

Joint GOV/WGNE workshop

Short- to medium-range coupled prediction for the atmosphere-wave-sea-ice-ocean

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OOFS chair**

Kirsten Wilmer-Becker, UK Met Office, GOV project office coordinator

www.gov.gov

Workshop Motivation

- Ocean prediction substantially improved by coupling ocean model to atmospheric model
- Could improve extreme events, atmospheric boundary layer, coastal weather, moisture fluxes from ocean
- Improve retrieval of satellite data by more accurately representing ocean surface
- Coupled models already used in longer range forecasts; using coupled models in shorter range forecasts should improve use in seasonal forecasts
- Availability of GOOS and GODAE high-resolution estimates of ocean states
- Coupled systems under development or in use at operational centers
 - US Navy COAMPS
 - NOAA coupled hurricane system, coupled data assimilation
 - CMC coupled regional model
 - ECMWF coupled atmosphere-wave
 - Meteorological Office coupled coastal modelling
 - Bureau of Meteorology CLAM
- Unique joint forum for NWP and ocean forecasting communities
- Coupling ocean and atmospheric models will necessitate substantial work to improve models, leading to substantial improvement

Workshop Objectives

- **Conduct a workshop to invite members of the WGNE and GODAE OceanView community with interests in developing coupled high resolution earth systems for short- to medium- range prediction**
- **Present the latest evidence of the impact of coupled modelling on the earth system analysis and forecasts**
- **Present the latest progress in the development and identify gaps in knowledge and leading scientific questions to be addressed for coupled earth system:**
 - **observations**
 - **physical parameterisation**
 - **dynamical modelling**
 - **data assimilation**
- **Discuss the requirements and opportunities for collaboration between each area**
- **Discuss the formation of a joint group (Why/How/Who/When/Where)**
- **Report on progress, gaps and challenges in the field and specific actions/recommendations for further progress**

Actions/Progress

Secretarial support

- Following GOV meeting
- Kirsten Wilmer-Becker

Leadership group

- Formed Mar 2012
- Coordination meetings, Mar/Aug 2012

First announcement

- May 2012

Second announcement

- Sep 2012

Registration of interest

- Sep 2012
- survey results

Draft whitepapers

- Oct 2012

Logistics

- Current status

Leadership group

Role

- Prepare a draft whitepaper
- Assist in the workshop agenda
- Chair/coordination of sessions at the workshop
- Coordinate final whitepapers

Observations

Chair:	Chris	Fairall	WGNE
Sec:	Jim	Cummings	GOV

Parameterisations:

Chair:	Joao	Teixeira	WGNE
Sec:	Baylor	Fox-Kemper	WGNE

Modelling:

Chair:	Eric	Chassignet	GOV
Sec:	Paul	Sandery	WGNE

Data Assimilation:

Chair:	Craig	Bishop	WGNE
Sec:	Matt	Martin	GOV

Whitepapers

Common format

Introduction
Status of field
Key challenges
Discussion of issues
Cross-cutting issues
Key scientific questions
Conclusion/recommendation
References

Schedule

Oct 2012	- Strawman – DA/Modelling/Obs (complete)
Nov 2012	- Open for community comment
11 Jan 2013	- Revised whitepaper posted for review
8 Feb 2013	- Reviews returned
8 Mar 2013	- Final versions posted ahead of workshop

Publication - proposed

Single overall paper + 4 whitepapers
JAMES/AGU journal (<http://www.agu.org/journals/ms/>)

Registration of interest

Survey questions:

- | | |
|--------------------------------|----------------------------------|
| Personal details | – email distribution list |
| Scientist level | – Leader/Senior/Junior scientist |
| Attendance preference | – Attend/Virtual/Informed |
| Topic interest | - Obs/Para/Model/DA |
| Whitepaper contribution | - Writer/Reviewer |
| Funding support | - Required/Not required |

