First Announcement

International Satellite Cloud Climatology Project – Next Generation (ISCCP-NG) workshop (invitation only)

Where: EUMETSAT in Darmstadt, Germany on October 28-30, 2019

Organized by EUMETSAT, NOAA, NASA and partners

Program Committee

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From 28–30 October 2019, a workshop will be held to discuss priorities for the future direction of the International Satellite Cloud Climatology Project – Next Generation (ISCCP-NG), which will be held at EUMETSAT in Darmstadt, Germany. The local organization of the workshop is led by EUMETSAT in coordination with partners.

The Earth observing capabilities from geostationary orbit have advanced substantially over recent years. With the launch of GOES-17 in 2018, the global geostationary constellation is now comprised of sensors with 10 or more channels, viewing the earth at sub-hourly time scales and with resolutions finer than 5 km. With the launch of Meteosat Third Generation (MTG) in 2021, the global geostationary constellation will have 10 common spectral channels.

There is a clear need to exploit this new Earth observing capability. However, the scientific needs will vary widely among potential users of current geostationary data sets, and an eventual ISCCP-NG data record, in addition to the programmatic priorities among sponsoring agencies and international partners. The primary goal of the workshop is to define the scientific scope and the technical contents and methods needed for ISCCP-NG.

Background

The science objectives of the first International Satellite Cloud Climatology Project (ISCCP-1) were: (1) To produce a global, reduced-resolution, calibrated and normalized, infrared and visible radiance data set, along with basic information on the radiative properties of the atmosphere, from which cloud parameters can be derived; (2) To coordinate basic research on techniques for inferring the physical properties of cloud from satellite radiance data, and to derive and validate a global cloud climatology; and (3) To promote research using ISCCP data to improve parameterizations of clouds in climate models, and to improve understanding of the earth's radiation budget and the hydrological cycle.

We will revisit these original objectives of ISCCP-1. With the guidance of the workshop participants, we will begin to carve out a new set of science objectives consistent with this very exciting and highly capable observing constellation for the benefit of the entire international scientific community.

Goals and Purpose of Workshop

The following questions will be asked at the workshop:

1. What are the basic temporal, spatial and spectral resolutions of the main product - globally gridded observations and level-2 products?
2. To what extent should we discuss the details of Level-2 or simply define the community needs and set up a following workshop(s) to decide how level-2 products are created?
3. What are the key scientific objectives and core applications of ISCCP-NG?
4. What are the benefits of combining the geostationary constellation with polar orbiting observations? Do we completely ignore them, or develop a separate but coordinated effort?

Meeting Organization

The meeting will be organized into 3 separate Working Groups (generically named Input, Output and Impact). The working groups will be tasked with:

1. Answering a set of predetermined questions.
2. Reporting to the plenary and leading a discussion about their answers.
3. Writing a report (that will be finalized after the Workshop).

Working Group 1: Input

Level-1

- How will ISCCP-NG achieve an accurate and inter-satellite consistent calibration?
- How will we monitor the quality of the ISCCP-NG observations?
- How do we build in reprocessing?

Level-1g

- What are the basic spatial, temporal, and spectral resolutions? Can we afford 10 minute, 10 channels and 5 km?
- Review of existing methodologies including ISCCP-H, GridSat and others.
- How do we capture the <1km information that is relevant to our applications and science questions?
- Where do we archive the data?

Working Group 2: Output

Level-2g

- To what extent do we tackle Level-2 priorities now knowing there is no consensus?
- Should we provide support for multiple Level-2 ISCCP-NG products even for the same variables?
- Should we specify ancillary data (ie MERRA-2 or ERA-C for NWP)?

Level-3

- Does it have to support GEWEX Applications (SRB, GPCP, integrated data set)?
- How can we capture the significant temporal and spatial metrics in a lower resolution level-3 data set?
- ISCCP-1 Level-3 is hosted by many institutes and offered via multiple interfaces. Is there a recommendation of hosting of ISCCP-NG data based on this experience?

- The NASA GISS ISCCP-1 website was an effective documentation site for the ISCCP Level-3 data and tools. What is needed for ISCCP-NG?

Working Group 3: Impact

Applications

- How to connect to Reanalysis efforts at modeling centers and ongoing CFMIP activities?
- Do we need an ISCCP-NG simulator?
- Which existing international activities should ISCCP-NG connect to?
- What are the fundamental interests for each international agency participating in this Workshop?
- What are the highest priority Science Questions to ask in relations to ISCCP-NG?

We will update this circular in the coming weeks as the goals and priorities of the workshop come into clearer focus.

Further Information

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