

Curriculum Vitae (CV)

Full name: Reza Jafari

Position: Assistant professor

Speciality: Remote Sensing

Discipline: Range and Watershed Management

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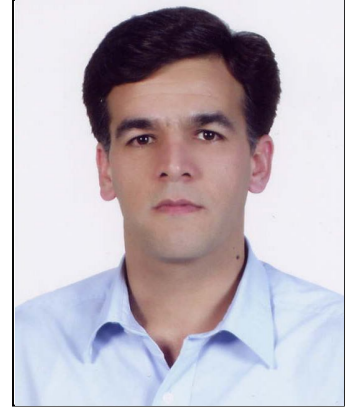
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Dr. Reza Jafari

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Qualifications

Diploma: Natural Sciences Diploma, 1995, Tehran, Iran

B.Sc: Rangeland and Watershed Management, 1999, Tehran University, Tehran, Iran

M.Sc: Combating Desertification, Tehran University, 2001, Tehran, Iran

Ph.D: Remote Sensing, "Arid Land Condition Assessment and Monitoring Using Multispectral and Hyperspectral Imagery", the University of Adelaide, 2004-2007, Adelaide, Australia

Awards

- First rank in M.Sc Entrance Examination, 1999
- First rank in M.Sc Course Examination, 1999-2001

- First rank in Ph.D Entrance Examination, 2001
- Ph.D postgraduate excellent award 2006, South Australia, Australia

Research Interests

- Application of remote sensing and spatial data to environmental, agricultural and urban management
- Hyperspectral remote sensing
- Imaging Spectrometry
- Land use/cover mapping and monitoring using remote Sensing and Geographic Information Systems (GIS)
- Mapping, assessment and monitoring land degradation
- Geomorphology

Publications

- Jafari, R., Bakhshandehmehr, L., 2013. Quantitative mapping and assessment of environmentally sensitive areas to desertification in central Iran. *Land degradation and development*, DOI: 10.1002/ldr.2227.
- Jafari, R., Lewis, M.M., 2012. Arid land characterization with EO-1 Hyperion hyperspectral data. *International Journal of Applied Earth Observation and Geoinformation* 19(1), 298-307.
- Jafari, R., Lewis, M.M. and Ostendorf, B., 2008. An image-based diversity index for assessing land degradation in an arid environment in South Australia. *Journal of Arid Environments* 72(7), 1282-1293.
- Jafari, R., Lewis, M.M. and Ostendorf, B., 2007. Evaluation of vegetation indices for assessing vegetation cover in southern arid lands in South Australia. *The Rangeland Journal* 29(1), 39-49.

- Jebali, J., Jafari, R, Khajeddin, S.J., Pakzad, H. R., “Detection of aeolian sand sediments using a new satellite ratioing index” Iranian Journal of Soil and Water Research (inpress).
- Jebali, J., Jafari, R, Khajeddin, S.J., “Performance comparison of aerial photographs and IRS-P6 and ETM+ panchromatic bands in determining sand dune morphology” Desert Ecosystems Engineering Journal, (inpress).
- Mehrabi, SH., Jafari, R., Soltani, S., “Investigating the performance of NDDI index for dust mapping of arid lands” Desert Ecosystems Engineering Journal, (inpress).
- Hadian, F., Jafari, R., Bashari, H., “Monitoring land use and land cover changes in Semirom region based on spatial development and population variation using satellite data”. Iranian Rangeland and Biaban Journal (inpress).
- Farazmand M., Jafari R., Ramezani N., "Comparison the performance of vegetation indices and spectral mixture analysis for mapping rangeland vegetation cover", Iranian Remote Sensing and GIS Journal (inpress).
- Jebali A., Jafari R., Khajedin S., "Monitoring sand dunes changes of Gavkhouni international wetland using satellite imagery", Iranian Remote Sensing and GIS Journal (inpress).
- Mahmoodi F., Jafari R., Karimzadeh H., Ramezani N., "Soil salinity mapping using satellite TM and field data in southeastern Isfahan", Journal of Science and Technology of Agriculture and Natural Resources, Water and Soil Science (inpress).
- Mehrabi S., Soltani Kopaei S., Jafari R., "Analyzing the relationship between dust storm occurrence and climatic parameters", Journal of

