Workshop on Long Range Forecast for the 2024 Southwest Monsoon Season Rainfall and its applications to South Asian Agriculture

South Asian Forum for Agricultural Meteorology (SAFOAM) and South Asian Meteorological Association (SAMA) are pleased to announce jointly Workshop on Long Range Forecast for the 2024 Southwest Monsoon Season Rainfall and its application on South Asian Agriculture. The workshop will be organised on 18th May 2024 on virtual mode.

Background & Objectives

Agriculture is critically important to food security in South Asia, a region that is home nearly half of the malnourished population of the world. Overall, 56% of land area in South Asia is used for Agriculture, with over 40% of the population employed in the sector. A large proportion of agricultural production in the region occurs during the southwest monsoon season, with most of the region receiving over 80% of annual rainfall during this period.

Weather forecasts of different temporal scales are used in agricultural planning and operations in a variety of ways starting from planning for a particular crop/variety to post harvest operations/processing and export/import decisions. Though the short, medium and extended range weather forecast for rainfall with reasonable accuracy are widely used successfully in this region, still there is challenges in developing and issuing long range weather forecast and its use in agriculture. The long range forecasts are used for seasonal planning on type of crop/variety to be sown, proportion of area under different crops, how much of land, if any, to keep fallow, redistribution of inputs (seed, fertilizer, pesticides etc.), arranging for power & water resources, preparation of contingency plans, post-harvest arrangements for marketing/storage/processing, preliminary enquiries on exports/imports

Among the parameters used for long range weather forecast in Southeast Asia, both the El-Nino and Indian Ocean Dipole Moment (IOD) are usually given more weightage. The most recent IRI plume indicates a transition to ENSO-neutral during spring 2024, with La Niña potentially developing during summer 2024 (Fig. 1). While different types of models suggest La Niña will develop, the forecast team favors the dynamical model guidance, which is slightly more accurate for forecasts made during this time of year. Even though forecasts made through the spring season tend to be less reliable, there is a historical tendency for La Niña to follow strong El Niño events. In summary, a transition from El Niño to ENSO neutral is likely by April-June 2024 (83% chance), with the odds of La Niña developing by June August 2024 (62% chance; Fig. 2). The Indian Ocean Dipole (IOD) is currently in a neutral phase and is expected to remain neutral between March to June 2024. Besides, this year the snow cover over the northern Himalayas and the Eurasian landmass is also less.

However, considering the major parameters likely to impact the southwest monsoon rainfall in South Asia, South Asian Climate Outlook Forum at the 26th Session will issue Consensus Statement on the Seasonal Climate Outlook over South Asia for the 2024 Southwest Monsoon Season (June – September) after middle of April 2024. This regional climate outlook for the 2024 southwest monsoon season over South Asia will be collaboratively developed by all nine National Meteorological and Hydrological Services (NMHSs) of South Asia with the support from international experts. In this report, rainfall at different categories i.e. above normal, normal & below normal will be predicted over the South Asian Region.

At present, agricultural scientists are challenged by difficulties in using the seasonal forecast to prepare usable advisories. Even the farmers are finding the information contained in the bulletins quite inadequate. In order to promote the usability of information we need to identify the gaps and prepare strategy for minimizing the gaps. Considering all the facts and figures mentioned above, there is need to understand how the monsoon 2024 will behave considering the long-range forecast for the southwest monsoon season rainfall and ultimately apply to manage the better crop production in each country in South Asia through on-going operational Agromet Advisory Services. In view of that, it is proposed to organise a workshop virtually on 18th May 2024 inviting the members of SAFOAM, SAMA and other distinguished experts in the field of meteorology/agrometeorology.

