The pre-monsoon season and the monsoon season brings a large number of disasters in North Eastern Region (NER) of India every year. NESAC was ready to face the disasters and provide early warning of a few hydro-meteorological disasters that the center has committed. We have extended the Flood Early Warning System (FLEWS) project to entire NER of India to cover all major flood prone river basins. More than 40 major river basins are now covered by the FLEWS project, and all these basins are monitored continuously during the monsoon season. With the increase in number of basins, the challenges of accurate forecasting of flood have also increased. We are making our best effort to forecast all major flood events in NER with an actionable lead time. Recently, under the national hydrology project, these forecasting efforts are integrated to include even the inundation forecasting. Several other organizations from NER and beyond are also approaching NESAC seeking support in management of their hydro-meteorological activities.

While we continued to provide nowcasting of severe storms, we are putting extensive effort to nowcast lightning as well. The lightning is the leading life threatening disaster at national level and NER is no exception. NESAC has recently got access to lightning data over this region from a private lightning detector network. Efforts are also being made to install more lightning detectors in collaboration with IITM, Pune and NRSC, Hyderabad. There are more than ten lightning detectors already installed in NER and the number is expected to increase soon. Research is conducted to assimilate the data collected by these sensors into
A national seminar on “Advances in Remote Sensing & GIS Applications” was held at NESAC, during 10-11 May, 2018. The seminar was jointly organized by NESAC, ISRS-Shillong Chapter, ISG-Shillong Chapter, and the Department of Geography, NEHU. Focus of the seminar was on optical, microwave, LiDAR and hyperspectral remote sensing including high resolution data processing with emphasis on issues and challenges of north eastern region of India.

Hon’ble Governor of Meghalaya, Shri Ganga Prasad, inaugurated the seminar in presence of around 245 delegates from different parts of the country. Shri C.H. Kharshiing, Planning Adviser, NEC attended the programme as the Guest of Honour. The programme began with an invocation and lighting of the ceremonial lamp by Hon’ble Governor of Meghalaya along with other dignitaries. There were 17 invited talks and lead talks by experts in their respective areas, 75 technical paper presentations by academicians, researchers, professionals and students from various institutions from different parts of the country.

The first plenary session was chaired by Dr. Prakash Chauhan who gave a talk on ‘Mysteries of the Solar System: Indian planetary exploration program’. This was followed by three lead talks by Dr. Surya Srinivas, spoke on ‘Spatial semantics and high performance computing (HPC) for rapid disaster assessment’, Shri K.C. Bhattacharyya on ‘Technology imperatives for integrated development of the Brahmaputra river basin’ and by Dr. A.K Misra on ‘Societal benefit of geospatial technology with special reference to NER’.

The second plenary session was chaired by Shri K.C. Bhattacharyya, former Director, NESAC. The speakers of the session were Dr. Shiv Mohan on ‘Radar remote sensing-recent advancements’ followed by Shri Rajaraman Ramachandran, on ‘Computational imaging methods in satellite data processing’, Shri P.L.N Raju on ‘UAV remote
sensing – technological advancements, applications and future prospects’, Dr. S. Sudhakar on ‘Use of satellite remote sensing coupled with GIS / GPS in successful implementation of NER-DRR in NE region’.

A total of 75 papers were presented in the 10 technical sessions during the two days deliberation. Technical sessions were themed as Advances in Earth observation applications, Water resources; Snow and glaciers-1; Agriculture; horticulture and allied areas; Water resources-2; Snow and glaciers-2; Geosciences and mineral exploration; Atmosphere; weather and climate; Industry and exhibitor presentation; Societal and urban applications; forestry; biodiversity; ecology; Wildlife; and Disaster risk reduction.

A pre-seminar tutorial on “UAV (Unmanned Aerial Vehicles) Remote Sensing” was also held at North Eastern Hill University (NEHU) Campus, Shillong on 9th May, 2018. Sixty seven participants attended the tutorial which comprised of two lectures, two demo sessions and a hands-on practical session. The topics covered in the lectures included UAV technology and its components, payload & sensors, flight planning – autonomous and manual, imagery acquisition, photo alignment, keypoint extractions and matching, point cloud generation, DEM & DTM and UAV case studies and applications. The demo and hands-on sessions included demonstration on UAV flying, UAV data acquisition, UAV data processing, Planimetric analysis/volumetric analysis and Index calculations (NDVI, NDRE).

Three best papers were awarded from students and research scholars’ category and three best exhibitors were also awarded during the valedictory session.

