

## MINUTES

### PWSCG (45) Meeting

**10:00 – 14:30** Wednesday 30<sup>th</sup> January, Room C21  
Conference Centre, 1 Victoria Street, London, SW1H 0ET

#### Attendees

Wyn Williams (WW)	PWSCG Chair
Denise Harker (DH)	Independent Member
Paul Furlong (PF)	Highways England
Colin Hord (CH)	CAA
Nick Davies (ND)	MoD
Jonathan McKee (JM)	Northern Ireland Government
Carol Holt (CHt)	Environment Agency (Phone)
Jenny Shellens (JS)	MHCLG
Sarah Jackson (SJ)	PWSCG Secretariat (BEIS)
Paul Riches (PR)	PWSCG Secretariat (BEIS)
Penny Endersby (PE)	Met Office
Andy Kirkman (AK)	Met Office
Derrick Ryall (DR)	Met Office
Richard Orrell (RO)	Met Office
Mel Harrowsmith (MH)	Met Office
Mark Hunt (MT)	Met Office

#### Actions

	Owner	Action	Date
1.	Secretariat and Carol Holt	Discuss the approach to Spending Review to ensure there is no double counting in respect of how flood damage avoidance treated in any analysis.	By 28 <sup>th</sup> Feb
2.	Secretariat and Will Hall	Secretariat to contact the National Risk Assessment team (CCS) to understand how their internal assessment tool may help build the case ahead of the Spending Review. Will Hall to provide contact details.	By 28 <sup>th</sup> Feb
3.	Secretariat	Include an item on the comprehensive spending review at the April PWSCG	For April PWSCG
4.	Secretariat	Arrange dates for the devolved government PWSCG meetings	By March
5.	Secretariat/MO PWS Team	Circulate to the Scottish and Northern Irish governments the written response to the questions raised in the 'Chatham House' sessions held as part of the devolved PWSCG meetings.	By 22 <sup>nd</sup> Feb
6.	Derrick Ryall	Produce an updated roadmap setting out the delivery timeline for the delayed milestones.	12 <sup>th</sup> March (PAG)
7.	Mel Harrowsmith	To check on the links/connections of the Chemet project and the JESIP programme.	By end March
8.	Paul Riches	Include an agenda item at the next MARG meeting on the December ice warning for freezing rain.	For MARG 27 <sup>th</sup> Feb
9.	Derrick Ryall/MO PWS team	Present a first proposal of the metrics and milestones for the updated CSA at the next PAG meeting	12 <sup>th</sup> March (PAG)

## **1. Welcome & Introductions**

WW welcomed attendees. There were several apologies received due to current competing priorities, these included Fiona Wilson (Scottish Government), Nathan Travis (Chief Fire Officer), Ian Houlton (LGA), Clair Tindall (Police), Tracy Goode (Welsh Government), William Hall (CCS), Steph Hurst (BEIS). The Secretariat are in the process of securing a new member to represent the interests of the Marine and Coastguard Agency at future meetings.

## **2. Minutes & actions from last meeting**

PR updated the group on progress since the last meeting. Good progress made on the majority of actions. Two on further preparations for the comprehensive spending review will be carried over for the Secretariat to take forward.

The minutes of the October meeting were circulated with the papers. No comments or amendments were received, and these were approved by the group. A copy of the minutes will be uploaded to the Met Office website.

## **3. Reports**

### **3.1 BEIS Update**

SJ provided an update on behalf of BEIS. The most pressing issues are preparation for EU Exit and the comprehensive spending review (CSR). SJ informed the group that the CSR had been discussed at the recent Interdepartmental Met Office Strategy Group (IMOSG). A lot of preparatory work has already been completed including updating previous research and assessments into the value of the public weather service. WW recommended that the group should consider together any potential cut scenarios that may emerge. The group agreed that there should be a specific CSR agenda item at the April PWSCG.

### **3.2 PWSCG Chair's Update**

WW summarised his activity since the last meeting which included attending the Met Office Board which provided an awareness raising opportunity to highlight the work of this group. Participation at the IMOSG meeting and Met Office Science Advisory Committee (MOSAC). WW attended both meetings with Devolved Governments in Scotland and Northern Ireland which provided a key opportunity to understand the requirements of those communities and responders. The Devolved PWSCG meetings now include a 'Chatham House' session where participants have the opportunity to discuss matters with the Chair, Independent Member and Secretariat without Met Office colleagues present. These sessions have proved very successful in gathering information about specific issues facing users of Met Office services which are then relayed to the Met Office for a response.

