# Editorial

Wish you all A Happy and Prosperous New year. It is time to make resolutions. However, many a time after committing, we find excuses to break the resolutions. None usually forces us to make these resolutions and then encourages us to break them. This oft repeated exercise, solely articulated by an individual, exposes our in built fickle nature, indecision and weakness. It is time we stop fooling ourselves with these gimmicks and try to channelize our energies to achieve something of use to ourselves and to others, following our inner conscience. As told by Jain muni Acharya Mahapragya to Late Dr.A.P.J.Abdul Kalam…..our consciousness is the birthplace of our ethics. We know something is right when our consciences are clear. Our consciences are our true friends. To have such a clear conscience we need to shed our ego, set aside blindly imbibed artificial nature and strive to build a strong and positive will power.

As a mark of respect a small write up on Late Dr.A.P.J.Abdul Kalam is included below. One can learn a lot from various facets of his life.

**Dr.A.P.J.Abdul Kalam,a Leader and a Scientist par excellence** :

The late Dr. Avul Pakir Jainulabdeen Abdul Kalam (15 October 1931—27 July 2015), after graduating from St. Joseph's College (Tiruchirappalli) joined the Madras Institute of Technology to study aerospace engineering. Eventually he joined the Aeronautical Development Establishment of the Defence Research and Development Organization as a scientist. In 1969 he was transferred to the Indian Space Research Organization where he worked as the Project Director of India's first Satellite Launch Vehicle. He was closely associated with India's civilian space programme and military missile development efforts. His contribution towards the development of ballistic missile and launch vehicle technology earned him the title of 'Missile Man of India'. He had received honorary doctorates from forty universities. The Government of India honoured him with the Padma Bhushan and Padma Vibhushan in 1981 and 1990 respectively and also bestowed upon him the highest civilian honour – the Bharat Ratna – in 1997. In 2002 he was elected the eleventh President of India. A prolific writer, his published works include *India 2020: A Vision for the New Millennium* (1998), *Wings of Fire: An Autobiography* (1999), *Ignited Minds: Unleashing the Power Within India* (2002), *The Luminous Sparks* (2004), *Indomitable Spirit* (2006), *Inspiring Thoughts* (2007) and *Forge your Future: Candid, Forthright, Inspiring* (2014) to name a few.

Dr.Kalam was a leader in every sense. He has proved that leadership certainly isn't gained by election or appointment. Having position, title, rank, or degrees doesn't qualify anyone to lead other people. And the ability doesn't come automatically from age or experience, either. The right to lead can only be earned. And that takes time. The key to becoming an effective leader is not to focus on making other people follow, but on making you the kind of person they want to follow. You must become someone others can trust to take them where they want to go. Dr.Kalam inherited all these qualities with humility. As pointed out by famous novelist John C Maxwell in his book "The Right to Lead", the truly great leaders are not in leadership for personal gain. They lead in order to serve other people. Rare is the effective leader who didn't learn to become a good follower first. Dr.Kalam followed Satish Dhawan,a legend. Leadership is influence, nothing more, nothing less. That means it is by nature relational. Today's generation of leaders like Dr.Kalam and Dr.Bill Gates seem particularly aware of this because title and position mean so little to them. As pointed out by John C Maxwell, these eminent leaders know intuitively that people go along with people they get along with. Leaders who earn the right to lead give their all to what they do. They bring into play not only their skills and talents, but also great passion and hard work. They perform on the highest level of which they are capable. Leadership is often easy during the good times. During every season of life, leaders face crucial moments when they must choose between gearing up and giving up. To make it through those times, rely on the rock of discipline, not the shifting sand of emotion. The manner in which Dr.Kalam stepped back from contesting second time as President of India speaks volumes of his character. Acrimony of any sort would have tarnished his image, and pained