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From the Director’s Desk

numerical models to nowcast lightning with 2-3 hours of lead time. We are expecting to operationalise such location based lightning nowcasting services for entire NER of India from next season.

A few new projects/activities have been taken up while we have completed a few projects during last few months. The Sericulture Phase II project for the NER is in final stage of completion and we will soon provide detail map on potential areas for sericulture development in NER. The project for rest of India is also progressing well. The CHAMAN project for the NER of India is also progressing well and the results shall be handed over to the concerned authorities soon. Under the AMRUT project, NESAC has been providing training on formulation of GIS based master plans and also actively participating in the project. We have provided consultancy services to Border Roads Organization for providing the suitable road alignments in Arunachal Pradesh. Under the NESDR project, we have connected all the state remote sensing centers in NE region for seamless data transfer.

NESAC conducted a two days national seminar on “Advances in Remote Sensing and Geographic Information System applications”, during 10-11 May, 2018 in collaboration with ISRS-Shillong Chapter and ISG-Shillong Chapter. More than 150 professionals and students participated in the seminar and deliberated on different aspects of RS and GIS applications. This seminar provided NESAC an unique opportunity to engage with all major stakeholders and also familiarize with new state-of-the-art technologies in this field. NESAC will continue to organize such large scale seminars to provide a platform for the researchers in NE region of India to present their work and get an opportunity to interact with the best personalities in different scientific areas.

We are not only confining ourselves in scientific activities, but also and taking up several social activities as well. Recently a blood donation camp was organized at NESAC, which was first of its kind in this locality. An Ayurvedic and Homeopathic medicine camp was also organized for the benefit of the local population here. Additionally, NESAC scientists visited SOS children village and trained the children there on the benefits of Yoga and Meditation. Cleaning drives are regularly conducted at Umiam and nearby areas under the Swachh Bharat Abhiyan of Government of India. NESAC is also constructing a few public toilets with funding support from Antrix Corporation.
Shri Ravi Shankar Prasad, Hon’ble Union Minister for Electronics & Information Technology and Law & Justice, Government of India launched the updated version of North Eastern District Resources Plan (NEDRP) GeoPortal on 11th August, 2018 in august presence of the Hon’ble Chief Ministers and IT Ministers of North Eastern States. The launching of the NEDRP portal took place during the release programme of the Vision document for Digital North East 2022 at Guwahati at the initiative of Ministry of DoNER, Government of India. The vision document emphasizes leveraging digital technologies to transform lives of people of the north eastern states and enhance the ease of living. During the event, foundation stones were laid for four National Institute of Electronics and Information Technology (NIELIT) permanent centres in Guwahati, Shillong, Lunglei and Gangtok. Hon’ble Union Minister for Electronics & Information Technology and Law & Justice, Government of India also launched the Secure, Scalable and Sugamya Website as a Service (SwaaS) websites for Arunachal Pradesh and Tripura, State level MyGov portals for Arunachal Pradesh, Manipur and Tripura. Software Technology Park of India (STPI) incubation facility was inaugurated in Agartala, Aizawl and Shillong. A BPO centre under the North East BPO Promotion Scheme was also inaugurated at Majuli, Assam.

NEDRP was also previously awarded with the most prestigious National award for e-Governance for the year 2017-18 for outstanding contribution using spatial technology and GIS in e-Governance by the department of Administrative Reforms & Public Grievances, Government of India. The award was received from Dr. Jitendra Singh, Hon’ble Minister of State (MoS) (Independent Charge) for the Ministry of DoNER; Prime Minister’s Office; Personnel, Public Grievances and Pensions; Department of Atomic Energy and Department of Space, during national conference on e-Governance held in Hyderabad on 27th February, 2018.

NEDRP is one of the unique activities of NESAC towards strengthening the Governance policy through effective mechanism of geospatial framework. The project was sponsored by the North Eastern Council (NEC), Ministry of DoNER Government of India, Shillong and executed in collaboration with the State Remote Sensing Applications Centres of NE region.

