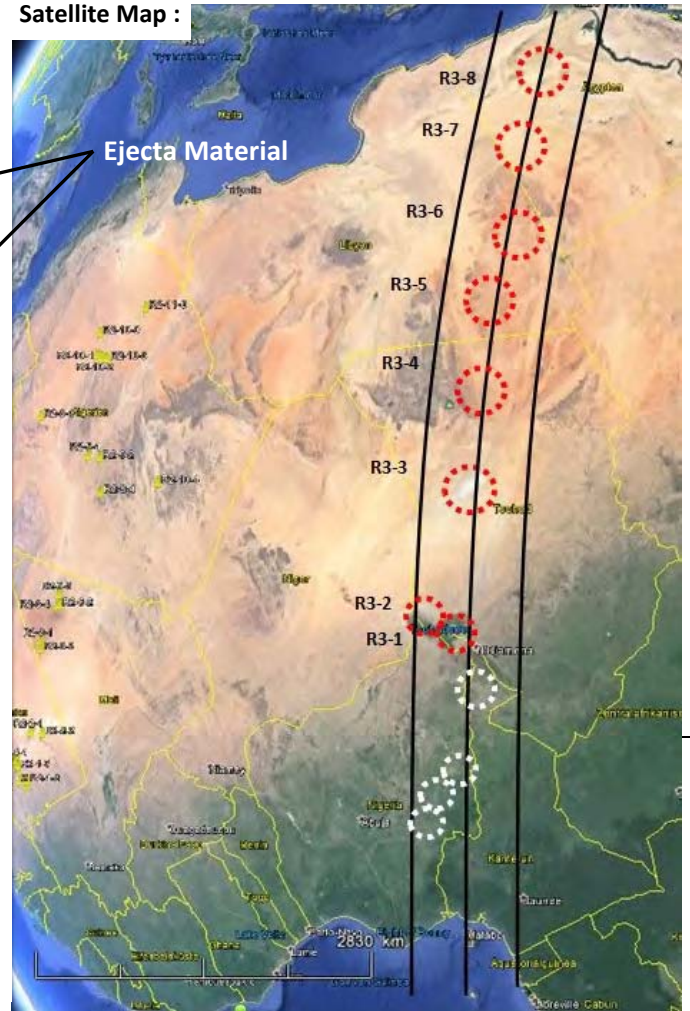
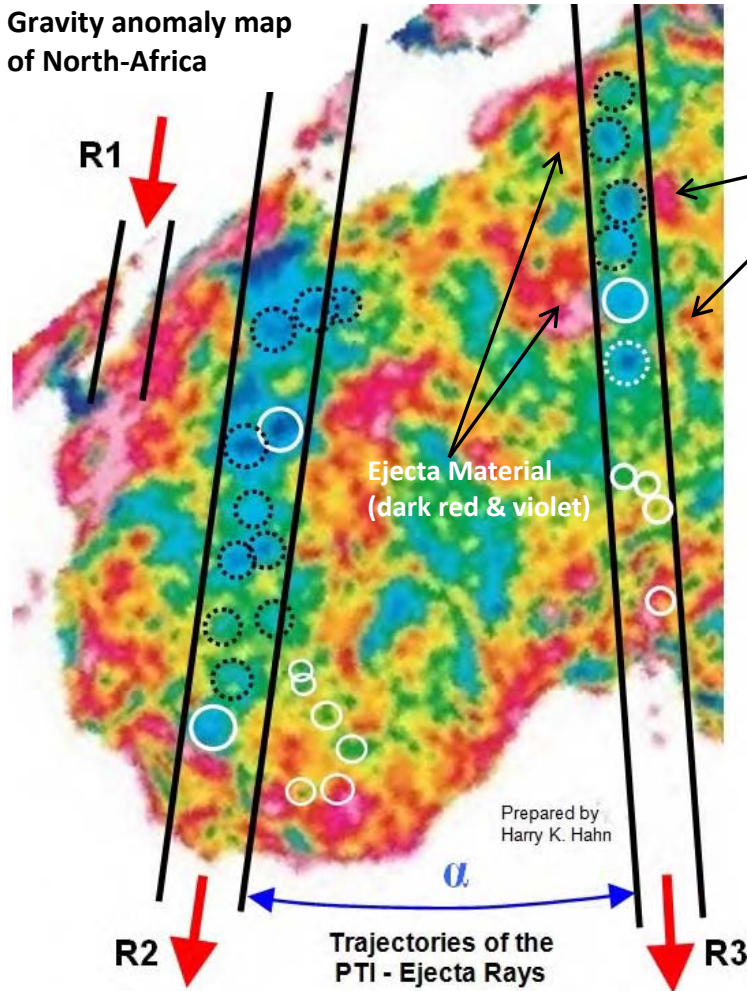


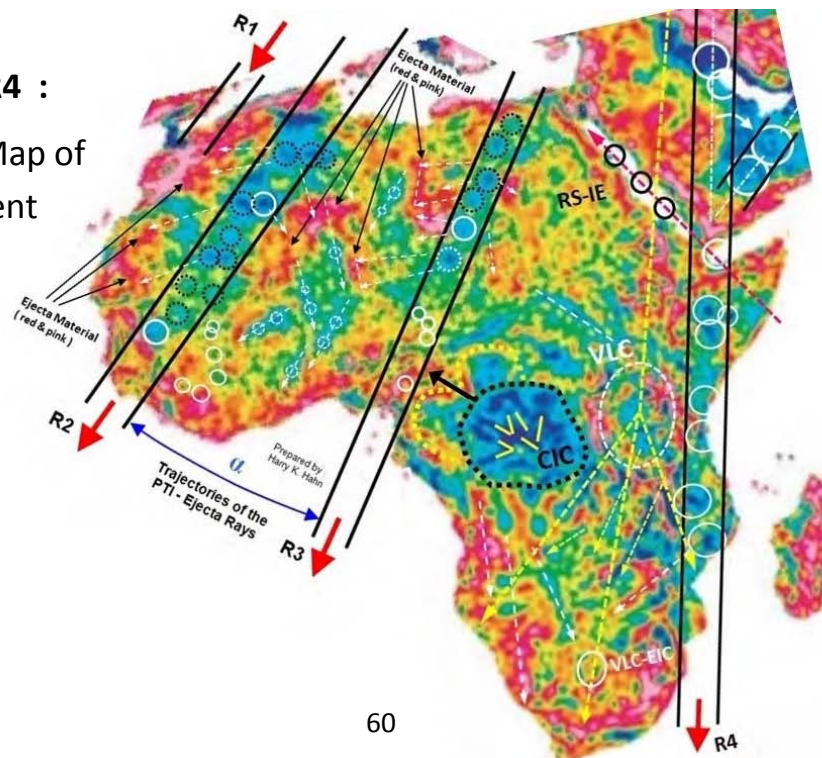
A5 Examination of the Impact Crater Chain (Ejecta Ray) R3 : (by Harry K. Hahn)

In this document I want to show the crater areas of the assumed **Ejecta Ray R3** of the PT-Impact Event, which are indicated on the gravity anomaly map as negative anomalies (→ blue). I show the approximate location of the assumed **Craters R3-1 to R3-8** on the satellite map, and some selected areas which seem to show impact structures which were caused by these impact craters. Because the assumed Ejecta Ray (Crater Chain) area R3 is mostly covered (>80%) by a thick sediment layer and/or volcanic (magmatic) material (→ a result of this large scale impact event) , there are only few locations where impact structures & ejecta material may be accessible.



Overview of ejecta rays R1 to R4 :

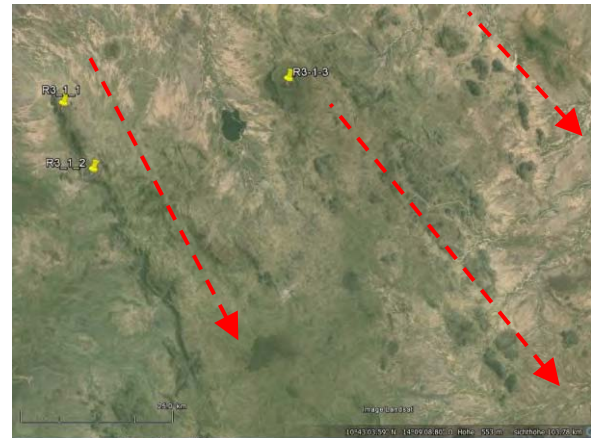
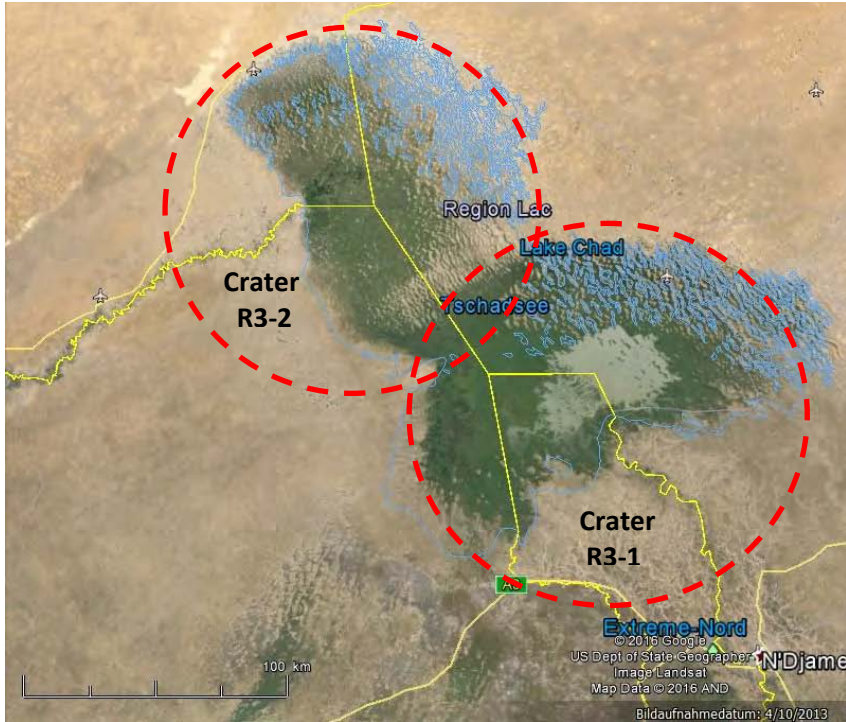
Gravity Anomaly Map of the African continent



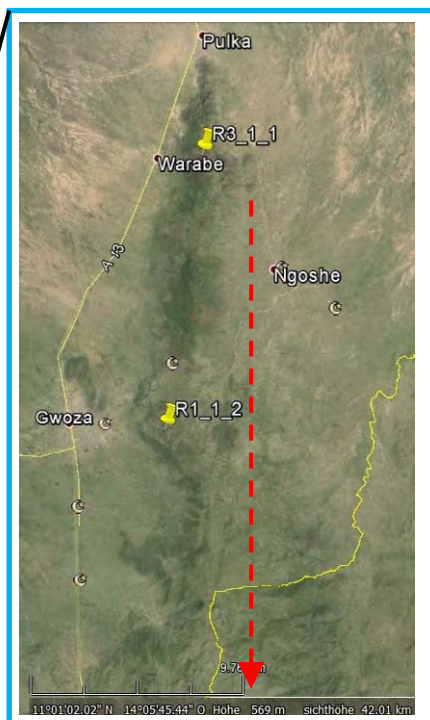
Crater Area R3-1 & R3-2 : (approx. $\emptyset \sim 150 \text{ km} \ \& \ 130 \text{ km}$)

The two Crater R3-1 and R3-2 formed two basins where the "Tschad-Lake" is located today.

Because the whole Tschad-lake area is covered with sediments, the crater floor- or crater-wall area can only be reached by drilling. However it seems that south of Crater R3-1 ejecta from this crater seems to be easy accessible.



The area 200km south of Crater R3-1 shows ejecta ray structures which seem to originate from the center of Crater R3-1. Therefore this seems to be a good area to find proof for the impact event.



Crater R3-1_2 – Fig. 2:

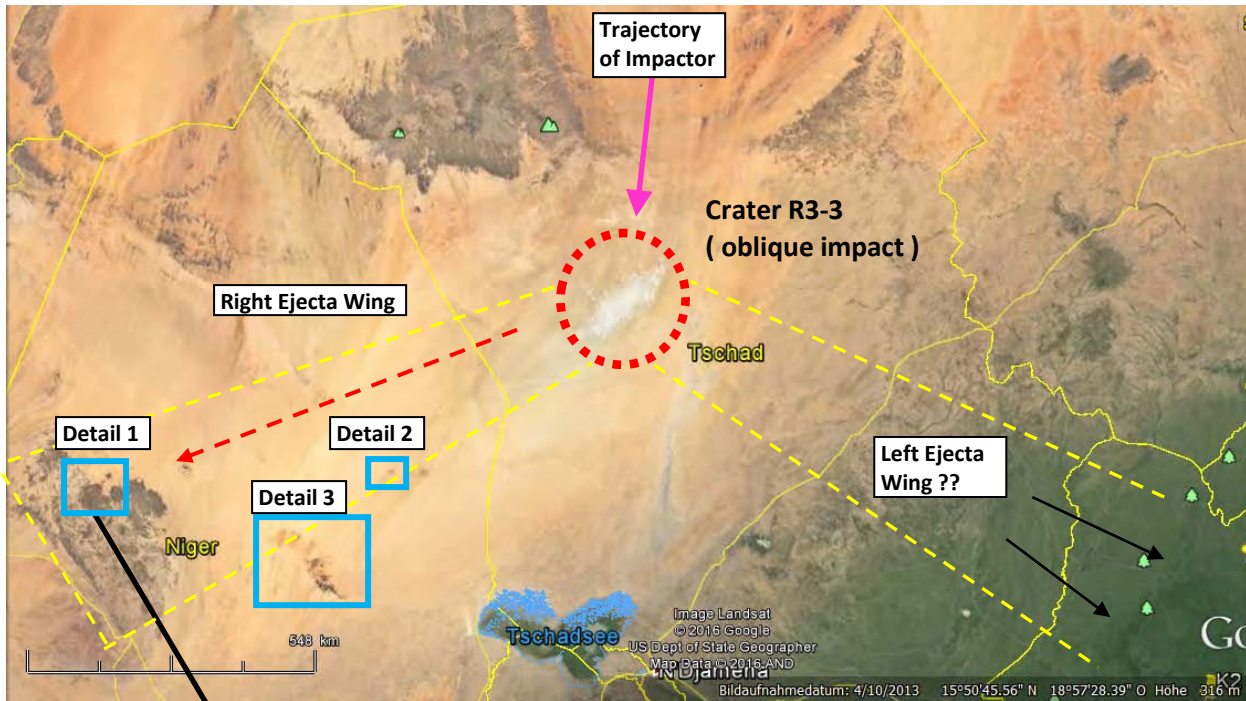


Crater R3-1-1 - Fig.1 :

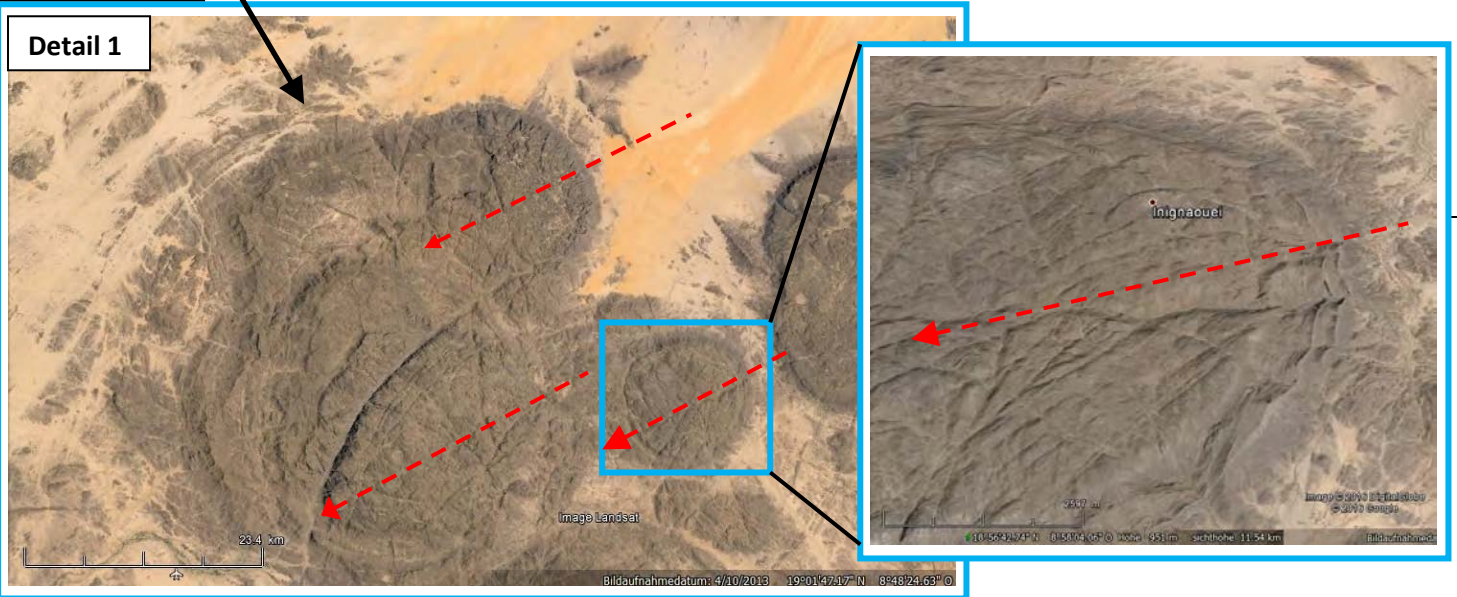


The Detail approx. 200 km south of the Tschad-Sea Crater R3-1 in all propability shows an ejecta ray caused by the Crater R3-1. The linear orientation of this mountain range which consists of boulders up to 10m in size indicates an origin of the ejecta material in the center area of the assumed Crater R3-1. However the ejecta ray also seems to have experienced another blast (hot atmospheric shock wave) which probably came from another impact which occurred later (in sequence) in the East.

