

Workshop on Unmanned Aircraft System Integration in National and High Seas Airspace

Use of drones in aerial damage assessments for emergency response

Ana Maria Pereira (pereira9@un.org)

Information management officer

UNOCHA / Humanitarian Sector Division (HSD) / Strategic Prioritization and Practices Branch (SPPB)/ Humanitarian Programme Cycle Section

Geneva, Switzerland

04 November 2025



TABLE OF CONTENT

01

UN EMERGENCY
RESPONSE
MECHANISMS

02

AERIAL
ASSESSMENTS

03

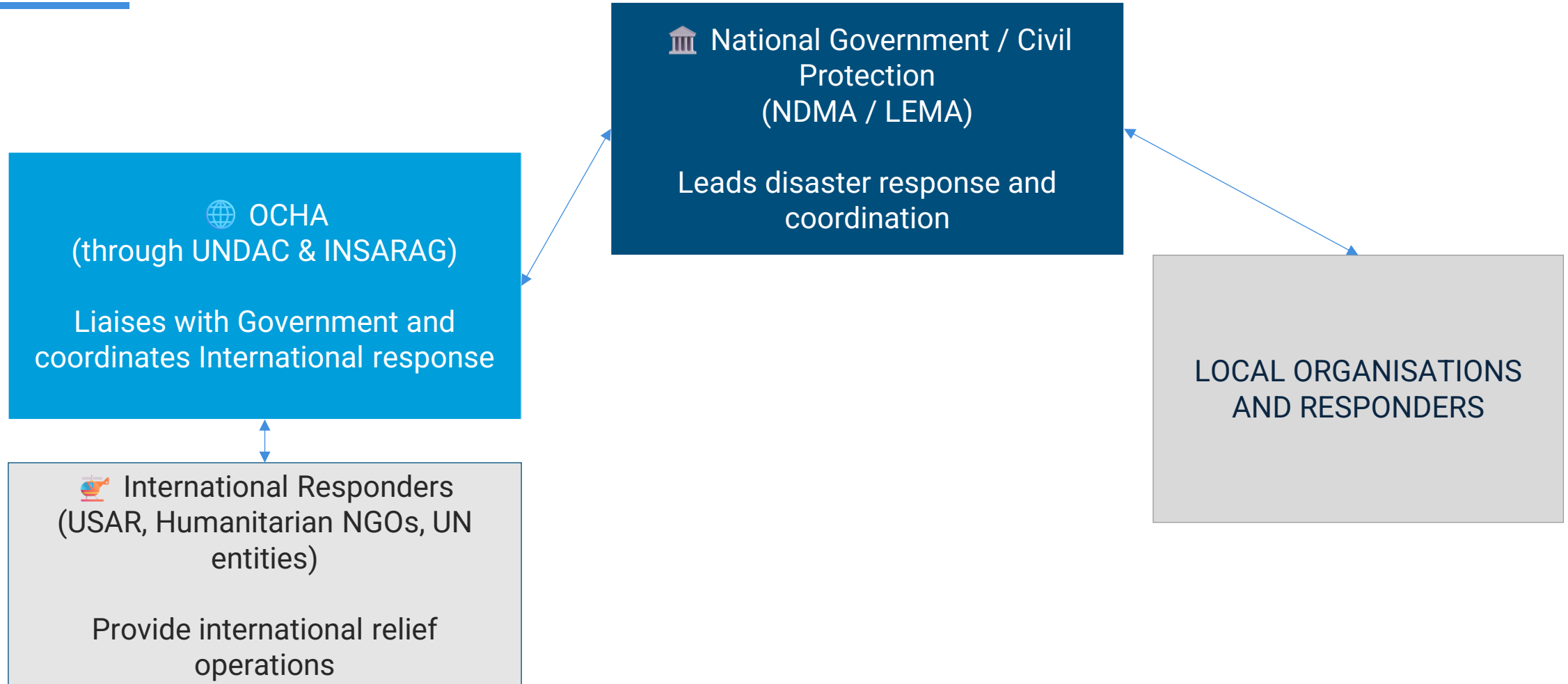
VANUATU CASE
STUDY

01

**UN EMERGENCY
RESPONSE
MECHANISMS**



The International Humanitarian Emergency System



The UNDAC Concept and Mission

UN Disaster assessment and coordination - UNDAC

- Rapid-response team of trained experts deployed within 12–48 hours to support coordination in sudden-onset disasters.
- Composed of members from 80+ countries + OCHA staff + operational partners.
- Works under the UN Resident/Humanitarian Coordinator or directly with Government.

