

<b>Department</b>	Applied Geology
<b>Designation</b>	Assistant Professor
<b>Educational Qualification</b>	Ph. D., P.G. Diploma in Geoinformatics
<b>E-mail</b>	hgovil.geo@nitrr.ac.in, himgeo@gmail.com
<b>Contact number</b>	+91-9927337832

**Areas of Interest:** Mineral Exploration using Hyperspectral Remote Sensing, GIS, Image Processing, Fuzzy logic & Interpretation, Object based classification, Ore minerals, Geomorphology,

### **Publication:**

#### **BOOK PUBLISHED:**

1. Hyperspectral remote sensing application for mineral exploration in Kumaon Himalaya, India, ISBN: 978-3-659-63145-0, Publisher: Lambert Academic Publisher, Germany on 21-05-2015

#### **INTERNATIONAL PUBLICATIONS:**

1. G.Areendran, A. Sharma, M. Munsi, K. Raj, S. Mazumdar, **H. Govil**, D. Ghose, S. Worah, A. Sarmah, H. Baishya, P.J. Bora: (2010): *A baseline survey of Protected Area Network in North Bank Landscape (NBL) with reference to Land Use/ Land Cover Change (LULCC) using Remote Sensing-* Map India 2010, New Delhi, India
2. **H.Govil**: *Object based Classification of High Resolution satellite data by use of spatial and spectral properties* (2010) - Map India 2010, New Delhi, India (abs), P-47
3. G. Areendran, K. Raj, S. Mazumdar, M. Munsi, **H. Govil** & P.K. Sen: (2011): Geospatial modeling to assess elephant habitat suitability and corridors in northern Chhattisgarh, India, *Tropical Ecology* 52(3): 275-283, 2011, (Impact Factor – 0.768)
4. **Govil. H**, Kumar. M and Farooq. S (2012): Comparative evaluation of fuzzy based object-oriented image classification method with parametric and non-parametric classifiers, 14th Annual International Conference and Exhibition on Geospatial Information Technology and Applications, Epicentre Gurgaon (P. 1-15)  
(<http://indiageospatialforum.org/2012/proceedings/ppt/Himanshu.pdf>)
5. **Govil. H** and Farooq. S (2012): “Identification of a major faulted zone north of Jaipur City, India through EO-1 Hyperion data using hydrothermal alteration minerals” 2012 HypsIRI Science

Workshop, 16 - 18 October 2012, JPL, National Aeronautics and Space Administration (NASA), Washington, DC (abs)

<http://hyspiri.jpl.nasa.gov/Workshop/2012-hyspiri-workshop/2012-workshop-agenda>

6. Farooq. S and **Govil. H** (2013): Mapping regolith and gossan for mineral exploration in the Eastern Kumaon Himalaya, India using Hyperion data and Object oriented Image Classification, *Advances in Space Research, Impact Factor, Volume 53, Issue 12, 1676–1685* (impact factor: 1.4), <http://dx.doi.org/10.1016/j.asr.2013.04.002>
7. **Govil. H** (2015): Identification and Mapping of Hydrothermally Altered Minerals in and around Askot Basemetal Mineralization of Kumaon Himalaya, India using EO-1 Hyperion Data, *International Journal of Advancement in Remote sensing, GIS and Geography, Volume 3, No.1, 1-8*
8. **Govil. H.** (2015): Spectral Reflectance of the Hydrothermally Altered Minerals in the Visible and Near Infrared Portion (4000-2500nm): A Case Study in and around Askot Basemetal Mineralization of Kumaon Himalaya, India, *International Journal of Advancement in Earth and Environmental Sciences, Volume 3, No.1, 1-7,*
9. **H. Govil** (2016) Identification and Mapping of Hydrothermally Altered Minerals in Parts of Delhi Fold Belt, Jaipur, India, through EO-1Hyperion data, 10th SPIE Asia Pacific Remote Sensing, April 4-7, New Delhi, India, <http://dx.doi.org/10.1117/12.2220280>
10. Ram Kumar Singh, **Himanshu Govil**, Shweta (2016) Comparison of Signal to Noise Ratio and its Features Variation, 10th SPIE Asia Pacific Remote Sensing, April 4-7, New Delhi, India, <http://dx.doi.org/10.1117/12.2223773>
11. Liaqat A.K. Rao, Armugha Khan, Himanshu Govil (2017) Morphometric Characterization of Yamuna River basin around Agra, Firozabad and Etawah Districts, Uttar Pradesh, using Remote Sensing and GIS Techniques, *International Advanced Research Journal in Science, Engineering and Technology, Vol. 4, Issue 5*

