



Our ref.: 08913/2023/S/RCP

20 April 2023

Annex: 1

Subject: **Survey on the needs and requirements for El Niño/La Niña information**Action required: **Solicit feedback on the above-mentioned Survey by 12 May 2023**

Dear Sir/Madam,

The World Meteorological Organization (WMO) has been issuing [the El Niño/La Niña Update](#) on a quasi-regular basis (approximately every three months), over more than two decades. The Update provides a consensus view of the current situation in the equatorial Pacific and the outlook for the next season, synthesizing real-time El Niño/La Niña Southern Oscillation (ENSO) information as a key input to prepare for regional impacts and support anticipatory actions.

The growing demand by WMO Members, United Nations organizations, and humanitarian communities for consolidated, authentic, and real-time information related to ENSO phenomenon and its impacts has urged WMO to recognize the need for provision of more comprehensive and frequently updated ENSO information, and to foster authoritative expert assessments on an operational basis, including outlooks and impacts, to be conveyed in non-technical terms.

With reference to [Decision 5.5 \(3\)/1 \(SERCOM-2\)](#) adopted at the Second Session of the WMO Commission for Weather, Climate, Water and Related Environmental Services and Applications regarding "*El Niño/La Niña Southern Oscillation information (ENSO) to support Members*", [a scoping workshop on the WMO recognized entity supporting El Niño/La Niña information](#) was held from 6 to 8 December 2022, in Pune, India. The workshop was organized by the WMO Secretariat, in collaboration with the WMO Services Commission (SERCOM) Expert Team on Climate Services Information System Operations (ET-CSISO) and the WMO Infrastructure Commission (INFCOM) Expert Team on Operational Climate Prediction System (ET-OCPS). The workshop recommended to identify the needs of Members for El Niño/La Niña information through a survey addressed to the National Meteorological and Hydrological Services (NMHSs) and based on the results to determine the way forward towards provision of improved and more frequently updated ENSO information.

I should be grateful if you could provide us with your valuable feedback, by completing the online survey available at <https://arcg.is/qXaeGO> at your earliest convenience, but not later than **12 May 2023**. A copy of the survey is annexed to this Letter to facilitate consolidation of responses, which should reflect the national needs for ENSO information with the agreement of the Permanent Representative of your country with WMO. For further information please contact Dr Wilfran Moufouma Okia, Head of Regional Climate Prediction Services Division (wmokia@wmo.int), with a copy to Mr Jose Alvaro Silva (asilva@wmo.int).

To: National Climate Services Information System (CSIS) Focal Points (NCFPs)

cc: Permanent Representatives of Members with WMO

I wish to thank you for your continued support to WMO activities.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'J. Stander', with a stylized, looping flourish extending from the end.

(Dr Johan Stander)
Director, Services Department

WMO on the needs and requirements for El Niño/La Niña information (copy)

Ref.: 08913/2023-L4 S/CS

Background

The El Niño/Southern Oscillation (ENSO) is the most dominant year-to-year climate fluctuation on the planet affecting weather conditions worldwide. This is a naturally occurring phenomenon alternating between warm (El Niño) and cold (La Niña) phases, which involves fluctuating ocean temperatures in the central and eastern equatorial Pacific, coupled with changes in the atmosphere. The dynamics and properties of ENSO are closely linked to the slowly evolving background climate state of the equatorial Pacific Ocean. Scientific progress on the understanding and modelling of this phenomenon has improved prediction skills to a year in advance, giving society the opportunity to prepare for associated hazards such as heavy rains, floods and drought, and take advantage of favourable climate conditions.

Over more than two decades, the World Meteorological Organization (WMO) has been issuing the WMO El Niño/La Niña Update on a quasi-regular basis (approximately every three months), which is a consensus view of the current situation and the outlook for the next season, synthesizing real-time ENSO information as a key input to prepare for regional impacts and support anticipatory action. The WMO El Niño/La Niña Update is prepared through a collaborative effort between WMO and the International Research Institute for Climate and Society (IRI) as a contribution to the United Nations Inter-Agency Task Force on Natural Disaster Reduction. It is based on contributions from the leading centres around the world monitoring and predicting this phenomenon, and expert consensus facilitated by WMO and IRI.

