

MINUTES
PWSCG (41) Meeting
10:00 – 15:30 Wednesday 11th October 2017
 Conference Centre, 1 Victoria Street

Attendees

Wyn Williams (WW)	PWSCG Chair
Denise Harker (DH)	PWSCG Independent Member
Sarah Jackson (SJ)	PWSCG Secretariat
Paul Riches (PR)	PWSCG Secretariat
Alessia Morris (AM)	Scottish Government
Jonathan McKee (JM)	Northern Ireland Government
Tracy Goode (TG)	Welsh Government
Ian Houlth (IH)	LGA
Carol Holt (CH)	Environment Agency
George Tabcart (GT)	MOD
André Cocuccio (AC)	MCA
Angie Bone (AB)	PHE
Lindy Woodage (LW)	Devon & Cornwall Police
Philip Clarke (PC)	CAA
Fiona Mair (FM)	CCS
Matthew Gaskin (MG)	DCLG
Derrick Ryall (DR)	Met Office
Richard Orrell (RO)	Met Office
Mel Harrowsmith (MH)	Met Office
Lynne Armstrong (LA)	Met Office
Alex Bailey (AB)	Met Office
Alex Longden (AL)	Met Office
Paul Davies (PD)	Met Office

Actions

	Owner	Action	Date
1	Secretariat	Publish April PWSCG minutes on the Met Office website	By 31 Oct
2	Secretariat/Tracy Goode	Agree a date and agenda for holding a Welsh PWSCG	By mid Nov
3	Secretariat/Met Office PWS	Secretariat to record that the completion of milestone 4.1 Output from all main atmospheric models available to external users through APIs by Oct 2017 will be met late but within the FY it was planned.	By next PWSCG
4	All PWSCG	Send the Annex that contained the reference to 'Heat' from the quarterly update to Angie Bone for review.	With minutes
5	Derrick Ryall	Provide an assessment of the costs associated with a global forecast provided by ECMWF and the Met Office Global model	By next PWSCG

1. Welcome & Introductions

WW welcomed attendees. Apologies were received from George Tabcart (MOD), Nathan Travis (CFOA) and Paul Hadley (BEIS). New attendees at their first PWSCG included Philip Clarke CAA, Fiona Mair CCS standing in for Lucy Morgans, Lindy Woodage Devon and Cornwall Police representing CC Charlie Hall and Matthew Gaskin DCLG standing in for Jenny Shellens.

2. Minutes & actions from last meeting

PR updated the group on progress since the last meeting. Progress made across all areas, discussions ongoing to fix a date for the Welsh PWSCG meeting. The Secretariat will follow up with TG in the following week.

3. PWSCG Chair's Update

WW referred to the Chairman's report which summarised his activity since the April meeting. WW attended the Inter-Departmental Met Office Strategy Group (IMOSG) on 27 April providing a view from the PAG on the progress Met Office has made with the Transformation and Efficiency programme (T&E). Other engagements included attending the responder survey feedback meeting, attendance at PAG-Reach, PWSCG Scotland and PWS Assurance group. WW referred to the points raised by GT sent in writing ahead of this meeting about the postponement of the IMOSG meeting and the impact that may have in keeping up pressure on Met Office to deliver the T&E programme.

4. Independent Member's Report

DH referred to the report summarising her engagement since April which has focussed on the work of the Media and Reach sub-Group (MARG) and engagement with broadcasters. DH was pleased to report that the Met Office had worked hard to resolve some emerging issues linked to the PWMS and the upgrades to the graphics package which a couple of broadcasters had raised in their one to one meetings with DH and PR in the spring. Measures have been put in place to better manage the customer relationship with broadcasters to ensure that there is an effective and open channel of communication between the media services team and PWMS users.

5. Met Office Update

DR provided an overview as part of the quarterly summary of Met Office activity. The group were taken through the weather trends experienced over the summer. Summer 2017 was wetter than average with much of the forecasting challenge stemming from the convective rainfall that dominated. This was evident in events such as Coverack. DR touched on other areas of improvement such as the improvements to the NSWWS which MH and her team have delivered.

The group were informed about the Met Office work in forecasting and tracking the Atlantic hurricanes which have plagued the Caribbean this season. The Met Office global model, and a nested high resolution model which was setup specifically for Hurricane Irma, performed well and in particular in predicting the track of hurricane Irma and the timing of its sharp turn northwards and subsequent track across Florida. There was a lot of collaborative working with the US during this period with positive feedback received. IH being in the US at the time informed the group that the UK Met Office was reported on very positively in TV broadcasts stateside. Met Office provided support and up to date information to UK Government during the period reporting in to COBR. The PWS funds a significant proportion of the MO global guidance unit which played a significant role in ensuring the MO expertise was used to the maximum to help protect lives and support decision making in the deployment of resources.