Survey results

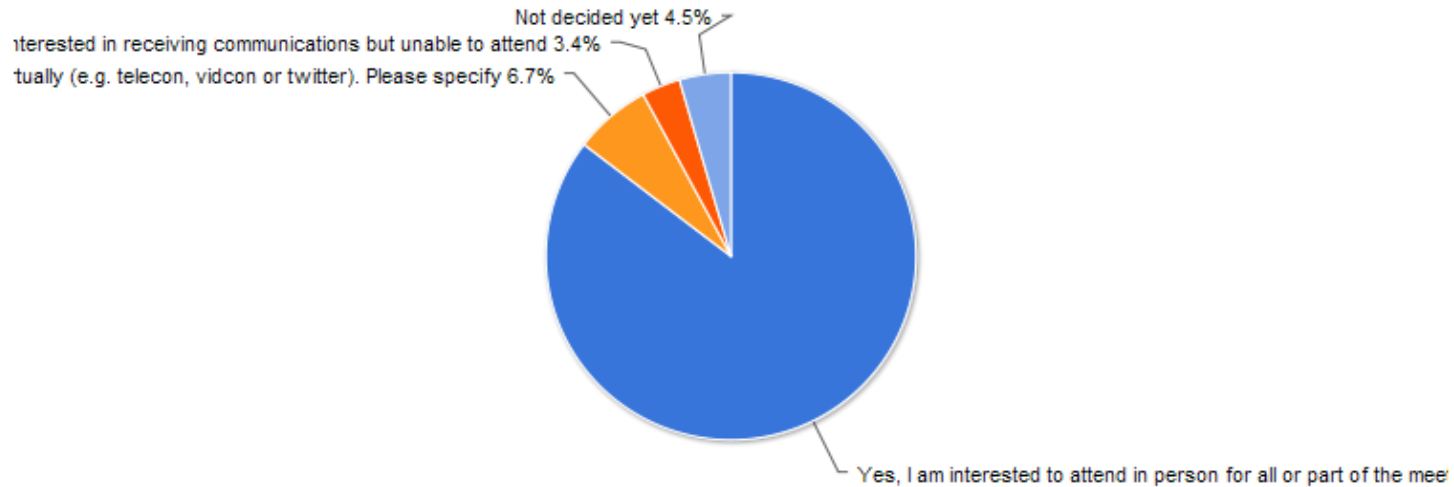
99 people responded to the survey,
82 are prepared to attend the workshop,
7 attend virtually,
6 receive material,
4 undecided

Of those wanting to attend (82),
47 are Senior Scientists,
20 are Leaders in their field
15 are “Early Career” scientists.

Of the 82 people wanting to attend,
58 would like to contribute as authors,
29 would like to be a reviewer (with 18 people offering both).

People from 17 countries responded to the invitation to register interest,
majority coming from the USA (location of workshop).