There is a growing demand for more detailed and more frequently updated ENSO information by WMO Members, the United Nations agencies and humanitarian communities to support anticipatory actions. Thus, it is becoming increasingly relevant to explore practical approaches, potential benefits and challenges in creating an entity or expand functions of current infrastructure for consolidated and authentic ENSO information.

The Second Session of the Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM) of WMO approved Decision 5.5(3)/1 (SERCOM-2) - El Niño/La Niña Southern Oscillation information (ENSO) to support Members, which endorsed the need for supporting El Niño/La Niña information development and requested:

- (1) Standing Committee on Climate Services (SC-CLI) to work closely with the concerned substructures of the Commission for Observation, Infrastructure and Information Systems (INFCOM) and the Research Board to explore ways to integrate the requirements for El Niño/La Niña information into the Global Data Processing and Forecasting System (GDPFS) in close alignment with other GDPFS centres supporting the Climate Services Information System (CSIS);
- (2) Other Standing Committees/Study Groups of SERCOM to liaise with SC-CLI to communicate their needs for El Niño/La Niña information to be addressed and consider solutions to meet the needs including through updating the functions of existing WMO lead centre or global centres already providing similar functions;
- (3) SC-CLI to develop a plan to best support Members' needs, drawing on outcomes from the WMO Scoping Workshop on the WMO recognized entity supporting El Niño/La Niña information and other subsequent activities, and present it at SERCOM-3.

The participants from the Scoping Workshop on the WMO recognized entity supporting El Niño/La Niña information that took place in Pune, India, from 6 to 8 December 2022, made three Recommendations:

1) To propose a solution to improve the current WMO practice (WMO El Niño/La Niña Update) of El Niño/La Niña information collection and dissemination by considering among two options:

- Establishing a new Centre, or
- Using the existing infrastructure with additional functionality, such as the WMO Global Seasonal Climate Update (GSCU).

2) WMO Secretariat to develop a comprehensive Survey on user needs of El Niño/La Niña information, as these are only partially known.

3) To establish a Task Team on WMO accredited ENSO information to review possible modalities and propose a solution for collection and dissemination of ENSO information, to develop the generic function of a WMO accredited ENSO information centre or system to support Members and other users' needs, and to design a roadmap for its operationalization.

Objectives

The objectives of this questionnaire are:

- To further understand Members and other users' needs for ENSO information and identify gaps.
- To understand the importance and application of the ENSO information.
- To quantify the level of adequacy of currently available ENSO information.
- To identify priorities for ENSO information improvement and possible approaches.
- To understand the best modality to address and respond to user needs on ENSO information, including which functions and design components would be useful.

Structure

The questionnaire, in English only, has 20 questions on the following topics:

- Importance of ENSO information.
- Access to ENSO information (easy or not, and sources of information).
- Application of ENSO information.
- Adequacy among available ENSO products (formats, frequency, granularity, communication).
- Ways to improve ENSO information.

The questionnaire will take approximately 30 minutes to complete and should reflect your organization/institution's experience and needs using ENSO information, as well as from the user community of your country/region/user group. In case ENSO information is not used nor required by your Service, you may indicate it responding the first question and end your participation.

The results of this survey will be critical to understand needs and requirements for ENSO information and to identify ways to address the gaps. I would appreciate it if you could complete the survey at your earliest convenience, but not later than 12 May 2023.

Should you have any questions, please direct them to Dr Wilfran Moufouma Okia, Head of Regional Climate Prediction Services Division (wmokia@wmo.int), with a copy to Mr Jose Alvaro Silva (asilva@wmo.int).

Your contribution would be very valuable and greatly appreciated!

Identification

Please select your Member Country or Territory in case of NMHS. For other

users select "other".