him and all those revered him. He, as a Muslim, advocated the importance of religious tolerance in a significant way by writing a book on importance of Swamy Narayan philosophy. While delivering a talk in Aurobindo Ashram Dr.Kalam stated "The religions are like exquisite gardens, places full of surpassing beauty and tranquillity, like sacred groves filled with beautiful birds and their melodious song. I truly think that religions are beautiful gardens. But they are islands. They are enchanting islets, veritable oases for the soul and the spirit. But they are islands nevertheless. However, if we can connect all these islands with love and compassion, in a 'garland project' for the present millennium, we will have a prosperous India ahead of us, a billion people, through India millennium mission and even for our planet. Science is the best boon God has bestowed upon mankind. Science with reasoning becomes the capital of the society. In whatever field we work, be it science, technology, medicine, politics, policing, theology, religion or judiciary, we have to remain in the service of the common man whose well-being is central to all human knowledge and endeavour. Every religion has a central component — spirituality that is driven by compassion and love. Rationality and logic are intrinsic to science and spirituality. A spiritual experience is the goal of a deeply religious person whereas a major discovery or an invention is the goal of a scientific mind. If both the aspects are unified, amalgamated in our own patterns, we can transcend to that level of thinking in which unity is a cohesive aspect".

Let our youth follow his footsteps and meet personal needs with humility and lead our nation to receive highest accolades for its positive approach in strengthening global welfare.

## Stress is a Choice

We are so busy being busy; it's easy to be lured into the fray, with our lengthy to-do lists. Yet, the greatest achievements have often come from the simplest of ideas and in the simplest forms. That's right. Life is a series of choices and being free from stress is one of those choices. I have learnt a lot managing the journal as Editor. I was stressed out number of times, with problems one after the other. But, once a publication came out in print and looked good with manuscripts from young and senior scientists stress automatically disappeared, albeit to reappear after couple of days. I wished many a time for this to stop happening. One has to realize that Heavens are not going to fall if some day to day routines get delayed, as mortals we all have some limitations. However, such a changed perspective should not lead us astray. We have to put in our best efforts, pushing aside the stress factor and face the ups and downs with equal warmth. Once we imbibe such an attitude we can surmount many setbacks. It is essential to realize that to experience a simplified life; we first have to learn to slow down long enough to see through all the clutter. We need to realize that we are powerful magnets that attracted this life to ourselves—no matter what—good or bad. Yes, there is all the time in the world if we just realize that we are the creators of this life we choose to live.

When I look at farmers` plight I feel ashamed to say that I am stressed out.

## Farmers` plight-Need for Scientists to lessen intra monsoon prediction errors through viable deterministic models

Like many I am pained to learn about series of suicides by farmers belonging to Telangana in particular and other parts of the country in general. Even though various socio economic factors are contributing to this sad state of affairs in addition to monsoon vagaries, weather scientists need to come out with reasonable predictions that can help the farmers. Due to quixotic nature of monsoon and lack of needed guidance and support from technical experts, administrators and politicians farmers are suffering a lot. I mentioned in July, 2015 editorial that contradicting bulletins from Skynet and IMD have confused one and all, especially the farmer. Unfortunately, due to absence of field level area specific agro meteorological advisories majority of the farmers have gone for sowing operations after early June monsoon or pre-monsoon activity. Due to subsequent failure of SW monsoon for more than 80 days, 70 % of crops withered away leading to farmers anguish and helplessness. Unable to wriggle out of debts, many small, marginal and even middle class farmers became utterly disillusioned. Some of them took extreme step of committing suicide. The rains in September could not bail them out as they could not go for second time plantation. Same scenario was

witnessed last year too. It is time something radical done to help the hapless farmers.