The UNDAC Concept and Mission

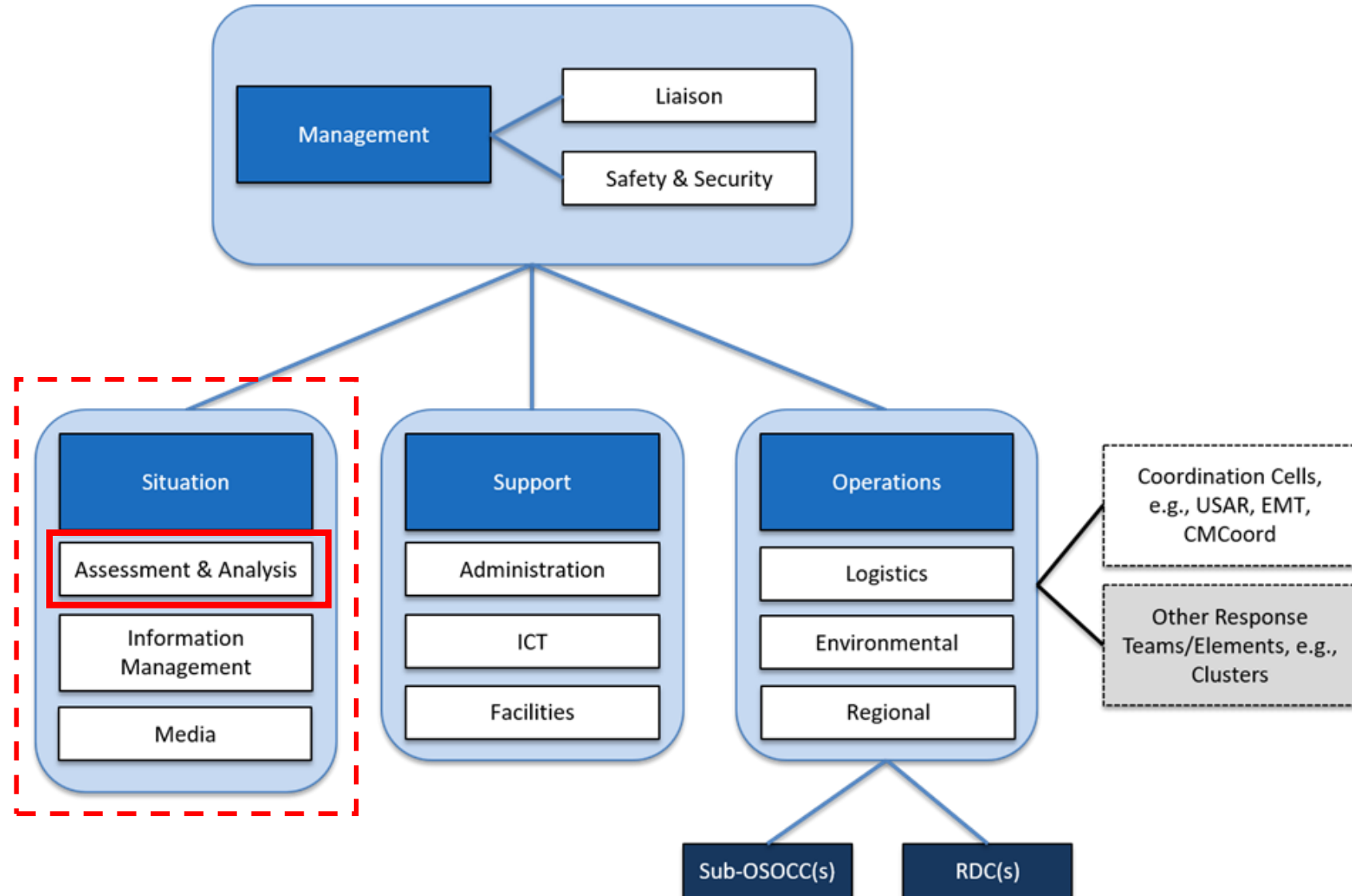
UN Disaster assessment and coordination - UNDAC

Main tasks:

- Establish coordination structures (e.g. On-Site Operations Coordination Centre - OSOCC)
- Facilitate disaster assessment & analysis, and response coordination
- Bridge between national authorities and international responders

GENERIC ORGANIGRAM EOC/OSOCC

The Situation function combines Information Management, Media and Assessment & Analysis (A&A).



The A&A Cell

Data and analysis underpin coordination.