Crater Area R3-3 (and surrounding area) : (approx. Crater \varnothing ~ 250 km)



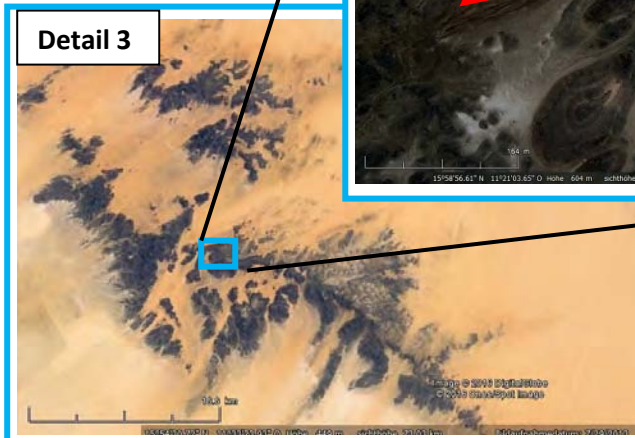
Crater R3-3-1:



Crater R3-3-2:

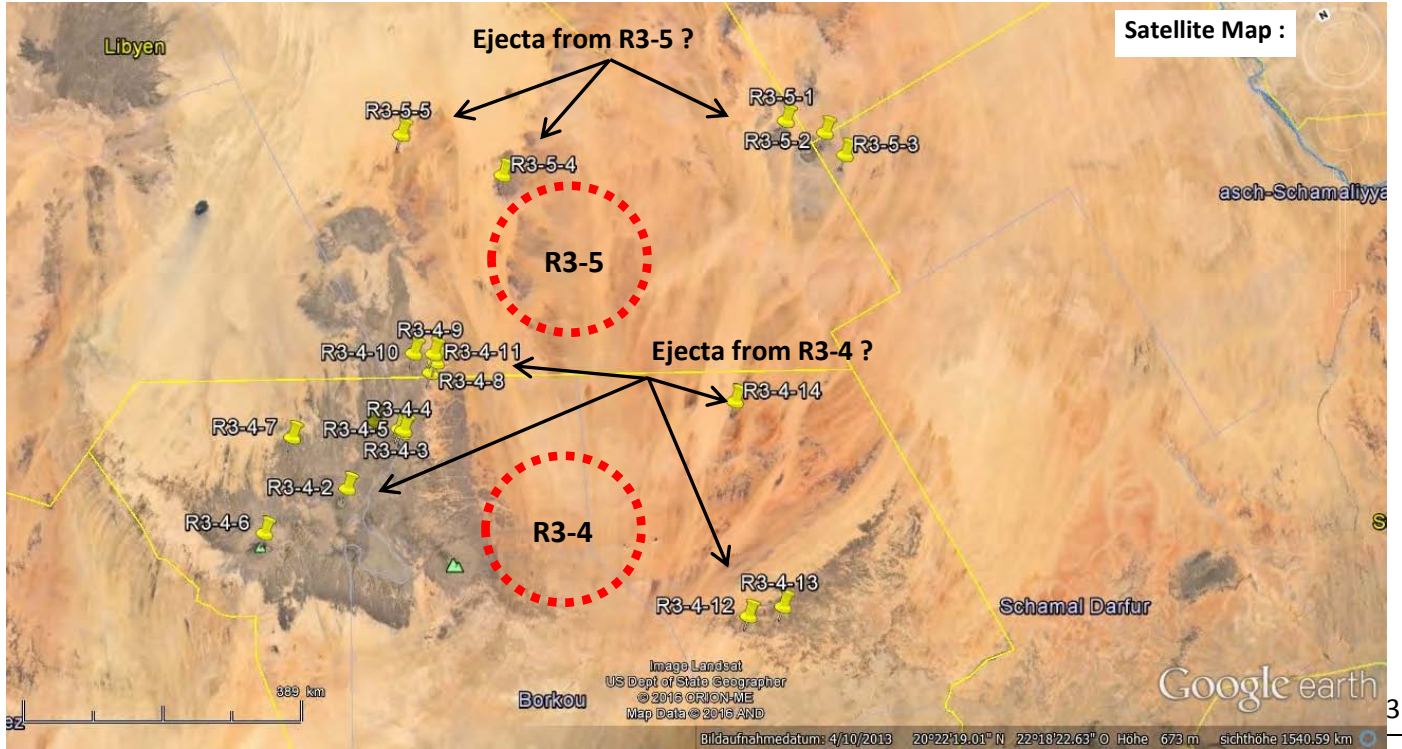


Crater R3-3-3:

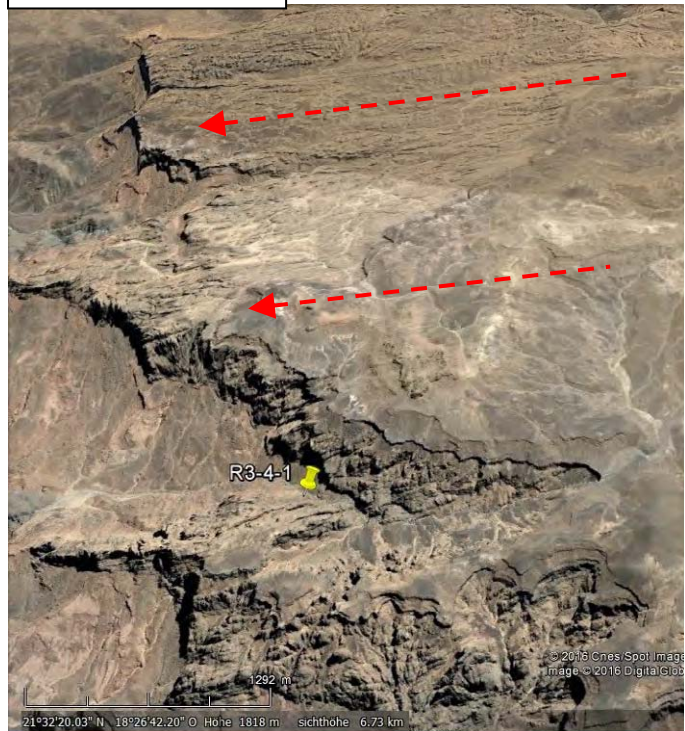


Crater Area R3-4 & R3-5 (and surrounding area) : (approx. Crater Ø ~ 250 km each)

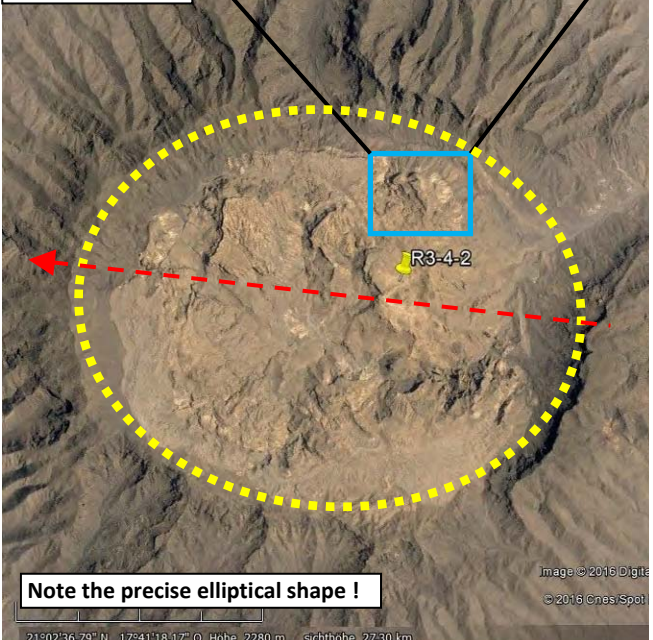
The Crater area R3-4 is located in an area with a thick sediment cover. Therefore the crater floor area can only be reached by drilling. However Crater R3-4 (and R3-5) seems to have produced an extensive Ejecta area with its Right Ejecta Wing which is easy accessible (→ the mountain area west of the assumed crater R3-4). The left Ejecta Wing is less pronounced, or it is just covered by sediments. However there is also some area accessible of the left ejecta wing. Both Ejecta Wings of crater R3-4 seem to be deformed towards a north-east direction by the shockwave of crater R3-3 which occurred slightly after the impact of R3-4. The Ejecta-area west of Crater R3-4 should be a favorite destination for research of this large scale impact event because it seems to contain many geological- & structural traces which should help to reconstruct and proof the initial impact event. Therefore I want to show now a number of interesting sites of the ejecta area which could be used as starting points :



Crater R3-4 Fig.1:



Crater R3-4 Fig. 2

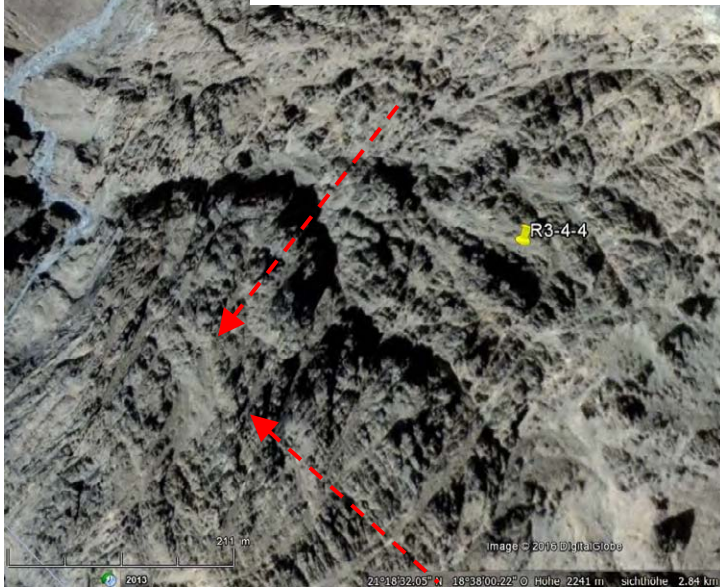


Crater R3-4 Fig. 3:

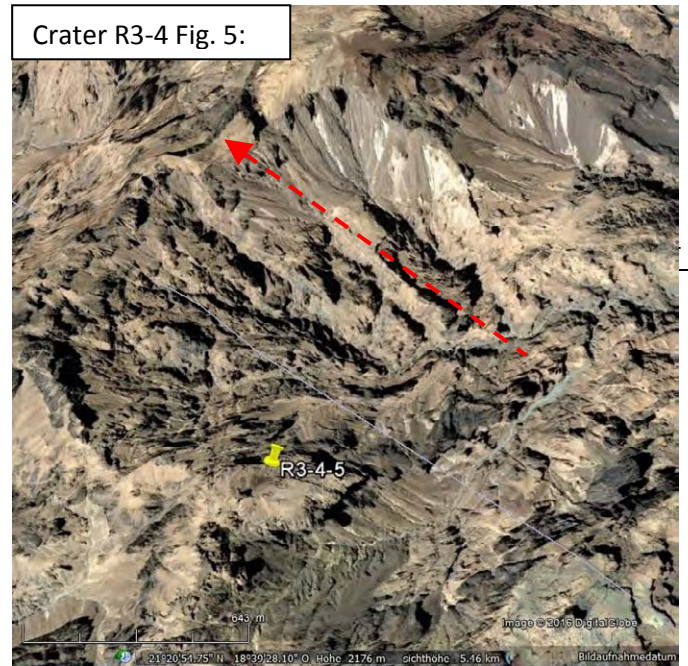


Crater R3-4 Fig. 4:

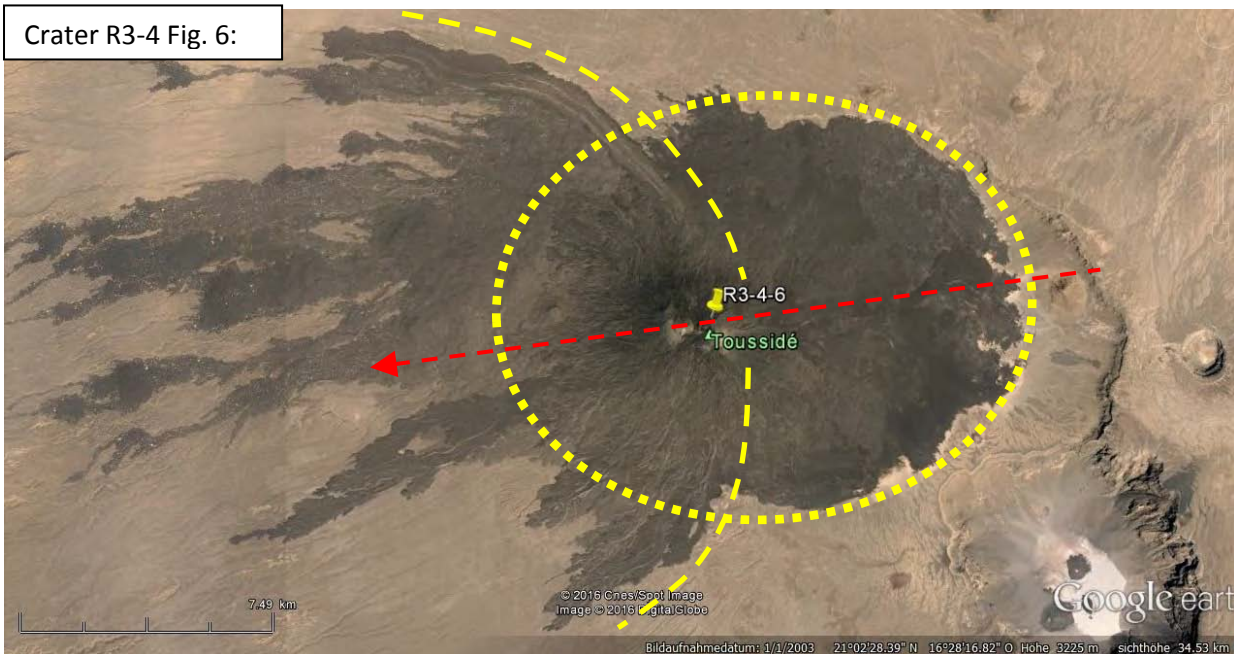
This ejecta structure seems to be formed by shockwaves from two different directions (probably from the R3-4 & R3-5 impacts)



