

The 4th International Workshop on Nonhydrostatic Models

Nov. 30 (Wed) - Dec. 2 (Fri), 2016

The Prince Hakone Lake Ashinoko, Hakone, Japan

Program

November 30 (Wed)

13:30-13:40 Masaki Satoh: Opening

Deep convection: Chair: Eigo Tochimoto

13:40-14:00 Hisashi Yashiro, Yoshiyuki Kajikawa, Yoshiaki Miyamoto, Tsuyoshi Yamaura, Ryuji Yoshida, and Hirofumi Tomita
Resolution dependence of the diurnal cycle of precipitation over land in the tropics simulated by a global cloud permitting model

14:00-14:20 Didier Ricard, Antoine Verrelle, Christine Lac, and Nicolas Rochetin
Representation of turbulence in simulations of deep convective clouds

14:20-14:40 Christopher Moseley, Cathy Hohenegger, Peter Berg, and Jan O. Haerter
Intensification of convective extremes driven by cloud–cloud interaction

14:40-15:00 Marat Khairoutdinov
Statistics of clusters of tropical convection in global cloud-resolving simulations of aqua-planet with SAM

15:00-15:30 Break

Deep convection, meso: Chair: Hisashi Yashiro

15:30-15:50 Thomas Schmitalla
Convection permitting latitude belt simulation with the WRF model

15:50-16:10 Kengo Matsubayashi, Tabito Hara, Kohei Aranami, and Kohei Kawano
An update of convection scheme in 5km resolution operational system

16:10-16:30 Eigo Tochimoto, Sho Yokota, Hiroshi Niino, and Wataru Yanase
Mesoscale vortex that caused marine accidents due to a sudden gusty wind in the southwestern part of the sea of Japan on 1 September 2015

16:30-16:50 Teruyuki Kato
Influence of horizontal resolution on structure changes of atmospheric stratification in the 2015 Hiroshima heavy rainfall

16:50-18:00 Poster display

18:00 Reception (Suruga)

December 1 (Thu)

Dynamical cores/numerical schemes: Chair: Tomoki Miyakawa

8:40-9:00 David Randall, Ross Heikes, and Celal Konor

A global vector vorticity model on a geodesic grid

9:00-9:20 Chien-Ming Wu

Development of a Taiwan full-physics vector vorticity equation model (VVM)

9:20-9:40 John L. McGregor

Cubed-sphere modelling activities at CSIRO

9:40-10:00 Kazushi Takemura, Keiichi Ishioka, and Shoichi Shige

Development of a non-hydrostatic atmospheric model using the Chimera grid method for a steep terrain

10:00-10:20 Kohei Kawano, Kohei Aranami, Tabito Hara, Kengo Matsubayashi, Masami Sakamoto, and Yuji Kitamura

Improving computational stability with time-splitting of vertical advection considering 3-dimensional CFL condition

10:20-10:50 Break

Numerical schemes, MJO/field exp.: Chair: Chien-Ming Wu

10:50-11:10 Lian-Ping Wang, Wojciech W. Grabowski, Zhaoli Guo, and Ryo Onishi

Development of a mesoscopic simulation method for atmospheric convection

11:10-11:30 Yuki Nishikawa, and Masaki Satoh

Topographic representation scheme using a thin-wall approximation in terrain-following coordinates

11:30-11:50 Chung-Hsiung Sui, Yi-An Chen, and Shu-Yu Hou

Simulated convective-radiative properties in the MJO during DYNAMO/CINDY

11:50-12:10 Kazuyoshi Kikuchi, Chihiro Kodama, Tomoki Miyakawa, Tomoe Nasuno, and Masaki Satoh

Multiscale structure of the MJO: Does it matter?

