

WGNE Blue Book

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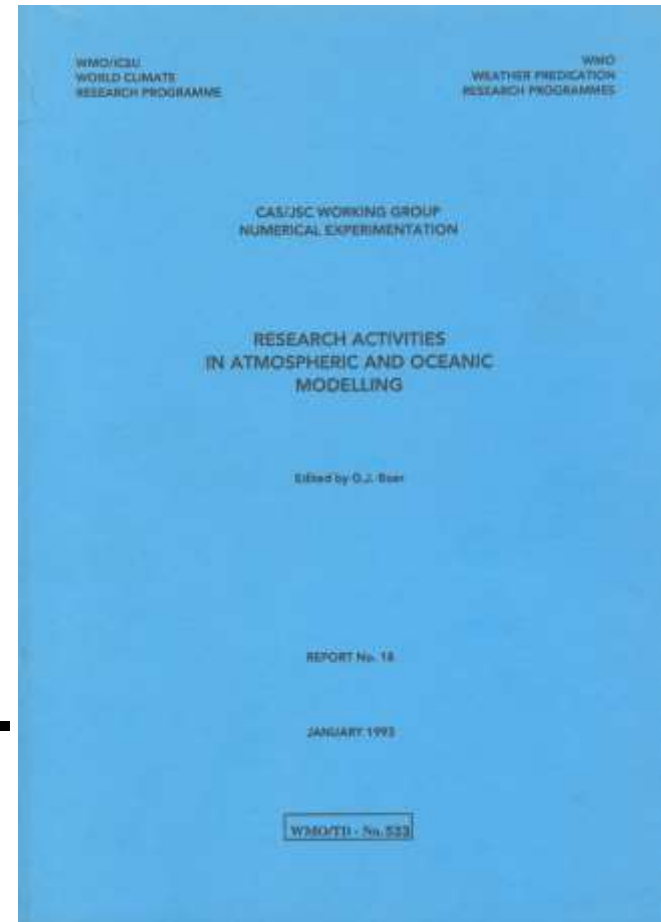
WGNE34. Offenbach, September 26, 2019.



The **WGNE Blue book**
is a nickname
for the annual publication
Research Activities in Atmospheric
and Oceanic Modelling
prepared under the auspice of WGNE
and published by WMO as a WCRP Report
since 1992.

How did Bob become
the nickname for
Robert and Dick for
Richard?

How did Blue Book
become the
nickname for
Research activities in
Atmospheric and
Oceanic Modelling?



**It was a blue-covered book in 1992-2006.
Only online version exists since 2006.**

Search ...



Commission for
Atmospheric Sciences
(CAS)

WGNE blue book

Research Activities in Atmospheric and Oceanic Modelling

The **WGNE Blue Book** publication is an attempt to foster an early interchange of information among scientists developing numerical models for the purpose of climate simulation and for forecasting on various timescales.

It has been published as a blue-covered book since the early 1970th. Only electronic version is available since 2006.

The WGNE Blue book is published once a year.

The WGNE Blue Book issues

The WGNE Blue book call for contributions

[SUBMIT A CONTRIBUTION TO THE WGN BLUE BOOK](#)