The group were informed about the major model upgrade 'PS39' which had delivered a number of significant improvements. The global model can now be run at a 10km resolution which is improving model outputs and in particular the medium and short

term model accuracy. The UK model can now be run on an hourly basis out to 12 hours which improves very short period forecasts. A number of other important improvements delivered such as enhanced physics to improve forecasting of cloud and precipitation and an increase in the number of ensemble members. Another key improvement is the 'Decoupler' which will have a significant impact on managing data volumes and reducing complexity. This introduction is a key component of the T&E programme and is the first part of the technology project to complete.

On the theme of 'Reach' DR spoke about the overhaul and improvements made to the web pages and also the continued evolution and improvements made to the MO App. The App now has an average rating of 4.4/5 across both iOS and android and a total of 3.8 million users. The app has a strong retention rate post download compared to standard industry figures.

On PWMS there were a number of enhancements made in the summer, increased resolution and expanded UK area within the graphics package to help provide more detail on approaching weather and interventions made to improve service levels. The upgrade to the graphics package was very well received by broadcasters.

As the 30th anniversary to the Great Storm of 1987 approaches the MO have used this as an opportunity to showcase just how much has changed since that time in terms of accuracy of forecasts and the introduction of NSWWS. There are a number of media related opportunities linked to the interest in the anniversary of this event that are being utilised to demonstrate how far the organisation has come in that time.

6. Severe weather and subjective verification

MH provided the group with an overview of the notable severe weather events since the last meeting. The major events highlighted were the high wind event on 5/6th June, the rain event 18th July (Coverack, Cornwall) and rain/flooding event 22/23rd August (Derry, N. Ireland). The group were informed about the subjective verification process that occurs between the Met Office and BEIS. These are routinely conducted for any amber and red warnings and when requested on yellows where there are specific circumstances that require investigation. The group were taken through each event and given a read out of the verification discussions that took place. An assessment of the Met Office score is made by BEIS and a range of factors are considered such as the accuracy of the warning area, timing and impact levels observed and how that matched the warning issued. The Met Office have an overall target of 72% of warnings should provide good or excellent guidance and if the number of poor guidance issued hits 20% of warnings issued an improvement plan must be instigated.

The group discussed the events. On Coverack, LW spoke about her experience in the de-brief after the event which highlighted the need for greater community resilience so people are prepared for such short notice events. The challenge of predicting such localised, short, sharp convective events is recognised. This was evident in the rainfall readings local to Coverack where to the north a gauge recorded 105mm in one hour and one to the west only 0.5mm. JM in his experience in N. Ireland felt having more information about when an event is likely to end would be helpful. Communication both with responders and the general public is a key consideration for building an approach to relaying messages for short notice events.

The event in Northern Ireland was discussed. The Met Office spoke about the weaker model performance and the group questioned what the MO is doing in recognition of the weaker performance on convective events. JM believed the overall response to the

event was good but highlighted more could be done to explain the difficulty of predicting convective rainfall events. JM didn't get a feeling the general public were critical of the forecast. JM spoke about the authoritative voice of the MO being important in N. Ireland especially as they do not have their own Flood Forecasting Centre. CH said the Environment Agency have been grappling with similar situations around flooding in England and recognise the challenge to be better at communicating the extremes that could be experienced especially in communities at greatest risk. JM acknowledged that there is a distinction to be made between the information coming from model runs that provide weak signals to the good work of the advisors during such events.

7. National Capability

PD provided a detailed overview of the benefits of the new model upgrades from July. The key improvements being:

- Future changes to model resolution can be applied without significantly impacting on products and services - faster pull-through of science changes into services
- Probability of high impact global weather events sampled more finely enhancing guidance
- Enhanced physics is expected to provide improved forecasts of cloud and precipitation
- Guidance provided through short term UK forecasts expected to improve
- Enhanced representation of tropical cyclones within global model is expected

The introduction of the data decoupler is filtering and rationalising data quantities so data is compressed but the detail is not lost. Other Met Services such as Canada and Australia see this as a massive leap forward by the UK. Enhanced physics is expected to provide improved forecasts of cloud and precipitation. PD spoke about the continued challenge of forecasting convective rainfall events and noted that no country has solved this issue yet. This links to the improvements that are expected in short term UK forecasts or nowcasting. One area of focus for Met Office is to be better at lifting signals from the model and bringing together all the elements that go into a forecast e.g. models, radar to improve the short term 0-6 hour forecast timeline.