12:10-13:40 Lunch

MJO/field exp., assimilation: Chair: Kazuyoshi Kikuchi

13:40-14:00 Tomoki Miyakawa

Current status of MJO simulations using NICAM and its 3D-ocean coupled version NICOCO

14:00-14:20 Tomoe Nasuno

Near real-time forecasts using a global nonhydrostatic model NICAM for field campaigns

14:20-14:40 Takemasa Miyoshi, Guo-Yuan Lien, Masaru Kunii, Juan Ruiz, Yasumitsu Maejima, Shigenori Otsuka, Keiichi Kondo, Hiromu Seko, Shinsuke Satoh, Tomoo Ushio, Kotaro Bessho, Hirofumi Tomita, and Yutaka Ishikawa
"Big Data Assimilation" for 30-second-update 100-m-mesh Numerical Weather Prediction

14:40-15:00 Takuya Kawabata, Hiroshi Yamauchi, Nobuhiro Nagumo, and Ahoro Adachi

Development of assimilation methods for polarimetric radar data

15:00-15:30 Break

Assimilation: Chair: Takuya Kawabata

15:30-15:50 Yasutaka Ikuta

Impact of flow-dependent assimilation using adjoint model including 3-ice microphysics scheme

15:50-16:10 Takumi Honda, Guo-Yuan Lien, Yasumitsu Maejima, Kozo Okamoto, and Takemasa Miyoshi

Assimilating all-sky himawari-8 satellite infrared radiances: A case of Kanto-Tohoku heavy rainfall in 2015

16:10-16:30 Koji Terasaki, Keiichi Kondo, Takemasa Miyoshi

Assimilating satellite radiances with the NICAM-LETKF system

16:30-18:00 Poster display

19:00 Banquet (Fukuman-en)

December 2 (Fri)

Assimilation, cloud schemes: Chair: Yosuke Sato

8:40-9:00 Shunji Kotsuki, Koji Terasaki, Hisashi Yashiro, Hirofumi Tomita, Masaki Satoh, and Takemasa Miyoshi

Model parameter estimation using ensemble data assimilation: A case with the nonhydrostatic icosahedral atmospheric model NICAM and the global satellite mapping of precipitation data

9:00-9:20 Wojciech W. Grabowski

Modeling condensation in nonhydrostatic cloud-scale models

9:20-9:40 Hugh Morrison

An accurate, efficient method for calculating hydrometeor advection in multi-moment bulk and bin microphysics schemes

9:40-10:00 Akihiro Hashimoto, Ryohei Misumi, and Narihiro Orikasa

Examination of the classification of hydrometeor types in a bulk microphysics scheme

10:00-10:20 Yoshinori Yamada

Development of a two-moment three-ice bulk microphysical model for ice

10:20-10:50 Break

Cloud schemes, clouds/aerosols/LES: Chair: Junshi Ito

10:50-11:10 Chia Rui Ong

Water droplet simulation by the immersed boundary method

11:10-11:30 Kozo Nakamura, Yasushi Fujiyoshi, Kazuhisa Tsuboki, and Naomi Kuba

Development of a bulk parameterization scheme of warm rain using bin scheme model results

11:30-11:50 Mike Pritchard, Hossein Parishani, Chris Bretherton, and Marat Khairoutdinov

Towards low cloud permitting superparameterization

11:50-12:10 Yosuke Sato

Current-generation global climate models inevitably underestimate pollutant transports to the Arctic

12:10-13:40 Lunch

Clouds/aerosols/LES: Chair: Akihiro Hashimoto

13:40-14:00 Tatsuya Seiki, Chihiro Kodama, Masaki Satoh, Tempei Hashino, Yuichiro Hagihara, and Hajime Okamoto

Effect of topographical resolution on cirrus clouds using a high-resolution GCM

14:00-14:20 Junshi Ito

Numerical simulation of a local valley wind "Hijikawa-Arashi"

14:20-14:40 Akira T. Noda, Tatsuya Seiki, Masaki Satoh, and Yohei Yamada

High cloud size dependency in the applicability of the fixed anvil temperature hypothesis using global nonhydrostatic simulations

14:40-15:00 Hiromasa Nakayama, and Tetsuya Takemi

Large-eddy simulation of a diurnal cycle of atmospheric turbulent boundary layer flows over an urban area by coupling with a meso-scale meteorological simulation model