NEDRP was initiated with 36 selected districts of NE region and later on extended to remaining districts (65 districts) of the region. The beta version with 36 districts’ database was released by Shri C.H. Kharshing, Adviser (Planning), NEC during 16th foundation day of NESAC celebrated...
on 5th September, 2016. The database for each of the districts comprised of around 30-35 geospatial layers categorized into six major modules- i) Administrative or base data, ii) Infrastructure, iii) Land and Water resources, iv) Planning inputs, v) Terrain module and vi) Disaster management. In addition, NEDRP dashboard is populated with the Governance Applications on Election, Census, Project monitoring, Geo-Tourism, Village resources information, etc. The geoportal is hosted at www.nedrp.gov.in using 1Gbps NKN network. NEDRP Geoportal is developed using the open source software and standards. It provides an interactive and responsive user interface (UI) for visualization of geospatial layers, on the fly-statistics with proximity and multi-dimensional querying capability. Live dashboard for governance applications are powered by various web tools and APIs. A number of spatial decision support systems (SDSSs) like land resources planning based land and climatic condition, suitable sites for check dam construction, etc. are part of the NEDRP system.

Home page of NEDRP (www.nedrp.gov.in)

Overall achievements and success of NEDRP towards governance activity

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Road alignment aims at evaluating the ground condition of a very large area between two end points. Planning for development of a new route to connect between two end points is based on the various factors such as the socioeconomic, administrative, as well as strategic importance of the area, region, or the country. The position or the layout of the centre line of the highway on the ground is called alignment. In general, alignment is of two types – horizontal alignment and vertical alignment. Alignment in hilly areas is more winding/curving in nature up to certain extent in comparison to horizontal alignment and it is mostly controlled by the topography.

This project has been carried out for Border Road Organisation (BRO), 761 BRTF (GREF), project Brahmanlk, Arunachal Pradesh to find a best suitable route to connect Dumro village of Upper Siang and Same Basti village of Lower Debang Valley districts of Arunachal Pradesh using IRS LISS-IV data of 2014, 10m Cato-DEM and other collateral data with limited ground surveys. The methodology to generate and suggest a new road alignment has been categorized broadly into two parts. The first part includes the preparation of landslide susceptibility zonation map and the second part includes alignment of most feasible route (centre line) using the susceptibility map and Digital Elevation Model (DEM, for vertical alignment) as input along with the criteria as suggested by the user, i.e. for every 20m horizontal length, the permissible vertical raise is 1m (i.e. 1: 20 gradient).

Three exercises were carried out to conclude the final proposed aligned road. In the first exercise, it has been observed that the total length of the road is 64.08 km. It is also observed that there are about 22 numbers of major hairpin bends/curves/bridges and maximum of the curves are more or less in the same slope/aspect. As the maximum portion of the proposed route falls in the same slope/aspect, in the event of disaster (i.e. landslide) in the upper slopes, high risk is also expected at the lower slopes.

During the third exercise, it has been observed that the number of major hairpin bends/curves/bridges is reduced to 8. In this exercise, as the alternate proposed route of 43.47 km length traverses along very steep slope and also passes through very high landslide category as per the susceptibility map, the route of 48.47 km is considered as the proposed aligned route. A part of the route falls under very high category in the susceptibility map and also observed that this section is passing just above the crown of an active landslide area that may reactivate at any time, this section was proposed to pass through a tunnel (B-2) of length 1.08 km. Finally, the total length of the proposed aligned route was found to be 48.13 km.

The tunnels are proposed in such a way that gradient is less than 1.5 degree. The cross section profiles at every 100 m and the longitudinal profiles at every 1 km length are also generated. Hairpin bends, major bridges & curves are also suggested along the proposed aligned route.
Remote Sensing and GIS based inputs and analysis for suitable road alignment planning in Arunachal Pradesh

During the entire process of the alignment, an attempt has been made to follow the criteria strictly as per the user requirement and maximum effort has been given to avoid the existing active landslide areas as well as high and very high categories as indicated in the landslide susceptibility map. However, it may be noted that during and/ or after the construction of the road, different category of susceptibility zone may change into another due to the disturbance of the stability of slope. The environment of the area may be affected in micro or meso scale due to felling of trees as well as wildlife habitats. The following points were also put forward as recommendations in the final technical project report submitted to the user agency:

1. Proper channelization of seepage zones
2. Adoption of slope and landslide protection measures wherever possible such as aforestation and other conservation measures (engineering & bio-engineering), terrace cultivation on steep slopes, etc.
3. Protection of river bank erosion or toe cutting.
4. A proper site should be identified or selected as a corridor for the movement of wildlife with caution signboard, speed limit, etc.

