Curriculum Vitae

Farah Hasseb Jasim

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PERSONAL SUMMARY:

- I am a member of the teaching staff at Al-Mustansiriya University College of Science, Department of Atmospheric Sciences since 2006 till now.
- Working as an assistant lecturer in labs of remote sensing , cloud physics , synoptic Meteorology , agro and hydro Meteorology , weather forecasting and Atmospheric radiation .
- Computer experience : computer language (FORTRAN , MATLAB) , Microsoft office , many scientific package , Internets .

EDUCATION:

- Ph.D. .[2024] from Al-Mustansiriya University College of science, department of Atmospheric Sciences
- M.Sc. #2: [2012] from Al-Mustansiriya University College of science, department of Atmospheric Sciences ((Thesis: the climate patterns in Iraq using satellites data)).
- B.Sc. #3: [2004] from Al-Mustansiriya University College of science, department of Atmospheric Sciences.

ACADEMIC HONORS AND AWARDS:

- 2015 : Letter of thanks to organize and keep track of all the files of lectures for Continuing Education at the Department of air Sciences in 2014 – 2015.
- 2016 : Letter of thanks to the efforts as members of the Subcommittee scholarship students in the Department of air Sciences in 2014 – 2015.
- 2014 : Letter of thanks from the presidency of the university .
- 2016 , 2015 , 2014 : Letter of thanks from the presidency of the university and Rector .
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ACADEMIC /TEACHING EXPERIENCE:

- 2016 : Lab Assistant (Counting laboratory and remote sensing) , department of Atmospheric Science, college of Science, Al-Mustansiriya University .
- 2014 - 2015 : Lab Assistant (Atmospheric prediction and Counting laboratory) , department of Atmospheric Science, college of Science, Al-Mustansiriya University .
- 2013 : Lab Assistant (Atmospheric prediction) , department of Atmospheric Science, college of Science, Al-Mustansiriya University .
- 2010 - 2012: Assistant lecture, department of Atmospheric Science, college of Science, Al-Mustansiriya University.
- 2006 - 2010: Lab Assistant, department of Atmospheric Science, college of Science, Al-Mustansiriya University.

COURSES TAUGHT:

Undergraduate	Graduate
• Image processing. • Synoptic meteorology. • Programming languages. • Operating systems. • Numerical analysis.	

PROFESSIONAL AFFILIATIONS:

- 2013: Committee for absences.
- 2014: Committee for absences and the Committee on Continuing Education.
- 2015 Examination Committee and the Committee on Continuing Education.
- 2016 of the Committee on Continuing Education.

PUPLICATIONS:

- 2014 : Monthly averages direct solar radiation over some weather stations in the Iraq analysis for the period (1900 - 2009)**.**

• PROFFESSIONAL DEVELOPMENT

- **Certifications:**
- IC3 (Internet and Computing core certification) .
- Teaching methods .

السيرة الذاتية

فرح حسيب جاسم

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ملخص شخصي:

• أنا عضو هيئة التدريس في جامعة المستنصرية العلوم، قسم علوم الغلاف الجوي منذ عام ٢٠٠٦ حتى الآن.

• العمل على أنه مدرس مساعد في مختبرات الاستشعار عن بعد، والفيزياء سحابة، علم الأرصاد الجوية الشامل، الزراعية والمائية الأرصاد والتنبؤات الجوية والإشعاع الجوي.

• تجربة الكمبيوتر: لغة الكمبيوتر (FORTRAN، MATLAB)، مايكروسوفت أوفيس، وكثير من حزمة العلمية، انترنيت.

التعليم:

• بكالوريوس : [٢٠٠٤] من كلية جامعة المستنصرية العلوم، قسم علوم الغلاف الجوي.

• ماجستير: [٢٠١٢] من كلية جامعة المستنصرية العلوم، قسم علوم الغلاف الجوي ((الرسالة: أنماط المناخ في العراق باستخدام بيانات الأقمار)).

يكرم الأكاديمية والجوائز:

• عام ٢٠١٥: رسالة شكر لتنظيم وتتبع كل الملفات من المحاضرات التعليم المستمر في قسم العلوم الجوية في ٢٠١٤-٢٠١٥.

• ٢٠١٦: رسالة شكر لجهود كأعضاء في اللجنة الفرعية طلاب المنح الدراسية في قسم العلوم الجوية في ٢٠١٤-٢٠١٥.

• ٢٠١٤: خطاب شكر من رئاسة الجامعة.

• عام ٢٠١٦، ٢٠١٥، ٢٠١٤: خطاب شكر من رئاسة الجامعة ورئيس الجامعة.

الأكاديمية / الخبرات التدريسية:

• ٢٠١٦: مساعد مختبر (مختبر والاستشعار عن بعد)، قسم العلوم الغلاف الجوي، كلية العلوم، جامعة المستنصرية.

• ٢٠١٤ - ٢٠١٥: مساعد مختبر (التنبؤ الجوي والفرز مختبر)، قسم العلوم الغلاف الجوي، كلية العلوم، جامعة المستنصرية.