### **3.3 Independent Member's Update**

DH summarised her activity since the last meeting which included attending both devolved government meetings as well as the PAG-Reach and debrief of the Public Perception Survey. In her role representing the interests of the general public and engagement with broadcasters as part of the Media and Reach sub-Group, DH was encouraged by the latest results of the survey which show how far the Met Office has come in recent years. DH hopes the Met Office can maintain this direction of travel and

the group backed her comments on the success that Met Office has achieved with its media engagement and the high quality content that is being produced. DH also informed the group that the Met Office had recently been referred to in a blog by a member of the public with a concern for cyclists and the amount of information available when there is a risk of ice. The Secretariat confirmed that they had reviewed the actions from the meeting held with cycling organisations which concluded that there was not a gap in the weather information available. The Met Office's web pages include several articles on cycling in winter weather and links to advice from cycling organisations. This information is promoted on social media when relevant.

## **Discussion**

WW sought the views of JM on the value of the 'Chatham House' sessions at the devolved PWSCG meetings. JM confirmed that he thought these were very useful additions to the meetings. JM said that their stakeholders have a strong dependence on the PWS and would be concerned if further cuts were made. JM highlighted the need to maintain a good relationship with Met Eireann once the UK leaves the EU. MH noted that engagement with Met Eireann occurs through a number of routes including the United Nations WMO. PE noted that she had recently spoken to her Irish counterpart and will continue to foster a close working relationship with Met Eireann. RO informed the group that the Met Office will shortly provide their formal response to the issues discussed as part of the 'Chatham House' sessions in Scotland and Northern Ireland.

## **4 Met Office Updates**

### **4.1 FY18/19 Deliverables and Performance Update**

DR updated the group on the recent changes that have taken place at Met Office, including the latest staff reductions as part of the transformation and efficiency programme. Parts of the organisation had completed their staffing restructure including marketing and communications with the Government Services restructure in the final stages of completion.

DR went on to summarise the notable weather experienced over the winter so far and particular challenges. The winter so far up until the recent cold spell had been benign overall with notable events including storm Callum in October, that resulted in significant flooding. In the Atlantic, Hurricane Leslie recorded the longest path of a hurricane over its 22-day existence.

DR informed the group about Met Office performance for winter 2018 so far. Forecast performance has been maintained and levels of reach have held up. Met Office control of the weather message has also been successful in respect of the freezing rain event and storm naming. There had been some challenges stemming from the model struggling with levels of cloud during high pressure periods which can impact minimum temperatures and fog. Comparing the data from the model runs with the satellite images of the observed conditions show the challenge where fog was forecast but was not observed. These examples are being used as case studies to feed back into science to help understand where the models are not performing in these particular scenarios.

DR spoke about the positive increase in global accuracy for the deterministic model recorded for 2018, which is the largest rise in 10 years. Accuracy for the days 1-5 forecast has seen an improvement. Met Office performance compared to other Met Services is strong. DR spoke about a dip in performance over summer 2018 around maximum temperatures for the day 1 forecast, and confirmed that performance on this metric had recovered. Weather symbol accuracy has also scored well and is on an upward trajectory. DR informed the group of the changes that had been implemented as part of the PS41 model upgrade. The improvements recorded can in part be contributed to new observations, better use of observations and improved physics.

DR spoke about the upcoming improvements that will form part of the next model upgrade (PS42). This upgrade will see the UK model being run out to five days with three ensemble runs every hour. New observations will be included such as wind observations from aircraft which will provide an alternative to the data from the wind profiler network which is being decommissioned.

The group were informed about the IMPROVER project which will provide post processed forecasts for products and services. The project will combine the wide range of model forecasts and improve consistency between mapped and spot forecasts. ND enquired about the level of automation compared to human intervention in the process. DR confirmed that this project would be relying on an automated process. CH welcomed the improvements, in particular the smoothing approach that should improve consistency.

DR updated the group on Met Office activity around increasing Reach and Engagement. Digital reach has continued to grow with strong growth figures recorded for the Met Office App and additional syndication with partners. Work continues to deliver a new responsive website and a beta version is available and signposted from the existing website. Making data easier to access is happening through the plans to make data available through Amazon Earth. Other developments include work to pull together a definition of a heatwave. This work was already being considered by the Met Office but took more prominence following the hot dry spell last summer. A definition has been agreed and will be in place ahead of summer 2019.