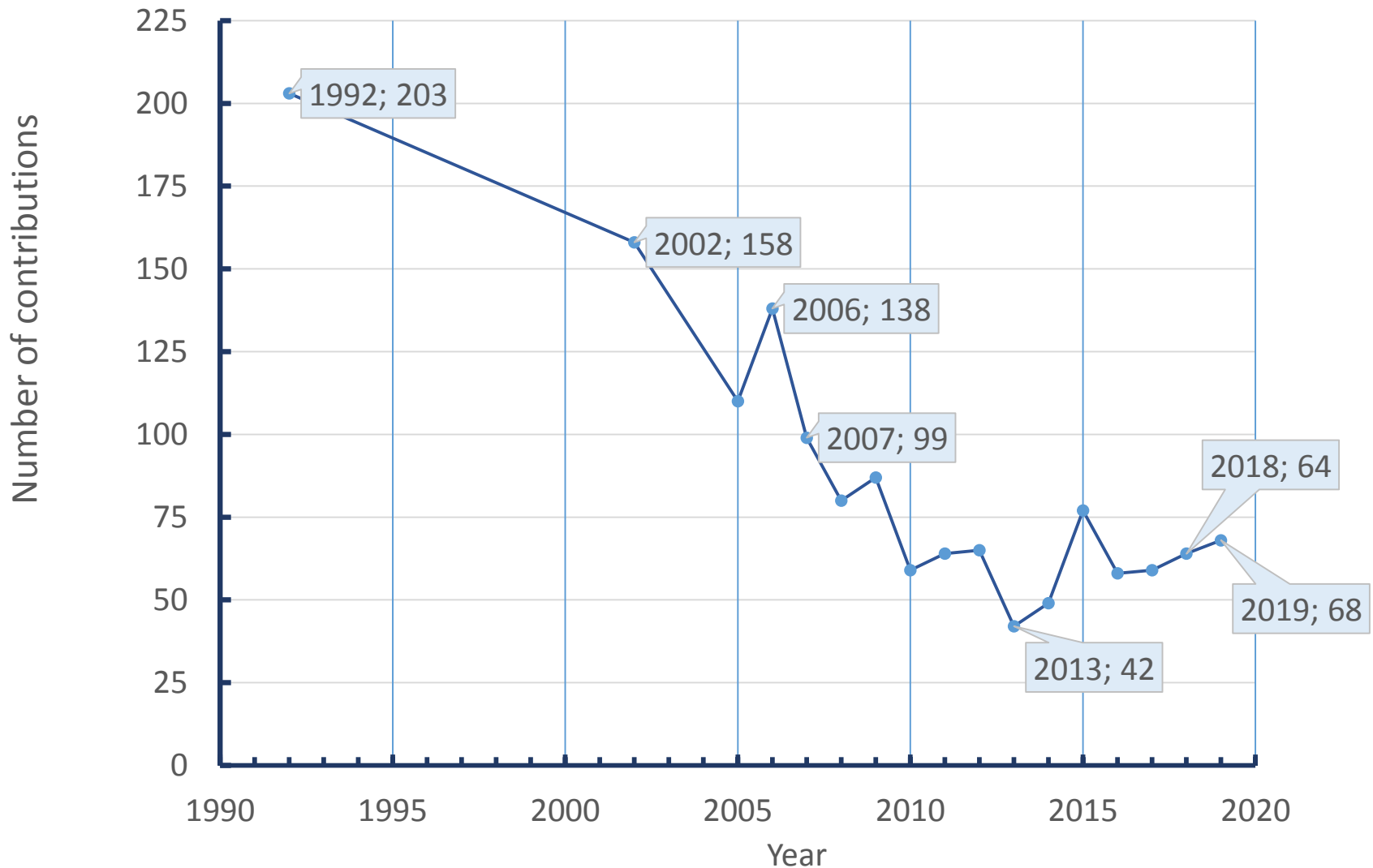
LATEST NEWS

- The International Radiation Symposium (IRS) will be held from 6-10 July, 2020 in Thessaloniki, Greece.
- Workshop: Energy spectra and vertical velocity of the Earth's atmosphere, ECMWF, Reading, 27 June 2019
- Workshop: Stratospheric predictability and impact on the troposphere. ECMWF, Reading, 18-21 November 2019
- Waves to Weather Annual Meeting, 4-6 Nov 2019, Germany.
- 4th International Conference on Regional Climate (ICRC) — CORDEX, 14-18 October 2019, Beijing, China

Some remarks about the edition

- Contributions to ten sections are submitted.
- Contributions should not exceed two pages (with very few exceptions).
- Contributions usually contain new information about research and upgrades of prognostic systems
- Often recently prepared, submitted to publication or even already published papers are advertised
- The call for contributions is sent in February, the Blue Book is published at the beginning of July (often some interaction with the authors is required to improve their articles: problems with plots, abbreviations, misprints, language).

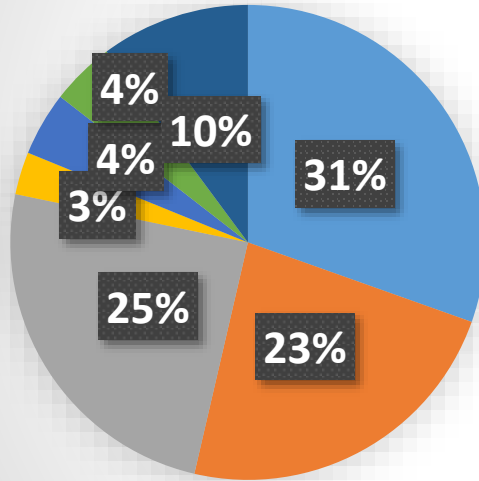
Evolution of the number of contributions