-Please select-

Institution/Organization Your name

Position Email address

I - Use of ENSO information

1 Does your institution/organization make use of El Niño/La Niña Southern Oscillation (ENSO) related information?

(If you select NO your questionnaire ends here, thank you!)

☐ Yes ☐ No

II - Importance of ENSO information

2 What is your main spatial domain of use of ENSO information?

☐ National ☐ Transnational ☐ Regional ☐ Global ☐ Other

3 How much do you think El Niño/La Niña events influence life, health, safety, economy in your country or region of interest?

☐ Not much ☐ A little ☐ Somewhat ☐ Much ☐ Very much

4 Please rate the importance of ENSO information for your institution/organization's mission and activities.

☐ Very low ☐ Low ☐ Moderate ☐ High ☐ Very high

III – Access to ENSO information

5 ENSO information is easy to discover and access.

☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

6 Please indicate which sources you consult or use for ENSO information.

- ☐ Bureau of Meteorology (BoM)
- ☐ Japan Meteorological Agency (JMA) / Tokyo Climate Centre (TCC)
- ☐ National Oceanic and Atmospheric Administration (NOAA) /Climate Prediction Center (CPC)
- ☐ Other Global Producing Centres for Long-Range Forecasts (GPCs-LRF), such as BCC, CMCC, CPTC, DWD, ECMWF/C3S, Met Office, Météo France
- ☐ Other WMO Regional Climate Centres (RCCs)
- ☐ Other National Meteorological or Hydrological Services (NMHSs)
- ☐ APEC Climate Center (APCC)
- ☐ International Research Institute for Climate and Society (IRI)
- ☐ WMO El Niño/La Niña Update
- ☐ WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME)

- ☐ Specialized websites/blogs/user groups
- ☐ Social media, such as Twitter or Facebook
- ☐ Other, please specify

IV - Application of ENSO information

7 Please select the area(s) and sector(s) of application of ENSO information for your region or country.

- ☐ Seasonal outlook
- ☐ Official reports and statements
- ☐ Humanitarian and anticipatory action
- ☐ Decision making processes
- ☐ Communication and media
- ☐ Early warnings
- ☐ Agriculture and food security
- ☐ Water
- ☐ Energy
- ☐ Health
- ☐ Other, please specify

8 To what extent has your institution been able to respond to sectoral needs for ENSO info?

- ☐ Almost always ☐ Sometimes ☐ Occasionally ☐ Rarely ☐ Never

V – Adequacy of ENSO information

9 ENSO related information is often too complex and hard to understand.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

10 Too many sources of ENSO information make its use and interpretation difficult.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

11 Available ENSO information products are adequate to address my needs.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

12 Please indicate, what type of ENSO information related products your institution/organization needs and uses.

Outlook and state of ENSO

- ☐ Often
- ☐ Sometimes
- ☐ Not used

ENSO forecast probabilities

- ☐ Often
- ☐ Sometimes
- ☐ Not used

Historical information, including teleconnection maps

- ☐ Often
- ☐ Sometimes
- ☐ Not used

Recent evolution and current conditions (e.g. SST anomalies)

- ☐ Often
- ☐ Sometimes
- ☐ Not used

Forecast of SST indices for Niño regions (e.g. Niño 3.4)

- ☐ Often
- ☐ Sometimes
- ☐ Not used

Forecast of temperature and precipitation anomalies (e.g. tercile-based probabilities)

- ☐ Often
- ☐ Sometimes
- ☐ Not used

Sub-surface sea temperature, wind, atmospheric pressure and other specific variables

- ☐ Often
- ☐ Sometimes
- ☐ Not used

13 Available formats of ENSO information are sufficient and easy to use.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

14 Please indicate, what ENSO information formats your institution/organization primarily uses?

- ☐ Maps
- ☐ Graphs
- ☐ Tables
- ☐ Scientific data standards
- ☐ Text document (such PDF or DOC)
- ☐ Other, please specify