JIGU itself published number of well articulated articles on weather related topics. In the present issue itself there are five articles. Almost all these articles have been structured using wealth of data. In spite of such noteworthy contributions none is in a position to predict intra monsoon aberrations. This deficiency has assumed as much importance as earthquake prediction. Our experts need to update our prediction capabilities, by properly exchanging data at local, regional and global level and co-operate with elite scientists and reputed weather organisations like NOAA, Australian weather bureau in refining models to meet local and regional needs. Even though I urge the scientists to produce deterministic information to help farmers I do know how difficult it is to achieve. As pointed out by Francois Massonnet (Physics Today,Sept 2015, vol.68, no.9,pp:8-10) the path between the scientist`s understanding of the fundamental physical laws that govern the evolution of our climate and the delivery of tailored services to end users is anything but a straight line. A climate service, according to the World Meteorological Organisation, is the "dissemination of climate information to the public or a specific user". So far, information has not flowed smoothly from scientists to service users like farmers for at least two reasons. First, climate scientists think probabilistically while users think deterministically. Predicting atmosphere`s exact evolution beyond a few days is impossible because irreducible errors are present. Therefore, the best that scientists can do is to formulate probabilities about whether or not an event will occur. Unfortunately, users want deterministic, yes-or-no answers. Second, the time and distance scales of variables in climate models often do not match users` expectations or needs. Now a day, most climate models output temperature, precipitation, and other physical variables that are averaged monthly over coarse (~ 50 km) grids. In rural India the averaged grid could cross even 100 km. It is well established that due to various factors including presence of heat islands in urban sectors precipitation rates vary even within 10km. Even in rural segments considerable variation is noticed within a distance of 20km. Generally, users need much more specific information at much finer scale and higher frequency. Unfortunately, as of now due to many variables narrowing down the errors in prediction of weather related phenomena has become next to impossibility. In such a scenario it is not advisable to release gross weekly bulletins on monsoon activity and create problems to hapless farmers. It is better to accept our limitations and project the reality instead of developing models based on probability theory. It is essential to keep in view that our models may give us research publications in reputed journals but errors in our results can lead to irreversible damage to many innocent. Since any significant success in our prediction mehanism would save farmers and there by our agriculture based economy, all efforts are to be made to increase density and frequency of observations to develop better prediction models. Recently launched weather satellites can bridge the gap, provided the weather scientists interpret minutely not only local and regional models but also global, in space and time, as they are interconnected.

Once again I am drawn towards my pet topic—Global warming. Instead of getting wiser with new research findings I have plunged into darkness. Instead of pulling my hair in confusion (it is a different scenario in reality…no hair is left to pull at my age of 73), I laugh at myself for dragging me and others in to this ….pool. Please go through the following to know how media and global politics confuse even experts and how experts become part of global politics.

## Global warming:

Whether one likes or not this topic has attained such an importance that governments and scientific/technical experts are regularly coming out with different suggestions/solutions to lessen its alleged impact. In the process even the experts get emotionally perturbed, unable to select viable solutions that are non political and acceptable to one and all. However, as pointed out by 91 years old, mathematical physicist Freeman Dyson, we need to be as congenial as possible in debating these issues. He states "I do not care what my legacy will be. To me the most beautiful aspect of science is that it is a collaborative enterprise, with a multitude of people from all over the world taking part. In the long run, it does not matter who discovered what. We all share the joy of discovery even if we do not share the credit. I am happy to be skeptical about the prevailing dogma

concerning climate change, whether or not it turns out that I am right. As a scientist, I can disagree vigorously with my colleagues and still remain friends".If this attitude pervades many issues pertaining to Climate Change would be resolved, without any heart burning. Some recent studies are listed below to expose the young researchers in particular and seniors in general to ongoing developments. Before going through the details it is essential to know that although the increasingly sophisticated models had come to a rough agreement on global features like the rise of average temperature, they differed in the regional details, making scientific studies more or less irrelevant in taking policy decisions. Policy makers did not care much about global temperature-they wanted to know how things would change in their own locality, leading to controversies and continued disagreement even after nearly two decades old Kyoto conference. Subsequently, a dozen committees met and dispersed without coming to an agreement. As stated by an expert our history of committees is like the swan that glides serenely on the surface while paddling furiously underneath.

**Historic Warm Periods Shed Light on Future Cyclones**

As per a school of thought, it is well established that planet Earth is heating up, but how a warmer climate will affect weather events and human life often remains unclear. Cyclones are particularly difficult to assess in this respect: Numerous competing factors drive the storms, such as air pressure, atmospheric temperature gradients, and moisture—all of which may be influenced by the warming climate.

Recently, *Li et al.* analyzed historic weather data and sea surface temperatures from the 1940s through 2011 to contrast how cyclones that occur outside of the tropics in the northern Atlantic Ocean behaved in warmer versus cooler periods. Specifically, they used the periods 1948–1963 and 1997–2011 as analogues for the warmer future and 1979–1993 as a cooler baseline period. The researchers concede that the historic conditions do not match perfectly with predictions for the future; nevertheless, their analysis revealed that cyclones during warmer periods generated significantly more precipitation but did not exhibit increased intensity otherwise.