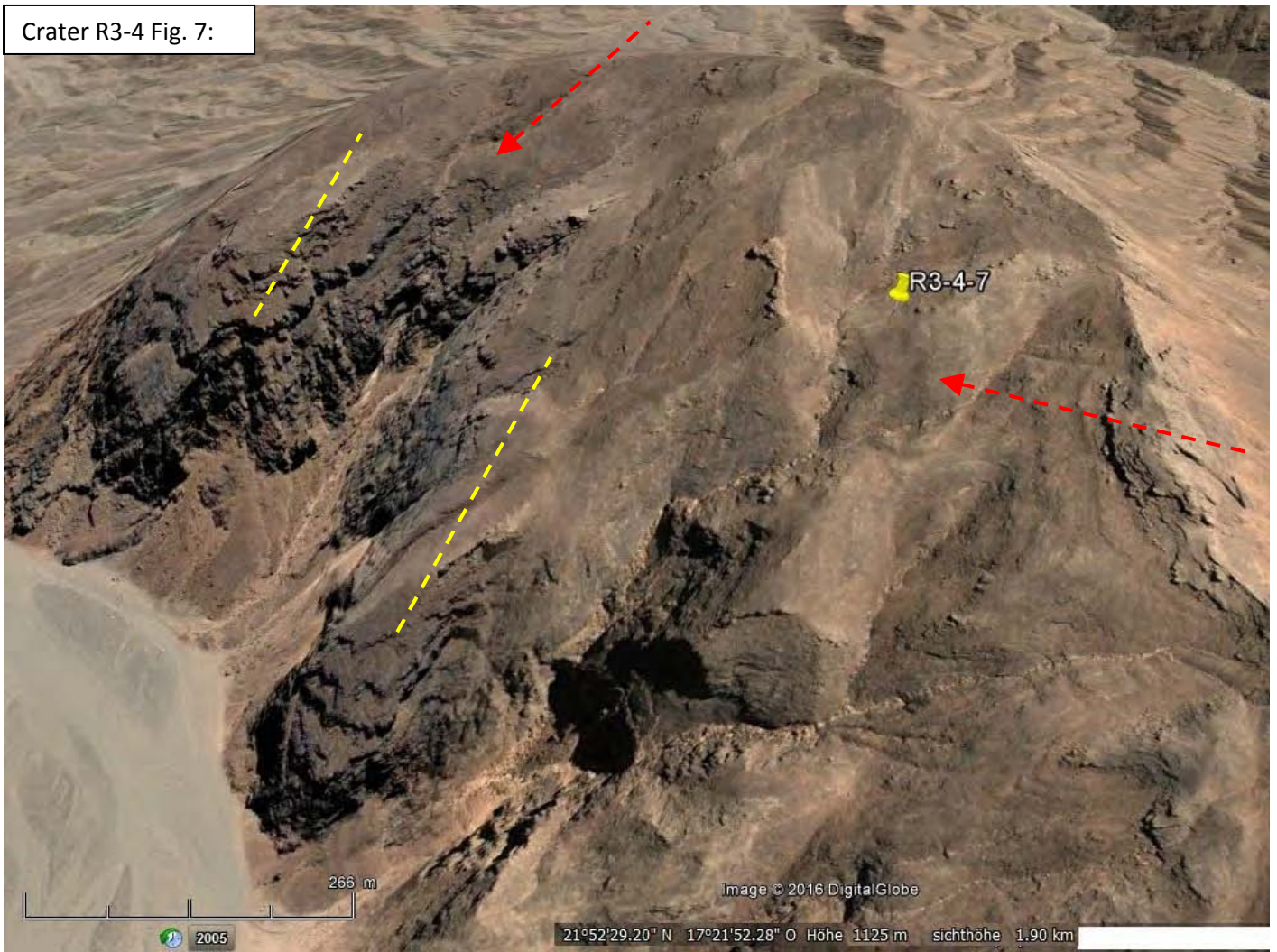
Crater R3-4 Fig. 5:



Crater R3-4 Fig. 6:

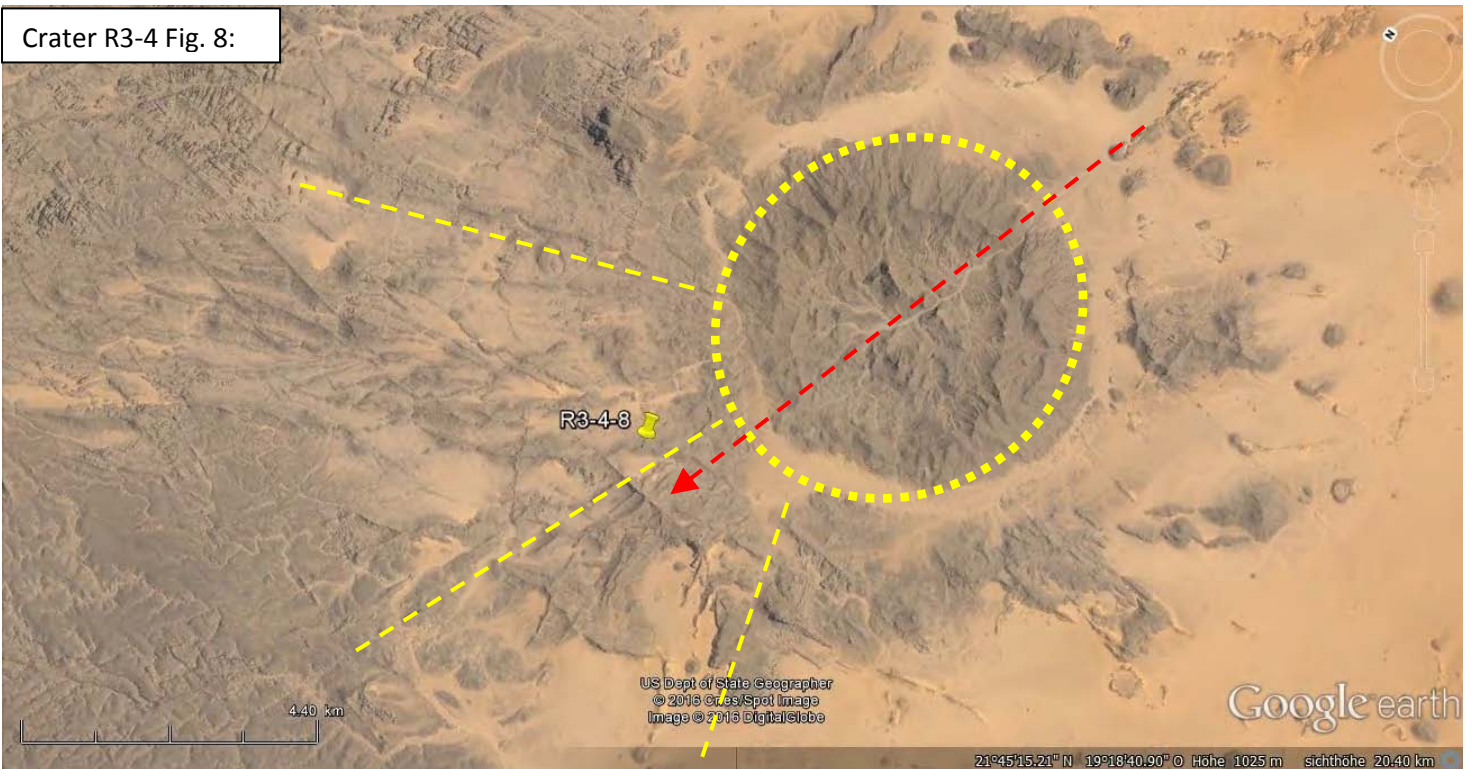


Crater R3-4 Fig. 7:



The impact structure shown in Fig. R3-4-8 should be rather a result (a secondary impact structure) of Crater R3-5 and not a result of the Impact Crater R3-4 !

Crater R3-4 Fig. 8:



Ejecta structures R3-4-9 to R3-4-11:

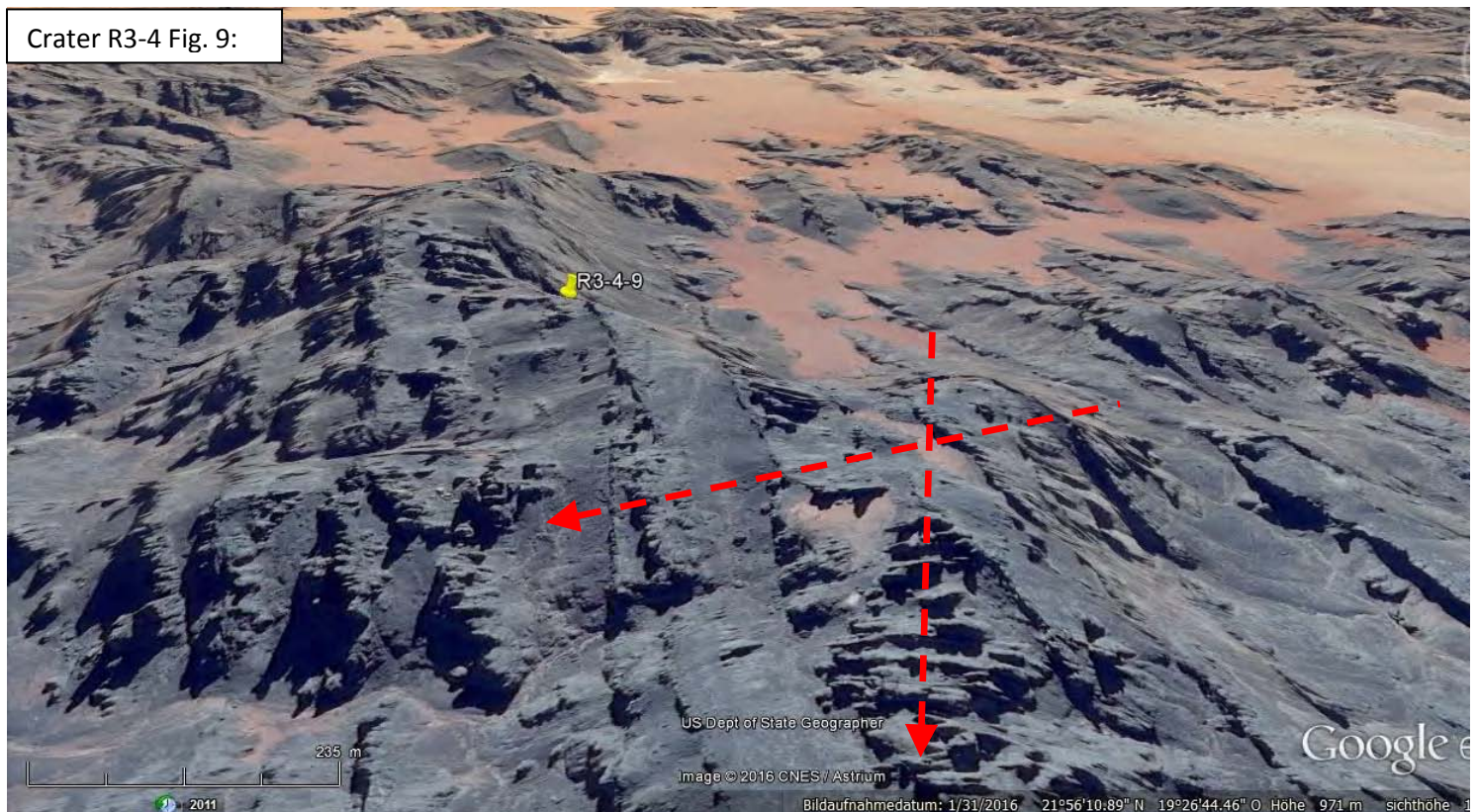
The ejecta structures shown in the following image seem to be formed by the shockwaves from the two assumed impacts R3-4 & R3-5. Here it must also be considered that the ejecta from impact R3-5 which probably occurred slightly before R3-4 was then effected by the atmospheric shockwave and the seismic shockwaves of impact R3-4, which resulted in a complex ejecta structure. The radial pattern around the ejecta mass located between R3-4-9 and R3-4-10 probably is a result of the impact of this mass.



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The ejecta structure in Fig. R3-4-9 seems to be formed by two shockwaves, which came from nearly perpendicular directions to each other. Whereby the first shockwave probably was a seismic shockwave (which created the structure with the narrow spaced parallel lines) and the second shockwave seems to have been an atmospheric shockwave (→ this created the structure with the wider spaced parallel lines) because there is a clear “flow-like” deformation visible on the surface which overprinted the narrow spaced parallel structure which obviously was created before. The responsible impact craters probably were R3-4 & R3-5.

Crater R3-4 Fig. 9:

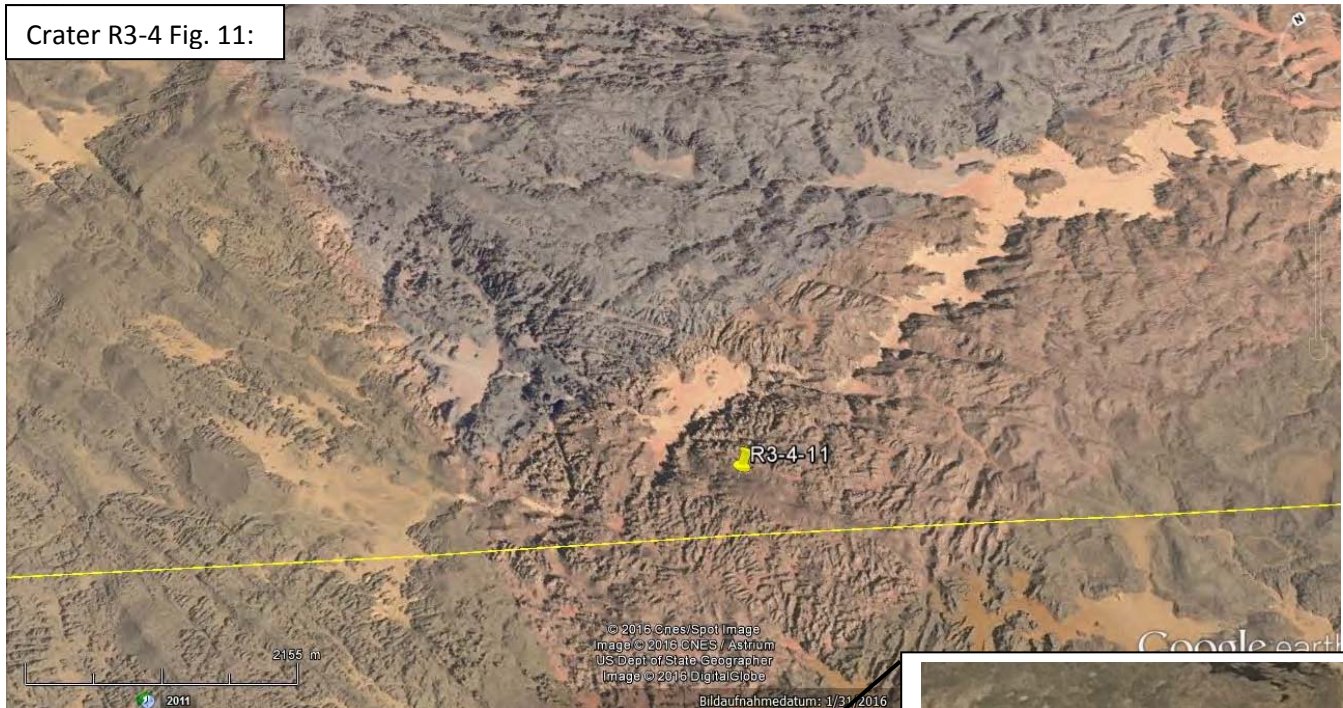


66

Crater R3-4 Fig. 10:



Crater R3-4 Fig. 11:



Crater R3-4 Fig. 12:

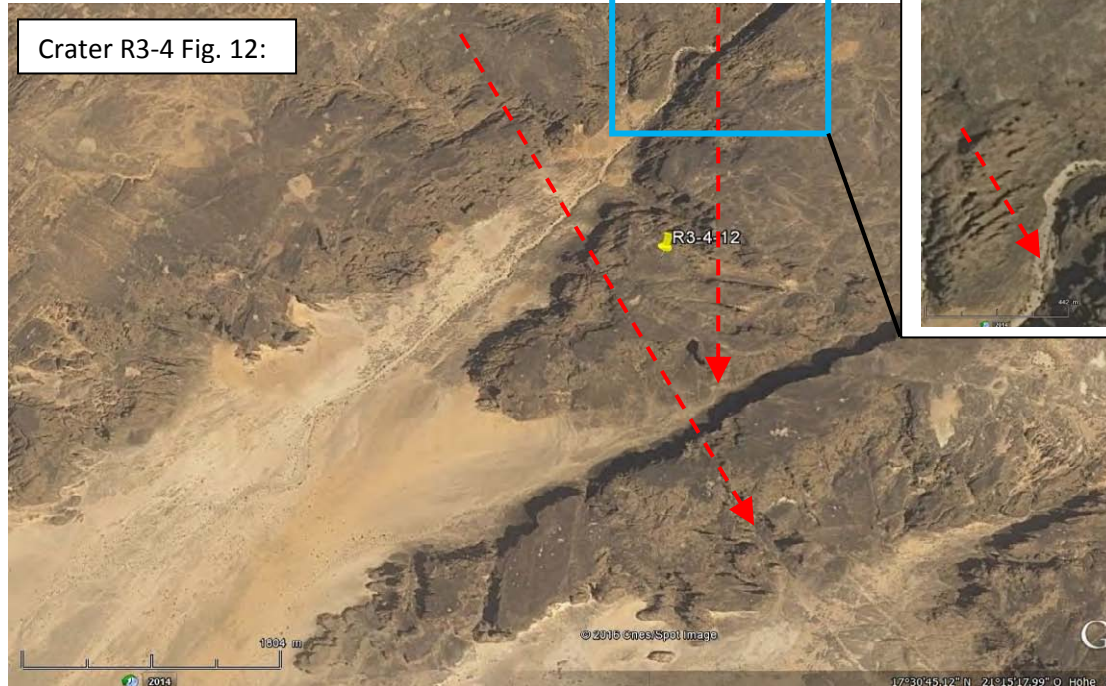


Figure R3-4-12 shows an area of the assumed Right Ejecta Wing of Impact Crater R3-4. The parallel line structure was probably mainly caused by Impact R3-4, but there seems to be also influence from R3-5.

