



Certificate of Achievement

Matthias Giger

has completed the following course:

OBSERVING EARTH FROM SPACE
THE UNIVERSITY OF EDINBURGH

Observing Earth from Space covered satellite remote sensing & its application to understanding planet Earth and the impact of humans upon it. It covered the electromagnetic spectrum, satellite orbits, and instrumentation, and the application of satellites in measuring the effects of climate change.

4 weeks, 2 hours per week



Iain H Woodhouse
Professor of Applied Earth Observation
The University of Edinburgh



THE UNIVERSITY
of EDINBURGH



The person named on this certificate has completed the activities in the attached transcript. For more information about Certificates of Achievement and the effort required to become eligible, visit futurelearn.com/proof-of-learning/certificate-of-achievement.

This certificate represents proof of learning. It is not a formal qualification, degree, or part of a degree.



THE UNIVERSITY
of EDINBURGH

TRANSCRIPT

Matthias Giger

has completed the following course:

OBSERVING EARTH FROM SPACE **THE UNIVERSITY OF EDINBURGH**

Observing Earth from Space covered satellite remote sensing and its application to understanding planet Earth and the impact of humans upon it. It covered the electromagnetic spectrum, satellite orbits, and instrumentation. The application of satellites were also covered so as to examine their role in monitoring forests & forest change, agriculture & food security, changes in land & sea ice, and the effects of climate change. We also looked at the ethical issues surrounding these topics.

STUDY REQUIREMENT

4 weeks, 2 hours per week

LEARNING OUTCOMES

- Understand the main methods by which satellite data is collected.
- Identify the key limitations on satellite data for observing Earth.
- Explore the wider context of the ethical and policy implications of being able to observe the Earth from space.
- Evaluate the wide range of physical attributes of the Earth system that are measurable from space.
- Explore new and archived Earth observation data from satellites, using Earth Blox.

SYLLABUS

- Learn about the different sensors that are carried by satellites, how they orbit the Earth, and how they utilise subtle differences in light from the surface and the atmosphere to detect the changes on the Earth.

- Discuss the ethical implications of collecting finely detailed images from space — how does that impact on privacy? How does it disadvantage countries without their own satellites?
- Find out about the importance of oceans and atmosphere in the Earth system, and how satellites can measure them.
- See how space radar can detect and measure the size of ice breaking off from Antarctica, or the loss of forests in the tropics. See how satellite images change as crops grow on the ground.
- Learn how satellites can be used to measure the impact of humans on the planet, including pollution and climate change.
- See how earthquakes can be measured from space.