- Science and Technology of Agriculture and Natural Resources, Water and Soil Science (inpress).
- Ramezani N., Jafari R., "Land use/cover change detection in 2025 with CA-Markov chain model (case study: Esfarayen)", Geographical Research(inpress)
 - Jafari, R., Bakhshandehmehr, L., 2013. Analysing the spatial variations of groundwater salinity and alkalinity in Isfahan province using geostatistics, The Journal of Science and Technology of Agriculture and Natural Resources, Water and Soil Science(inpress).
 - Hadian, F., Jafari, R., Bashari, H., Soltani, S., 2013. Assessing the accuracy of spectral indices in vegetation cover mapping at vegetation type and across vegetation type scales using TM sensor data in southern Zagros regions(inpress).
 - Hadian, F., Bashari, H., Jafari, R., Adnani, M., 2014, "Monitoring land use and cover changes in Qom province over 33 years using maximum likelihood and fuzzy methods" Iranian Journal of Forest and Range Protection Research, 11(1), 46-59.
 - Jafari, R., Ramezani, N., 2013. Application of spectral diversity index for rangeland degradation assessment in North Khorasan province. Iranian Rangeland Journal 6(4), 304-311.
 - Khanamani, A., and Karimzadeh, H. R., Jafari, R., 2013. Evaluation of Desertification Intensity Using Soil Indices, The Journal of Science and Technology of Agriculture and Natural Resources, Water and Soil Science 17(63), 49-59.
 - Andalibi, L., Jafari, R., Bashari, H., 2012. Analysing the functionality of rangeland landscapes using TM sensor data (Case study: Soh region, Isfahan, Iran). Iranian Rangeland Journal 6(2), 130-141.

- Hadian, F., Jafari, R., Bashari, H., 2012. Analysing different groups of remote sensing vegetation indices for studying rangeland vegetation types. *Iranian Rangeland Journal* 5(4), 420-429.
- Ramezani, N. and Jafari, R., 2011. Land use change detection in Esfarayen region, northern Khorasan, in past four decades. *Iranian Journal of GIS and Remote Sensing* 3(2), 19-38.
- Aliakbari, A., Jafari, R., Vahabi, M.R. and Saadatfar, A., 2011. Determining the potential habitat of *Astragalus verus* with the integration of GIS and remote sensing. *Journal of Applied GIS and Remote Sensing in Natural Resources*, No.1, 15-27.
- Khanamani, A., Jafari, R., and Karimzadeh, H. R. 2011. Desertification Assessment using plant cover and land management criteria with GIS. *Journal of Applied GIS and Remote Sensing in Natural Resources*, No.1, 41-52.
- Khanamani, A., Jafari, R., 2011. Evaluation of soil status using RS and GIS technology (Case study: Segzi plain). *Journal of Applied GIS and Remote Sensing in Natural Resources*, 2 (3), 25-37.
- Hadian, F., Bashari, H., Jafari, R., 2012. Effects of sampling sizes on the correlation between vegetation cover and NDVI data in different rangeland conditions using TM and AWIFS images. *Journal of Applied GIS and Remote Sensing in Natural Resources*, 85-99.
- Hadian, F., Bashari, H., Jafari, R., 2013. Comparison of Landsat5 (TM sensor) and IRS-P6 (AWiFS sensor) satellite images for analyzing rangeland vegetation types (Case study: Semirom, Isfahan). *Iranian Rangeland and Biaban Journal* (inpress).
- Hadian, F., Jafari, R., Bashari, H., Soltani, S., 2013. Monitoring the Effects of Precipitation on Vegetation Cover Changes Using Remote