#### **NATIONAL PUBLICATIONS:**

1. S. Farooq and **H.Govil:** (2008): *Geomorphometric Analysis of Surface Landform features of the Goriganga Watershed, Kumaon Himalaya: Application of Remote*

Sensing and GIS in the Management of Natural Resources, Sustainability and Uses – Garhwal University, P-91-93, India (abs)

2. G.Areendran, P.Gautam, S.Sharma, S.Rajgopal, K.Raj, S.Mazumdar and **H.Govil**: (2009): *Invasion of Prosopis juliflora in Keoladeo National Park, Bharatpur: A case study using Remote sensing and GIS*: In the National symposium on *Prosopis*: Ecological, Economic significance and Management challenges” held at Bhuj, Gujarat, India, P-1-4
3. S. Agarwal, K. Puri, G. Areendran, K. Raj, **H. Govil**, S. Mazumdar and M. Munsu (2010) *Forest change analysis of Jim Corbett National Park, Uttarakhand: A remote sensing and GIS approach* - 11<sup>th</sup> National ESRI conference, New Delhi, India, P-1-7
4. S. Farooq and **H. Govil** (2011): *Identification and delineation of potential hydrothermal mineralization zones around Jaipur using hyperspectral remote sensing data*. National Conference on Population, Resource and Environment, Aligarh Muslim University Aligarh India (abs), P-76-77
5. P. Batala, G.Areendran, K. Raj, S. Mazumdar, **H. Govil** and K. Puri: (2011): *Forest covers change assessment of West Kameng District (Arunachal Pradesh): A remote sensing approach (1990-2007)*. National Conference on Population, Resource and Environment, Aligarh Muslim University Aligarh, Aligarh India (abs), p-118
6. S. Farooq & **H. Govil** (2011): Mapping Hydrothermal Alteration and Gossanized outcrops using Hyperspectral data in Eastern Kumaon Himalaya: Geosummit 2011, Sathyabama University
7. S. Farooq & **H. Govil** (2011): Identification of a major dislocation zone north of Jaipur city through hyperspectral data processing: Implications for local communities: ISRS 2011, Bhopal (abs), P-208-209
8. P. Batala, G.Areendran, K. Raj, S. Mazumdar, **H. Govil** (2011): Monitoring of forest cover change of west Kameng district of Arunachal Pradesh using temporal remote sensing data, ISRS 2011, Bhopal (abs), P-164-165
9. S. Farooq & **H. Govil** (2013): Identification of Hydrothermal Mineral Assemblages in Eastern Kumaon Himalaya using High Resolution Short-wave Infrared Spectrometry,

National Seminar of Emerging Issues and Challenges in Petrology and Environment Geology, 05-07 March, 2013, Aligarh, India (abs), P-89-90

10. M. K. Tripathi, H. Govil, P. Diwan, Monika (2017): Impact of stagnant water, pond of dirty water and pit latrine on ground water quality in public places like schools of block Khalilabad district Sant Kabor Nagar, U.P., 2<sup>nd</sup> National Geo-Research Scholar meet, Wadia Institute of Himalayan Geology, 17<sup>th</sup> to 20<sup>th</sup> May 2017, p.35

#### **MEMBERSHIP OF PROFESSIONAL BODIES:**

1. Life Member, India Society of Remote Sensing, India
2. Life Member, International Geospatial Society, USA
3. Alumni: International Institute of Geo-information science and earth observation (ITC Netherlands)

#### **WORKSHOPS ORGANIZED:**

1. GIAN Sponsored course on “Advanced Hyperspectral Remote Sensing Techniques for Mineral Exploration” from 01-07-2016 to 08-07-2016 in NIT Raipur (Grant amount allocated - \$8000 from MHRD)
2. Short term Training Programme on “ Microwave Remote Sensing and its Application” from 24-01-2017 to 27-01-2017 in NIT Raipur (Grant amount allocated rs. 1,80,000 from TEQIP -II)