Because a warmer climate can lead to more evaporation and thus greater humidity, previous research has sought to understand how the added moisture would affect cyclones. The increased levels of precipitation detailed in the study support the theory that added moisture increases the efficiency of pole-ward heat transport by the storm track, as opposed to increasing wind speed or vortices through latent heat release. The researchers suggest that this finding affirms the current cyclone models, which have arrived at similar conclusions. (**Source**: Geophysical Research Letters, doi:10.1002/2014GL062186, 2014)

**Man`s Interventions to lessen Global warming-Pros and Cons**

From detonating nuclear weapons in the atmosphere to trying to move hurricanes, history is filled with scientists proposing eccentric strategies to control the climate. The latest idea to gain traction involves tweaking Earth's albedo by injecting the stratosphere with sulphur aerosols in an effort to reflect more sunlight back into space. When airborne sulphur dioxide dissolves in water vapour, sulphuric acid forms. This acid then dissociates into aerosolized sulphate particles, which scatter sunlight away from Earth. Sulphur aerosols also can affect cloud formation by increasing cloud height, reflectivity, and longevity. Scientists and engineers find these properties attractive—the more sunlight Earth reflects, the less heat it absorbs, leading to a cooler planet.

With every large eruption, volcanoes spew thousands of tons of sulphuric aerosols into the stratosphere and cause brief periods of global cooling. By modelling the effects of large volcanic eruptions, scientists found that although injecting the atmosphere with sulphur aerosols could put a dent in global warming by increasing the amount of light reflected away from Earth, the risk of global consequences, such as resulting drought or degradation of the ozone layer, may outweigh any temporary benefits. Because stratospheric sulphur aerosols absorb as well as reflect sunlight, the warmer particles, when present in high concentrations, seem to decrease precipitation around the globe by inhibiting the formation of storm clouds. In addition, sulphur aerosols provide a surface for volcano-emitted hydrochloric acid to break down into

ozone-destroying chlorine and chlorine monoxide, which degrade the atmospheric shield protecting Earth from the Sun's ultraviolet rays.

In addition to changing precipitation rates and triggering destruction of ozone, climate engineering via stratospheric injection of sulphur aerosols could have unknown consequences for other natural processes, such as plant or wildlife ecologies. Implementing any plan to deliberately change the climate also poses practical challenges. For example, who would control the technology? What steps would be taken to prevent accidental releases of too much aerosol?

Because of the unknown consequences of climate intervention with aerosols, a new report by the National Academies of Science, discussed by the panel, concluded that geo-engineering, or "climate intervention," is not the best way to combat climate change. Efforts to address climate change should continue to focus most heavily on mitigating greenhouse gas emissions. The report also noted that continuing research into sulphur aerosol injection and other human-driven avenues of climate will be important additions to climate mitigation. (**Source**:Wendel, J. (2015), Volcanic eruptions steer conversations on climate intervention, *Eos, 96,* doi:10.1029/2015EO024529. Published on 18 February 2015).

We are already suffering due to monsoon aberrations. Volcanic eruptions continue to occur; some could be mega in nature and consequences cannot be restricted. And as such it is not advisable to go for such geo-engineering exercises, leading to uncalled for repercussions.

**Reasons for slowing down of Global warming**

Scientists in May, 2015 reported that they have unlocked the mystery of a slowdown—a false pause—in global warming since the late 20th century, saying the answer lies in the Indian Ocean.

Until now, climate scientists believed the slowdown, which has been observed since 1998, was related to declines in surface temperature of Pacific Ocean, and tied to a prevalence of La Nina climate conditions. In a paper published in the Nature Geoscience Journal, Sang-Ki Lee, an oceanographer at the University of Miami, and his colleagues said when they tried to track the heat missing from the atmosphere in the oceans, they did not find it in the Pacific Ocean. Hydrographic records indicated that the Pacific Ocean's heat content had been decreasing, said the scientists, who then analysed their observations along with simulations from a global ocean–sea ice model to track the pathway of heat.

