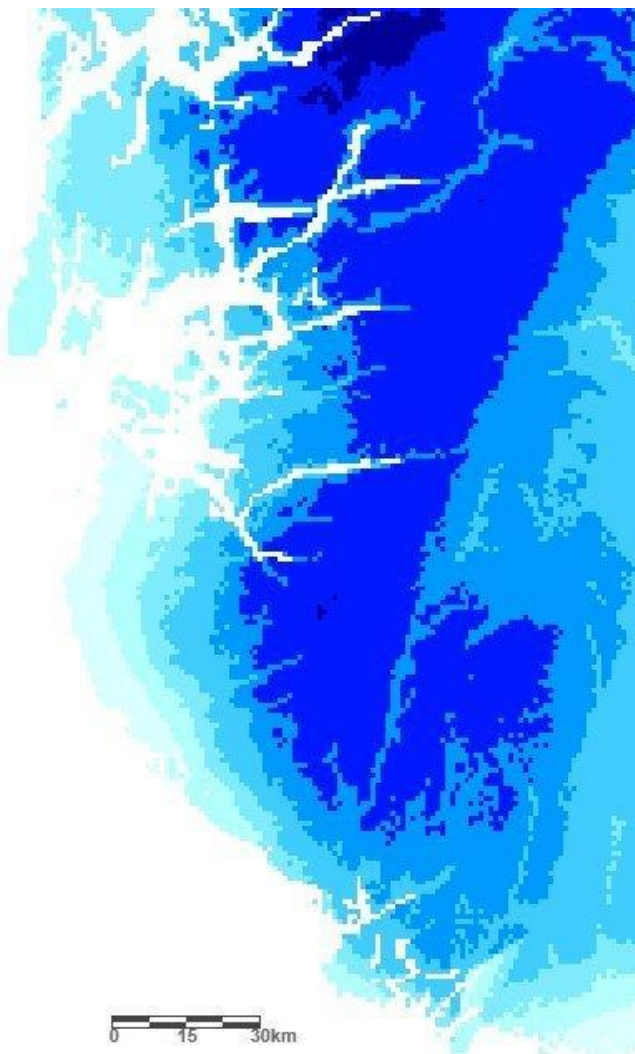
Storm Desmond (aka Synne)



UK Floods "Storm Desmond"
Accumulated Rainfall 4-6 Dec 2015 (COSMO-EU Model)



Source: COSMO-EU, DWD
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Precipitation

<07-07hrs 4-5 December

07-07hrs 5-6 December>

2015

▼ Døgnedbør

Observasjonsbasert

Utstedt 17.12.2015 kl 13:46

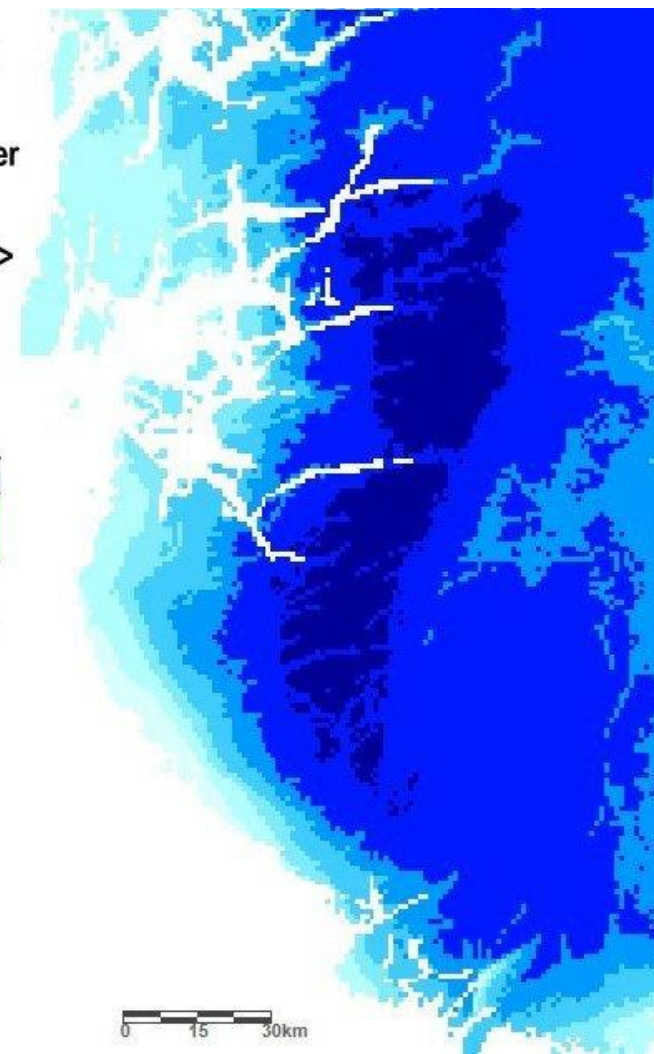
Basert på interpolerte værdata

Kartet viser nedbørmengde siste 24 timer.

Oppdateres ca kl 0, 6, 8, 9, 12, 18, 19 og 21 normalt.

Dataeier: Meteorologisk institutt

mm



- Heaviest accumulated rainfall band N England/S Scotland (PERILS map): >90mm
- Large areas of SW Norway at least 225mm



Storm Desmond (Synne) Economic Damage

	Lancashire, Cumbria, Co. Durham, Northumberland, Scottish Borders	Vest Agder, Rogaland, Hordaland
Area (km ²)	22309	29818
Population	2 887 570	1 067 588
Population density (km ²)	129	36
	UK	Norway
Storm Desmond/Synne Insurance claims estimates	<u>€833.6 million</u>	<u>€31.8 million</u>
Insurance claim/person main affected area, defined above	€289	€30

‘severe flooding mainly affected the counties of Cumbria and Lancashire’ (PERILS AG catastrophe insurance market news, 4th March 2016) (Population Cumbria & Lancashire: 1.9 million)

Conclusion

- Detailed comparative research would be useful to compare river flood profiles* and damage levels, to explain the apparent very large differences in economic damage levels (> nine times greater per head in affected region of Britain) from an event of similar or greater magnitude [in SW Norway](#).
- These will likely have complex causes. However, the main land cover difference between the areas, a factor known to strongly affect runoff rates, is the difference in **extent and character of woodland cover**. SW Norway is largely wooded, mostly by natural regeneration in recent decades and almost entirely without artificial drainage. There is comparatively little woodland in N England & S Scotland, with large areas of open hill; woodland mainly artificially drained commercial plantations.
- data for Norwegian hydrological stations is publically available at www.xgeo.no