#### **COURSE COORDINATOR:**

1. 17<sup>th</sup> Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Geoweb Services and Geoportal Applications” from 28 June 2016 – 15 July 2016 in the Department of Applied Geology, NIT Raipur
2. 18<sup>th</sup> Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Basics of Remote Sensing, Geographical Information System & Global Navigation Satellite System” from August 22 – November 22, 2016 in the Department of Applied Geology, NIT Raipur
3. 20<sup>th</sup> Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “Microwave Radar Remote Sensing and its Applications” from 10. 04.2017 to 28.04.2017 in the Department of Applied Geology, NIT Raipur

4. 20<sup>th</sup> Indian Institute of Remote Sensing (Indian Space Research Organization) Outreach Programme on “UAV Remote Sensing and Its Applications” from 10. 03.07.2017 - 07.07.2017 in the Department of Applied Geology, NIT Raipur

**INVITED LECTURES DELIVERED IN OTHER INSTITUTIONS:**

1. Familiarization with Digital Image Processing Software, 08-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
2. Image Rectification and Registration, 09-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
3. Image Enhancement Techniques, 13-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
4. Classification Techniques, 13-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
5. Global Position System, 15-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
6. Visual Interpretation and Ground Truth Collection, 16-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
7. Spatial Data Handling, 19-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
8. Non- spatial Data Handling, 21-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
9. Spatial Data Analysis, 22-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
10. Analysis of Results, 23-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
11. Overlay Analysis, 26-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
12. Neighborhood and Connectivity Operations, 27-05-2008, Indian Institute of Remote Sensing (Indian Space Research Organization), Dehradun, India
13. Hyperspectral Remote Sensing and its application in Mineral Exploration, Indian Institute of Remote Sensing, Indian Space Research organization

### **INTERNATIONAL CONFERENCES/SEMINARS:**

1. Geospatial World Forum 2011, Dimensions and Directions of Geospatial Industry, 18 – 21<sup>st</sup> January 2011, Hyderabad, India
2. Map India 2010: 13th Annual International Conference and Exhibition on Geospatial Information Technology and Applications, 19-21<sup>st</sup> January, 2010, Gurgaon, India
3. Indian Geospatial Forum: 14th Annual International Conference and Exhibition on Geospatial Information Technology and Applications – 7-9<sup>th</sup> February 2012, Epicentre Gurgaon, India
4. International Conference on Population, Dynamics and Sustainable Development – 25 – 27<sup>th</sup> March 2012, AMU Aligarh
5. 2012 HypsIRI Science Workshop, 16 - 18 October 2012, JPL, National Aeronautics and Space Administration (NASA), Washington, DC
6. Young Researchers' South Asian Symposium on Sustainable Development – Teri University – 5 – 7<sup>th</sup> February 2015
7. 10th SPIE Asia Pacific Remote Sensing, April 4-7, New Delhi, India

### **NATIONAL CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:**

1. Second Annual Esri Asia-Pacific User Conference, 18 – 19<sup>th</sup> January 2007
2. Application of Remote Sensing and GIS in the Management of Natural Resources, Sustainability and Uses – Garhwal University – September 2008
3. 10th Esri India User Conference, 28-29<sup>th</sup> April 2009, Noida, India
4. ERDAS User Conference, 18<sup>th</sup> January 2010, Gurgaon, India
5. Application of GIS for Resource Mapping and Planning – 27- 28<sup>th</sup> November, 2010, Bareilly, India
6. Importance of Geology in Hydropower and Infrastructure and Development – 26<sup>th</sup> February 2011, D.S College Aligarh, India

7. National Conference on Population, Resource and Environment – 1-2<sup>nd</sup> March 2011, AMU Aligarh, India
8. Geosummit 2011, Annual Convention on Geo-spatial Technologies and Applications 27 – 29<sup>th</sup> July 2011, Sathayabama University, Chennai, India
9. National Seminar of Emerging Issues and Challenges in Petrology and Environment Geology, 05-07 March, 2013, Aligarh, India
10. National Workshop on Funding Opportunities for Research projects, 11<sup>th</sup> October, 2014, Jaipur Institute of Technology, Jaipur, India