"We find that the enhanced heat uptake by the Pacific Ocean has been compensated by an increased heat transport from the Pacific Ocean to the Indian Ocean, carried by the Indonesian through flow," the paper said. The scientists reported that the Indian Ocean heat content has risen sharply, accounting for more than 70% of the global ocean heat gain in the upper 700 metres of the Indian Ocean over the past decade. The scientists concluded that the Indian Ocean has become increasingly important in altering global climate variability. This finding is broadly consistent with other recent studies that have identified La Nina-like conditions over the past decade for the slowdown in surface warming. The slowdown in global warming is often mistaken for or referred to as a hiatus, but the warming has continued—albeit at a slower rate over the past decade. In fact, the UN's World Meteorological Organization last year warned in a report that the warming of oceans has accelerated, and is happening at lower depths."More than 90% of the excess energy trapped by greenhouse gases is stored in the oceans," the UN report had observed.

(**Source:**http://www.livemint.com/Politics/pbwSHC0MQD2oVcemPnDI6O/Climate-change-Global-warming-slowdown-tracked-to-Indian-Oc.html)

**Journalists link solar science news to climate—and to the climate controversy**

The Royal Astronomical Society press release "Irregular heartbeat of the Sun driven by double dynamo" explains that at the recent National Astronomy Meeting in Wales, Northumbria University astrophysicist and mathematics professor Valentina Zharkova reported on a new model of the Sun's solar cycle. The model suggests that "solar activity will fall by 60 per cent during the 2030s to

conditions last seen during the 'mini ice age' that began in 1645."

**The resulting media stir merits notice**.

No doubt this solar science news, bearing as it does on a topic important to everyone—weather—would have inspired international press attention even in the absence of a flourishing controversy over something else related to weather, human-caused climate disruption. In any case, the press attention includes plenty of what's predictable: not just linkage of the solar-causation and human-causation realms, but outright confusion of the two as well.

An unconfused ***Daily Mail*** summarized the solar news and the weather implications with one of its multiple-subhead headlines: Is a mini ICE AGE on the way? Scientists warn the sun will 'go to sleep' in 2030 and could cause temperatures to plummet. The Royal Astronomical Society release links to a **Wikipedia** entry defining the Maunder minimum as the "prolonged sunspot minimum" period from about 1645 to about 1715.During this period sunspots became exceedingly rare. Wikipedia notes that it "coincided with a period of lower-than-average European temperatures."The solar news article at the **UK's *Mirror***—headlined "Planet Earth set to shiver through 'mini ice age': Will it save humanity from global warming?"—eventually gives an answer to its headlined question: No. ***Haaretz*** in Israel, also anticipating the inevitable public linkage and confusion, noted that Zharkova's "prediction has nothing whatsoever to do with the phenomenon of human-driven climate change." An anecdotal sampling of the coverage shows that many journalists played the story straight, just as the *Daily Mail* did.

But the subhead on the ***Register'***s article classifies the solar-science news as fitting into the "climate/ solar debate." And indeed that's where many journalists have placed it. First on the "Read More" list following ***Huffington Post UK'*s** article is a link to a piece headlined "Global warming 'is delaying the next ice age." The ***Telegraph*** interrupts its online report after five sentences with this note irrelevantly directing readers to a diatribe alleging politically motivated scientific malfeasance: "Fiddling with temperature data is biggest science scandal ever (31,000 comments)." The ***Examiner*** ends a solar news report with this: What does this mean for global warming activists? It is too soon to tell, but the "Little Ice Age," which occurred between 1300 and 1850 (per Britannica.com), was a period of mostly decreased solar activity divided by intervals of increased solar activity. It is as yet unknown whether the overall increase of temperatures on Earth in the past century will in some way offset a prolonged sunspot minimum, if and when the next one occurs. An ***Examiner*** commentary on the solar news begins by reporting, "Some climate scientists are so worried sick about global warming that they are showing signs of psychological stress, Esquire informs us. **UPI** has some good news and some bad news concerning climate change." In fact the cited brief **UPI** article never mentions climate or climate change. The opening paragraph continues: The good news is that global warming is not going to happen after all, at least for a long while. The bad news is that we're in for a mini-ice age starting about 2030. The culprit is an engine that affects climate far more powerful than anything humanity can devise. That engine is the sun. The commentary ends with this: The prediction suggests that far from wanting to cut back on carbon dioxide emissions, the world community might want to consider increasing them instead. A little greenhouse effect might go a long way toward mitigating the frigid future that yet another group of scientists say is in store for us. On the other hand, the duelling predictions suggests that some caution and no little flexibility might be in order where policies related to global warming or global cooling or whatever constitutes climate change.