The following two images show two more areas of the assumed Right Ejecta Wing of Impact Crater R3-4 :

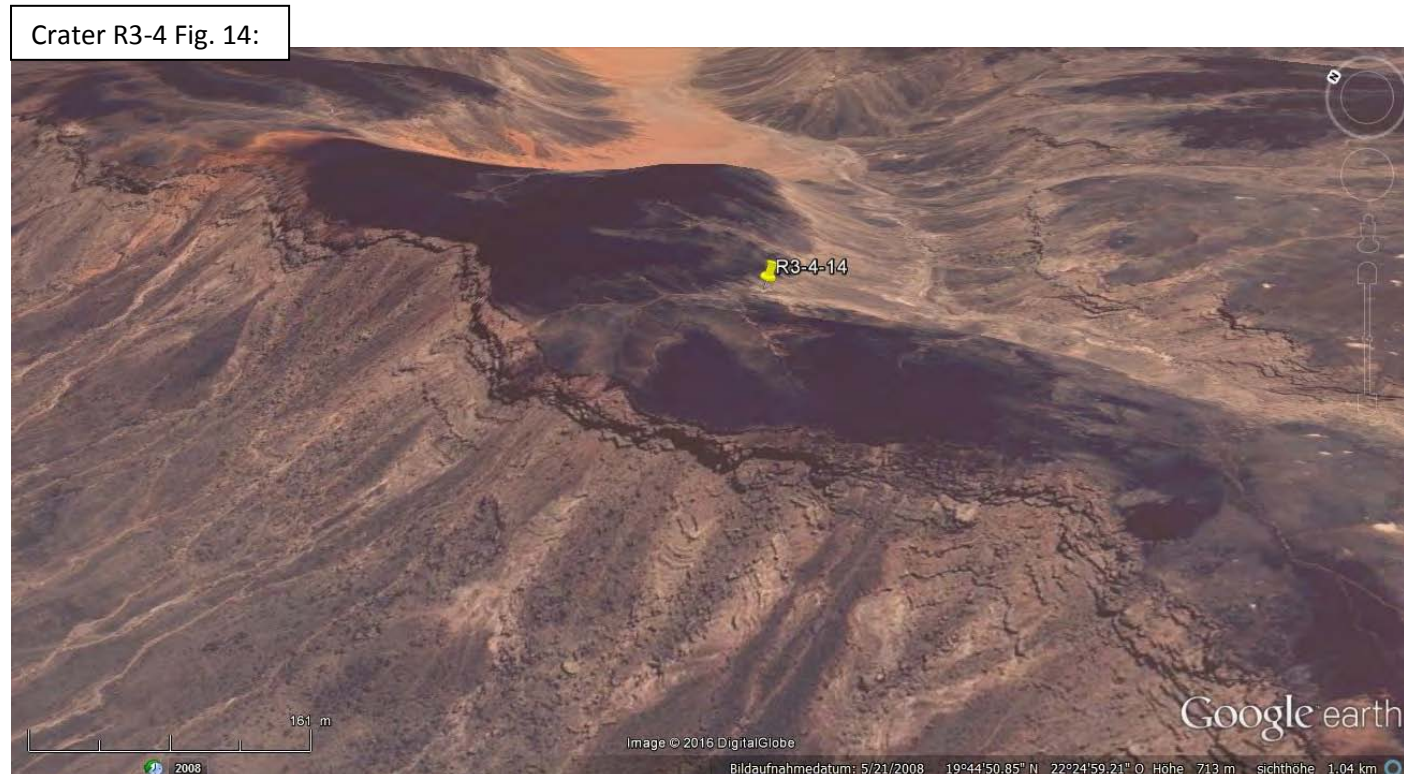
Fig. R3-4-13 seems to show the tip of an approx. 3km wide ejecta lobe structure.



Fig. R3-4-14 seems to show original surface area of the ejecta of the Right Eject Wing as it may have looked just after the impact event → the dark colored areas.

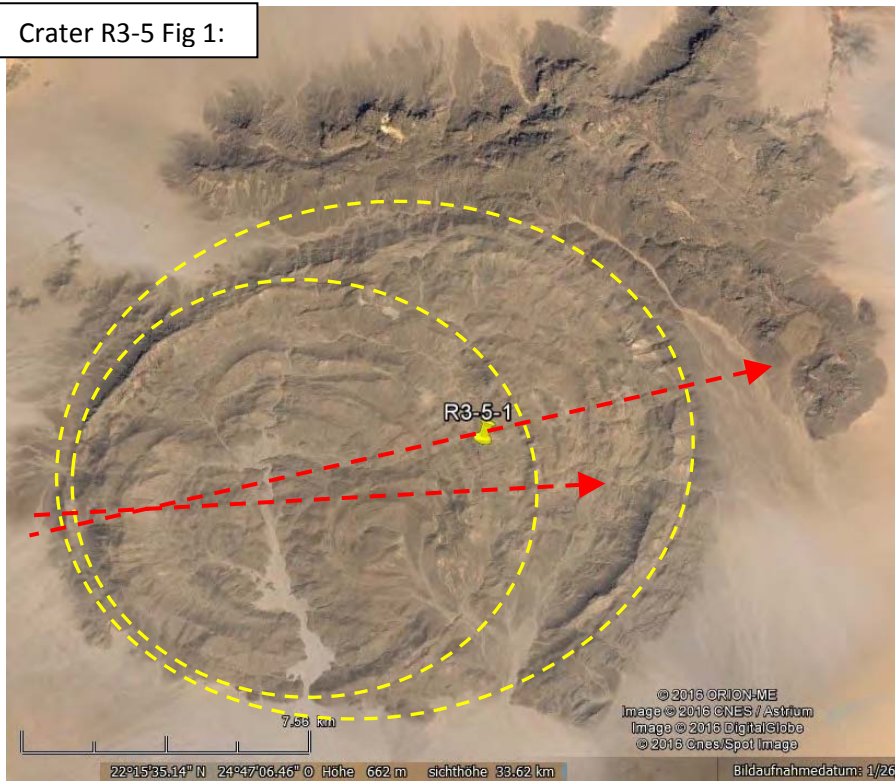
68

Most of the ejected material surely was in a molten or partly molten state, which would explain the smooth original surface of the ejecta area. What process has caused the dark color on the surface is unclear.



Ejecta Areas of Crater Area R3-5: (→ Crater R3-5 approx. $\varnothing \sim 200$ km)

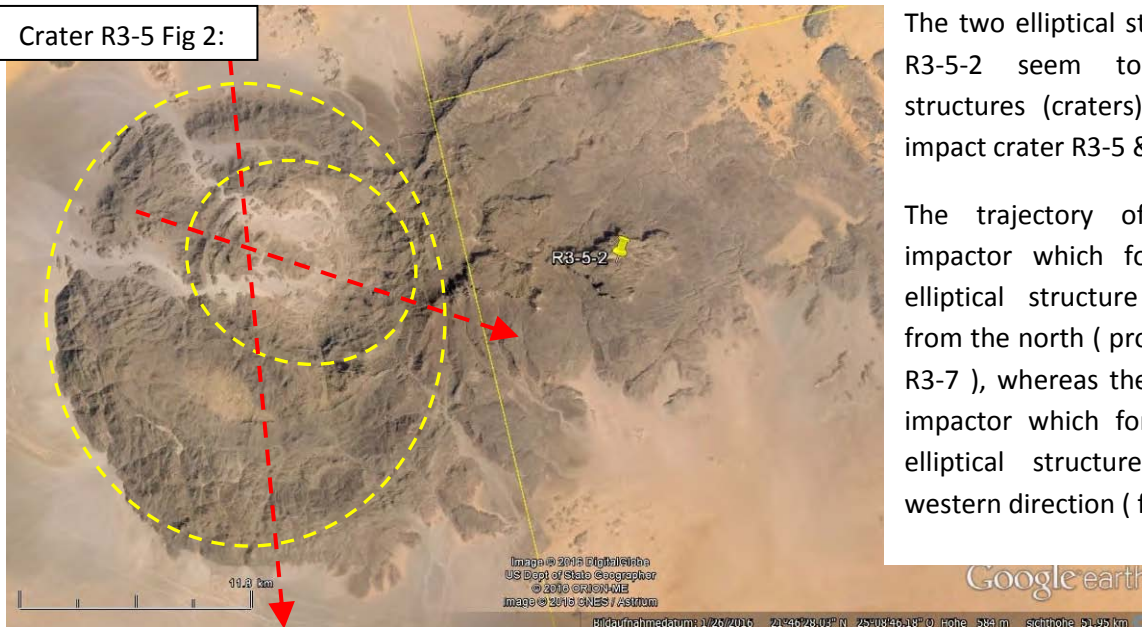
Crater R3-5 Fig 1:



The two elliptical structures in Figure R3-5-1 seem to be secondary structures (craters) of the assumed impact crater R3-5.

The trajectories of the secondary impactors which formed these elliptical structures were nearly the same, and in all probability the impactors originate from impact crater R3-5 (a crater with approx. $\varnothing \sim 200$ km)

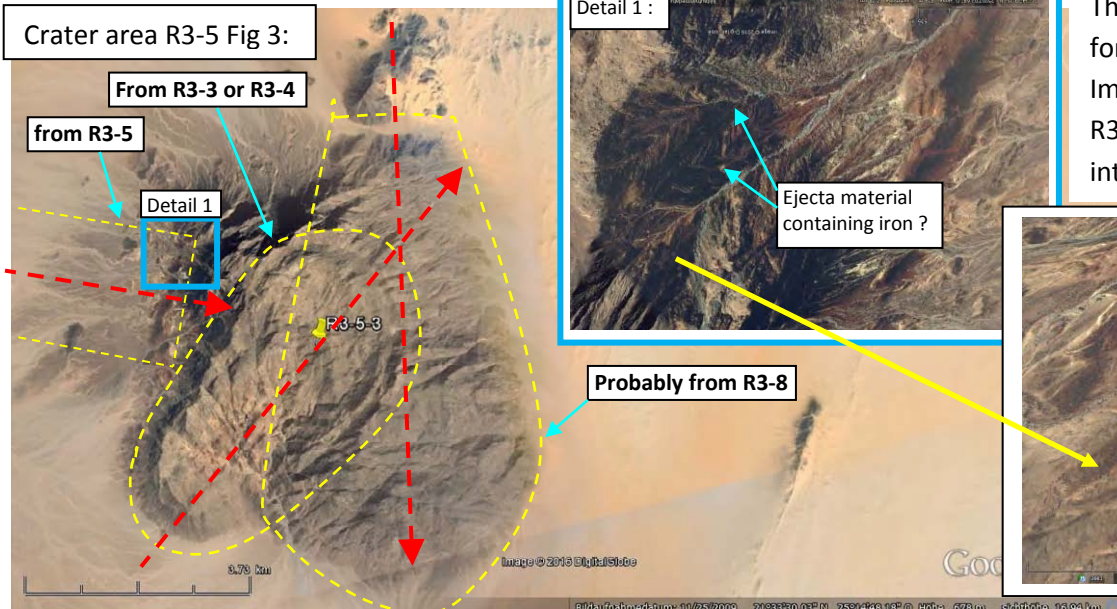
Crater R3-5 Fig 2:



The two elliptical structures in Figure R3-5-2 seem to be secondary structures (craters) of the assumed impact crater R3-5 & R3-7.

The trajectory of the secondary impactor which formed the larger elliptical structure obviously came from the north (probably from Crater R3-7), whereas the trajectory of the impactor which formed the smaller elliptical structure came from a western direction (from Crater R3-5)

Crater area R3-5 Fig 3:

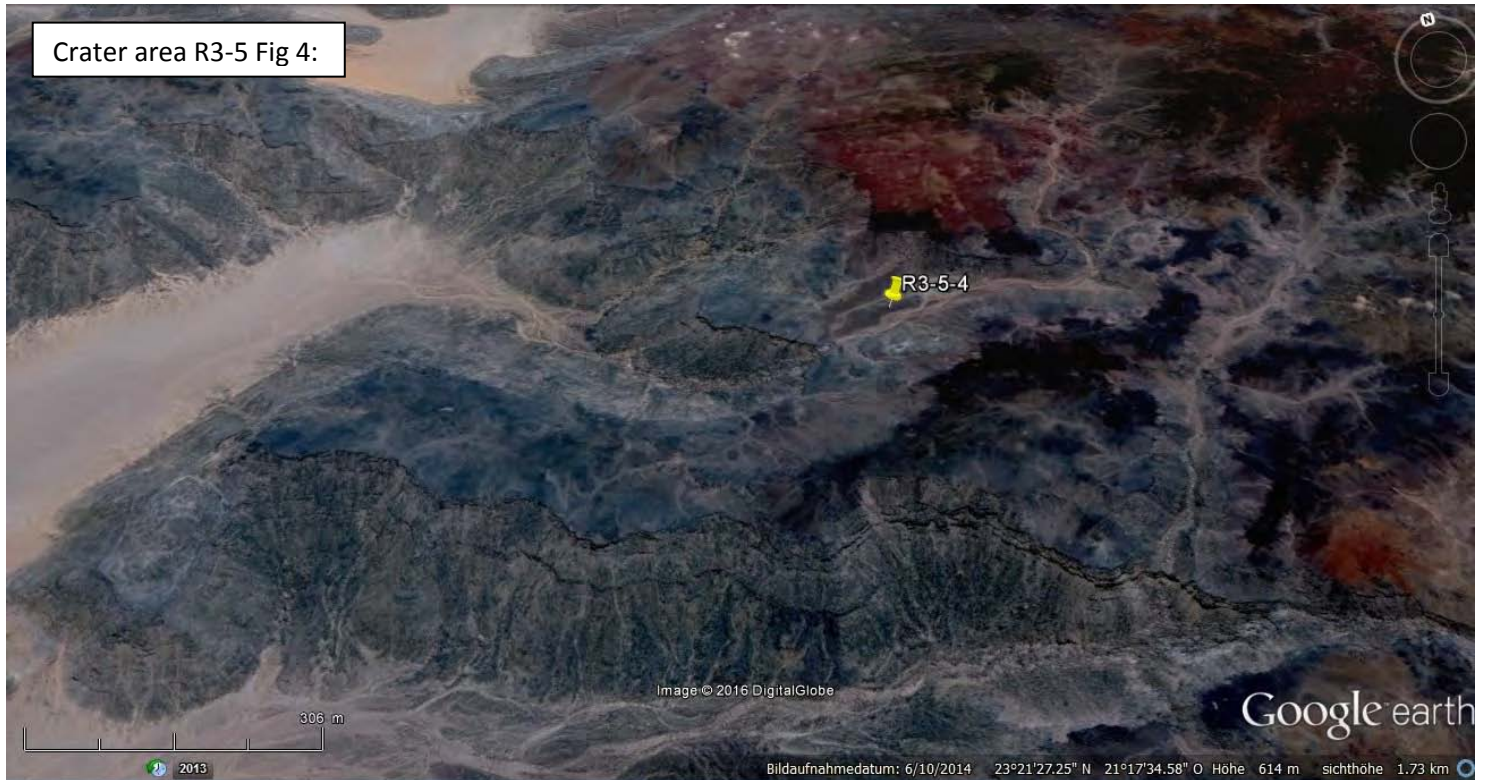


The last structure seems to be formed by three different Impacts of the Crater Chain R3. And it seems to contain interesting ejecta material !