Survey results

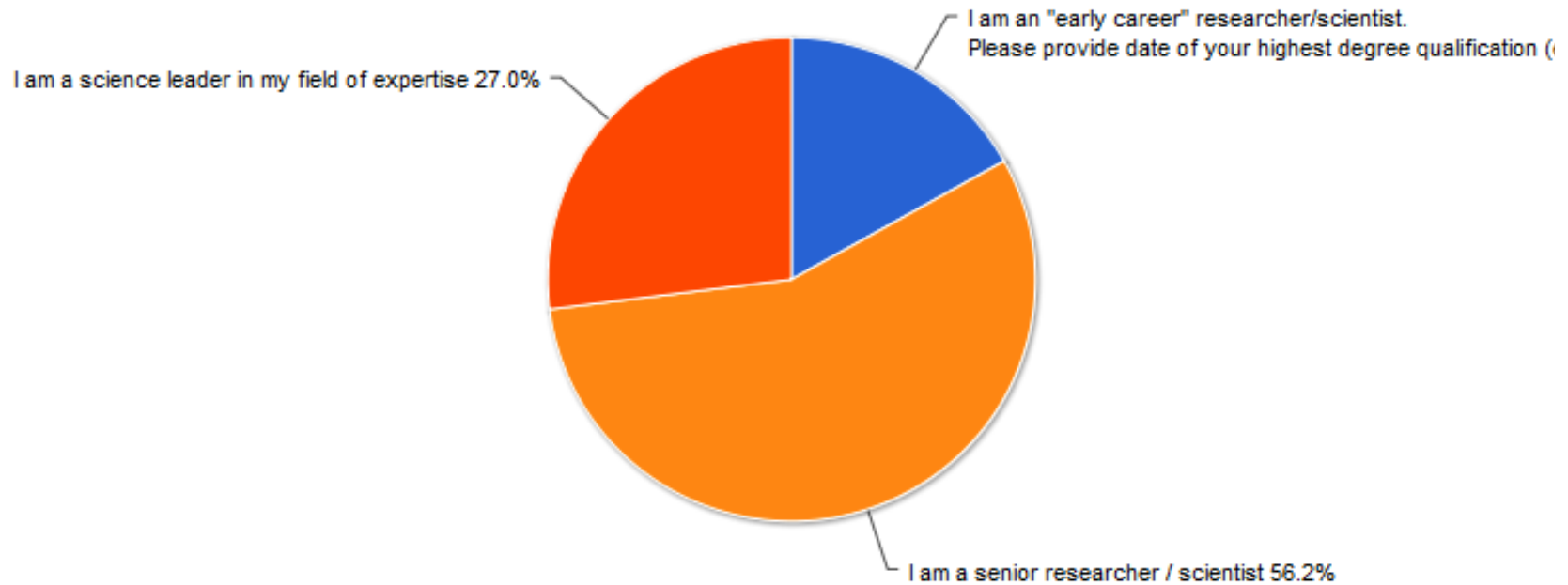


4. Are you interested to take part in the Joint GODAE OceanView-WGNE workshop on Short-to Medium-range coupled prediction for the atmosphere-wave-sea-ice-ocean: Status, needs and challenges?

Value	Count	Percent %
Yes, I am interested to attend in person for all or part of the meeting	76	85.4%
Yes, I would like to attend but only virtually (e.g. telecon, vidcon or twitter). Please specify	6	6.7%
Yes, I am interested in receiving communications but unable to attend	3	3.4%
No, I am not interested in this topic	0	0%
Not decided yet	4	4.5%