**PAPER PRESENTED:**

1. Paper title “*Identification and delineation of potential hydrothermal mineralization zones around Jaipur using hyperspectral remote sensing data*” National Conference on Population, resource and Environment – AMU Aligarh – 01-02 March, 2011
2. Paper title “*Mapping Hydrothermal Alteration and Gossanized outcrops using Hyperspectral data in Eastern Kumaon Himalaya*” Geosummit 2011 - Sathayabama University – 27-29 Jun, 2011
3. Paper title “*Comparative evaluation of fuzzy based object-oriented image classification method with parametric and non-parametric classifiers*”, 14th Annual International Conference and Exhibition on Geospatial Information Technology and Applications, Epicentre Gurgaon, 07-09 Feb 2012
4. Paper title “**Identification of a major faulted zone north of Jaipur City, India through EO-1 Hyperion data using hydrothermal alteration minerals**” 2012 HyspIRI Science Workshop, 16 - 18 October 2012, JPL, National Aeronautics and Space Administration (NASA), Washington, DC
5. Paper title “**Identification of Hydrothermal Mineral Assemblages in Eastern Kumaon Himalaya using High Resolution Short-wave Infrared Spectrometry**”, National Seminar of Emerging Issues and Challenges in Petrology and Environment Geology, 05-07 March, 2013, Aligarh Muslim University, Aligarh, India
6. Paper Title “**Prospecting for hydrothermal mineral deposits in the Himalaya using short-wave infrared spectroscopy for sustainable development of mineral resources**” Young

Researchers' South Asian Symposium on Sustainable Development, 5 – 7th February 2015, TERI University

7. **H. Govil** (2016) *Identification and Mapping of Hydrothermally Altered Minerals in Parts of Delhi Fold Belt, Jaipur, India, through EO-1Hyperion data*, 10th SPIE Asia Pacific Remote Sensing, 4-7 April 2016, New Delhi, India
8. Ram Kumar Singh, **Himanshu Govil**, Shweta,(2016) “*Comparison of Signal to Noise Ratio and its Features Variation*”, 10th SPIE Asia Pacific Remote Sensing, April 4-7, New Delhi, India

#### **PROFESSIONAL TRAINING/COURSE:**

1. ER Mapper Training - Aligarh Muslim University – 12-16 June 2007
2. “Hyperspectral Remote Sensing and Spectral Signature Applications” – Annamalai University –16-25 December 2009
3. “Hyperspectra – 2011” Indian Institute of Technology, Bombay –11-18 November 2011
4. “Research Methodology and Recent Advances in Research in Geology” - Aligarh Muslim University – 12-14 December 2011
5. Erdas Imagine, Department of Geology, Aligarh Muslim University, Aligarh, 20-21 December 2011
6. Introduction of ARCGIS Desktop, Aligarh Muslim University, Aligarh, 07-09 May 2012
7. Introduction of ENVI 4.8, Aligarh Muslim University, Aligarh, 10-11 May 2012
8. “Geoweb services – Technology and Applications”, Indian Institute of Remote Sensing (Indian Space Research Organization) from 11-02-2013 to 15-03-2013
9. “Microwave (SAR) Remote Sensing for Natural Resources”, Indian Institute of Remote Sensing (Indian Space Research Organization) from 03-02-2014 to 29-03-2014
10. Hyperspectral Remote Sensing With AVIRIS-NG data over India, Space Application centre (Indian Space Research Organization) from 04-01-2017 to 06-01-2017

#### **ACHIEVEMENTS:**

1. Second Prize for Poster presented at Asia Pacific ESRI regional meet, held in New Delhi, 2007



2. Best Second poster award on GIS day Indian Institute of Remote Sensing, Dehradun, 2008
3. Second best poster presentation at 10th National ESRI user meet held at Delhi in 2008 and 2009
4. First best poster presentation at 11th National ESRI user meet held at Delhi in 2010
5. A new mineral deposit of Silver, Copper and Zinc was discovered during Ph.D work.

**REVIEWER:**

1. Journal of the Indian Society of Remote Sensing, India (Springer)
2. Current Science, India
3. International Journal of Remote sensing
4. ISPRS journal of Photogrammetry and Remote sensing (Elsevier)
5. International Journal of Remote Sensing, GIS and geography

**REVIEWED PAPER PUBLISHED:** Two

**PH.D. COMPLETED/ONGOING:**

1. Mahesh Tripathi (ongoing)
2. Monika (ongoing)
3. Subhanil Guha (ongoing)
4. Armugha Khan (Co-supervisor)

**PROJECT SANTIONED:**

1. AVIRIS-NG project Funded by: Space application centre, Indian Space Research Organization
2. NISAR Project Funded by: Space application centre, Indian Space Research Organization
3. Seed grant, Funded by: National Institute of Technology, Raipur