Annexure

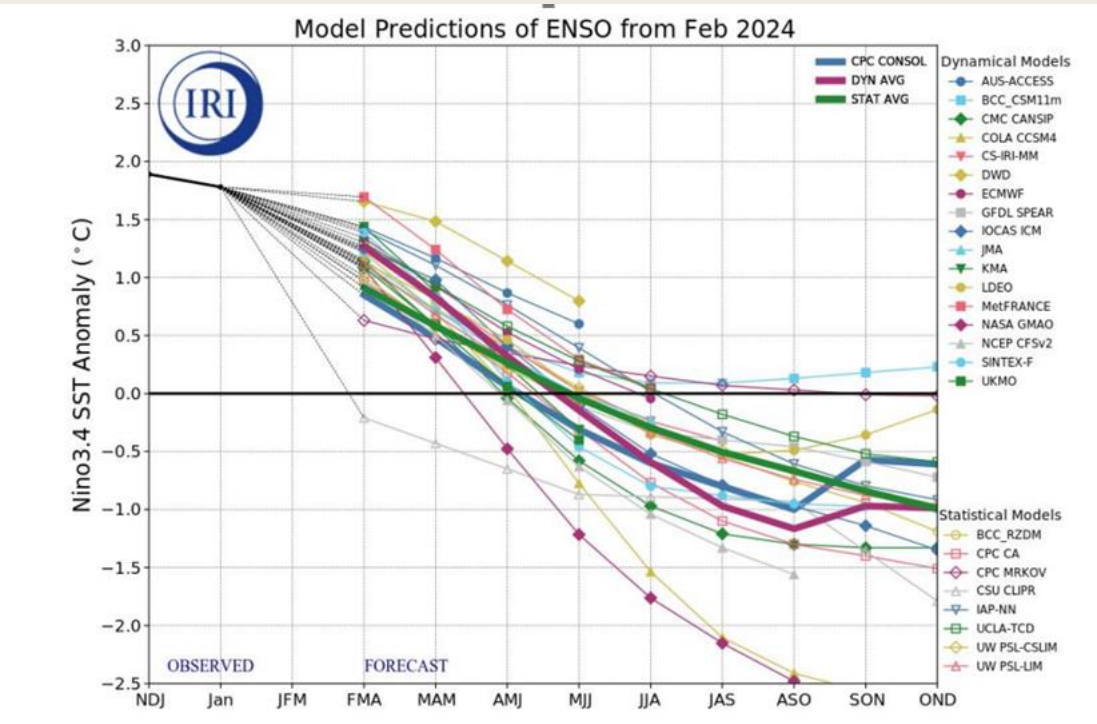

Figure 1. Forecast of sea surface temperature (SST) anomalies for the Nino 3.4 region (5^0 N-5^0S, 120^0W-170^0W). Figure updated 19 February 2024 by the International Research Institute (IRI) for Climate and Society.