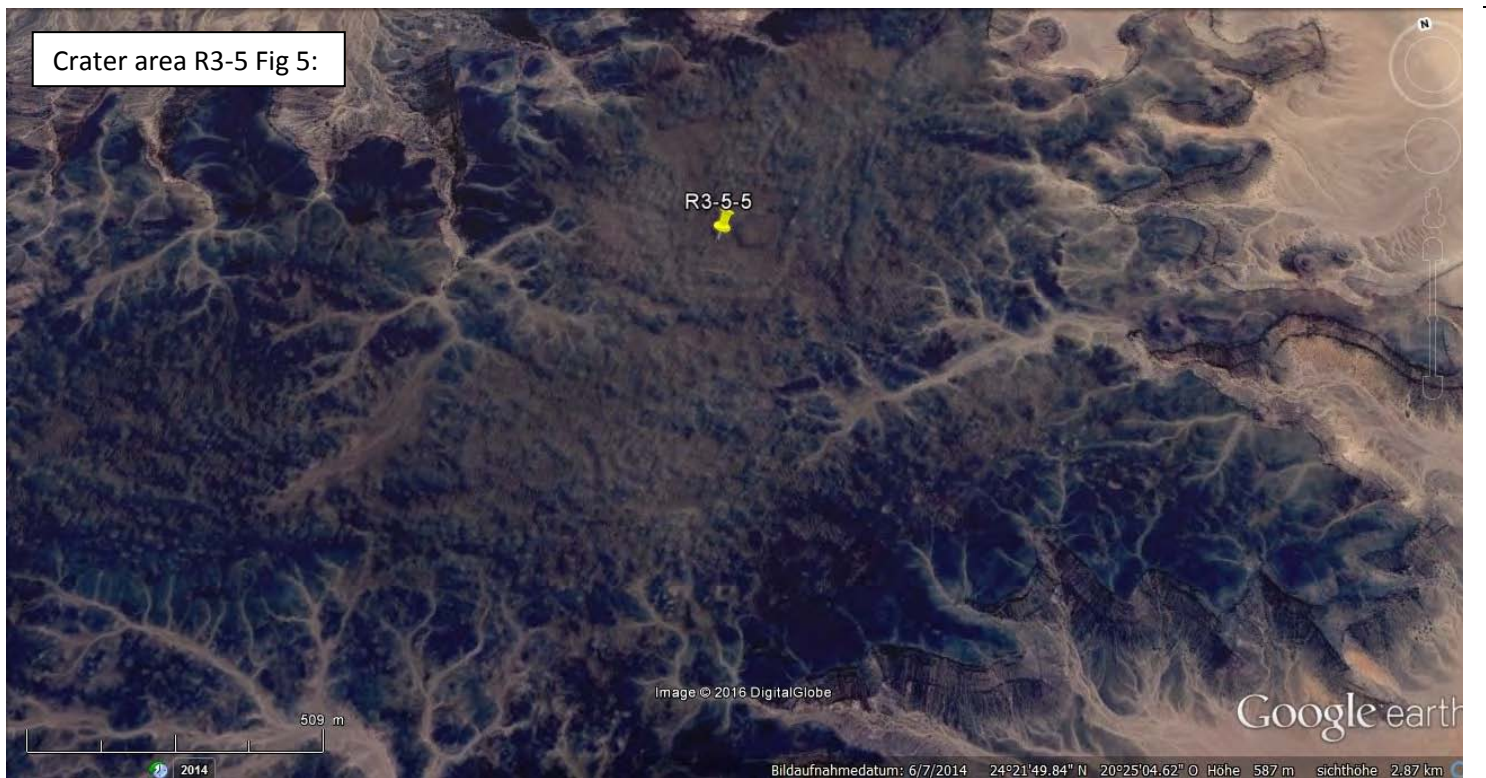
Detail 1 :



Fig. R3-5-4 and R3-5-5 seem to show original surface area of ejecta of the assumed crater R3-5.
(→ the dark black and red colored areas)



70



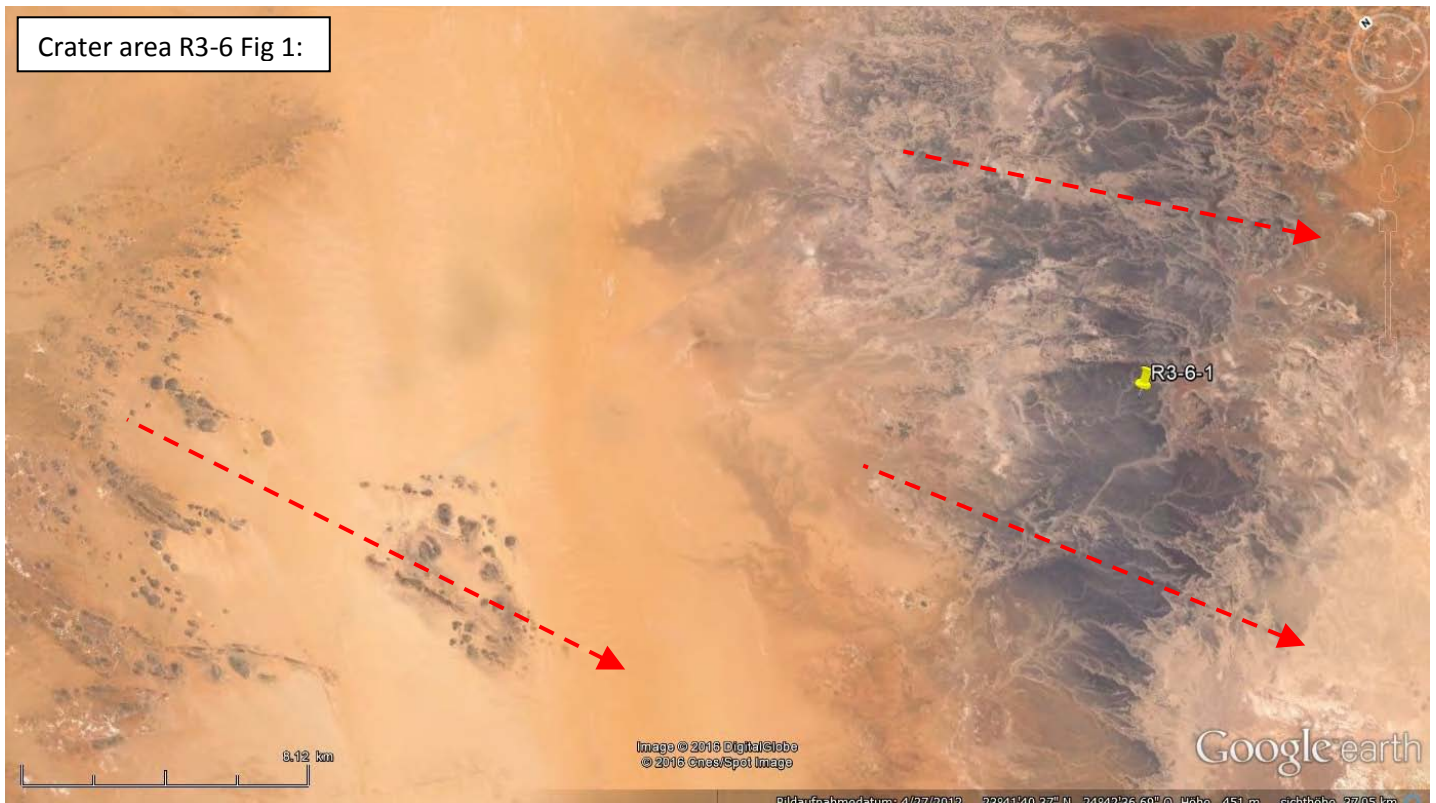
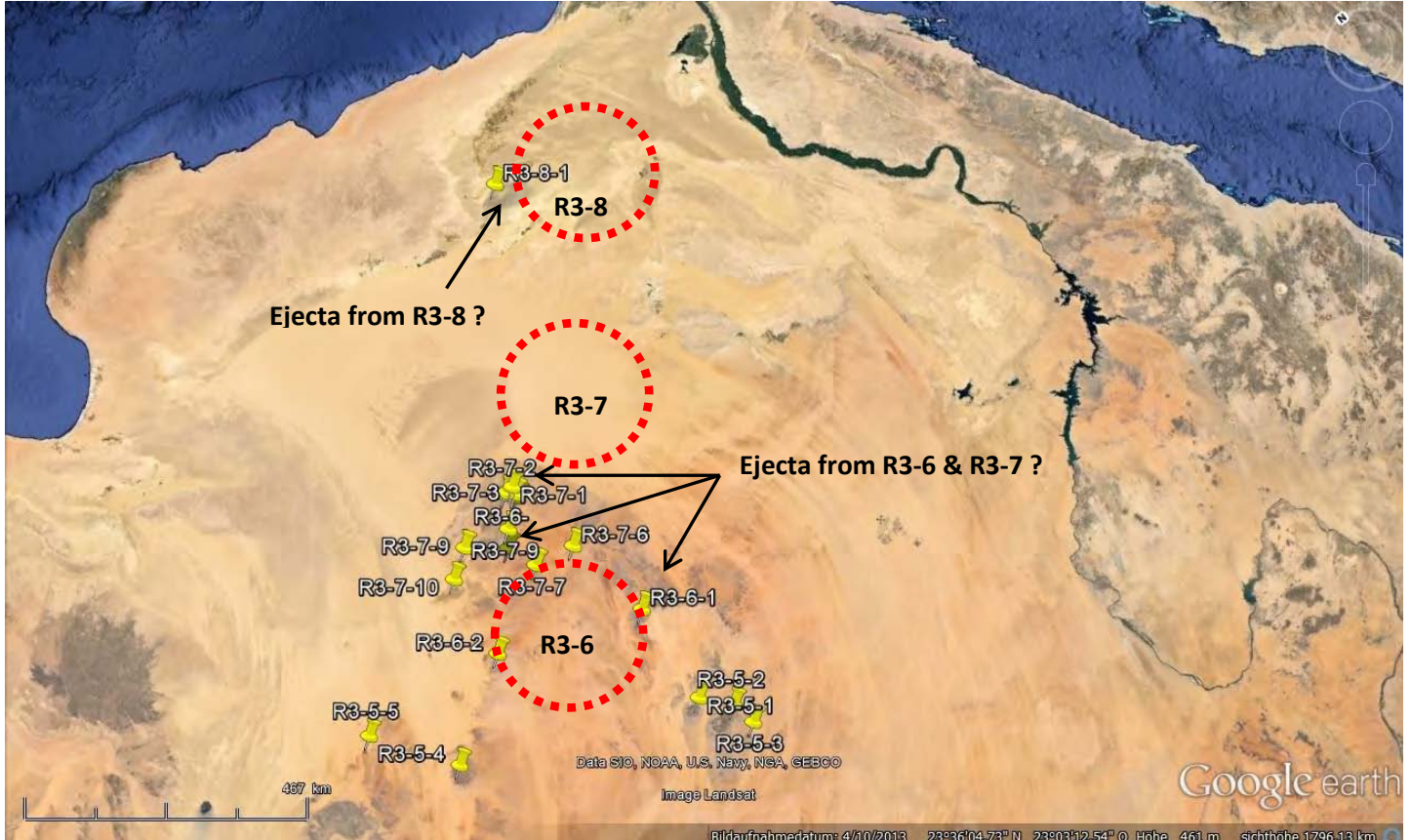
Crater Area R3-6, R3-7 & R3-8 (and surrounding area) : (approx. Crater \varnothing ~ 200-250 km)

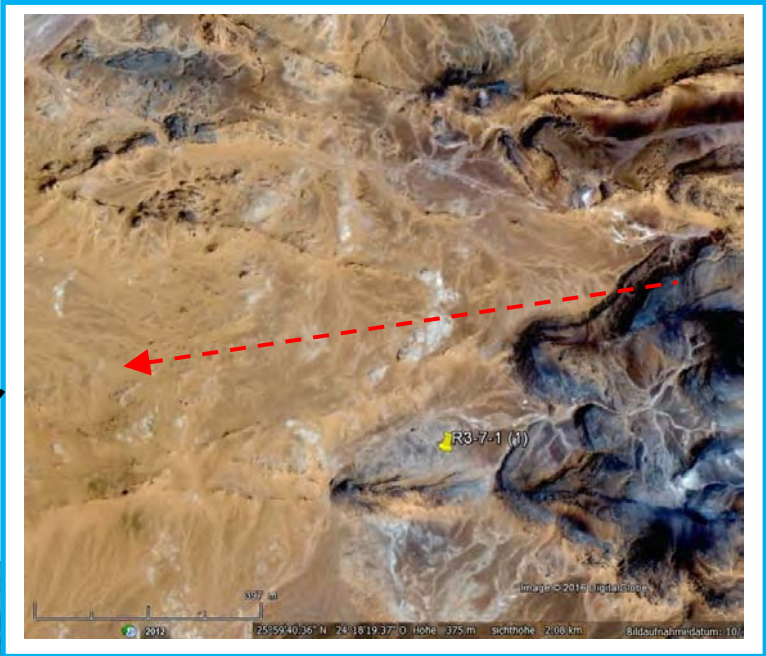
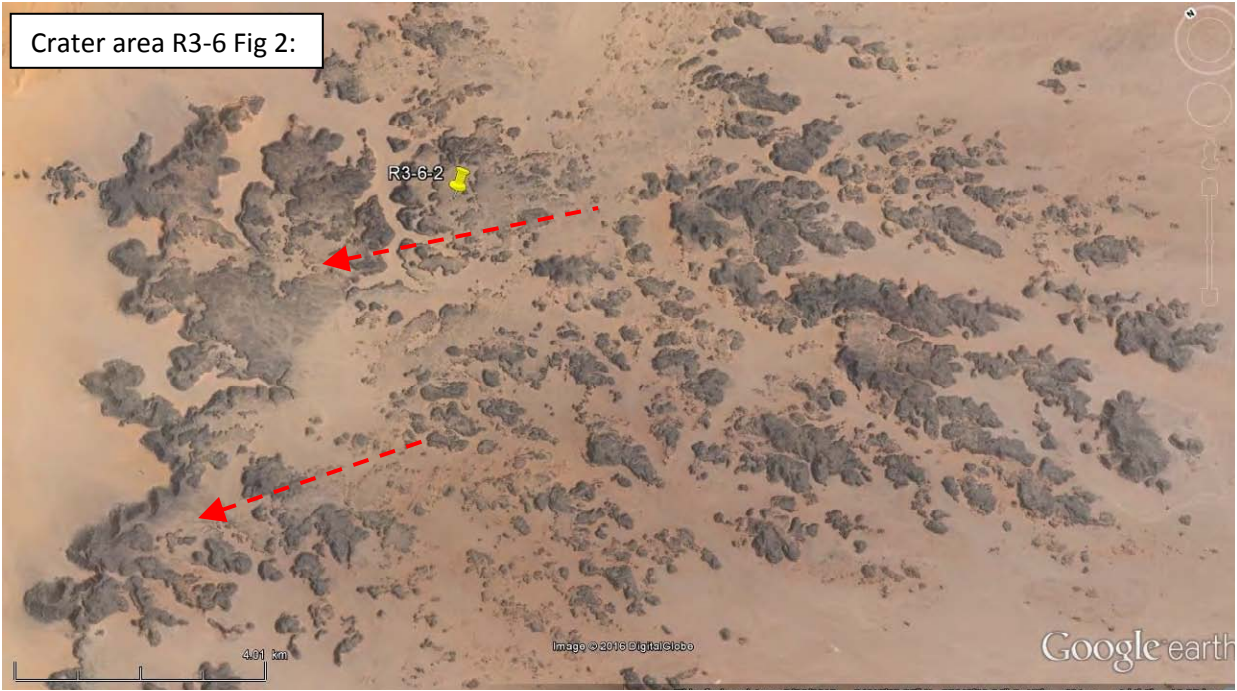
The Crater areas R3-6, R3-7 & R3-8 are located in an area with a thick sediment cover. Therefore the crater floor areas can only be reached by drilling. However Crater R3-6 and especially R3-7 seem to have produced considerable Ejecta area which is easy accessible (\rightarrow the mountain area south and south-west of the assumed crater R3-7).

Therefore the Ejecta-area south-west of Crater R3-7 should be a favorite destination for research of this large scale impact event because it seems to contain many geological- & structural traces which should help to reconstruct and proof the impact event.

The assumed Impact Crater R3-8 doesn't seem to have left any ejecta material which is easy accessible. Only one location was found where ejecta may be accessible on the surface. The whole Crater area R3-8 is covered by thick layers of sediments.