Launching of GeoPortal on North Eastern District Resources Plan

Subsequently, around 1620 maps via public domain and 1200 geospatial layers through Bhuvan node have been already released to the various users for their developmental planning activities. Around 40+ NEDRP standalone versions were installed in the district level offices with high quality internet bandwidth. NEDRP is now becoming decision making platform for the governance applications in many government departments and agencies for their planning and monitoring activity. NEDRP data services have been effectively utilized by various line departments for preparing disaster management support plan, forest resources management plan, DPRs for integrated watershed management programme (IWMP)/Meghalaya basin development authority (MBDA) and roads/ Pradhan mantri gram sadak yojana (PMGSY). NEDRP is also used to generate inputs for election management, inputs for development of MoSQuIT, an integrated surveillance system for malaria, etc. Various investigation agencies including special investigation branch (SIB), Police etc., line departments like agriculture & horticulture, Water resources, PWD, etc., research institutes like Indian Council of Agriculture Research (ICAR), Indian Institute of Technology (IIT), Guwahati, University have been utilizing NEDRP portal for their planning activities.
राजभाषा हिंदी की वर्तमान स्थिति

भाषा ने शिक्षा संस्थान का माध्यम है, बल्कि यह हमारे देश की संस्कृति है। भाषा मुख्य और समाज की पहचान होती है। इसीलिए मुख्य और समाज दोनों भाषा से जुड़े रहते हैं। मुख्य जिस समाज में रहता है वहीं भाषा का प्रभाव उस पर पड़ता है। हम चाहते हैं कि जो भाषा हम आसानी से बोलते हैं और समझते हैं उसी में विविध विषयों की भ्रमणियत हो। इन्हीं बातों को ध्यान में रखते हुए हमारा देश आंदोलन का एक हिस्सा है।

3. अधिकारियों एवं कर्मचारियों के लिए सेवाकालीन हिंदी का प्रशिक्षण

केंद्रीय सरकार, बैंक और उपरमान आदि के अधिकारियों एवं कर्मचारियों के लिए भाषा विभाग द्वारा कई सालों से सेवाकालीन हिंदी प्रशिक्षण, जैसे - हिंदी भाषा के प्रशिक्षण, कंप्यूटर आदि का प्रशिक्षण चलाया जा रहा है। कर्मचारी प्रथमे व्यं भारी संख्या में इस प्रशिक्षण में भाग लेकर इसका पूरा-पूरा लाभ उठा रहे हैं। यह राजभाषा एवं राजभाषा प्रचार प्राधिक से कार्य का बढ़ाता है।

4. समाचार पत्र

अंज सार्वजनिक हमें भारत में बहुत से समाचार पत्रों का प्रकाशन होता है, जिनमें से हिंदी समाचार पत्रों का प्रकाशन सबसे अधिक है, जैसे - दैनिक जागरण, जनसत्ता, नवभारत टाइम्स, दैनिक भारत, अपना उजाला आदि और इनके पाठक भी बड़ी संख्या में पढ़ जाते हैं। यह राजभाषा और राजभाषा प्रचार प्राधिक के कार्य का बढ़ाता है।

5. विभेदों में हिंदी

विभेद के विश्व में सबसे अधिक बोली जाने-लागी भाषा चीन की मंडराई भाषा है और हिंदी हमें स्थान पर है। अंग्रेज़ी आज भी तीसरे स्थान पर है। 135 देशों के विश्वविद्यालयों में हिंदी पढ़ाई जाती है। सूरीनाम, फीजी, मॉरिशियस, द्रिंडोडाइ, गुआम, आदि देशों के लोग हिंदी को अपनी संस्कृति समझते हैं जिसे मुश्किल नहीं चाहते, नेपाल, भुटान, श्रीलंका, पाकिस्तान, चीन, अमेरिका, कनाडा, जर्मनी, जापान आदि देशों में बहुत हार्दिक लोग आपस में हिंदी बोलते हैं। हां तो हम अमेरिका की फेनिक्ससेंट्रिया गुनविष्टिया ने एम.बी.ए के छात्रों के लिए दो वर्षीय हिंदी कोर्स अंबारिया कर दिया गया है ताकि वे भारत में व्यस्त सह कर सकें।

6. तकनीकी शादावाली आयोग की पहल

भारत सरकार ने तकनीकी शादावाली आयोग की स्थापना की है। विभिन्न विभागों की सामग्री को अनुवाद करने में
राजभाषा हिंदी की वर्तमान स्थिति

अंग्रेजी के एक ही शब्द के लिए अलग-अलग विभागों में हिंदी में अलग-अलग अनुवाद किए जाते हैं और अंकन-अंकन के कारण ज्ञायत का नामलेखन भी अलग-अलग होता है। इसलिए, ज्ञानी कर्मचारियों ने हिंदी में अनुवाद के लिए विभिन्न नामलेखन उपयोग किये हुए हैं।