Statistics	
Total Responses	89

Survey results

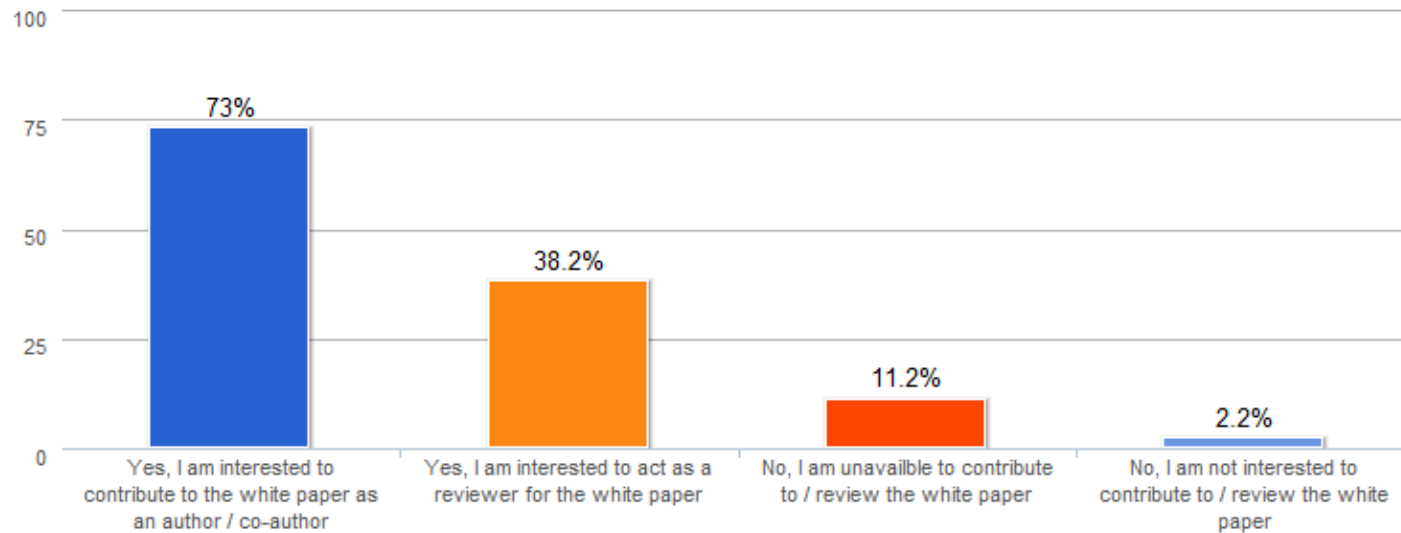


5. Please tell us about your science / research background:

Value	Count	Percent %
I am an "early career" researcher/scientist. Please provide date of your highest degree qualification (e.g. 2007 onward), degree title and institution.	15	16.9%
I am a senior researcher / scientist	50	56.2%
I am a science leader in my field of expertise	24	27%