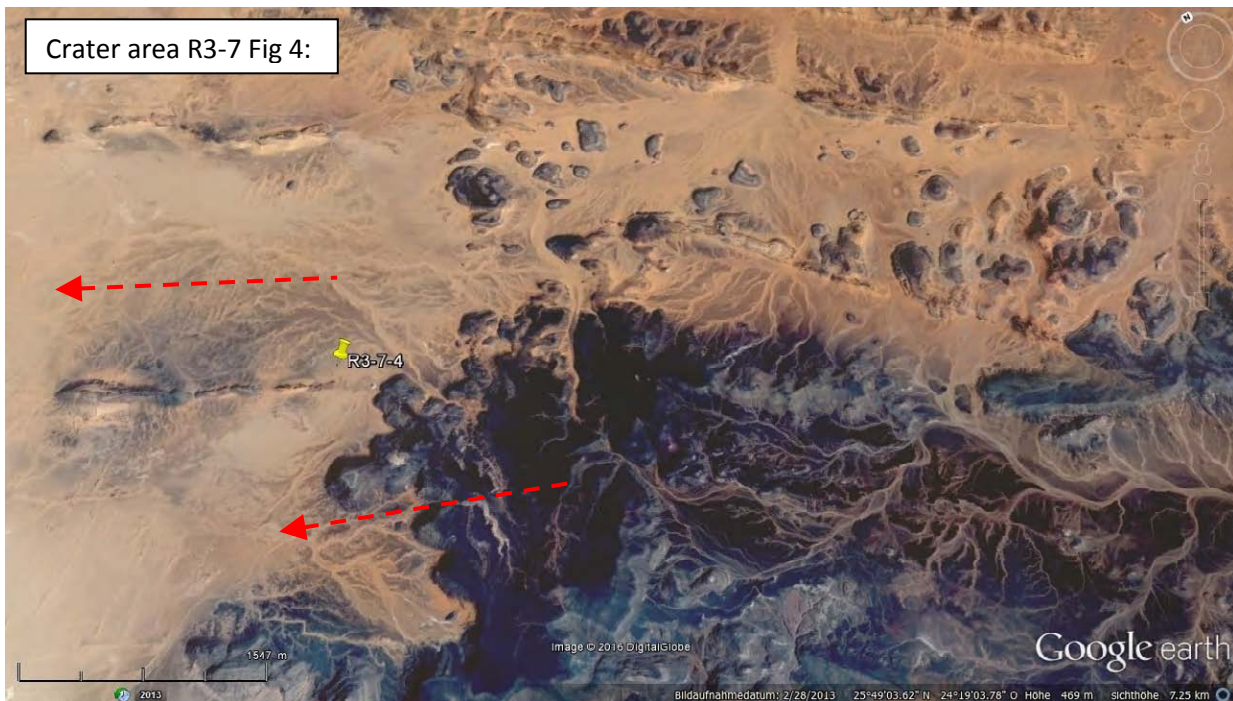
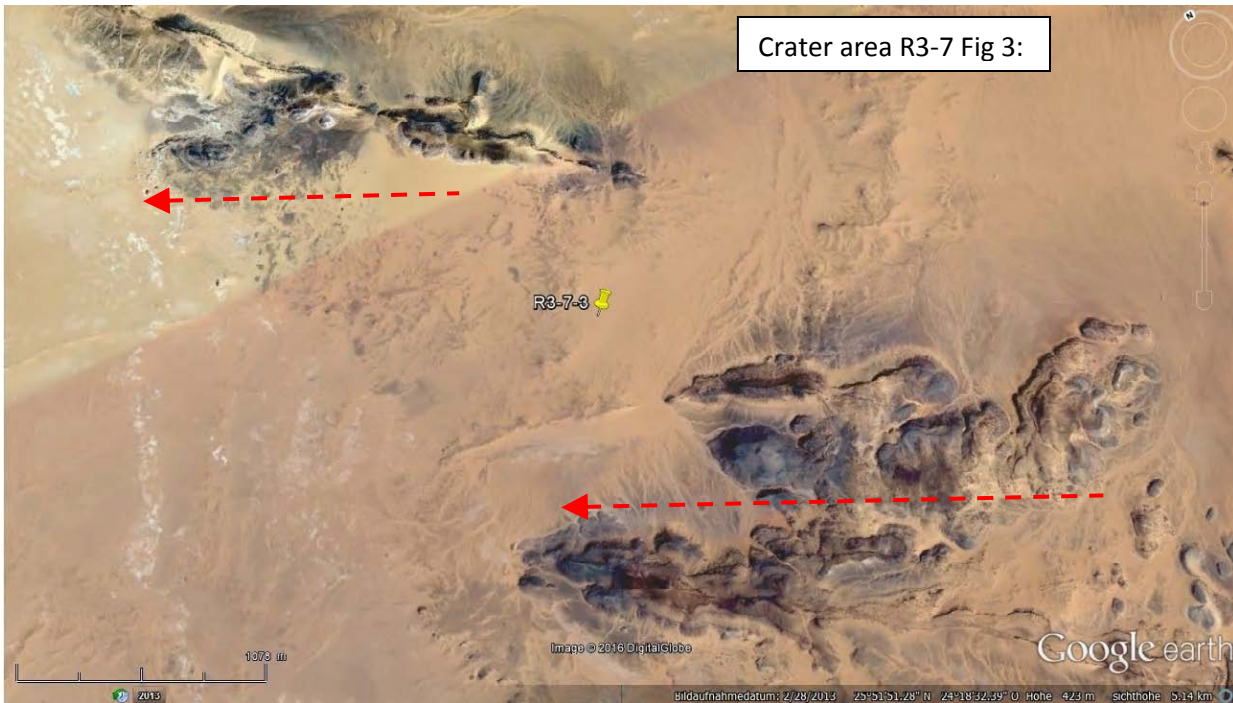
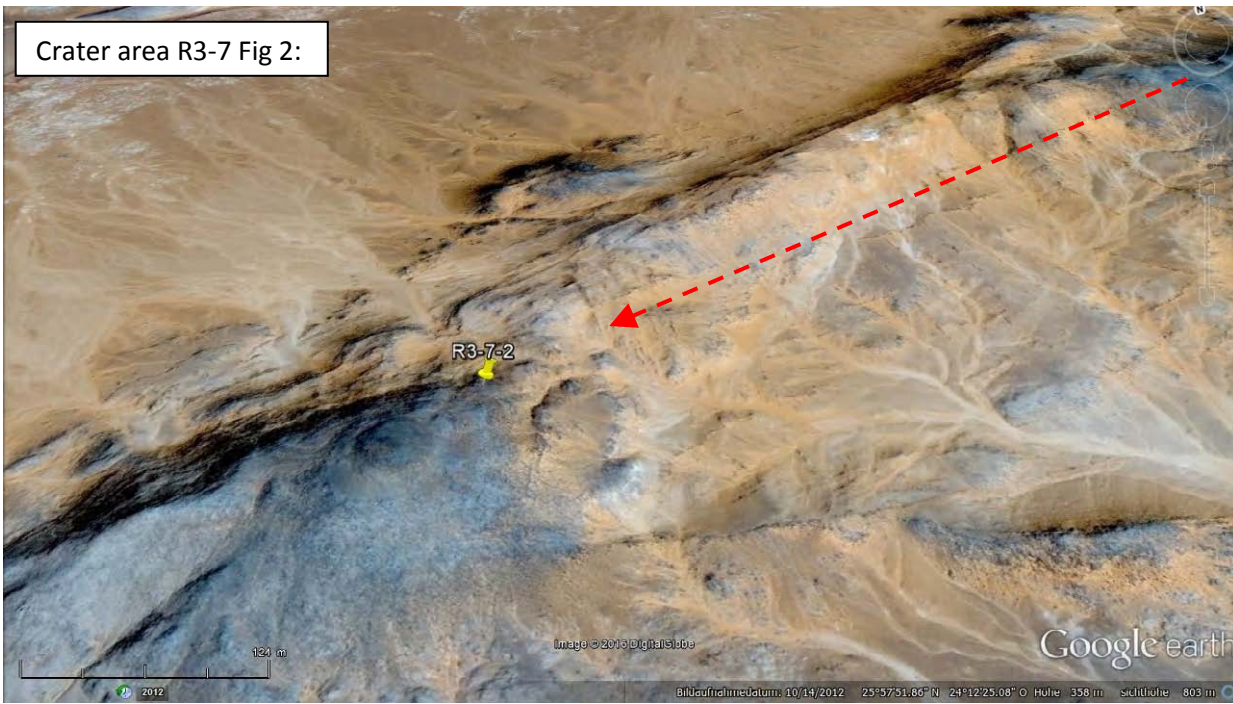
I want to show now a number of interesting sites of the mentioned ejecta areas which could be used as starting points :

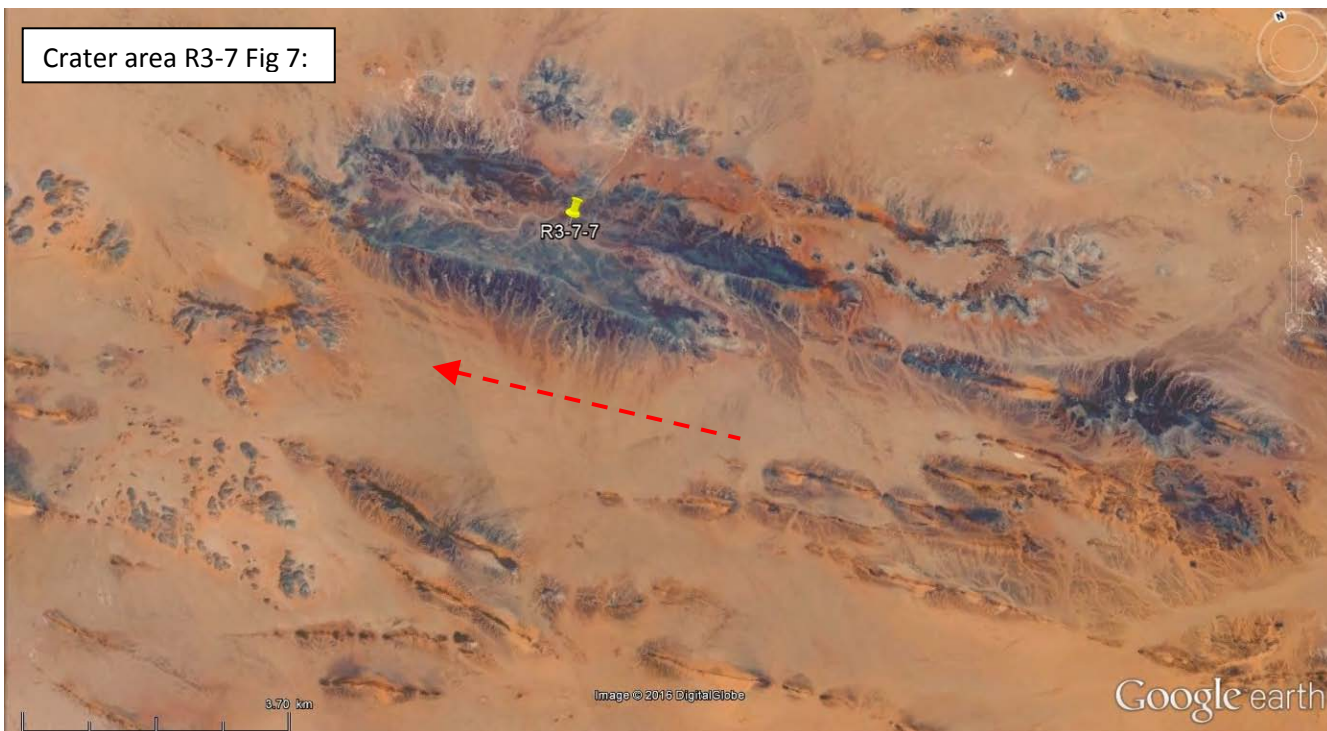
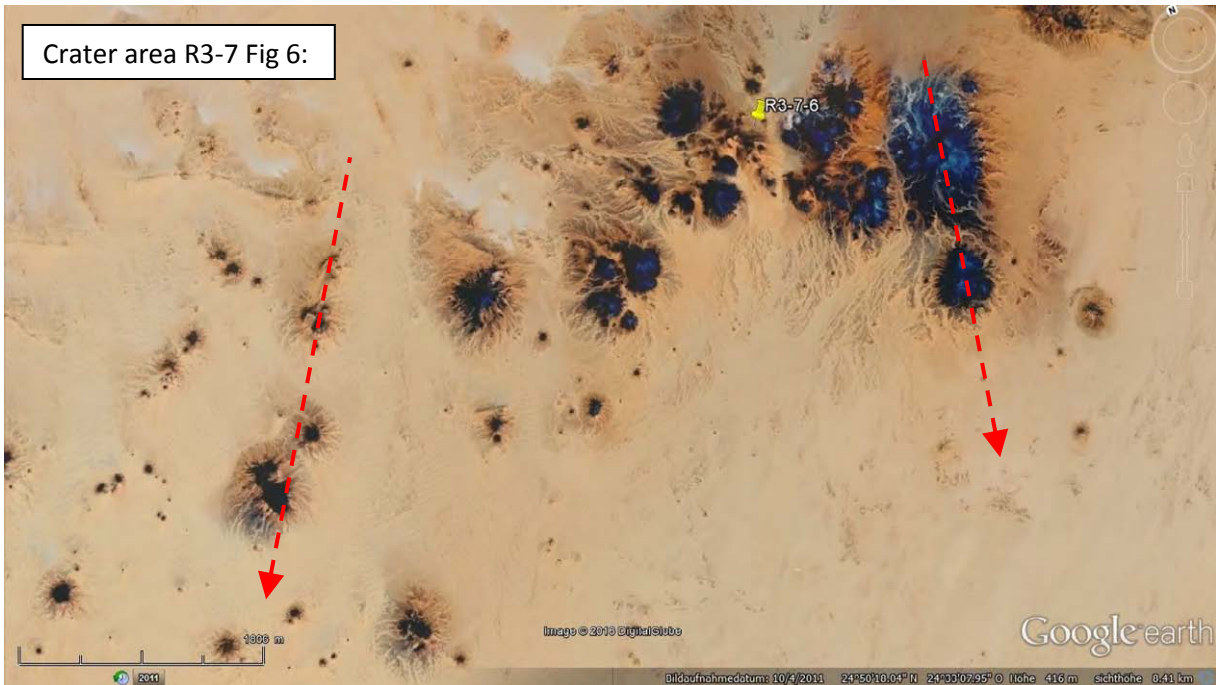
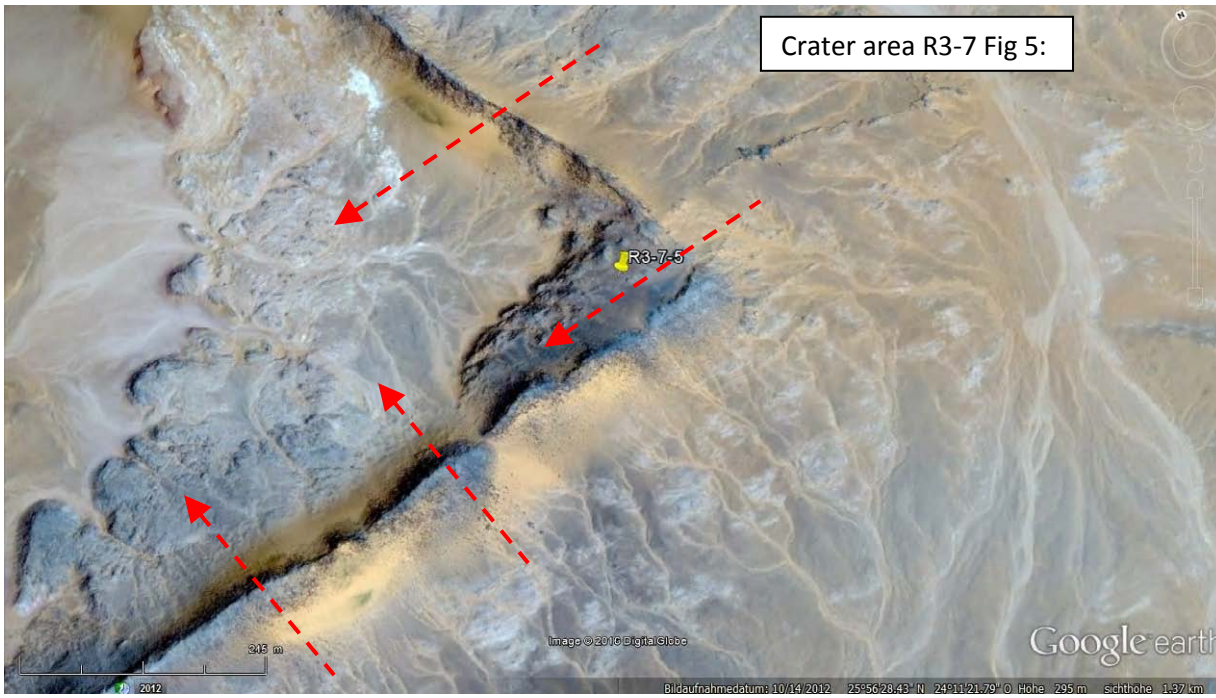