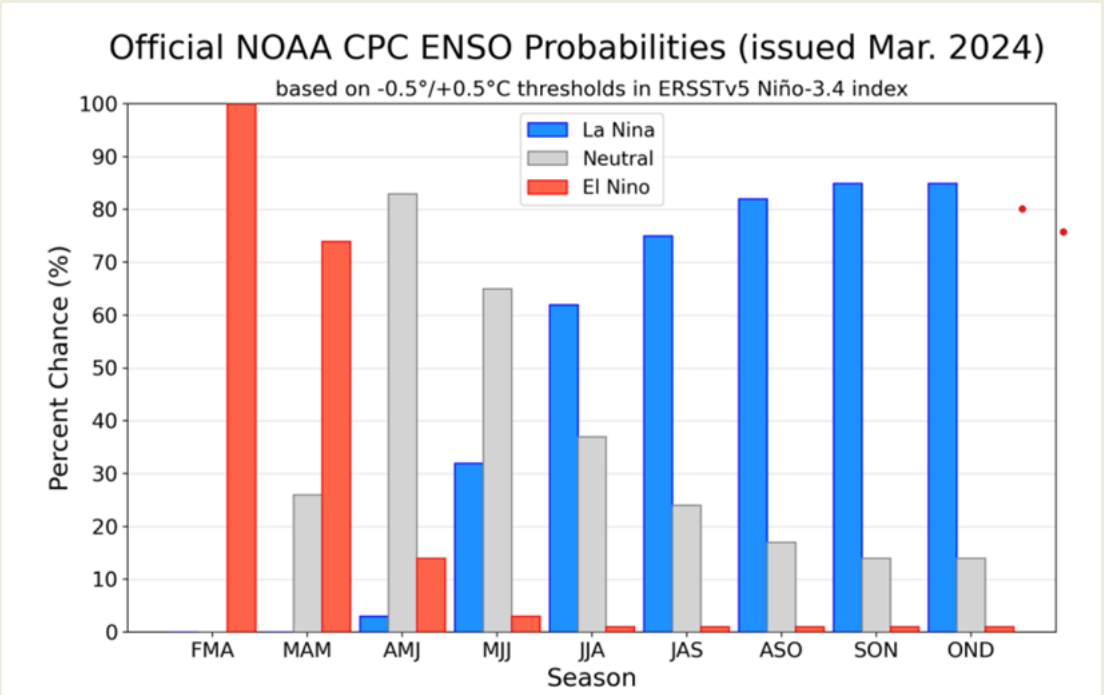

Figure 2. Official ENSO probabilities for the Nino 3.4 sea surface temperature index (5^0 N-5^0S, 120^0W-170^0W) Figure updated 14 March 2024.

Programme Details
18th May, 2024

Opening of Workshop

3.00 p.m.-3.05 p.m.	Welcome Address by Dr. Someshwar Das, Secretary, South Asian Meteorological Association (SAMA)
3.05 p.m. -3.15 p.m.	Address by Dr. L. S. Rathore, President, South Asian Forum on Agriculture Meteorology (SAFOAM)
3.15 p.m. - 3.25 p.m.	Address by Dr. Ajit Tyagi, President, South Asian Meteorological Association (SAMA)
3.25 p.m.-3.45 p.m.	. Lead Lecture on Long Range Weather Forecast for the 2023 Southwest Monsoon Season Rainfall for South Asia by Head, Long Range Forecast Division, India Meteorological Department, Pune, India
3.45 p.m. -4.05	Lead Lecture on usability of Long Range Weather Forecast in agriculture by Chief, Agricultural Meteorology Division, World Meteorological Organisation

Recommended Strategies in agriculture based on LRF 2024 in South Asia: Moderator: Dr.L.S. Rathore

4.05 p.m. – 4.15 p.m.	**Representative from India**:
4.15 p.m. – 4.25 p.m.	**Representative from Bangladesh**:
4.25 p.m. – 4.35 p.m.	**Representative from Bhutan**:
4.35 p.m. – 4.45 p.m.	**Representative from Nepal:**
4.45 p.m. – 4.55 p.m.	**Representative from Afghanistan:**
4.55 p.m. - 5.05 p.m.	**Representative from Sri Lanka:**
5.05 p.m. – 5.15 p.m.	Representative from Myanmar:
5.15 p.m. -5.25 p.m.	**Representative from Maldives:**
5.25 p.m. – 5.35 p.m.	**Representative from Pakistan:** Dr.
5.35 p.m..- 5.45 p.m.	**Discussion**

Concluding Session

5.45 p.m. -5.55 p.m.	Concluding Remarks by Dr. Qumar uz Zaman Chaudhry, Vice President, SAMA, Pakistan
5.55 p.m. -6.05 p.m.	Concluding Remarks by Dr. Md Abdul Muyeed, Vice President, SAFOAM Senior Consultant, International Maize & Wheat Improvement Center (CIMMYT-Bangladesh)
6.05 p.m. -6.10 p.m.	Vote of Thanks by Dr.Sameera Qayoom, Associate Professor, SKUAST Kashmir