7. अनुवाद

अंग्रेजी के एक ही शब्द के लिए अलग-अलग विभागों में हिंदी में अलग-अलग अनुवाद किए जाते हैं और अंकन-अंकन के कारण ज्ञायत का नामलेखन भी अलग-अलग होता है। इसलिए, ज्ञानी कर्मचारियों ने हिंदी में अनुवाद के लिए विभिन्न नामलेखन उपयोग किये हुए हैं।

8. राष्ट्रीय स्तर पर आयोजित परीक्षाओं में हिंदी का विकास

वर्तमान में भारतीय प्राणसूची के अनुसार राष्ट्रीय स्तर पर आयोजित परीक्षाओं में हिंदी माध्यम से परीक्षाओं के लिए विकल्प है। साथ ही, कई राज्यों में बी.ए, एम.बी.ए तथा अन्य परीक्षाओं में हिंदी में दिए जाते हैं। वर्तमान में हिंदी में उपयोग किया जा रहा है। इसके अलावा, कई संस्थानों में नौकरी की बातचीत में हिंदी माध्यम से विद्युत विभागों के लिए जाने जाते हैं।

9. हिंदी में इ-मेल की सुविधा

अंग्रेजी के एक ही शब्द के लिए हिंदी में इ-मेल का उपयोग किया जा रहा है। इससे पूर्व रूप से हिंदी में इ-मेल से जुड़ी सामान्य जानकारी प्रदान की जा रही है।

10. विज्ञानों में हिंदी का प्रचार प्रसार

अज कई राष्ट्रीय तथा बुद्धि राष्ट्रीय कंपनियों ने अपने उत्पाद की जानकारी आम जनता के लिए प्रकाशित की है। इससे हिंदी में पढ़ने वाले से राष्ट्रीय तथा बुद्धि राष्ट्रीय उत्पादों के बारे में जानकारी प्राप्त हो सकती है।

11. शहरी करण का विकास और हिंदी

अज रोजगार का लाभ, व्यवसाय आदि के लिए गाँव के युवा गर्भ और गाँव की जनता के लिए हिंदी में पढ़ने वाले से राष्ट्रीय करण के बारे में जानकारी प्राप्त हो सकती है।

12. संस्थान ग्रंथः राजभाषा भारती - राजभाषा विभाग द्वारा प्रकाशित पत्रिका।

सुविचार -

1. जिस भाषा में तुलसीदास जैसे कवि ने कविता की हो, वह अवकाश ही पवित्र है और उसके सामने कोई भाषा नहीं उठा सकती। - महात्मा गांधी।

2. इस समय देश की एकता के लिए हिंदी अन्वित की है। - राजा राम मोहन राय।

3. हिंदी भारतवर्ष के हिंदू - देश स्तित करोड़ों नर - नारियों के हृदय और मिलन को खुराक देने वाली भाषा है। - हर्ष बाळकृष्ण द्विवेदी।

4. जो राष्ट्रभक्त है, उसे राष्ट्रभाषा प्रेमी होना चाहिए। - रामनाथ कर्नेल दिवाकर।

5. हिंदी हमारे राष्ट्र की अवधकारक का सरलतम स्रोत है। - सुभाषचंद्र बोस।

6. निजभाषा उम्मीद अहें, सब उम्मीद का मूल बन निज भाषा ज्ञान के मिट्टे न हिंद को शूल। - भारतेन्दू हरिशचंद्र
The first Project Monitoring Board Meeting of NeSDR Project was conducted at NESAC on 8th May, 2018. The meeting was chaired by Shri SN Pradhan, Joint Secretary, Ministry of Development of North Eastern Region and was attended by respective heads of State Remote Sensing Applications Centres of NER. Shri SN Pradhan emphasized on the importance of space technology with regard to data gathering for solving the problems of the common man and need to fully utilize the RS/GIS technology for the benefit of NER. He has appreciated the overall progress of NeSDR project and felt happy to see the infrastructure setup available at different state nodes for the project. All the respective state centres gave presentations on the present setup and details on the spatial database availability for the project. Shri Nilay Nishant, Kum Ritu Anil Kumar, Shri Avinash Chouhan, scientists from NESAC gave brief demonstrations on the various g-Governance applications for NeSDR Dashboard. Shri Victor Saikhom made a presentation on the database related aspects of NeSDR and need for submitting proper structured database based on NeSDR Metadata standards. Shri P.S. Singh, NESAC gave a presentation cum demonstration on NeSDR SDI Prototype.