- Sensing Techniques in 12 Years Period. Iranian Rangeland and Watershed management Journal (inpress).
- Ramezani, N. and Jafari, R., 2012. Analyzing the vegetation condition of the Sarigol protected area over four decades and predicting its changes in 2025. Iranian Pajouhesh and Sazandeghi Journal (inpress).
 - Tashakor, S., Hemami, M.R., Riazi, B. and Jafari, R. 2010. The influence of green space parameters on bird species richness of city parks: case study of Isfahan city. Journal of Environmental Sciences and technology.
 - Jafari, R., Malekian, M. 2011. A review of remote sensing technology in support of the Kyoto Protocol. Journal of Development and Climate Change, No.2, 28-37.
 - Jafari, R. 2011. The nature and importance of dust storms. Journal of Jangal and Marah, No. 89, 15-20.
 - Malekian, M. and Jafari, R. 2011. Positive effects of dust on ecosystems. Journal of Moje Sabs, No.36 , 3-7.
 - Salabat, S., Ebrahimi, A., Jafari, R., 2013. Assessing vegetation cover changes in TangeSayad protected area. The 1st International Conference on Environment Crisis and its Solutions, 13-14 Feb. 2013. Scientific Reasearch Branch, Khozestan, Islamis Azad University, Kish Island, Iran.
 - Hadian, Jafari, R., Bashari, H. and Soltani, S. 2013. Monitoring Land use/cover changes of Choghakhoor wetland protected area using Landsat satellite images. The 19th National Conference on Geomatics, May 2013, National Cartographic Center, Tehran, Iran.
 - Frazmand, M. and Jafari, R., 2012. The performance comparison of different vegetation indices using TM satellite data, Proceedings of 3rd International Conference on Climate Change and dendrochronology in

- Caspian Ecosystems,16-18 May 2012, North of Iran, Sari, Mazandaran University.
- Hadian, F., Bashari, H., Jafari, R., Soltani, S., 2012. Analysing the Effects of precipitation time on vegetation cover changes using satellite image (Case study: southern part of Isfahan). Proceedings of 3rd International Conference on Climate Change and dendrochronology in Caspian Ecosystems,16-18 May 2012, North of Iran, Sari, Mazandaran University.
 - Ramezani, N. and Jafari, R. 2012. Analysing the effects of climate variations and land use changes on hydrological regime of Kalshour watershed, North Khorasan, over four decades. Proceedings of 3rd International Conference on Climate Change and dendrochronology in Caspian Ecosystems,16-18 May 2012, North of Iran, Sari, Mazandaran University.
 - Ramezani, N. and Jafari, R. 2012. Application of remote sensing and GIS for developing tourism and ecotourism industry. The National Conference of Strategies for promoting National Production and supporting Iranian Labor and Capital. November 2012, Northen Khorasan, Iran.
 - Jafari, R. 2012. Dust crisis (techniques, consequences, solutions). The 5th National Conference on Range and Range management, May 15-17 2012, Lorestan, Broujerd, Azad University.
 - Andalibi, L., Jafari, R. and Bashari, H. 2012. Mapping and monitoring the semi-stepe vegetation cover of Iran's rangelands using satellite imagery. 19th National Conference on Geomatics, May 2012, National Cartographic Center, Tehran, Iran.
 - Ramezani, N. and Jafari, R. 2012. Water harvesting techniques in arid and semi-arid lands. 9th International Congress on Civil Engineering, May 8-10, Isfahan University of Technilogy, Isfahan, Iran.