Statistics	
Total Responses	89

Survey results

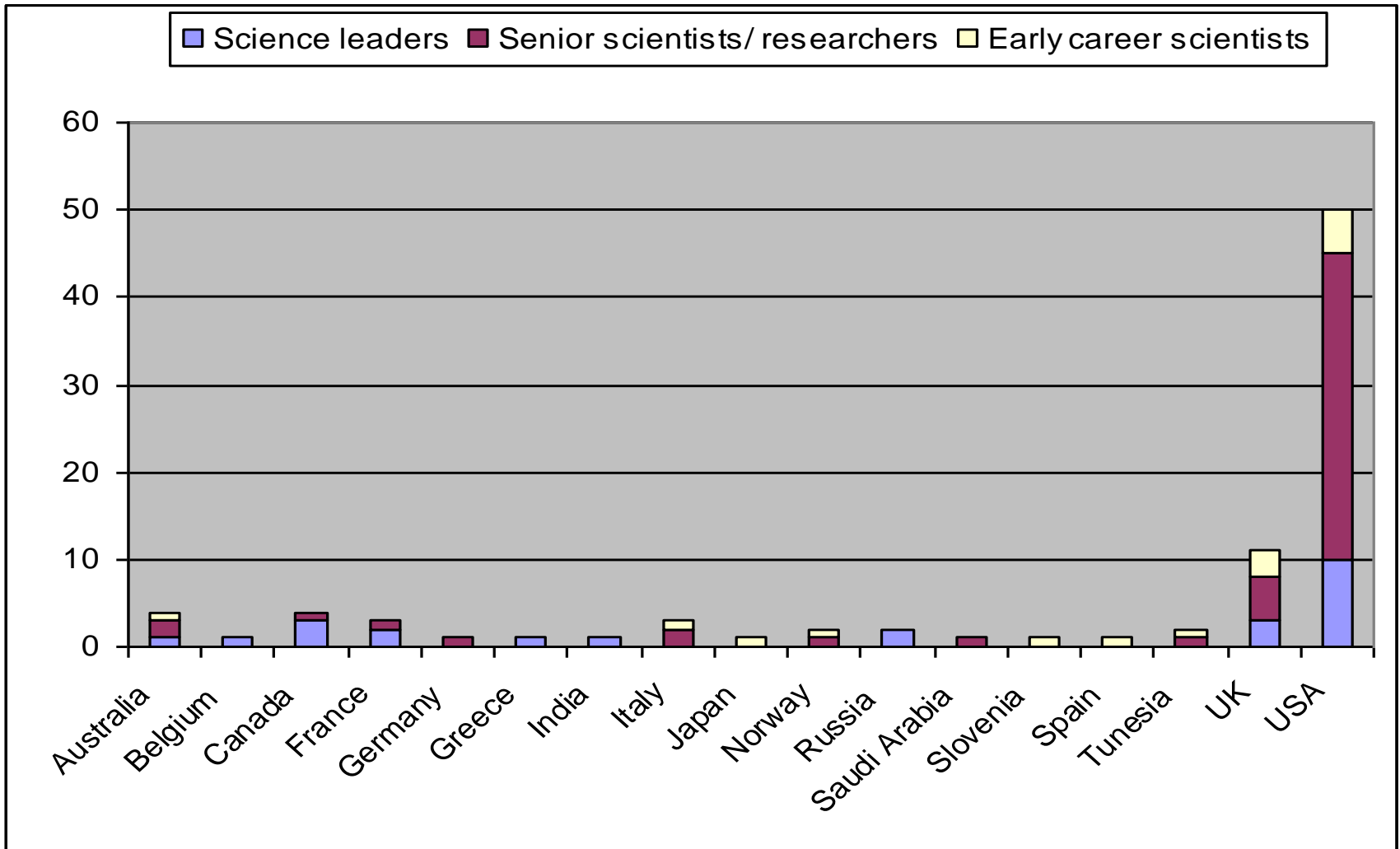


7. A white paper is planned on the workshop topic: "Short- to Medium-range coupled prediction for the atmosphere-wave-sea-ice-ocean: Status, needs and challenges". We would like to find out if you would be interested to get involved. (Multiple answers possible)