**Capacity Building under AMRUT Sub-Scheme on plans formulation of GIS based master plan formulation**

NESAC in collaboration with Town and Country Planning Organisation, Ministry of Housing and Urban Affairs, Govt. of India, conducted training programmes on ‘Formulation of GIS based Master Plans’ for decision makers from 29-31 May 2018 and for middle level officers from 14-25 May 2018. Altogether 20 officers were trained during the two programmes.

A separate training program for senior level officers was also held during the month of August, 2018 (6th to 31st August, 2018) where about 20 officers were trained.

**Celebration of World Environment Day**

World Environment Day was celebrated at NESAC on 05th June, 2018. Staff of NESAC led by Director Shri. P L N Raju participated in the Celebration. Saplings were planted at various locations of NESAC office and NESAC residential campus to make the environment cleaner.
Scientific Lecture on ‘Is there Life on Mars?’

Dr. S.M. Ahmed, Principal Scientific Officer, Central Instruments Laboratory, Hyderabad University gave a scientific lecture on 13th June, 2018 on the topic ‘Is there Life on Mars?’ He described about India’s maiden successful interplanetary mission, the ‘Mars Orbiter Mission’ and briefly described about the scientific payloads carried by the MOM, scientific challenges faced by the mission, its journey and findings. He gave a comparative analysis of the Mars Exploratory Missions from other countries and presented his scientific logic why life, as we know it on earth, is not feasible on Mars.

International Day of Yoga

4th International Day of Yoga was celebrated at NESAC from 19th to 21st June, 2018. Preparatory Yoga sessions were organized for the regular staff, CISF personnel, students & trainees of NESAC as well as their family members on 19th and 20th June, 2018 with 75 participants. On International day of Yoga, 21st June, a morning session of Yoga was organized for all staff of NESAC. The Common Yoga Protocols circulated by Ministry of AYUSH, Government of India were practised by all and the yoga sessions were conducted by professional yoga trainers. Reputed international Art of Living teacher, Shri Samir Jolly presented a lecture on use of yoga for stress relief at workplace and conducted a yoga and meditation session for the staff of NESAC from 03:00 PM to 05:00 PM on 21st June.

Ayurvedic and Homoeopathic Medical Camp at NESAC

Yoga sessions were organized for the regular staff, CISF personnel, students & trainees of NESAC as well as their family members on 19th and 20th June, 2018 with 75 participants. On International day of Yoga, 21st June, a morning session of Yoga was organized for all staff of NESAC. The Common Yoga Protocols circulated by Ministry of AYUSH, Government of India were practised by all and the yoga sessions were conducted by professional yoga trainers. Reputed international Art of Living teacher, Shri Samir Jolly presented a lecture on use of yoga for stress relief at workplace and conducted a yoga and meditation session for the staff of NESAC from 03:00 PM to 05:00 PM on 21st June.

Ayurvedic and Homoeopathic Medical Camp at NESAC

Dr. Dibyajyoti and Shri PS Singh, from Ministry of AYUSH, Government of India had conducted the daylong check-up and conducted a yoga and meditation session for the staff of NESAC from 03:00 PM to 05:00 PM on 21st June.
Yoga, meditation and knowledge session to children of SOS village

Yoga, meditation and knowledge session was conducted for children of SOS village, G.S Road, Meghalaya on 1st July 2018. SOS is a self implementing child care NGO, working for the holistic development of parentless children situated at Ri-Bhoi District of Meghalaya. Children were taught about importance of exercise, yoga and meditation. Yoga session was held for one hour, which was followed by a lecture on “Space science and Indian Space Research Organization”, followed by question answer sessions. Director, NESAC interacted with children answering their queries on various topics. Refreshment with snacks, fruits and chocolates was provided to all the children and staff. More than 70 children of different age groups participated in the program.

Space Based Information Kiosk for Sikkim, installed and demonstrated

The Space Based Information Kiosk for Sikkim State was installed at the Chief Secretary’s Office in Gangtok on 4th July, 2018. The SBIK for Sikkim consisting of 30 layers on different themes was demonstrated to Shri. Alok Kumar Srivasatav, IAS, Chief Secretary, Govt. of Sikkim. In the meeting, Dr. Dibyajyoti and Shri PS Singh, from North Eastern Space Applications Centre (NESAC), Shillong briefed the effectiveness and usefulness of SBIK portal in the planning and developmental activities for the various states in the North Eastern Region. They also highlighted that, the SBIK portal was earlier launched in 7 NE States, NEC, Ministry of DoNER in Delhi and more than 17 line Departments.