- Ramezani, N. and Jafari, R. 2011. Fish farms new chances for desert regions. The 1st National Conference on Desert (Sciences, Technologies and Sustainable Development), 17 June, 2012, College of Natural Resources, Karaj, Iran.
- Andalibi, L., Jafari, R. and Bashari, H. 2011. Analysing rangeland landscape function using remote sensing and field methods. The 7th National Conference on Watershed Management, Apr. 26-27 2011, Isfahan, Isfahan University of Technology, Department of Natural Recourses.
- Jafari, R. and Shamshiri, S. 2011. Analysing human and environmental effects of dust crisis. The 7th National Conference on Watershed Management, Apr. 26-27 2011, Isfahan, Isfahan University of Technology, Department of Natural Recourses.
- Ramezani, N. and Jafari, R. 2011. The effects of land use changes on dust storms and climate changes. The 2th National Conference on Wind Erosion and Dust Storms. Jan. 2011, Yazd, Yazd University.
- Ramezani, N. and Jafari, R. 2011. Land use change detection in last four decades using remote sensing. National Conference on Geomatics, May 2011, National Cartographic Center, Tehran, Iran.
- Jabbari, S., Khajeddin, S. J., Soltani, S. and Jafari, R. 2011. Determining rangeland vegetation cover using GIS and remote sensing. National Conference on Geomatics, May 2011, National Cartographic Center, Tehran, Iran.
- Moshtagh, N., Jafari, R. and Soltani, S. 2011. Analysing changes in land use and land surface temperature using remote sensing data. The 7th National Conference on Watershed Management, Apr. 26-27 2011,

Isfahan, Isfahan University of Technology, Department of Natural Recourses.

- Ramezani, N. and Jafari, R. 2011. Land cover change detection caused by Esfarayen dam in North Khorasan province using remote sensing. The 7th National Conference on Watershed Management, Apr. 26-27 2011, Isfahan, Isfahan University of Technology, Department of Natural Recourses.
- Khanamani, A., Jafari, R., and Karimzadeh, H. R. 2011. Use of GIS and MPSIAC model to estimate water erosion in eastern Isfahan. The 7th National Conference on Watershed Management, Apr. 26-27 2011, Isfahan, Isfahan University of Technology, Department of Natural Recourses.
- Shamshiri, S. and Jafari, R. 2012. Determination of Kemanshah province's dust sources using satellite image time series. The 1th International Conference on Dust Haze and Combating It's Adverse Effects, 17-18 Feb. 2012. Khozestan.
- Mehrabi, S. and Jafari, R. 2012. A review of dust mapping techniques based on remote sensing imagery. The 1th International Conference on Dust Haze and Combating It's Adverse Effects, 17-18 Feb. 2012. Khozestan.
- Hadian, Jafari, R., Bashari, H. and Soltani, S. 2012. Vegetation cover change detection with use of satellite images and SPI index. The 1th International Conference on Dust Haze and Combating It's Adverse Effects, 17-18 Feb. 2012. Khozestan.
- Jafari, R., 2010. The role of remote sensing in climate change studies. Proceedings of 1st Internatioanl Conference on Climate Change and

- dendrochronology in Caspian Ecosystems,12-14 May 2010, North of Iran, Sari, Mazandaran University.
- Jafari, R., 2010. Impact of climate change on Gavkhouni playa. Proceedings of 1st Internatioanl Conference on Climate Change and dendrochronology in Caspian Ecosystems,12-14 May 2010, North of Iran, Sari, Mazandaran University.
 - Jafari, R., 2010. Impacts of climate change and global warming on coral reefs: modeling the effects of temperature. Proceedings of 1st Internatioanl Conference on Climate Change and dendrochronology in Caspian Ecosystems,12-14 May 2010, North of Iran, Sari, Mazandaran University.
 - Jafari, R., 2010. River mapping at meter and watershed scale using reflectance data. The 6th National Conference on Watershed Management, Apr. 28-29 2010, Gorgan, Gorgan University of Natural Recourses and Agricultural Sciences, Paper code: 103
 - Jafari, R., 2010. Analysing the potential of hyperspectral data for identifying arid vegetation. National Conference on Geomatics, May 2010, National Cartographic Center, Tehran, Iran.
 - Khanamani, A., Karimzadeh, H. R, and Jafari, R., 2010. Determination of susceptible area to wind erosion using GIS. First International Conference of soil and roots engineering relationship (LANDCON1005), May. 24-26 2010, Ardabil Province, Iran.
 - Khanamani, A., Jafari, R. , and Karimzadeh, H. R, 2010. Soil and wind erosion. First International Conference of soil and roots engineering relationship (LANDCON1005), May. 24-26 2010, Ardabil Province, Iran.
 - Jafari, R. and Ramezani, N., 2010. Identification and detection of dust storm pollution using remote sensing data.. The 4th National Conference