The ***American Thinker*** commentary "Scientists warning of global cooling once again!" confuses the predicted brief period with global cooling, recycles the 1970s "global cooling" argument that Inside Science News Service has debunked, confuses climatology with weather prediction ("climatologists can't predict the weather a week ahead," it sneers), calls the solar prediction the "new political viewpoint of the environmental commissars," and proposes that the finding "raises a big question about global warming. Will the two cancel each other out?"

In one of the online discussions, a reader cited a ***Skeptical Science*** write-up concluding that "science is quite clear that the human influence on climate change has become bigger than the sun's."

(**Source**: http://scitation.aip.org/content/aip/magazine/physicstoday/news/10.1063/PT.5.8127;jsessionid=12dik4au1360q.x-aip-live-03)

It is necessary for one and all to set aside these theories that cost billions of dollars and concentrate on issues that are affecting the very existence of LIFE on earth. It is paramount to have a proactive, sensible and meaningful interaction between scientists, media and policy makers. Instead of blindly arguing about repercussions due to weather events all the stakeholders need to be pragmatic. For example, once everyone concerned knows limitations of our forecasting and predicting weather and climate events we can resolve many controversies that are plaguing the world, in the name of **Climate Change**.

## In this issue

In this issue, apart from editorial and news and views eleven research articles are included. In the first article "Shallow surface shear velocity beneath the Godavari Rift using P-wave seismograms of local earthquakes" Sushini et al pointed out that since the thick sedimentary layers and low shear wave velocities play a critical role in amplification of seismic waves even from small magnitude earthquakes, determination of shallow shear wave velocity (SSV) assumes importance. In their study, shear wave velocities in the shallow subsurface are estimated adopting a latest technique that utilizes the horizontal to vertical ratios of the local *P* waves. Their results indicate that the shallow subsurface structure is quite variable in the Godavari Rift, with the SSV values ranging between 3.22 km/s and 1.03 km/s. In the second paper "New structural facts from audio-magnetotelluric (AMT) data interpretation in the Yaoundé-Nkolafamba area (Centre Cameroon)", Assembe et al combined field geological observations with tensor Audio-magnetotelluric/Controlled source audio-magnetotelluric (AMT/CSAMT) experiments along four profiles, using a Geometric's Stratagem EH4 resistivity meter. From the outcome of the study, it is conjectured that the study area belongs to the transition zone between the Congo Craton and the Pan-African belt. Authors propose that many of the faults form a southwest-northeast shallow tectonic line seem to be related to the enhancement of the Centre Cameroon Shear Zone within the Yaoundé area. These facts demonstrate that the region has been affected by the collision between the Pan-African and the steady Congo Craton, followed by post Pan-African transpressional evolution characterized by dextral and sinistral strike-slips along the southwest-northeast trend. In the third paper "Magnetic Fabric and Rockmagnetic Properties of the Archaean Granites from part of the Hyderabad Granitic Region (HGR), Eastern Dharwar Craton, India", Goutham et al observed that the magnetic mineralogy of the granites of the study area is dominated by multi domain magnetite as revealed by the Isothermal Remanent Magnetic (IRM) and thermo magnetic studies. Further, it is noticed that the fabric of the magnetic minerals shown by both pink and grey granites is similar. This indicates that the deformation recorded in these rocks is a wide spread, post-formational event in the Eastern Dharwar Craton (EDC) and is exactly preserved in the Hyderabad Granitic Region (HGR).In the fourth paper Bansal et al analyzed the gravity data of the highest seismic risk and tectonically complex region of Kutch (India) using scaling spectral method along selected gravity profiles. The high-resolution multi-taper method (MTM) is used to calculate the power spectrum. The scaling spectral method provides scaling exponent and depth values, which are useful for describing the heterogeneity of the region. The depth values vary from 1 to 7 km with deeper values in the northern and southern region. The depth values and scaling exponents indicate complex nature of the crust. In the fifth paper Tarun et al provided a rare account on the petrogenetic aspects of a Paleo-proterozoic crustally uncontaminated mafic dike "Dike 3" of alkaline affinity. The anomalous behaviour of Nb in the Gadwal Dike 3 samples is attributed to the addition of a small amount (~2%) of ancient pelagic sediment recycled through an Archaean subduction zone, in its mantle source. The occurrence of OIB-type magmas within the cratonic interior provides an essential link between the Archaean sub-continental lithospheric mantle (SLM), and the EM1 mantle component in the Dharwar craton, India. In the sixth paper Venkateswara Rao et al carried out Hydrogeochemical investigations and Solute Transport Modeling of polluted coastal aquifer. They have noticed in the study area (coastal belt of Nellore, A.P, India) that in general, the seawater spreading is more during the pre-monsoon season and it is considerably diluted in the post-monsoon season due to recharging from Pennar river, Sarvepalli