Blood donation camp at NESAC

A blood donation camp was organized on 25th July 2018 at NESAC community hall by Confederation of Ri-Bhoi People (C.O.R.P) & Regional Blood Bank, Pasteur Institute, Shillong in collaboration with NESAC. The blood donation camp was inaugurated by Shri George Bankntiewlang Lyngdoh, MLA, Umroi Legislative Constituency and Shri P L N Raju, Director, NESAC. Altogether 49 people donated blood during the camp.
Chairman, Brahmaputra Board visit NESAC
Hon’ble Chairman, Brahmaputra Board Sri Rajiv Yadav visited NESAC for a day long appraisal programme on 26th July, 2018 accompanied by Vice Chairman, Brahmaputra Board, Secretary, Brahmaputra Board and other Senior Officials of the Board. Accompanied by Director, NESAC, he visited all the prime facilities of NESAC including IRNSS tracking station, Atmospheric and Space Science division, SATCOM studio facility, NER-DRR, etc.

Basic course on ‘Remote Sensing and GIS - Technology and Applications’
NESAC conducted Basic course on ‘Remote Sensing and Geographical Information System- Technology and Applications’ of two weeks duration during July 16-27, 2018 focusing the area of geospatial and earth observation applications. The course was designed so that the participants develop clear understanding of appropriate tools, exposure to new methods and techniques, gaining competence in developing tools for the acquisition, processing, analysis and presentation of spatial data.

The course included topics related to Remote Sensing (RS) and digital image analysis, Global Navigation Satellite Systems (GNSS), Geographical Information system (GIS), open source software and data standards, ground truth and field validation with hands on training on relevant topics. The first week of the training was devoted to topics on basics of RS, GNSS, GIS and image processing, while the advanced topics were covered during the second week. Morning sessions consisted of lectures and demonstrations while hands on training with RS and GIS software were covered during afternoon session. The last two days of the course were dedicated towards formulation of mini-projects by the participants in groups covering various topics of their interest.

Independence Day Celebration
The 72nd Independence Day of the nation was celebrated at NESAC with a day-long colourfull programme. Director, NESAC hoisted the tricolour flag amidst singing of national anthem by the staff of NESAC at 09:00 am. The CISF unit of NESAC performing various dance etc. 13}

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offered a guard of honour to Director, NESAC and performed Independence Day parade. Director, NESAC addressed the staff of the centre with an informative speech, where he highlighted the significance of Independence Day celebration and briefed about the activities and achievements of NESAC vis-à-vis Department of Space.

The CISF unit demonstrated various skills in front of the gathering. This was followed by a cultural program organized by recreation committee of NESAC, in which the staff of NESAC and their family members participated in various interactive games, quiz and other activities at the auditorium. Prizes were distributed among winners of various sports & recreational events organized as a part of the Independence Day celebration. The programme ended with a movie show arranged at NESAC Auditorium for the staff of NESAC and their family members.

**Telemedicine Awareness Workshop for North-East**

NESAC jointly organized Telemedicine awareness workshop for North-East and 5th Annual Continuing Telemedicine Education program of the Telemedicine Society of India with Regional Resource Centre - NEIGRIHMS, Guwahati Medical College, Ministry of Health and Family Welfare (GOI), TSI and NEC at Guwahati during 24-25 August 2018.

**Students’ visit to NESAC**

29 students of M.Sc. Earth Science & Geology from University of Science and Technology, Meghalaya (USTM) and Gauhati University, Guwahati visited NESAC on 3rd May, 2018. The students were familiarized with space technology and space applications through presentations and video demonstrations. The students were also taken to NESAC exhibition areas and some of the facilities including IRNSS, Satcom, Atmospheric science laboratory and UAV laboratory.

A oneday training on “Differential GPS handling & survey technics” has been conducted for Officials of Meghalaya Forest Wildlife Shillong Division, Dept. of Forest, Govt. of Meghalaya at NESAC on 12th June, 2018. The training was conducted by Shri Victor Saikhom, Scientist/ Engineer-SE and Shri Gopal Sharma, Scientist/ Engineer-SC. About 12 officials which include DFO and MFS had participated the training programme.
Vigil against Corruption

Aman Kumar Singh

**Corruption**- Corruption is misuse of public authority by politicians, civil servants etc. for private gain. In other words it is dishonest or fraudulent conduct by those in power.