- on world environmental day, 8-10 June, 2010, University of Tehran, Tehran, Iran
- Jafari, R., 2009. Use of remote sensing for drought assessment and monitoring. The First International Conference on Water Crisis, Mar. 10-12 2009, Zabol, Zabol University, pp. 1-5
 - Jafari, R., 2009. Role of satellite remote sensing in water erosion assessment. The 5th National Conference on Watershed Management, Apr. 22-23 2009, Gorgan, Gorgan University of Natural Resources and Agricultural Sciences, Paper code: 128
 - Jafari, R., 2009. Application of Remote Sensing in Biodiversity and Conservation, Apr. 26 2009, The 1st Conference of INERT Members, Tehran, Department of The Environment, pp. 169-174.
 - Jafari, R., 2008. Potential analysis of satellite data for estimating evapotranspiration in agricultural lands. The 3rd Iran Water Resources Management Conference, Oct15-17 2008, Northwest of Iran, Tabriz, Tabriz University, Paper code:10322.
 - Jafari, R., 2008. Analysis of arid land degradation using satellite remote sensing data, Proceedings of 2nd Regional conference in Agriculture and Natural Resources, Mar. 3-4 2008, West of Iran, Kurdistan University, pp. 312.
 - Jafari, R., 2008. Use of remote sensing for differentiating climate and human impacts on vegetation cover, Proceedings of 1st International Conference on Climate Change and dendrochronology in Caspian Ecosystems,14-15 May 2008, North of Iran, Sari, Mazandaran University, pp. 1-6.
 - Jafari, R., Lewis, M.M. and Ostendorf, B., 2006. Analysis of vegetation indices for assessing and monitoring vegetation cover in an arid

- environment in South Australia, Proceedings of 14th Biennial Australian Rangeland Society Conference. Australian Rangeland Society, Renmark, South Australia, pp. 229-232.
- Jafari, R., 2008. Analyzing the potential of remote sensing data for determining evapotranspiration in agricultural lands *Proceedings of the 3rd Iran water resource management Conference*, 14-16 October 2008, Northwest Iran, Tabriz, Tabriz University.
 - Jafari, R., Lewis, M.M. and Ostendorf, B., 2006. An image-based diversity index for assessing land degradation in an arid environment in South Australia, Proceedings of the 13th Australasian Remote Sensing and Photogrammetry Conference. The Remote Sensing and Photogrammetry Association of Australia Ltd, November 24-28, Canberra, Australia, Paper code: 310.
 - Jafari, R., 2007. Arid Land Condition Assessment and Monitoring Using Multispectral and Hyperspectral Imagery, Ph.D thesis, the University of Adelaide, Adelaide, Australia.
 - Jafari, R., Lewis, M.M. and Ostendorf, B., 2006. Use of EO-1 Hyperion Hyperspectral imagery for discriminating arid vegetation, Proceedings of the 13th Australasian Remote Sensing and Photogrammetry Conference. The Remote Sensing and Photogrammetry Association of Australia Ltd, November 24-28, Canberra, Australia, Paper code: 290.
 - Jafari, R., 2001. Assessment and Mapping of desertification based on F.A.O-UNEP and ICD techniques in Kashan, Iran (Wind Erosion - Water Resources Degradation), M.Sc thesis, Tehran University, Tehran, Iran.
 - Jafari, R., Zehtabian, GH. R., Ahmadi, H., Ekhtessasi, M. R., 2002. Determination of wind erosion intensity using desertification model in Kashan area, Iranian Journal of Natural Resources 55 (2), 145-156.

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- Jafari, R., Zehtabian, GH. R., 2002. Assessment and Mapping of desertification based on F.A.O-UNEP and ICD techniques in Kashan, Iran (Wind Erosion - Water Resources Degradation), Presented as a Poster in Desert Research Foundation of Namibia , International Conference on Combating Desertification , 8-10 April, Cape Town.
- Jafari, R., 1999. Assessment of rangeland yield in Taleghan region of Tehran Province, B.Sc. project, Faculty of Natural Resource, Tehran University, Tehran, Iran.