canal, tanks and precipitation. The solute transport model indicates that the lateral spread of saline water towards inland is not occurring farther beyond a 2 to 5 km strip due to higher topographic elevations and the groundwater following the topography. In the seventh paper Bhan et al studied the climatology of Tornadoes over northwest India and Pakistan; and carried out meteorological analysis of recent Tornadoes over the region. Analysis of meteorological conditions shows that most of the tornadoes in the region were associated with an area of convergence of low level moist winds overlain by an area of upper level divergence. In the eighth paper Onkari Prasad et al studied intra-seasonal changes and long range forecast of rainfall during 2013 southwest monsoon season based on South Indian Ocean Convergence Zone model. In the ninth paper Goswami and Midya studied Seasonal variation of daily Total Column Ozone (TCO), its depletion and formation role on surface temperature and rainfall over Chennai, India. They concluded that the rate of change of total ozone concentration over Chennai is not same for all seasons. They further opined that it depends on the change of surface temperature for different seasons. It is also concluded that ozone concentration over Chennai shows slightly increasing trend for the total period of their study. Rainfall rate is also influenced by rate of change of TCO (Total Column Ozone) during different seasons. This type of variation is explained considering ozone destruction mechanism. In the tenth paper Manjunatha et al carried out geographical analysis of rainy days over West Coast Region and Islands of India. The analysis reveals that the number of rainy days shows a significant decreasing trend during the monsoon season. However, the monsoon monthly trend shows mixed behaviour. In the last paper Bhatla et al carried out trend analysis and extreme events of temperature during post monsoon and winter seasons over Varanasi, Uttar Pradesh, India.

As in the past News and Views contains four subsections.

From this issue we have introduced Key words and discontinued authors` bio-data publication. We have also introduced mandatory submission of signed declaration certificate at the time of submitting an article and signed copyright transfer form after receiving acceptance communication from JIGU office. Both the certificates need to be signed by corresponding author after receiving due clearance from all the authors. These certificates are aimed at enforcing standard publication ethics, in letter and spirit. As advised by accreditation channels we have also created an exclusive website for the journal (www.j-igu.in). The website contains relevant material about the journal, guidelines to authors, publication details, archived earlier volumes, current publication details, forthcoming articles details, specific details pertaining to publication ethics, address particulars and editorial board. Hopefully, these initiatives will help us to get needed accreditation at the earliest. The above mentioned steps have been taken in October, 2015. We are happy to receive a positive communication, on 29th Oct, 2015 from Dr.Rodney Chanko of Thomson Reuters. He has stated "The journal has been accepted for a new edition of *Web of Science* launching this fall. The new edition, called the *Emerging Sources Citation Index*, will make your content discoverable and citable in *Web of Science*. Coverage will begin with journal content published in 2015". This is a positive stride by the journal. However, this is not counted as SCOPUS impact factor.

Even though lot more has to be done to realistically enhance journal's visibility in international scientific channels I do state that there is perceptible improvement in quality of the manuscripts, as authors are judiciously following suggestions made by reviewers and editor, instead of getting satisfied with mediocre publications. In our part we are plugging all loopholes to avoid publication of inferior material. Even though such a transformation, since 3 to 4 years step by step is a welcome change, we are assiduously exploring new avenues to make the journal meet prescribed norms to attract the attention of national and international elite scientific community. We solicit committed involvement of learned editorial board members and well wishers and support of authors in reaching such a target.

We are happy to announce that under IGU banner, two special volumes are being published, utilising grants provided by sponsoring agencies. We thank respective guest editors for choosing our journal as the base to bring out these special volumes

**P.R.Reddy**