Corruption is embedded in one's behavior since beginning (childhood), best example is parent preferring a particular child. Many times, an affluent corrupt person is valued in the society and such things create a bad impression in the mind of a child. It takes draconian shape when the same child becomes a part of the system (an authority or a politician). In this stage it is mandatory for the government to come up with some legislation so that corruption can be controlled.

A committee was constituted by the government of India under the chairmanship of Shri K Shanthanam in 1962 which submitted its report in 1964. Measures suggested by the committee to control corruption were:

- Independence to vigilance officers to investigate complaint
- Reducing number of stages in government procedure to check delay.
- Imparting trainings to lower level staff in vigilance department as 80% of crime vigilances are enquired at lower level.
- Central Vigilance Commission to be represented by central civil service and technical service personnel.
- Prevent vigilance officers from investigating cases of higher officials in parent department.

It was on the basis of the report of the committee that Central Vigilance Commission (CVC) was set up in 1964 for looking into the cases of government employees.

Some of the suggestions given by former Chief Information Commissioners to reduce corruption are:

- Lokpal institutions should be given the power in initiating action against central ministers and MPs so that political corruption can be dealt.
- Lokpal should have own independent investigating and prosecuting agency without CBI dependence.
- CVC should be redesigned as central lokayukt.
- Central lokayukta should be linked to lokpal through common officers and staff.
- Lokpal should have legal power to prosecute an accused minister.
- Charged minister must resign after filing of charge sheet in the court.

Transparency international a Germany based international NGO that publishes corruption perception index has given 5 key ingredients to fight against corruption:

- **End Impunity**- Effective law enforcement to ensure that the corrupt is punished and cycle of impunity is broken.
- **Promote transparency and access to information**- Countries should have government openness, freedom of press, transparency and access to information. RTI in India plays a vital role in this and Maldives has the strongest RTI in the world.
- **Empower Citizen**- Community monitoring initiative to detect corruption, reduce leakage, improve quantity and quality of public service.
- **Reform Public administration and Financial Management**- Promoting transparent and participatory budgeting by training local communities to comment on the budgets of their local government.
- **Close international loopholes**- Without access to international financial system, the corrupt officials worldwide will not be able to launder or hide the proceeds of looted assets.

Above mentioned suggestions to curb corruption are only external factors which can be legislated or imposed by government. Mere imposition will not have significant gain. Changes should come from inside. If one's ethics and integrity should abstain him/her from involving and participating any corrupt practices then only we can see the change and make India corruption free.
Achievements

Ms. Pooja Shah, an M. Tech intern from CEPT University, Ahmedabad, received the student award (1st runners up for best paper) during the 39th ACRS at Kaula Lampur, Malaysia during 15th-19th October 2018 for her paper titled “Building Vulnerability Assessment for Seismic Hazard” which was an M. Tech dissertation work carried out at NESAC during December 2017 to May 2018 under the guidance of Dr. Jenita Mary Nongkynrih.

Mr. Junaid Mushtaq Lone, JRF at NESAC was awarded second prize in oral presentation for his paper titled “Measuring the change in Kolahoi glacier by Automated method using Geospatial technology” during the National Conference on “Climate change, Societal Consequences and Mitigation: Future Vision” held during 26-27 April, 2018 at Central University of Jammu.

Achievements

Ph.D. degree awarded

Smt. Jonali Goswami, Scientist/Engineer SE was awarded the Doctorate degree by Assam Agricultural University, Jorhat for her thesis titled “Assessment of crop conditions under abiotic stress using remote sensing techniques in upland rice crop” under the guidance of Prof. Ranjan Das, Department of Physiology, Assam Agricultural University, Jorhat.

Shri. Aniket Chakraborty, Scientist/Engineer SC was awarded the degree of Doctor of Philosophy from IIT-Delhi for his thesis titled “Regional analysis and spatiotemporal behavior of soil moisture in partitioning the heat fluxes: a theory based on model” on 21st April 2018. He worked under the guidance of Drs. BR Chahar, O.P. Sharma and Dr. C.T. Dhanya.

NESAC Welcomes new colleague

Shri Snehashish Dash joined NESAC on 13th June 2018 as Library Assistant ‘A’. He did his Graduation from Ravenshaw University in 2012 and did his Master’s in Library and Information Science from Utkal University in 2014.

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