#### PPMs and Milestones

DR summarised the progress this financial year against the milestones and metrics in the customer supplier agreement. While there has been good progress across the majority of metrics there are delays in some areas. The delayed milestones are dependent on the Service Hub data roadmap which aims to hold data on a cloud based service. This transformation to making data available through a cloud based solution has been a massive undertaking considering the Met Office are dealing with up to 10 terrabytes of data daily. DR explained to the group that the proposal for dealing with the late delivery of the milestones would be to set out a revised delivery timeline to ensure that the remainder of the work is carried out to the expected standards rather than try and rush the work through in order to meet the milestone which could drive the wrong behaviours in the organisation. WW asked those present whether the delayed milestones would cause any difficulties for PWSCG members. ND enquired about the main reasons behind the delayed milestones. DR explained that there were some shortages in recruiting the staff with the right set of technical skills but that this was not specific to Met Office and is being felt more widely in industry as well. WW summarised the views expressed within the group. PWSCG understood the reasons behind the delay to meeting these milestones and were in agreement that it would be better to complete them to the correct standard rather than rush things to meet the end FY target. **There was consensus that these milestones (Responsive**

Public Web – MS2.1, Public Expert Web – MS2.2, Data Services – MS4.2, Next Generation Guidance – MS7.5) would be recorded as delivered late. Revised dates for delivering these milestones will be incorporated in next year's CSA.

DR concluded his update section by summarising some of the key findings from the latest public perception survey, the full report of which was shared with the group ahead of the meeting. The survey has been run in the autumn for a number of years and provides a real insight into the views and understanding that the general public have in terms of access to and the importance and satisfaction with weather forecasts as well as assessing awareness and usage of forecasts. The upward trend has been maintained in respect of the number of people rating forecasts as either very or fairly useful and those rating forecasts as very or fairly accurate. The survey provides a real insight into people's behaviour and how they access weather forecasts and the growth in digital platforms over traditional TV continue to converge.

#### **4.2 Milestone 3.2 Chemet GIS**

MH updated the group on the delivery of the Chemet milestone which has been met this FY. The key deliverable was to make Chemet available in more user accessible formats and be compatible with geographical information systems (GIS). The backdrop mapping used is now from the Ordnance Survey and is better integrated to work with a range of GIS systems such as QGIS and ArcGIS. PE enquired whether the updated Chemet service is linked into the Joint Emergency Services Interoperability Principles (JESIP). Met Office agreed to follow this up offline. The group agreed that this milestone had been delivered.

#### **4.3 Severe weather and warnings review**

MH provided the group with a summary of NSWWS performance since the last meeting. The percentage of warnings scoring good or excellent is meeting the current target of 74%. MH spoke about recent events and the warnings issued, one being a rain event taking place over the 8<sup>th</sup> and 9<sup>th</sup> November affecting South West Wales, the other a high impact ice warning for 15<sup>th</sup> December. The group discussed the warning issued for ice which covered the impacts of the freezing rain. There was agreement amongst the group that the Met Office made the right decision to issue the warning.

PF noted that in respect of managing highways that it was useful to raise awareness. Although this weather phenomenon is very hard to predict, even with the large area covered by the warning it was the right thing to do. PF noted that Highways England released their own internal alert on the back on the Met Office warning to communicate the message about freezing rain. JS said that although they did stand up more resources than was actually required in this event it was felt that it was appropriate to do so and that they prefer to stand up adequate resource even if sometimes those resources are stood down. JS informed the group that the warning helped get across the message and that they communicated the seriousness by highlighting that the warning was one box below a red in the grid. DH suggested that the freezing rain event could be a useful topic to discuss at the next media and reach sub-group as an education piece.

MH summarised the performance during the freezing rain event. Overall it was agreed that it was a good response to a very complex weather situation. The learning points from this event included solid performance and value add by meteorologists responding to a strong model signal for freezing rain. As this was a rare event it will provide a useful learning opportunity and will feed into some revisions to the best practice guide.

#### **4.4 Secretariat reports on performance**

SJ informed the group that the Met Office has completed the work on SurfaceNet which is being deployed across the network. The group agreed that this milestone had been met.

The group agreed that the IMPROVER milestone for this FY would be changed to an alpha release with full operational implementation expected in 2020.

#### **5.1 Introduction to Met Office CEO**

PE introduced herself to the group and spoke about her background and previous career history and her enthusiasm for taking on the CEO role at the Met Office. PE spoke about priorities to see through the final elements of the Transformation and Efficiency programme but looking to the future and ensuring that the organisation has a clear strategic direction. PE spoke about the purpose of the organisation is right but that they must ensure that they remain innovative. PE spoke about the high quality science that the organisation practices. PE said that the Met Office could look to provide the PWSCG with more choices and options and variations about where to invest the public weather service funding. The group welcomed the CEO's initial thoughts and insights and her commitment about the importance of the PWSCG to the Met Office.