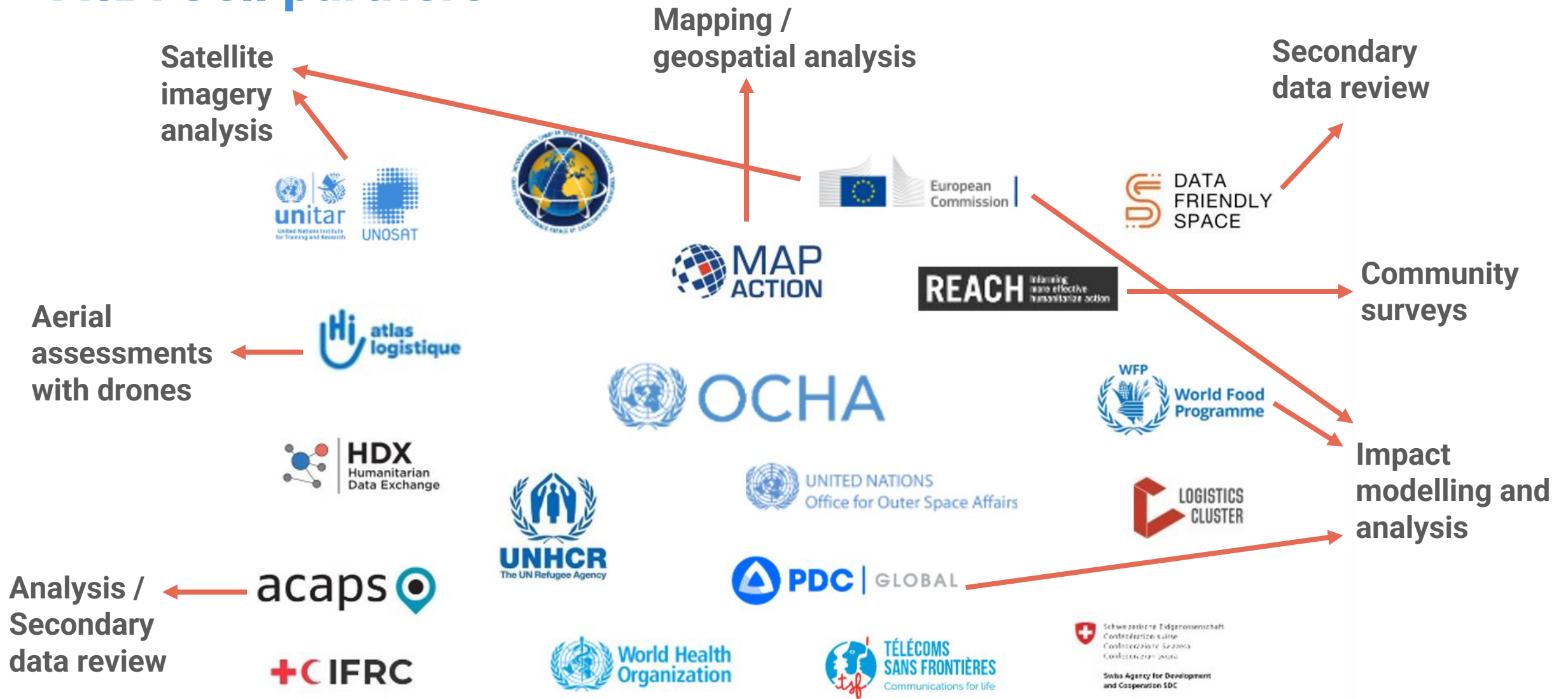
The A&A Cell supports the UNDAC Team Leader, HC/RC, and national authorities by providing evidence-based analysis that support decisions related to the humanitarian assistance.

Impact assessments

With sub-title

- The **A&A Cell** coordinates assessments, interprets data, and produces analysis to **develop a shared understanding of the humanitarian situation and needs** following a sudden-onset disaster
- It can use several several data collections methods to support impact assessments and/or needs assessments. This includes Aerial assessments with helicopters and/or drones, satellite imagery, community surveys, etc

A&A Cell partners



02


**AERIAL
ASSESSMENTS IN
EMERGENCY
RESPONSE**



ATF – Aerial assessments task force

- ATF was established about a year ago
- ATF is a group of partners that operate within the A&A cell and focuses on coordinating aerial impact assessments, including using drones to collect imagery.
- Imagery collected with drones can support rapid damage assessments, mapping, and situational awareness.
- Types of drones: DJI drones (Phantom 4, Mini Series and Mavic series) carrying optical imagery sensors

TIMELINE FOR IMPACT ASSESSMENTS

	Phase 0 (-3 days)	Phase 1 (First 72 hours)	Phase 2 (72 hours to 3 weeks)	Phase 3 (3 to 4 weeks)	Deactivation (4 weeks to 6 months)
Assessment Activity	Mapping of actors and their capacities, ensuring that resources are aligned and that all parties are prepared to mobilize once an emergency occurs.	Daily coordination meetings which keep all stakeholders aligned and enable real-time data sharing. Direct observation via manned aircraft, such as planes and helicopters (drones, if feasible), provides insights into damage, accessibility, population displacement, and environmental conditions.	Daily coordination meetings continue, providing regular updates and maintaining alignment among all stakeholders. Community-level drone assessments , capturing ortho-mapping data and full-motion video, which enable detailed mapping and visualization of affected regions. Manned aircraft DO assessments continue if necessary.	Daily coordination meetings continue, providing regular updates and maintaining alignment among all stakeholders. Long-term monitoring and evaluation of affected regions, focusing on secondary and tertiary hazards that may arise after the initial shock.	The aerial assessment focal point will organize the handover of imagery, data, flight logs/plans, etc., to the NDMA.

Aerial assessments conducted if feasible and needed

Principles for the use of drones in emergency response

- **Comply with civil aviation regulations**
- Do no harm
- **Inform communities** of the purpose our work and involve them if possible
- **Coordinate** drone assessments with other types of assessments
- **Prioritization** of areas that need to be assessed
- **Contribute effectively** to humanitarian response and situation analysis

03

**VANUATU CASE
STUDY**



OCHA

THANK YOU !