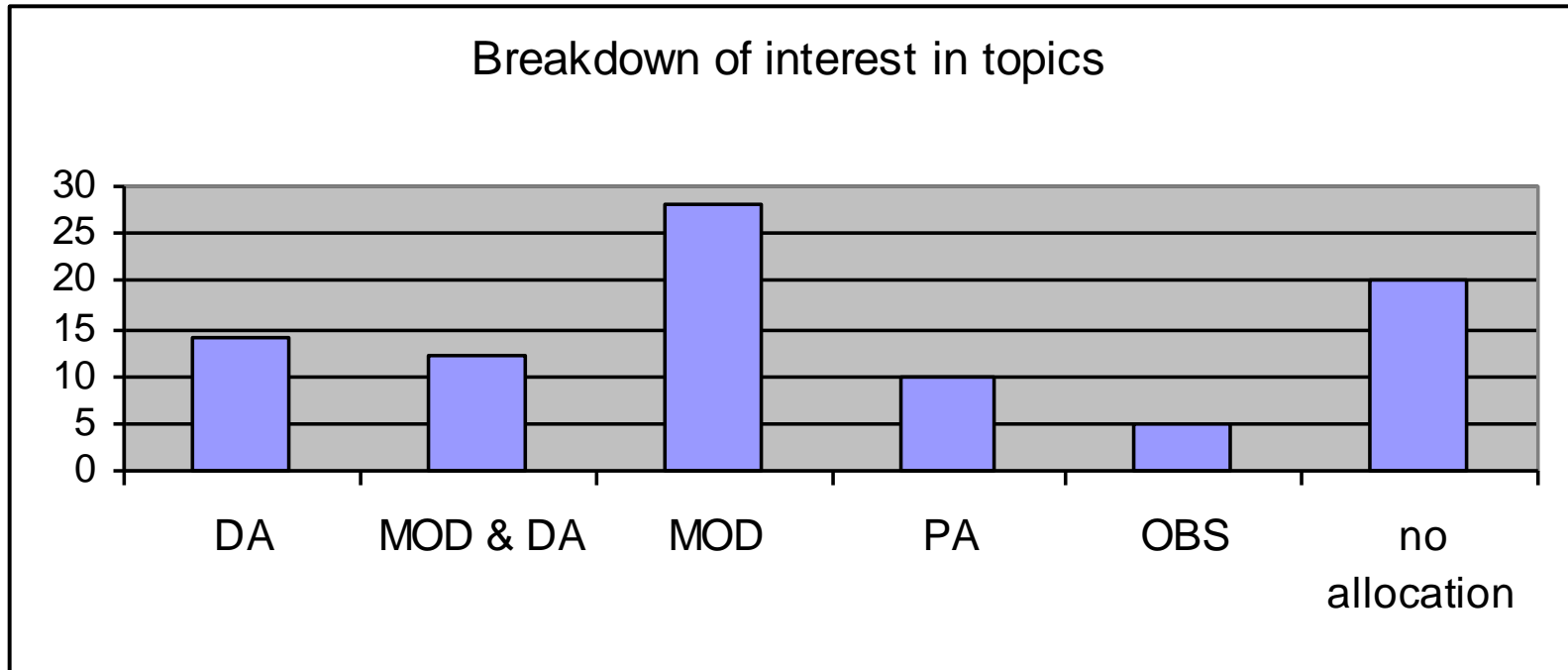
Value	Count	Percent %
Yes, I am interested to contribute to the white paper as an author / co-author	65	73%
Yes, I am interested to act as a reviewer for the white paper	34	38.2%
No, I am unavailable to contribute to / review the white paper	10	11.2%
No, I am not interested to contribute to / review the white paper	2	2.2%