- ٢٠١٣: مساعد مختبر (التنبؤ الجوي)، قسم العلوم الغلاف الجوي، كلية العلوم، جامعة المستنصرية.
- ٢٠١٠ - ٢٠١٢: مدرس مساعد، قسم علوم الغلاف الجوي، كلية العلوم، جامعة المستنصرية.
- ٢٠٠٦ - ٢٠١٠: مختبر مساعد، قسم علوم الغلاف الجوي، كلية العلوم، جامعة المستنصرية.

تدريس المقررات:

- معالجة الصورة.
- الأرصاد الجوية اجمالي.
- لغات البرمجة.
- أنظمة التشغيل.
- التحليل العددي.

الانتماءات المهنية:

- ٢٠١٣: لجنة الغياب.
- ٢٠١٤: لجنة الغياب ولجنة التعليم المستمر.
- عام ٢٠١٥ لجنة فحص ولجنة التعليم المستمر.
- ٢٠١٦ لجنة التعليم المستمر.

اصدارات:

- ٢٠١٤: الإشعاع الشمسي المتوسطات الشهرية مباشرة على بعض محطات الأرصاد الجوية في التحليل العراق للفترة (١٩٠٠-٢٠٠٩).
- تنمية محترفا

الشهادات:

- IC3 (الإنترنت وإصدار الشهادات الأساسية علوم الحاسب).
- طرق التدريس.

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Investigation of the 6-9 September 2015 Dust Storm over Middle East

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ABSTRACT: *Dust storms are frequent across the Middle East but usually focus on Iraq and the Arabian Gulf region where clouds of sand are whipped up from arid areas. On 6 to 9 September 2015, a massive dust storm whipped across at least seven countries in the Middle East and enveloped the east Mediterranean. The storm was unusual for this time of year. The aim of this work is to investigate the meteorological conditions that led to the formation and spreading of the storm. Satellite images, aerosols index, surface and upper air weather maps were analyzed for the period of the storm. Satellite images indicated that the huge dust storm was a result of two merged storms, one came from the Syrian Desert and the second initiated over the Sanai Peninsula. Results showed that the region was dominated by a low-pressure system. Two thermal convection lows, which developed just above the Syrian Desert and the Sanai Peninsula, are believed to be main cause of lifting up dust from ground surface. The strong ridge dominated the region indicated that there were a warm and dry weather conditions at the surface. The results also indicated that the horizontal wind patterns, both surface and 850 hPa pressure levels have spread dust all over the region. The 850 hPa pressure vertical wind was notably negative (ascending air) over the two source areas of dust, while the vertical wind was positive (descending air) above the east Mediterranean and the coastal countries. This situation of descending air made dust to travel near the earth surface.*

Keywords *–Dust Storm, MODIS, TOMS AI, Synoptic.*

I. INTRODUCTION

Dust storm is a natural event that occurs widely in arid and semi-arid regions around the world, especially in subtropical latitudes, it is characterized by strong winds, and dust filled air extending over a large area [1]. The most common events to the dust storms are in the region extending from the west coast of North Africa through the Middle East into Central Asia [2]. In Iraq, severe dust storms are summertime phenomena associated with the Shamal. Shamal is a northwesterly wind blowing over Iraq and the Arabian Gulf states (including Saudi Arabia and Kuwait), often strong during the day, but decreasing at night. This weather effect occurs anywhere from once to several times a year, mostly in summer but sometimes in winter. Much of the dust entrained by the Shamal is deposited in the Arabian Gulf region and the Arabian Sea. In some areas (e.g. Negev Desert, Jordan, western and northern Iraq and the northern part of Saudi Arabia), the peak dust season occurs in spring and winter. In these seasons, dust storms are generated by depressions moving eastward from the Mediterranean [3]. Dust storm is a major problem in Middle East that has a wide concern by research community; Abdi Vishkaee et al. [4] studied and analyzed the emission and transport of dust over Iraq and northwest Iran that associated with strong winter Shamal events. Fattahi et al. [5] studied the synoptic patterns investigated the dust storms in southwest Iran for period 1961-2013. Al-Jumaily and Ibrahim [6] analyzed the synoptic patterns that leading to formation the dust storms over Iraq. Hamidi et al. [7] analyzed of dust storms in Middle East during the period of 2003-2011. The analyzed showed that the main dust sink for frontal dust storms in Tigris and Euphrates alluvial plain is extended from center of Iraq to west, center and north of Iran and south coast of Caspian Sea. Sissakian et al. [8] discussed the types and the main causes in development of sand and dust storms in Iraq and their regional and local extensions. They found that the regional event generally extends to the surrounding regions to Iraq, and the most effect reason from the local causes is the haphazard driving and military operations especially in the Iraqi southern Desert. Sehatkashani et al. [9] evaluated the behavior of dust events by applying 3 hourly intervals dust records of 35 national synoptic meteorological stations in western and southwestern Iran for period 2000-2009. Dehghanpour et al. [10] analyzed the synoptic conditions of dust systems in Yazd Province to understand the formation and origin of dust and to help in reducing damages in this area. Mashat and Awad [11] examined the statistical and synoptic features of the various classes of autumn dust over the Northern Saudi Arabia by using the aerosols index from TOMS