The group provided some initial comments, ND referred to the fact that MoD had experienced some impacts to services but on the whole what the Met Office do provide is excellent. ND also made the point that in terms of the communications piece about getting the right message out to users may be better served by people with a communications background and not necessarily from a meteorological forecaster. JM said that in Northern Ireland, concerns have been expressed about the impact of any further cost savings. CH stated that from an aviation perspective, low cloud visibility and snow have high impacts for transport and that continued investment in these areas would be desired. CH also reminded the group and Met Office about the importance of people in the process and not to overlook the need for the right highly skilled individuals.

#### **7.1 Met Office supercomputer plans**

MT presented to the group on Met Office plans to procure future supercomputing capability. The current Met Office supercomputer which was purchased through a grant from Government and is located at the HQ and a nearby data centre is approaching its end of life in 2021. The current plans are for procurement and implementation of new Supercomputing hardware, software, implementation and systems support. MT summarised the current challenges facing Met Office to procure new supercomputer capability which include technology manufacturers' roadmaps slowing significantly, the decline of Moore's law leading to a reduced return on investment and operating costs challenging head of a spending review. The group were informed about the timeline of activity required during 2019 to bring together the strategic outline case followed by the outline business case and culminating in the submission of a full business case in 2020. MT explained that the key considerations are around the different sizing options, the computing capacity and delivery options, building or renting their own data centre or supercomputing in the cloud. The group were informed about the cost benefit analysis that has been completed and the emergence of a preferred option to take forward as part of the business case.

The group asked a number of questions in follow up. DH enquired about the potential impact on funding from the PWS contract and how that may need to change according to the solution procured. WW enquired what other organisations with similar data processing requirements are doing. Currently there are few other players procuring supercomputer capability at this scale from a cloud based provider. There are others exploiting the cloud technology for supercomputing but not on the same scale the Met Office requires. Other questions included the level of flexibility that would exist and whether any procurement would 'lock' the Met Office into a particular supplier, this is a key consideration that is being investigated. PE spoke about the fundamental point of this being a consideration for Met Office in terms of being a leader or a follower in exascale computing. WW also sought assurances that the PWSCG would be able to influence how the supercomputer capability would be used so that there would still be a steer in terms of how to direct the science at the additional capability. SJ noted that during the lifetime of this next supercomputer data from two new satellites will become operational. ND spoke about the international dynamic for Met Office from a new supercomputer as there are contracts that exist with the USAF and NATO which sees the Unified Model as the pre-eminent model which provides huge assistance in international relationships. ND referred to MoDNet and Azure and whether any lessons or information could be learned from these services.

## **7.2 Plans for FY 2019/20**

DR informed the group about the challenges and opportunities over the coming year which will be considerations for the PWSCG. The issues range from securing a sustainable settlement as part of the comprehensive spending review, deciding on the future requirements for supercomputer capability and the associated funding to moving forward after the completion of the transformation and efficiency programme.

DR highlighted the success stories over the year so far including good warnings performance, next generation NSWWS introduced and well received, promising performance of early nowcasting capability and issuing of first 'amber' warning for thunderstorms and public reach and engagement at an all time high post BBC contract ending.

DH explained the direction of travel and the focus areas for the next FY including driving improvements in accuracy, grow reach and engagement to retain authoritative voice and drive weather decisions. The plan includes continuing with the model upgrades, implementing nowcasting capability, completing post processing project 'IMPROVER', completing SurfaceNet and a new lightning location service.

The group endorsed the direction of travel presented by DR.

## **7. AOB**

RO informed the group that the Met Office would shortly be launching its annual customer survey and sought agreement from those present that they would be happy to be contacted. No objections were noted.

Note of thanks

WW informed the group that this would be MH's last meeting at PWSCG as she is leaving the Met Office. WW thanked MH for all her hard work, dedication and constructive approach in her role as head of civil contingencies. Her work over the last

5 years has been invaluable and she will be sorely missed by all at PWSCG. MH thanked the PWSCG for their assistance and challenge over the last few years.

**Future PWSCG Meeting dates and locations:**

- Wednesday 24th April 2019 (London)

Proposed dates for 2019/2020 to be agreed at April PWSCG

- XX October 2019
- XX January 2020
- XX April 2020