From 60 to 70 contributions in the last years

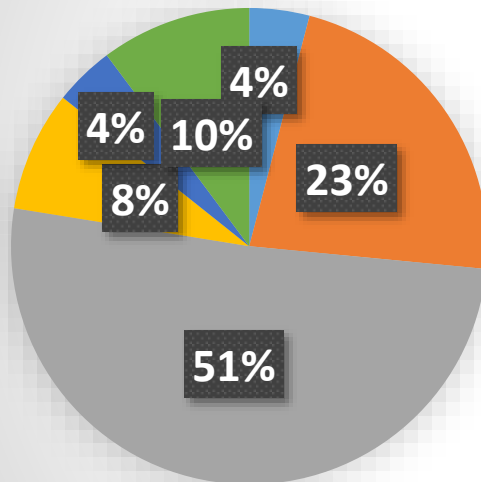
Contributing countries

2019
12 countries



- USA
- Russia
- Japan
- France
- Australia
- Canada, Germany
- Serbia, Brazil, India, Ireland, China

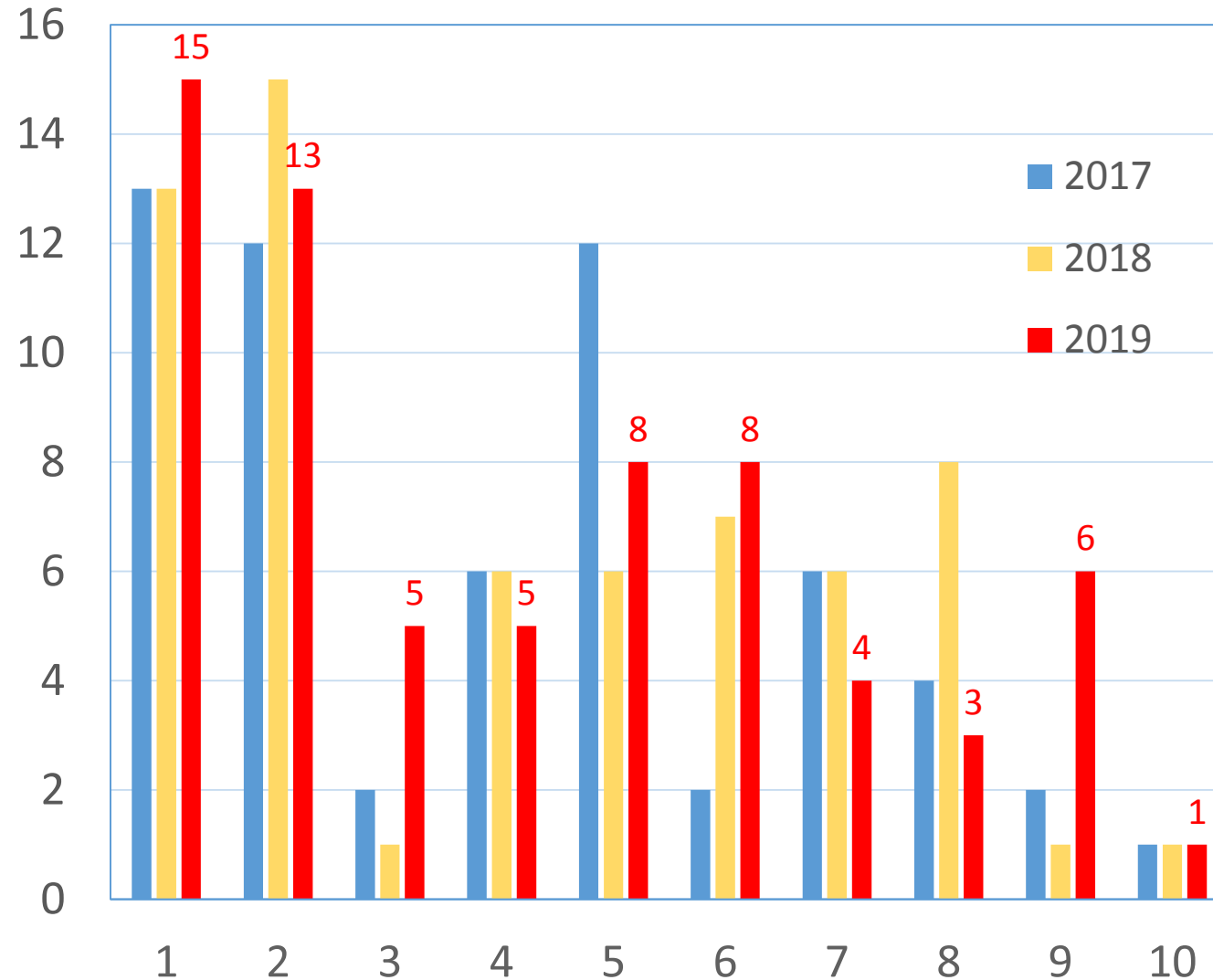
2014
9 countries



- USA
- Russia
- Japan
- France
- Australia
- Spain, Italy, Switzerland, UK

Distribution of papers over sections (2017-2019)

Total:
2017: 60
2018: 64
2019: 68



- 1- assimilation
- 2- datasets, reanalysis, diagnostic studies
- 3-computing, resolution effects
- 4-parameterizations
- 5-regional models
- 6-global models
- 7-climate, seasonal
- 8-ocean, waves
- 9-coupled and ESM
- 10 -verification

What was interesting this year?

