

A special interactive session after a long wait due to the COVID-19 Pandemic

It was a beautiful spring morning, especially a calm after a prolonged rain with thunder clouds looming over, the date is the 23rd of April 2022, and also a relief as Pandemic protocols are lifted now. It is a special day for us, the members of ESES. The President of the Society will be with us to have a scientific discourse on the *Worst Weather and Hazards and their Impact on Society*. The pandemic has created a physical wall between us and we had to keep in communication with President through online modes be it a seminar or an event. Now, the pandemic situation has been officially declared improved and protocols are lifted, we decide to have our first physical interactive session today, with the president. So on this Special Day, we plan to facilitate Sir, with great pleasure because it is also a day when he enters his 90th Birthday.

So all of us the ESES members specially Alaka, Abhay, Rakesh, Subrat, Samiran, and Dhon started preparing to welcome Sir, after 2-years of a long wait for a personal meeting.

At 10 clock Sir arrived with Abhay and Rakesh. Sir got emotional when Alaka, and myself offered him a pleasant welcome. Subrat joined us and paid his great respect most traditionally by touching his feet. The joy of Sir in meeting us was very emotional to us also.

Sir carried with him a food basket packed with homemade cake and special Assamese Pitha for breakfast and fish curry with homegrown tomatoes for lunch. Meanwhile, Samiran joined us bringing a flower bouquet of beautiful roses and Chrysanthemum as a special gift to Sir, coming straight from his home 200km away. Kritika another young member joined us with a special book in her hand for Sir. Our gathering grew with the joining of Monoj, one of the Senior members of ESES.

We then tried to relax by opening up our long-due conversation with Sir, before the formal talk begins. Meanwhile, we enjoyed the cake and Assamese pitha brought by Sir as a token of love to us all. The excellent homemade sweets have created a touching homely environment.

Next is the program of felicitation to Sir, before we join in the scientific discourse session. Subrat offered his welcome address expressing how we all are delighted to have him today on his 90th Birthday in our midst. Alaka facilitated Sir with a beautiful traditional Assamese Gamosa, Samiran offered Sir the flower bouquet that he carried with him and Kritika presented Sir with the religious book that she brought with her.

As a token of the B'Day ceremony, a cake was arranged by Samiran, Alaka, Subrat, Abhay, and Rakesh and lighted with candles it presented a merry occasion; the ceremony started with cakes

being distributed by Sir to all present there (photographs 1 and 2). We enjoyed the party with cold drinks, sweets, and snacks to go along with the cake. There were wide topics of discussion starting from health hazards during Pandemics to its social impact.



Photograph 1:A view of the members present along with the President

The Scientific Session then started with the following topic :

Topic: Hazards, and Socio-economic problems: With Special Reference to the recent meteorological rare events that occurred in the NE region.

The main events of deliberations are :

(i) Hail storm on February 5, 2021, over Guwahati, an extremely rare event during this season (A view of the event in Picture 2).

(ii) Snowfall in Shillong on December 22, 2021, after a gap of 50 years (Picture 3 presents a view of the event)

The associations of tropospheric parameters especially the temperature at the near-earth surface to the tropopause and the contribution of wet air mass from the Bay Of Bengal, wind flow pattern, and profile structures along with the presence of lifting mechanisms were the main points of reference in the growth of hailstorm over Guwahati at the unusual season.

The Snowfall over Shillong was another interesting meteorological phenomenon that happened after a long gap of 50 years. The discussion covered the wind flow pattern, the role of pollution and snowfall, and topological contributions to the growth of such events.

The effects of anthropogenic pollutants and their role in temperature are thus brought into the ambit of deliberations with emphasis on modulations in global climate status. The temperature and humidity data from respective sensors collected by the members from embedded systems were also displayed (Figure 1) from February 4 to 6, 2022, as part of discussions on the background that relatively warm surface temperature in the humid background on February 5, satisfied a few necessary conditions for the development of hailstorm, a rare feature noted in early February. The wind flow pattern from BOB was also presented (Figure 2). It was also brought to the discussion as how the loss of seasonal patterns in weather is affecting agriculture and even health-related issues.



Picture 2: A few Viewgraphs during the rare Hailstorm on the 5th of February 2022, around Gauhati University Campus



Picture 3 : Viewgraph of Shillong Snowfall: An event after a gap of 50 years

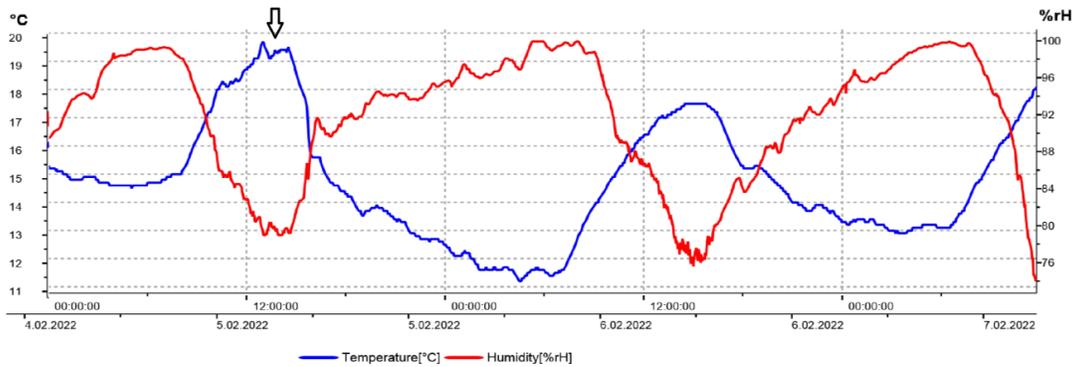
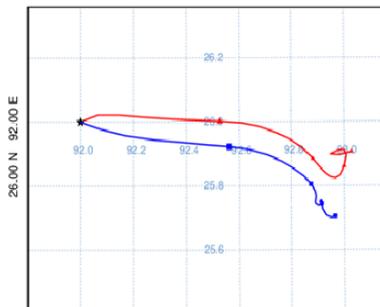


Figure 1: Displays the temperature and humidity sensor outputs from February 4 to 6, 2022. The presence of a relatively warm temperature in the humid background on February 5 as seen in the profile are, a few necessary conditions for the development of a hailstorm.

Normal wind flow pattern to Guwahati during early February 2022



Wind flow pattern to Guwahati changes on February 5, carrying humid air from Bay of Bengal

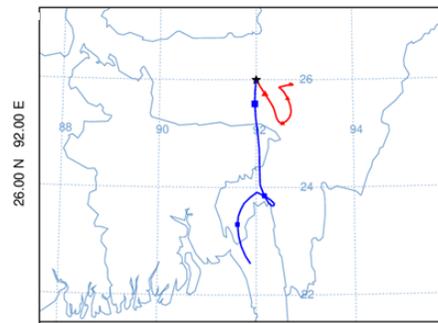


Figure 2: Shows that the wind flow pattern to Guwahati on February 5, 2022, changed from the prevailing status of early February days. The carrying of humid air from the Bay of Bengal to Guwahati on February 5 is significant here. (Acknowledged: NOAA, Hysplit model).

A lively interactive platform was formed where the exchange of ideas and scientific arguments followed and it was decided that the discussions and scientific explanations of these rare meteorological events will be published as learned papers for the benefit of the interested community. The program came to a close after goodwill wishes for a better future on all fronts. (Full paper on this topic is in the process of publication in the International Journal of Electronics and Applied Research ,IJEAR) .