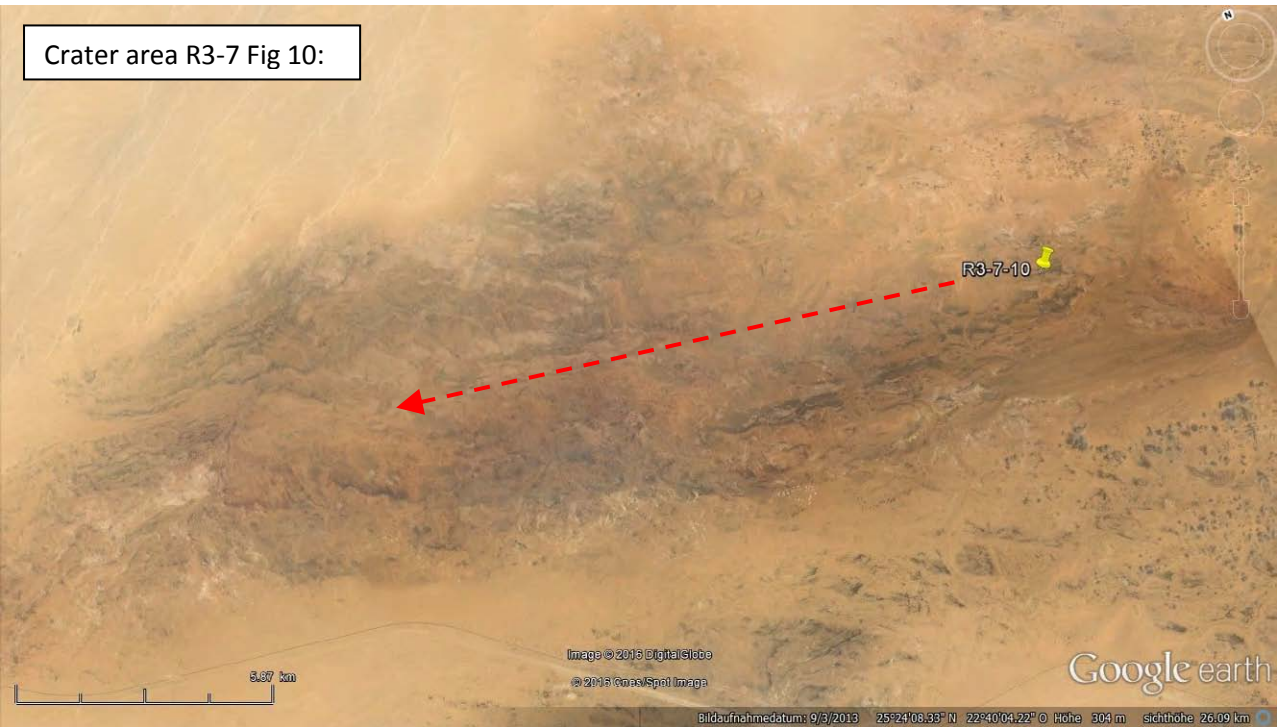
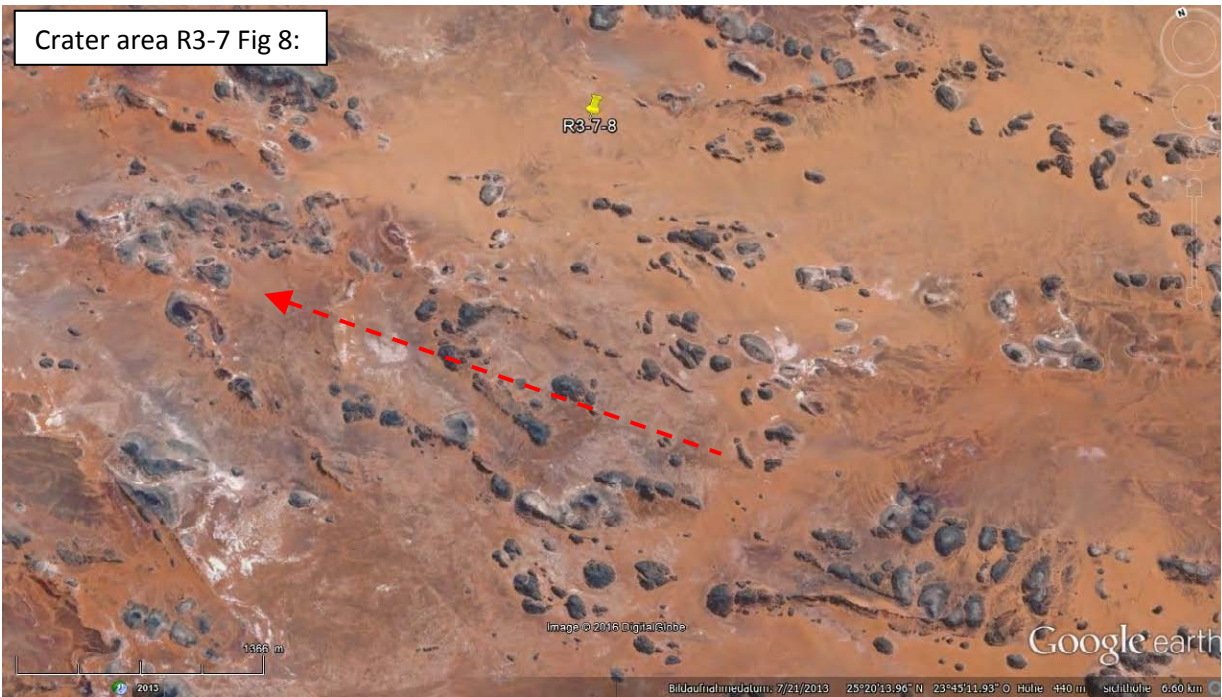


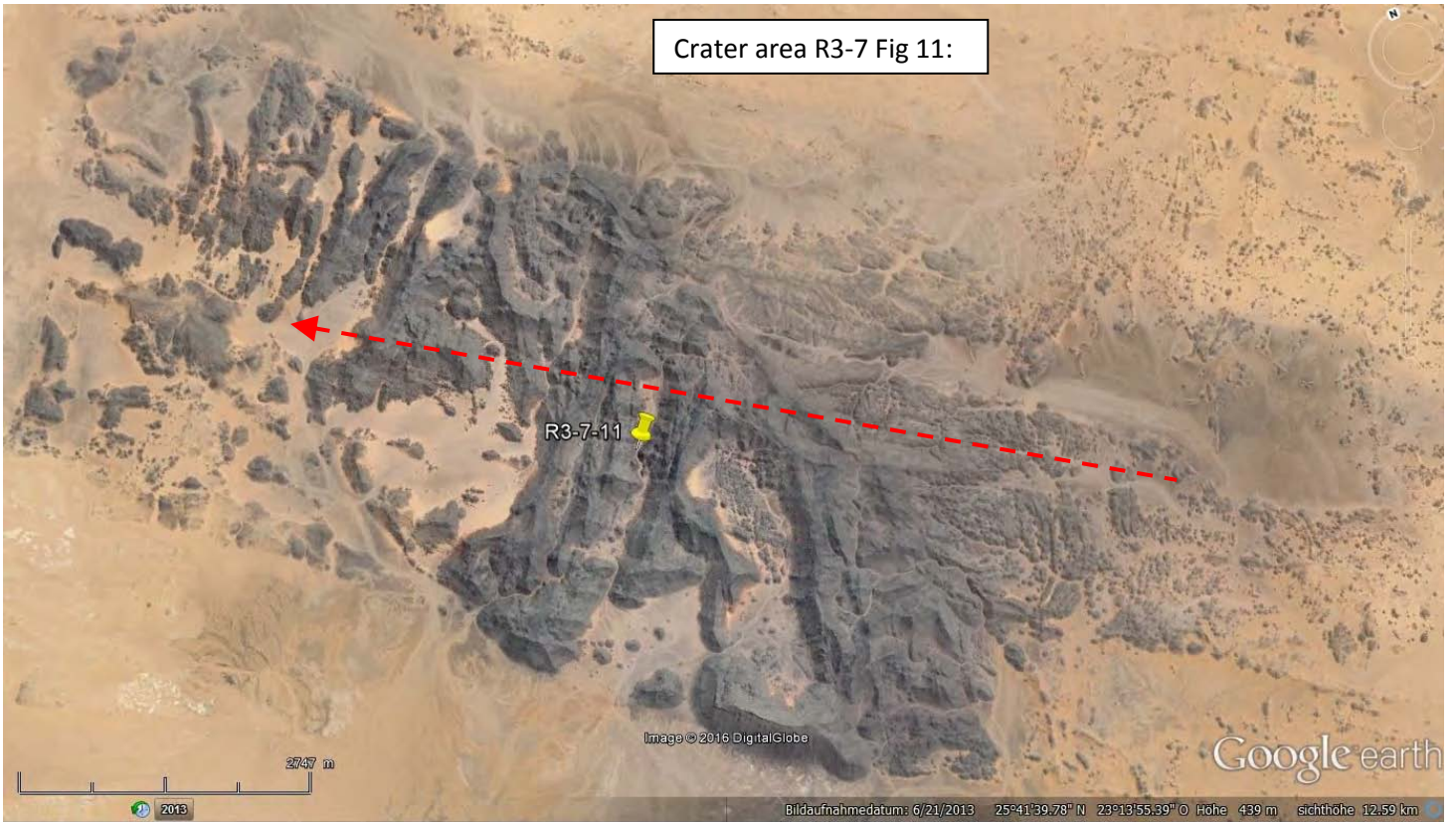
Crater area R3-7 Fig 1:









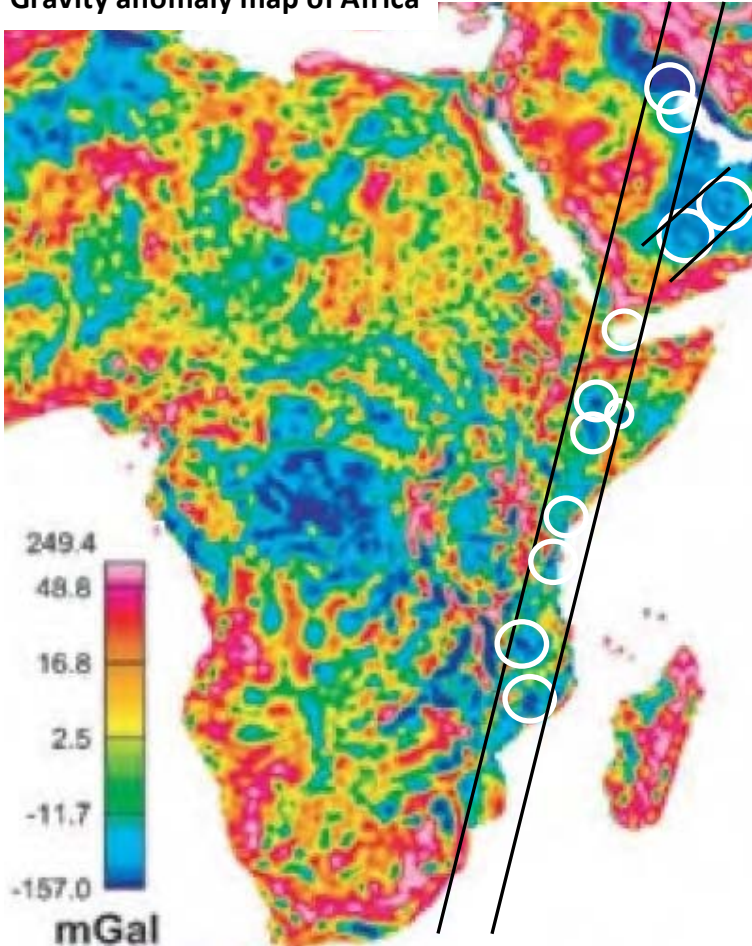


A6 Examination of the assumed Impact Crater Chain (Ejecta Ray) R4 :

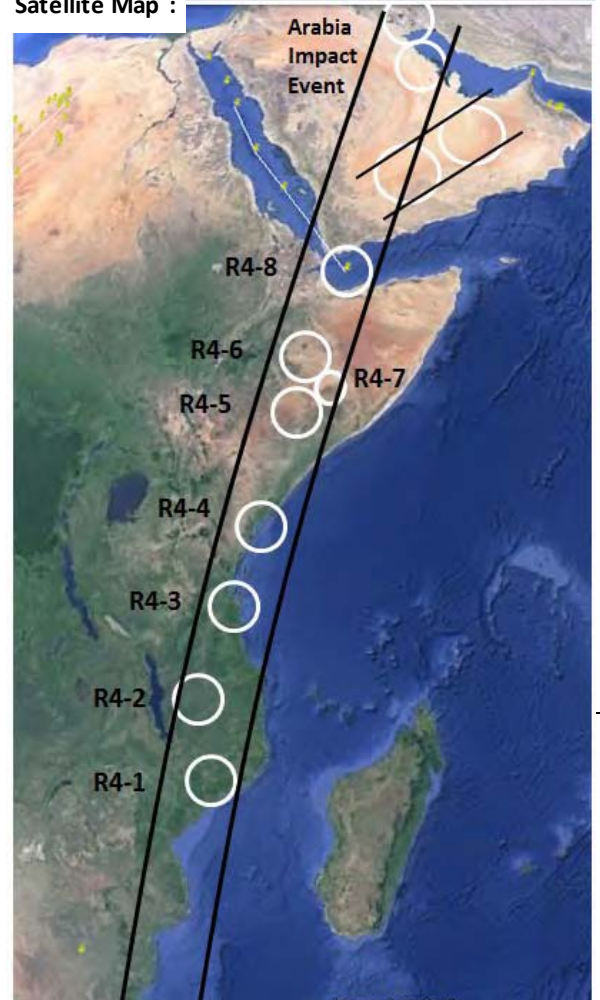
(by Harry K. Hahn)

In this document I want to show the crater areas of the assumed **Ejecta Ray R4** of the PT-Impact Event, which are indicated on the gravity anomaly map as negative anomalies (→ blue). I show the approximate location of the assumed **Craters R4-1 to R4-8** on the satellite map, and some selected areas which seem to show impact structures and ejecta structures which were caused by these impact craters. Because the assumed Ejecta Ray (Crater Chain) area R4 is mostly covered sediments and/or volcanic (magmatic) material (a result of this impact event , there are only few locations where impact structures & ejecta material may be accessible.

Gravity anomaly map of Africa

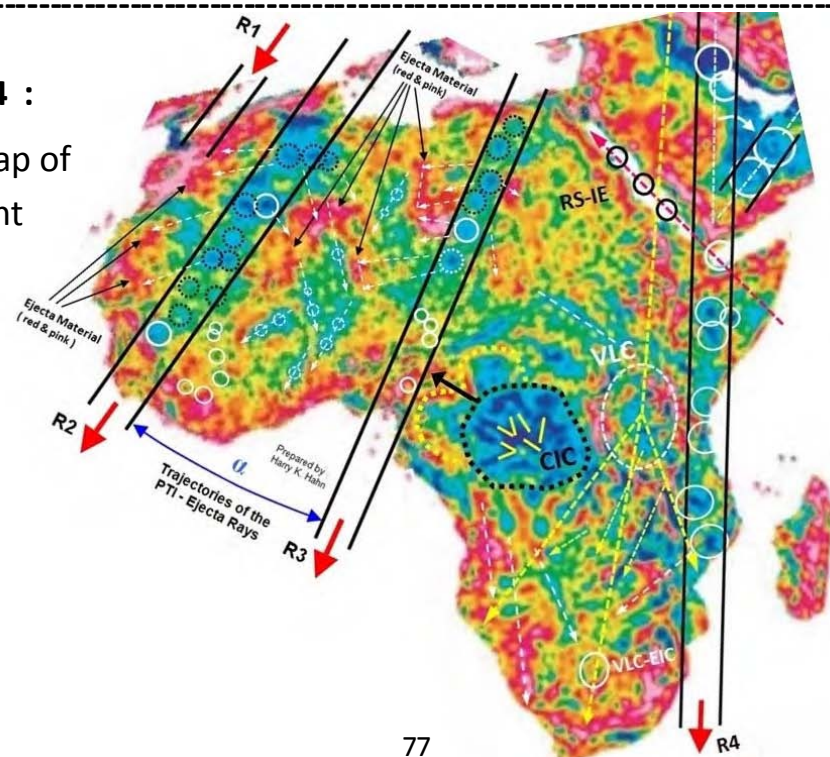


Satellite Map :



