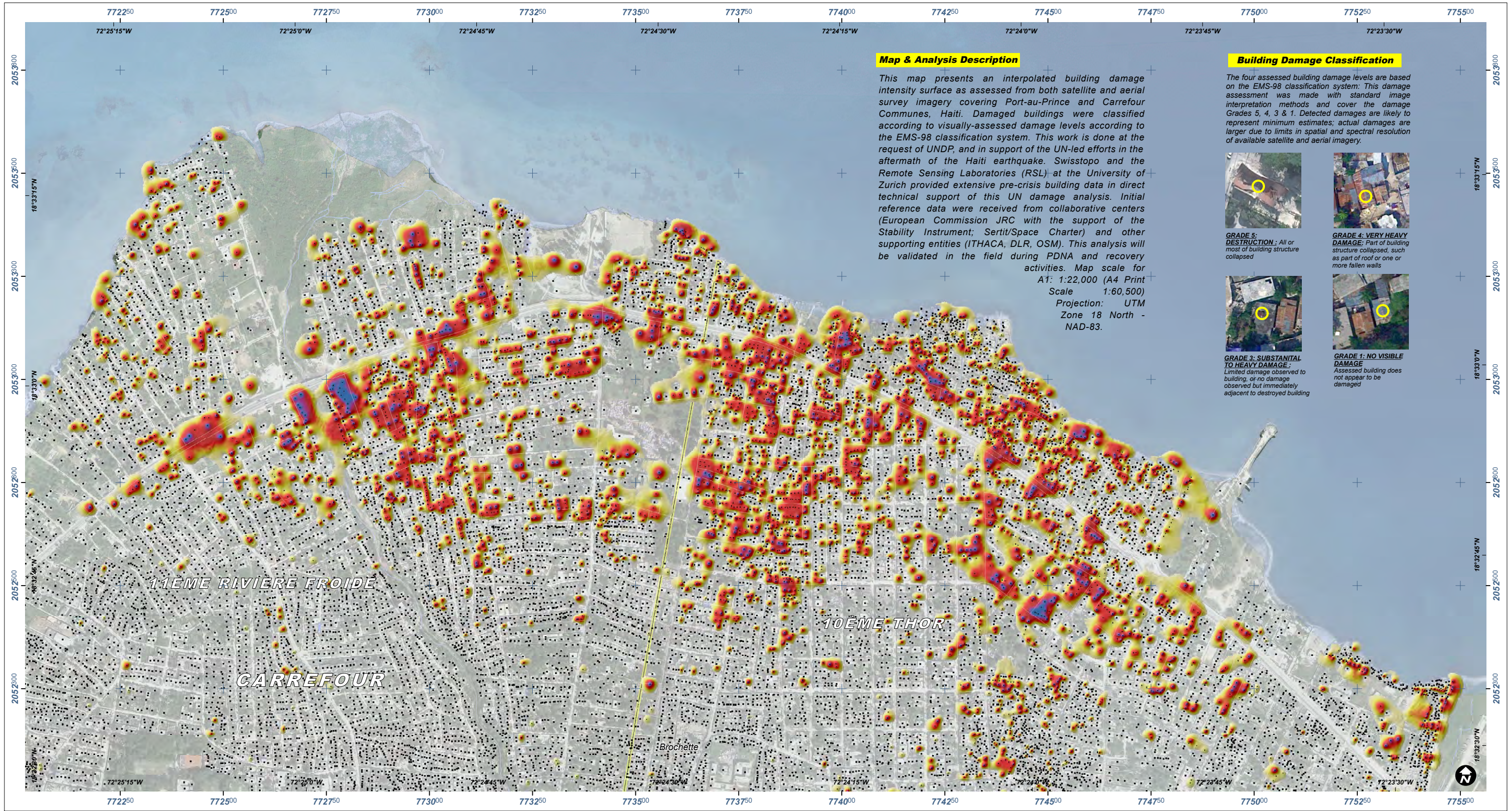




INTENSITY OF BUILDING DAMAGES IN CENTRAL CARREFOUR, HAITI

Damage analysis of individual buildings based on post-earthquake aerial photos and pre-earthquake satellite imagery