15:00-15:20 Takanobu Yamaguchi, Graham Feingold, and Vincent E. Larson

Framework for improvement by vertical enhancement: a simple approach to improve low and high level clouds in large scale models

15:20-15:30 Closing

Posters

- P1 Seiya Nishizawa, Sachiho A. Adachi, Yoshiyuki Kajikawa, Tsuyoshi Yamaura, Kazuto Ando, Ryuji Yoshida, Hisashi Yashiro, and Hirofumi Tomita
Decomposition of the large-scale atmospheric state driving downscaling
- P2 Sachiho A. Adachi, Fujio Kimura, Hiroshi G. Takahashi, Masayuki Hara, Xieyao Ma, and Hirofumi Tomita
How does utilization of high-resolution SST give impact to regional climate simulation?
- P3 Shun-ichi Watanabe, and Hiroshi Niino
An idealized numerical experiment of Japan sea polar air mass convergence zone
- P4 Hoang-Hai Bui, Eriko Nishimoto, and Shigeo Yoden
Effects of environment shear on convective systems in a minimal model of QBO-like oscillation
- P5 Hiromu Seko
Introduction of the project 'Innovative numerical weather predictions and advanced weather disaster prevention based on damage-level estimation' and data assimilation experiment of radio occultation refractivity data by using a mesoscale LETKF system
- P6 Tomoki Ohno, and Masaki Satoh
Sensitivity studies of cloud responses on SSTs in RCE experiments using a high-resolution global nonhydrostatic model
- P7 Didier Ricard, and Antoine Verrelle
Simulations of deep convection as a testbed for two non-hydrostatic models
- P8 Ryuji Yoshida, Tsuyoshi Yamaura, Sachiho A. Adachi, Seiya Nishizawa, Hisashi Yashiro, Yousuke Sato, and Hirofumi Tomita
A computationally cost effective online nesting procedure for regional atmospheric/climate models
- P9 Hiroyasu Kubokawa, Masaki Satoh, Takashi Arakawa, and Hiroyasu Hasumi
Development of the stretch-atmosphere and ocean model to study air-sea interaction associated with tropical cyclone
- P10 Shin Fukui, Toshiki Iwasaki, Kazuo Saito, Hiromu Seko, and Masaru Kunii

- A comparison of precipitations reproduced with regional reanalysis assimilating only conventional observations and dynamical downscaling
- P11 Michiko Otsuka
Assimilation experiments of himawari-8 rapid scan atmospheric motion vectors
- P12 Sho Yokota, Masaru Kunii, Kazumasa Aonashi, and Seiji Origuchi
4D-EnVAR with iterative calculation of non-linear model
- P13 Woosub Roh, and Masaki Satoh
Evaluations of cloud properties in NICAM using CALIPSO and CloudSat
- P14 Yousuke Sato
Impacts of spatial grid resolution on the cloud cover of marine shallow cumulus
- P15 Daisuke Takasuka, and Masaki Satoh
Initiation processes and structures of intraseasonal variability simulated in an aqua-planet
- P16 Masuo Nakano, Akiyoshi Wada, Masahiro Sawada, Hiromasa Yoshimura, Ryo Onishi, Shintaro Kawahara, Wataru Sasaki, Tomoe Nasuno, Munehiko Yamaguchi, Takeshi Iriguchi, Masato Sugi, and Yoshiaki Takeuchi
Global 7-km mesh nonhydrostatic Model Intercomparison Project for improving TYphoon forecast (TYMIP-G7)
- P17 Chihiro Kodama, Bjorn Stevens, Thorsten Mauritsen, Tatsuya Seiki, and Masaki Satoh
Future projection of extratropical cyclone simulated by a 14 km mesh global atmospheric model
- P18 Masaki Satoh, Tomoki Ohno, Allison Wing, Sandrine Bony, and Bjorn Stevens
RCEMIP: Radiative Convective Equilibrium Model Inter-comparison Project