- A variety of papers describing the upgrades of prognostic systems

W. Zheng et al. Reduction of 2-m Temperature Forecasting Errors in the NCEP Global Forecast System

W. Zheng et al. Reduction of Excessive Cold Bias in GFS 2-m Temperature Forecasts in Snow-Free Seasons

R. Sun et al. Interactions between GFDL Cloud Microphysics and RRTMG Radiation in NCEP FV3GFS

H.S. Kim et al. NCEP HWRF-HYCOM-WW3 Forecast System

A. Cheng et al. Implementation and Evaluation of MG3 microphysics in FV3GFS

D. Kleist, C. Thomas Data Assimilation in the Next-Generation Global Prediction System Era: Initial Implementation of FV3-based Global Forecast System

W. Wang et al NCEP HMON-based hurricane ensemble forecast system

Y. Ota, M. Ikegami, H. Yamaguchi

Upgrade of initial perturbations made using the Local Ensemble Transform Kalman Filter in JMA's Global EPS

I.Okabe Operational use of surface-sensitive clear-sky radiance data in JMA's global NWP system

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What was interesting this year?

- A variety of papers describing the upgrades of prognostic system
- The paper about the WGNE aerosol project

The Second Phase of the WGNE Aerosol Project: Evaluating aerosol impacts on Numerical Weather and Subseasonal Prediction

Ariane Frassoni, Angela Benedetti, Frederic Vitart, Francois Engelbrecht

- Description of the Project goals
- Summary of the results of the First Phase of the Project
- Brief description of the Second Phase of the Project including the suggested experimental and verification setup

What was interesting this year?

- A variety of papers describing the upgrades of prognostic systems
- The paper about the WGNE aerosol project
- The Canadian paper about the new supersites in the Arctic

The Canadian Arctic Weather Science (CAWS) Iqaluit and Whitehorse Meteorological Supersites

Zen Mariani, Stella Melo, Paul Joe, Bob Crawford, William Burrows, Barbara Casati, Kevin Strawbridge

Canadian Arctic Weather Science (CAWS) project is to conduct research into the future operational monitoring and forecasting programs of Environment and Climate Change Canada (ECCC) in the Arctic. ECCC commissioned two supersites located in Iqaluit (64N, 69W) and Whitehorse (61N, 135W).

Processed data products from both sites are made available in near-real time to forecasters (Arctic Forecast Centres in Winnipeg and Vancouver) and other clients (Yukon Wildland Fire Management, Universities, and the general public) via the webpage ecpass.ca.

What was interesting this year?

- A variety of papers describing the upgrades of prognostic systems
- The paper about the WGNE aerosol project
- The Canadian paper about the new supersites in the Arctic
- **Advertisements of new papers and ideas**

Advertising papers under review

D. B. Thorn, I. Simmonds and A. D. King

Coupled changes in Antarctic sea ice and cyclones on the daily time scale

I. Rudeva, I. Simmonds, D. Crock and G..Boschat

Southern Hemisphere fronts and their role in changes in the Hadley Cell extent

K. Reid, I. Simmonds, C. Vincent, A. King.

Trends in the occurrence of Australian northwest cloudbands

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S. Tang, H. von Storch, X. Chen

The scale dependency of the signal-to-noise ratio in a regional oceanic system

The significance of the externally driven component, and of the internally driven component, changes with the scale; the larger the scale, the more important the external forcing, the smaller the scale, the more the internal generated variability

A. Belochitski, V. Krasnopolsky

How Robust are Neural Network Emulations of Model Physics with Respect to Changes in Model Phase Space?

An NN emulation of a model physics parameterization is a functional imitation of this parameterization in the sense that the results of model calculations with the original parameterization and with its NN emulation are physically identical.

I want to thank

- the WGNE members for their support
- Alexander Skomskov and Alexander Smirnov from the Hydrometcenter of Russia for their permanent help with the Web version of the Blue book and the WGNE site
- Everybody in this hall for their attention!