Earthquake 7.0M 25 February 2010 (13:30:00 UTC) Version 2.0
Glide No: EQ-2010-000009-HTI

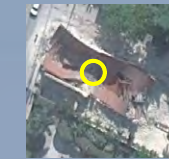


Map & Analysis Description

This map presents an interpolated building damage intensity surface as assessed from both satellite and aerial survey imagery covering Port-au-Prince and Carrefour Communes, Haiti. Damaged buildings were classified according to visually-assessed damage levels according to the EMS-98 classification system. This work is done at the request of UNDP, and in support of the UN-led efforts in the aftermath of the Haiti earthquake. Swisstopo and the Remote Sensing Laboratories (RSL) at the University of Zurich provided extensive pre-crisis building data in direct technical support of this UN damage analysis. Initial reference data were received from collaborative centers (European Commission JRC with the support of the Stability Instrument; Sertit/Space Charter) and other supporting entities (ITHACA, DLR, OSM). This analysis will be validated in the field during PDNA and recovery activities. Map scale for A1: 1:22,000 (A4 Print Scale 1:60,500) Projection: UTM Zone 18 North - NAD-83.

Building Damage Classification

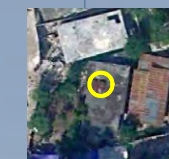
The four assessed building damage levels are based on the EMS-98 classification system. This damage assessment was made with standard image interpretation methods and cover the damage Grades 5, 4, 3 & 1. Detected damages are likely to represent minimum estimates; actual damages are larger due to limits in spatial and spectral resolution of available satellite and aerial imagery.



GRADE 5: DESTRUCTION; All or most of building structure collapsed



GRADE 4: VERY HEAVY DAMAGE; Part of building structure collapsed, such as part of roof or one or more fallen walls

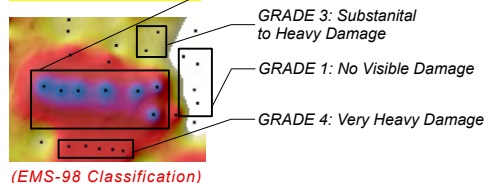


GRADE 3: SUBSTANTIAL TO HEAVY DAMAGE; Limited damage observed to building, or no damage observed but immediately adjacent to destroyed building



GRADE 1: NO VISIBLE DAMAGE; Assessed building does not appear to be damaged

Interpolated Building Damage Intensity



- Commune Boundary
- Section Boundary
- Primary / Secondary Rd
- Analysis Extent

The depiction and use of boundaries, geographic names and related data shown here are not warranted to be error-free nor do they imply official endorsement or acceptance by the United Nations. UNOSAT is a program of the United Nations Institute for Training and Research (UNITAR), providing satellite imagery and related geographic information, research and analysis to UN humanitarian & development agencies & their implementing partners.

Satellite Data WorldView-2
 Imagery Dates 19 Dec.2009 / 7-15 Jan. 2010
 Resolution 50cm
 Copyright DigitalGlobe
 Aerial Photos NOAA / Google
 Imagery Date 18 Jan / 21 Jan 2010

UTM grid coordinates given in 250m intervals
Map Scale for A3: 1:9,000 (A4 Print Scale 1:35,000)



Copyright NOAA / Google
 Source USGS / ERDAS APOLLO WMS
 Building Data Swisstopo/RSL-Zurich/UNOSAT
 Landcover Data CNIGS, Infoterra, OSM, OCHA
 Road & Urban Data Open Street Map
 Place Names OCHA, Google Map Maker

Other Data MINUSTAH, USGS, NGA
 Elevation Data ASTER GDEM
 Source METI & NASA 2009
 Damage Analysis UNITAR / UNOSAT
 Map Production UNITAR / UNOSAT
 Projection UTM Zone 18 North - NAD-83

UNITAR
United Nations Institute for Training and Research

UNOSAT

Contact Information: unosat@unitar.org
 24/7 Hotline: +41 76 487 4998
www.unosat.org