15 How regularly does your organization need an updated ENSO information?

- ☐ Weekly ☐ Monthly ☐ Bi-monthly ☐ Quarterly ☐ Other, please specify

16 The level of detail of ENSO information is adequate for my needs.

- ☐ Strongly disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly agree

17 ENSO status and predictions are adequately communicated by:**WMO through its flagship product "WMO El Niño/La Niña Update"**

- ☐ Strongly disagree
☐ Disagree
☐ Undecided
☐ Agree
☐ Strongly agree

WMO GPCs-LRF through their outlooks and products

- ☐ Strongly disagree
☐ Disagree
☐ Undecided
☐ Agree
☐ Strongly agree

Other centres, such as IRI and APCC

- ☐ Strongly disagree
☐ Disagree
☐ Undecided
☐ Agree
☐ Strongly agree

WMO Regional Climate Centres (RCCs)

- ☐ Strongly disagree
☐ Disagree
☐ Undecided
☐ Agree
☐ Strongly agree

Other sources (media, blogs...)

- ☐ Strongly disagree
☐ Disagree
☐ Undecided
☐ Agree
☐ Strongly agree

VI - Improvement of ENSO information**18 Taking into consideration that ENSO is not an on/off switch:**

Decision makers and media should be educated on uncertainty to better understand that sometimes it is not possible to clearly inform about the ENSO state

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Undecided
- ☐ Agree
- ☐ Strongly agree

WMO should coordinate efforts to obtain consensus and indicate ENSO state since decision processes depend on it

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Undecided
- ☐ Agree
- ☐ Strongly agree

Information on ENSO state is not so much relevant as models' seasonal forecasts provide the information on expected impacts (e.g. predicted temperature and precipitation anomalies)

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Undecided
- ☐ Agree
- ☐ Strongly agree

19 Please select up to five most important topics to improve ENSO information provision, uptake, and utilization globally.

- ☐ Longer forecast lead times
- ☐ Monthly update frequency or below
- ☐ More granularity of information (more detailed information)
- ☐ Agreed maps of impacts using local knowledge
- ☐ Focus also on atmospheric components, as ENSO is a coupled ocean-atmosphere phenomena, but most impacts are caused by the atmospheric response ☐ Regularly dissemination of ENSO forecast verification
- ☐ More transparency on definitions and methods
- ☐ Objective and reproducible forecast methods
- ☐ Enhanced research, including on improvement of forecast skill and interpretation of products
- ☐ Production and user schedules better aligned
- ☐ New dissemination formats and mechanisms
- ☐ Gateway with an access to all ENSO information sources available
- ☐ Outlook summary of Niño indices forecasts from all available centres
- ☐ Integrated assessment with other climate drivers
- ☐ More guidance on the access/use of data

- ☐ Capacity development (e.g. more training on use of ENSO products)
- ☐ Regular interaction with users (e.g. user forum)
- ☐ ENSO communication using user-friendly/non-technical language
- ☐ Downstream climate services

20 What would be the most important functions of a future WMO ENSO information solution to best respond to user needs on ENSO information?

- ☐ Facilitate the development of ENSO information
- ☐ Liaise with global and regional centres providing information on potential climate impacts of El Niño/La Niña, and in close alignment with GSCU
- ☐ Describe and make available historical information on ENSO variability, teleconnections, and impacts
- ☐ Serve as a gateway to facilitate access to all available ENSO data and products, including forecast and verification products
- ☐ Collect, consolidate, and disseminate ENSO information/updates based on the available data from global centres
- ☐ Collaborate with the users, organizations, and research community on the continuous improvement of the ENSO information provided
- ☐ Include potential impacts of El Niño/La Niña on climate at regional scale
- ☐ Regularly issue the ENSO status and outlook
- ☐ Declare El Niño/La Niña
- ☐ Develop and make available guidance on ENSO information
- ☐ Establish continuous dialogue with users (e.g. user forum)
- ☐ Promote technical workshops and training
- ☐ Link with other seasonal climate products
- ☐ Include other large-scale modes of climate variability (e.g IOD, NAO, PDO...)
- ☐ Other, please specify

END

Thank you for your interest and contribution to WMO activities!