Statistics	
Total Responses	89

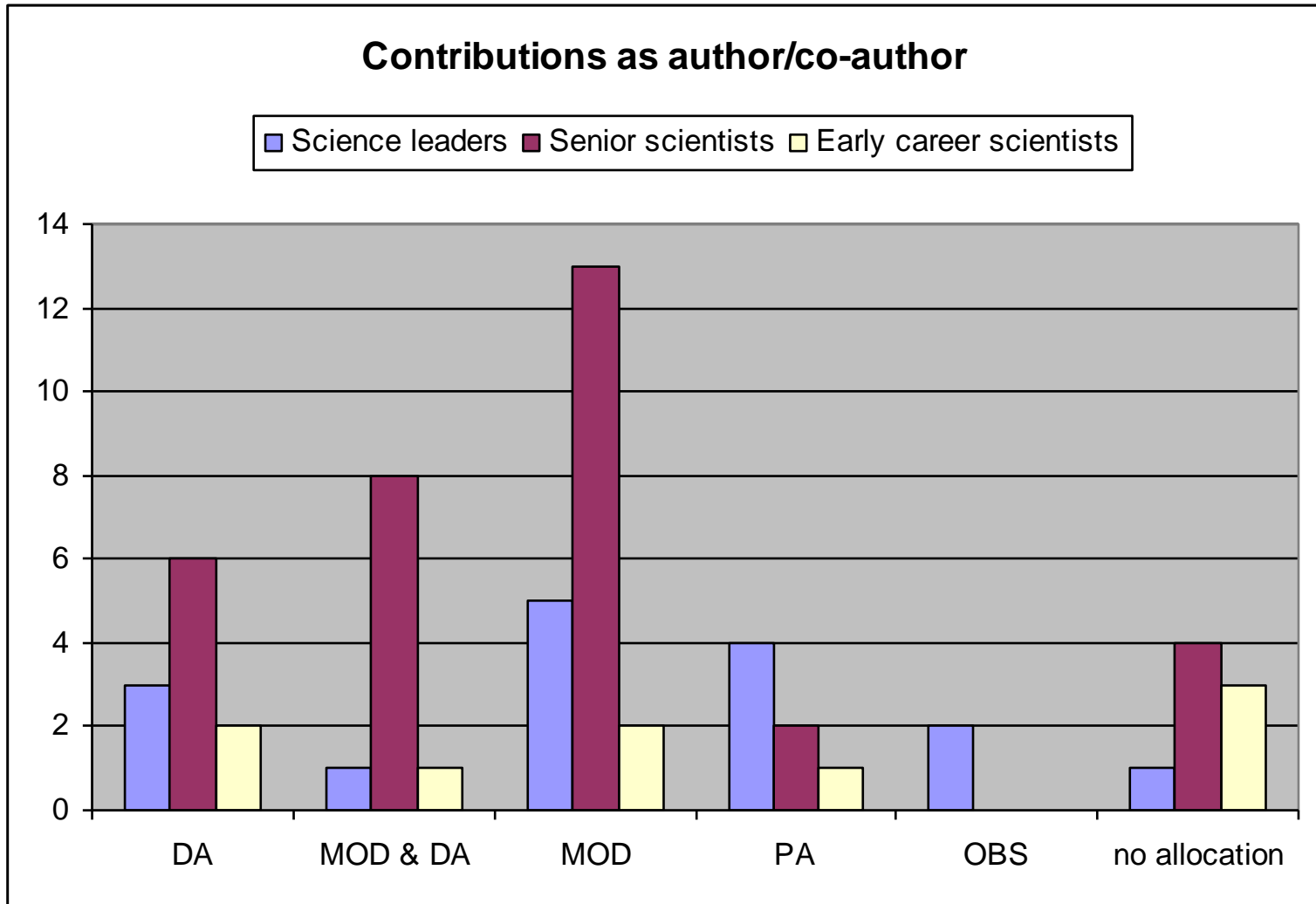
Survey results



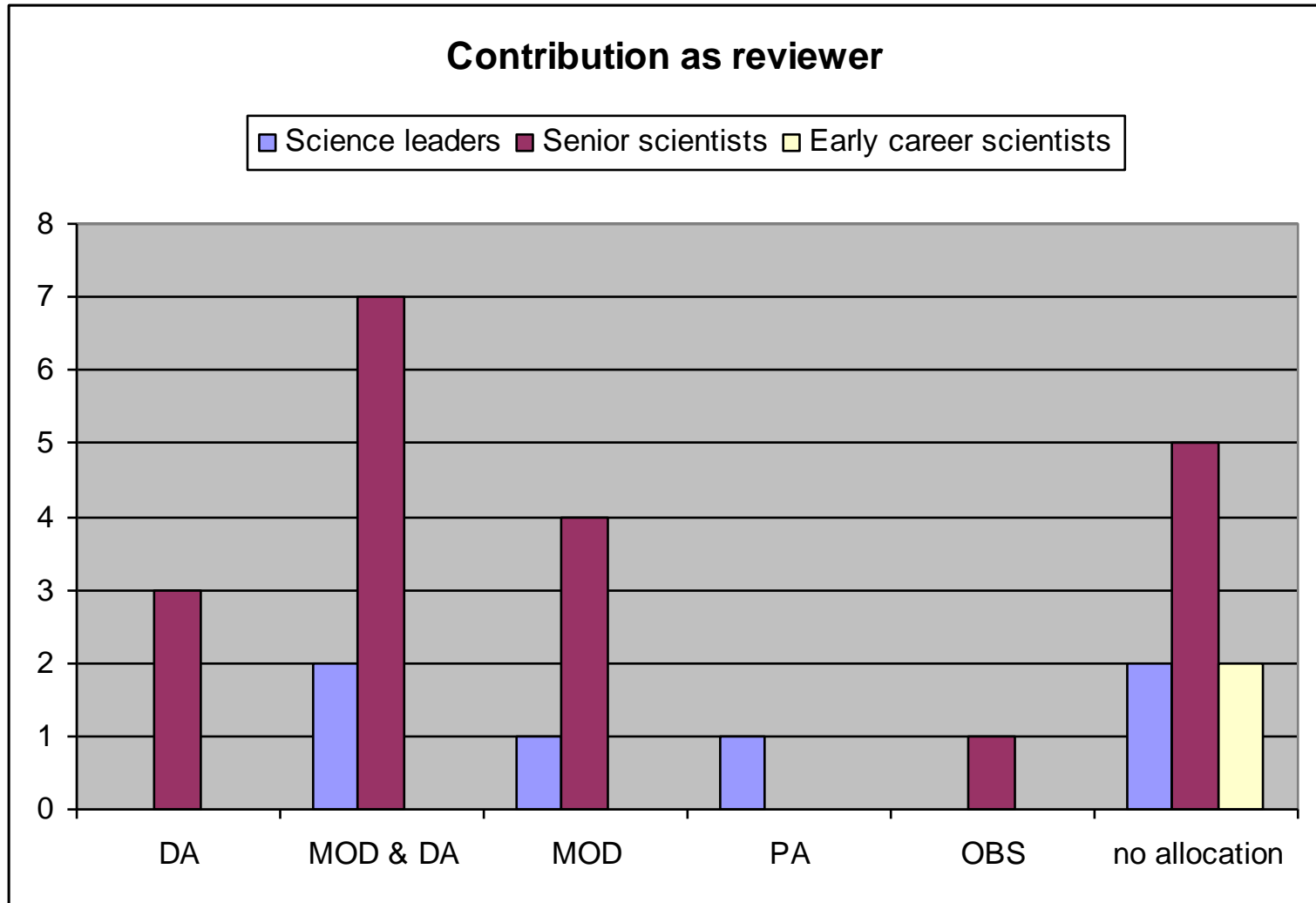
Survey results



Survey results



Survey results



Logistics

- **Location:** Washington, DC
- **Date:** 19-22 March 2013 (4 days)
- **~60 participants**
- **Venue:**



NOAA Center for Weather and Climate Prediction (NCWCP)



A.K.A.—the new building....

- **Four-story, 268,762 square foot building in Riverdale, MD will house 800+ Federal employees, and contractors**
 - 5 NCEP Centers (NCO, EMC, HPC, OPC, CPC)
 - NESDIS Center for Satellite Applications and Research (STAR)
 - NESDIS Satellite Analysis Branch (SAB)
 - OAR Air Resources Laboratory
- **Includes 40 spaces for visiting scientists**
- **Includes 465 seat auditorium & conference center, library, deli, fitness center and health unit**



Meeting format - proposed

Day 1

Opening/Welcome (30 min)

Observations overview (2hr)

Chair presentation – status/challenges

Invited speaker

Tea

Parameterisation (2hr)

Chair presentation – status/challenges

Invited speaker

Lunch

Modelling (2hr)

Chair presentation – status/challenges

Invited speaker

Tea

Data assimilation (2hr)

Chair presentation – status/challenges

Invited speaker

Workshop dinner

Meeting format - proposed

Day 2

Objectives/outcomes (30 min)

Discussion – Observations (1/2 day)

Challenges (all)

Scientific questions

Priority

Requirements (other components)

Tea/Lunch (Poster presentation)

Discussion – Parameterisations (1/2 day)

Tea/Evening (Poster presentation)

Day 3

Discussion – Modelling (1/2 day)

Tea/Lunch (Poster presentation)

Discussion – Data assimilation (1/2 day)

Tea/Evening (Poster presentation)

Meeting format - proposed

Day 4

Review discussion

Observation (30 min)

Parameterisation (30 min)

Modelling (30 min)

Data assimilation (30 min)

Tea

Integration

Integrated challenges

Integrated science questions

Lunch

Summary presentations

Workshop outcomes

Publications schedule

Close

Leadership group meeting

Next steps

- **Post logistics on website**
- **Post whitepapers on website**
- **Announcement of meeting information**
- **Registration**
- **Finalise meeting format**
- **Complete draft whitepapers**
- **Coordinate virtual participation**
- **Coordinate presentations/invited speakers**
- **Conduct workshop**
- **Post presentations/minutes**
- **Publish report and whitepapers**