Books

- Hyperspectral remote sensing (principles and applications), 2008, Marcus Borengasser, William S. Hungate, Russell Watkins, CRC Press, Taylor & Francis (Translated to Farsi)
- Field Methods in Remote Sensing, 2005, Roger M. McCory, Guildford (Translated to Farsi)

Supervisor of M.Sc thesis in 2008

- Mr Mohsen Aliakbari

Thesis title: Determining the potential habitat of two rangeland species (*Agropyron trichophorum* and *Astragalus* versus) with the integration of GIS and remote sensing in southern Karchambouy area, Fereidan– Esfahan

- MS Atefeh Jebali

Thesis title: Monitoring of sand dunes in western Gavkhouni wetland using Landsat imagery

Supervisor of M.Sc thesis in 2009

- MS Nafiseh Ramezani

Thesis title: Mapping and monitoring land use changes in Kale Shore basin, North Khorasan, using satellite imagery

- MS Fatemeh Hadian

Thesis title: Analysis of vegetation change trend at the north of Semirom during last two decades using satellite imagery

- Mr Ali Khanamani

Thesis title: Assessment of desertification in East of Isfahan

- Mr Farid Mahmoudi

Thesis title: Analysing the potential of remote sensing data for soil salinity & Alkalinity mapping in southeastern Isfahan

Supervisor of M.Sc thesis in 2010

- MS Mahdieh Frazmand

Thesis title: Comparison of pixel & subpixel methods for mapping arid land vegetation

- MS Nahid Moshtaq

Thesis title: Analysing the potential of satellite data for Evapotranspiration estimation

- MS Lida Andalibi

Thesis title: Landscape functional analysis using remote sensing data

Supervisor of M.Sc thesis in 2011

- MS Mahboubeh Fathi

Thesis title: Desertification mapping using MICD, FAO-UNEP and MEDALUS models In Isfahan province

- MS Parisa MANzari

Thesis title: Effects and consequences of dust storms in Iran

- Mr Shahbaz Mehrabi

Thesis title: Dust mapping using MODIS satellite data (case study: Khozestan province)

- Mr Sirius Shamshiri

Thesis title: Dust mapping using MODIS satellite data (case study: Kermanshah province)

Supervisor of M.Sc thesis in 2012

- MS Neda Abbasi

Thesis title: Rangeland and forest fire risk mapping using remote sensing and KBDI techniques (case study, Isfahan province, Iran)

- MS Samaneh Alidadi

Thesis title: Dust prediction, trajectory and mapping using WRF and HYSPLIT models and satellite images

- Mr Heshmat Fattahi

Thesis title: Impact of Gavkhoni international wetland drying on desertification process

- Ms Habibi

Thesis title: Water erosion mapping using LUIM and Bayesian techniques

- Ms Jafari

Thesis title: Landscape function analysis using landscape indices and Landsat satellite data

- Ms Salabat

Thesis title: Vegetation mapping and monitoring using Landsat images (case study: Tang-e-sayyad protected area)

- Mr Kazem Tabaki

Thesis title: Identifying geothermal sources using TM thermal infrared data in arid regions (Case study: Ferdows region, South Khorasan province)

Supervisor of M.Sc thesis in 2013

- Ms Zormand

Thesis title: *Drought Monitoring Using Remote Sensing and climate Indices*

In Rzavi Khorasan Province

- Mr Boali

Thesis title: Desertification Mapping and Assessment Using MEDALUS Model and Bayesian Belief Networks

- Mr Hamdamju

Thesis title: Analysing the spatial variability of physico-chemical properties of dust aerosols in Kerman province, Iran

- Ms Hasheminasab

Thesis title: Desertification monitoring using remotely-sensed reflectance and thermal data

- Mr Noorian

Thesis title: Detection of drought effects on land cover changes using **meteorological and** remote sensing data in the west of Isfahan province

- Mr Asoudeh

Thesis title: Economic impact assessment of land use/land cover changes through remote sensing and survey methods in southern Esfahan