PD spoke about the Met Office model performance in relation to hurricane Irma and the accuracy with which the model picked up the sharp turn the hurricane took at Cuba. This event provided the opportunity for a working/learning exercise with the US.

In summary, the latest model upgrade (PS39) provides a step change in terms of resolution and setting the foundation for the future. Future model upgrades will provide additional leaps forward in terms of new physics and a change in ensemble predictions. However, it will always be difficult to predict convective rainfall events, additional tools will still be required for forecasters to predict such events.

8. Delivering Efficiencies and Review of PWS Scope

DR provided an update on the need to deliver efficiencies through the PWS programme and how this links to the wider Transformation and Efficiency (T&E) programme being taken forward at Met Office. The task is to deliver a £10m reduction in PWS costs by April 2019 whilst preserving the shape and integrity of services. The PWS contribution to the overall T&E programme is circa £7.5m pa. There are a set of 14 T&E technical projects that have a strong PWS input and will support the future

improvements such as the transition to providing services via a cloud infrastructure. Overall the Met Office remain reasonably confident that the broad shape and scope of the PWS can be sustained through to 2019/20. There is the potential for some impacts, namely the slowing down in the pace of the pull through benefits from satellites, science and the HPC. There will be a reduced scope for product development over the next two/three years and some impact on the resilience of staff, processes and systems. The group agreed that the programme of change presented by the Met Office PWS team is the right approach to take in terms of meeting the cost savings required but minimising and impact on services. The group noted that the original target for the PWS under the Comprehensive Spending Review was for a £10m saving. If however further cuts are required which would impact on the services under PWS, PWSCG request that the issue is brought back to them for further scrutiny and consideration.

9. Performance 2016/17

AL provided the group with an update on milestone 4.1: Output from all main atmospheric models available to external users through APIs by **Oct 2017**. Making data accessible is an obligation that Met Office like other public sector organisations has to comply with such as the re-use of public sector information Regulations and Inspire Directive. Release of data can facilitate innovation and growth as well as avoiding state aid implications, provide significant in-direct reach for the PWS and supporting a competitive private meteorological market. AL informed the group about the data challenges that stem from data volumes growing exponentially and that alone can act as a data sharing barrier due to the sheer scale and associated financial and physical barriers that arise. The Met Office are therefore addressing this challenge and recognise that existing methods of data supply will no longer be fit for purpose. Moves towards an API data supply model will provide users with the flexibility they require. The Met Office is looking at moving to a single platform to access their data which will simplify customer experience. This includes positioning 'DataPoint' as the gateway for all data customers. AL highlighted a number of benefits for both the Met Office and customers from the proposed changes. For the Met Office they are providing a simplified approach to data provision and will be able to better track data usage and have a fuller transparency of costs and a better understanding of the true value of their data. For customers, it will be easier to discover what datasets exist, will have the flexibility to select and handle only the data they require. It will be easier for customers to integrate Met data within their own virtual data infrastructures and provide greater transparency over costs.

SJ reminded the group that this milestone is due for completion in October. Good progress has been made with this activity but the final elements required to meet the detail in the milestone will be in place by end March 2018. The group were content that this should be recorded as a 'late' delivery of the milestone but within the financial year it was originally planned for. In accordance with the approach to measuring and monitoring milestones in the CSA, the Met Office will draft a CSA change to record the flexibility agreed in delivering this milestone. It will also be reflected in the end of FY report.

10. Secretariat Update

SJ updated the group on the recent PAG PWS Assurance group meeting which focussed on the delivery of efficiencies and the progress towards the savings required under the CSR settlement. PR provided a summary of the first PAG-Reach meeting held in May which provided the opportunity to assess more closely the strategy the Met

Office are following to improve both direct and indirect reach of PWS outputs. A detailed 'reach' dashboard has been developed to monitor the progress against the specific reach milestones.

The group reviewed the milestones delivered this period that include the update to the Mountain forecasts, provision of PWMS data through APIs, delivery of the PS39 model upgrade and the completion of the report into segmentation to inform priorities for developing reach and engagement.

Future PWSCG Meeting dates and locations:

N. Ireland PWSCG – 7th November 2017, Belfast

Reach PAG – 7th December 2017, London

PWSCG - 24th January 2018 Exeter

PWSCG - 25th April 2018 London