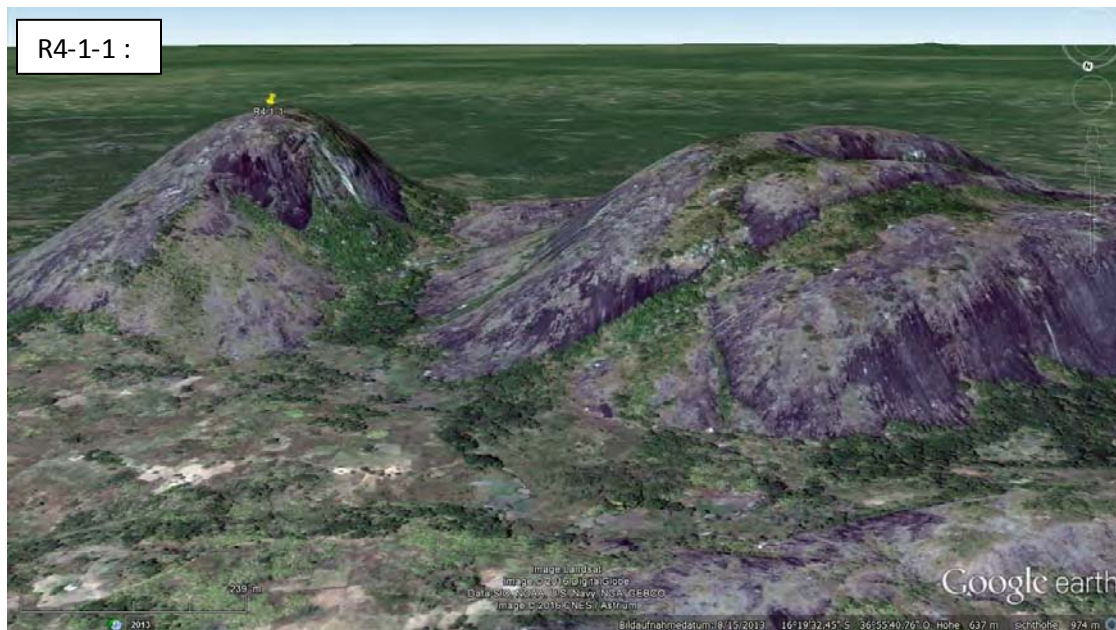
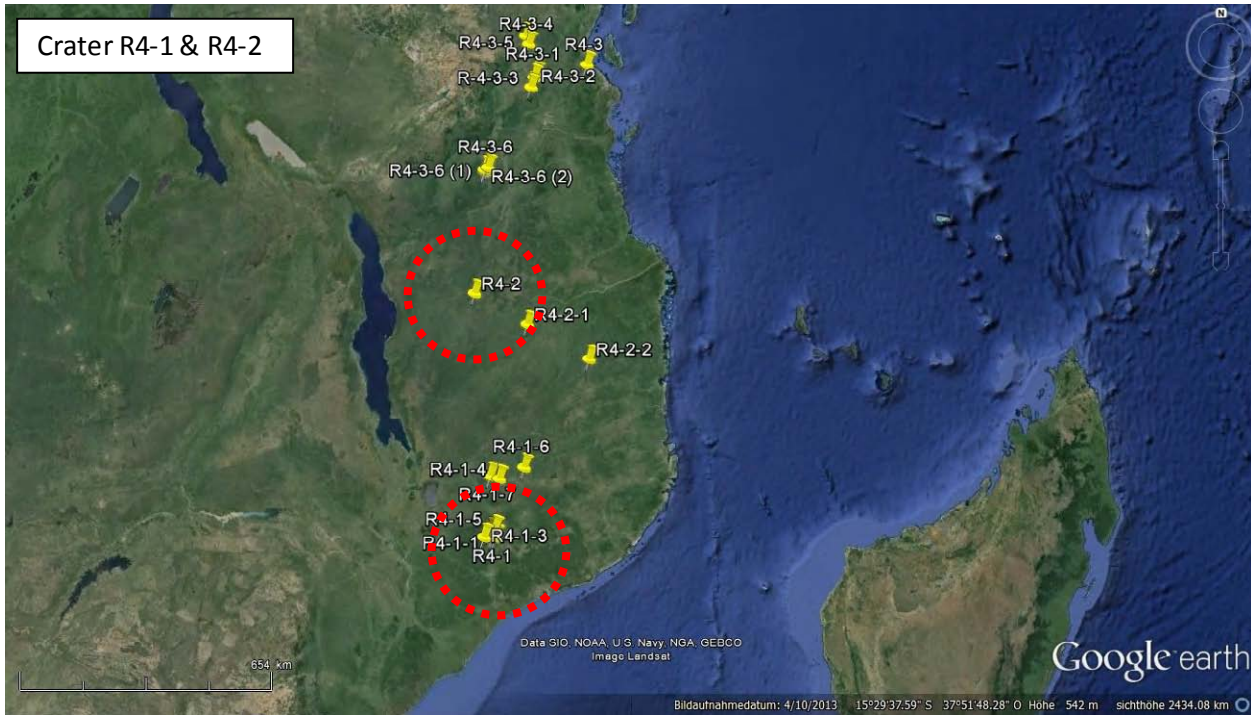
Overview of ejecta rays R1 to R4 :

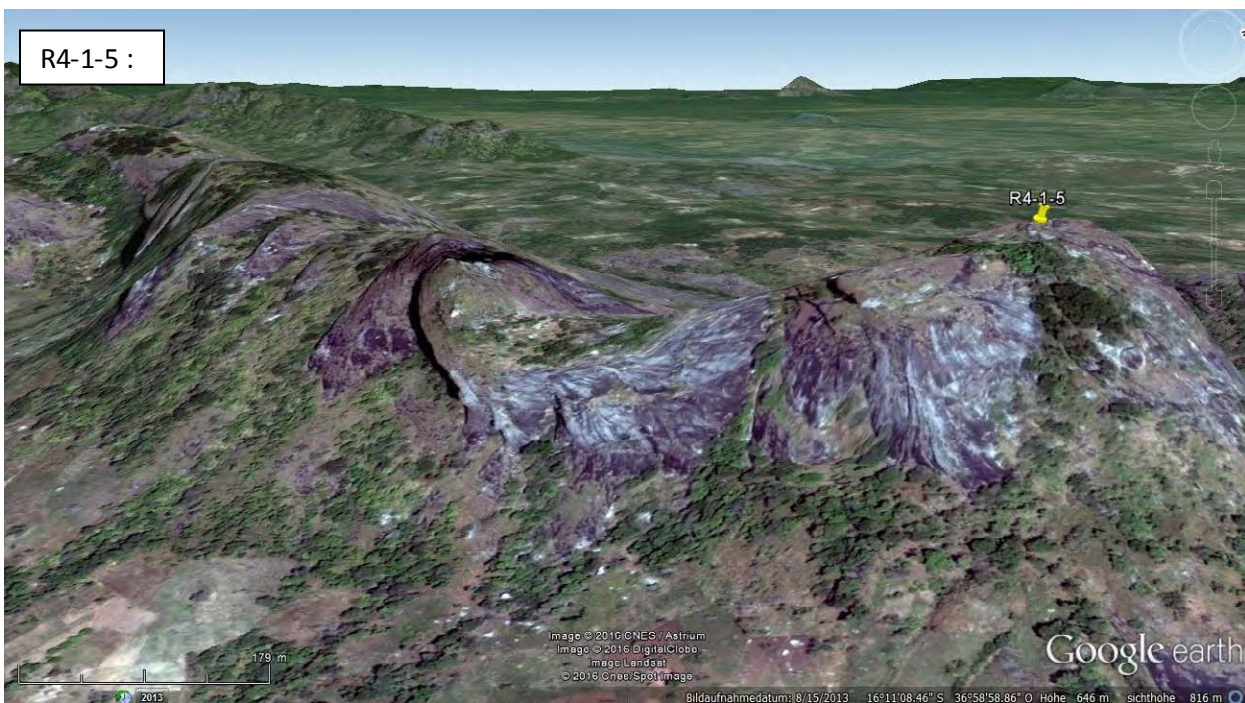
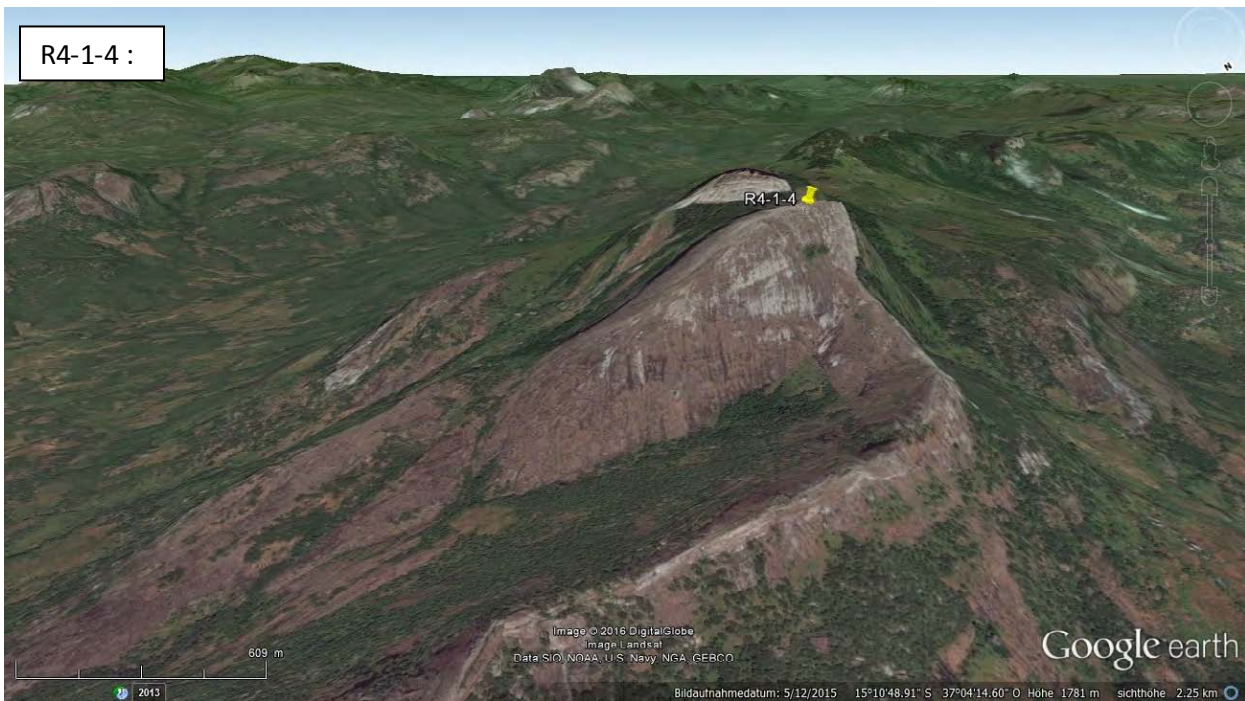
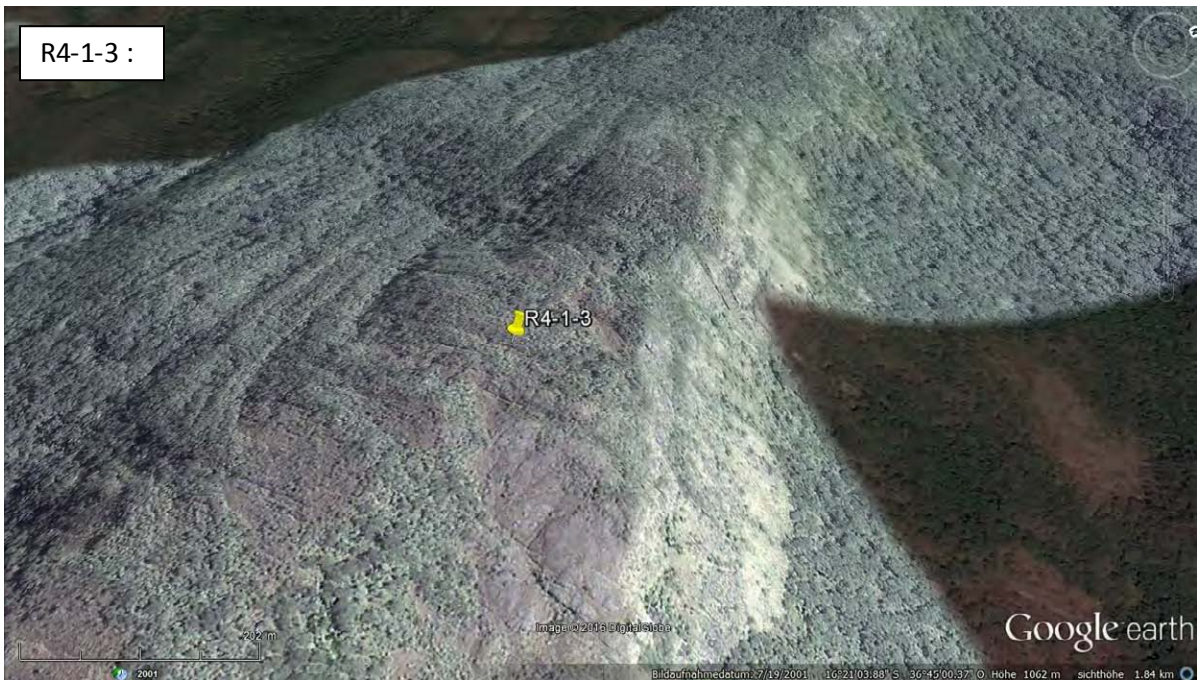
Gravity Anomaly Map of the African continent



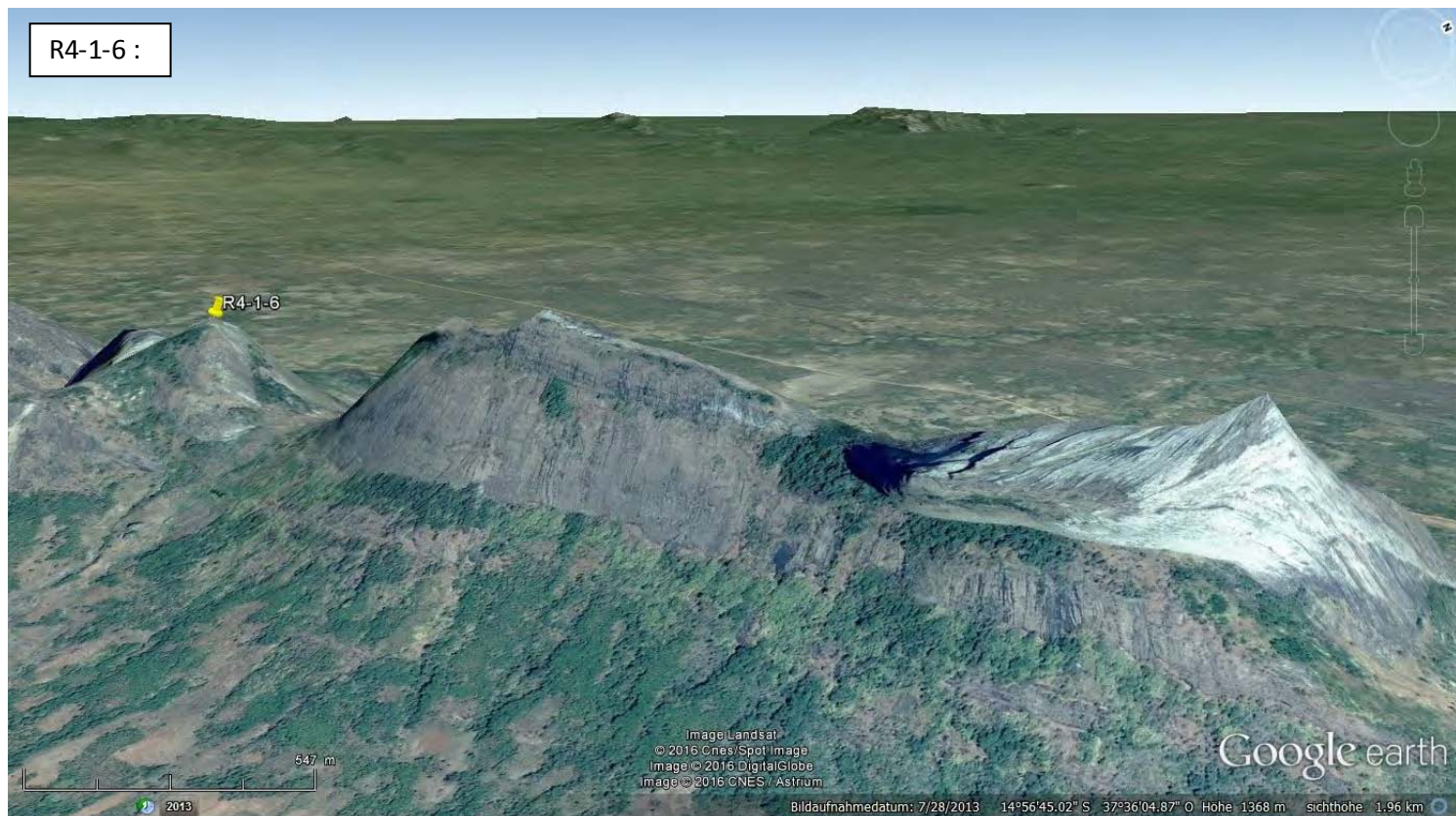
Crater Area R4-1 & R4-2 : (each Crater approx. $\varnothing \sim 300$ km)

The two Crater R4-1 and R4-2 are covered with sediments, and the crater floor can only be reached by drilling. However there may be some remains of crater-wall areas or ejecta areas which may be accessible. See following images :





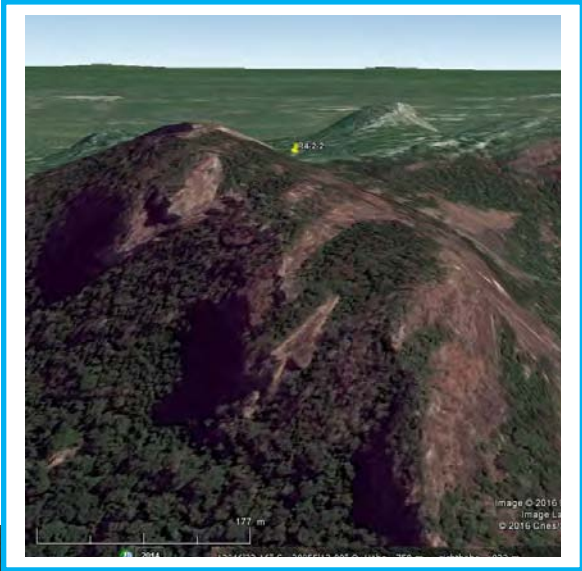
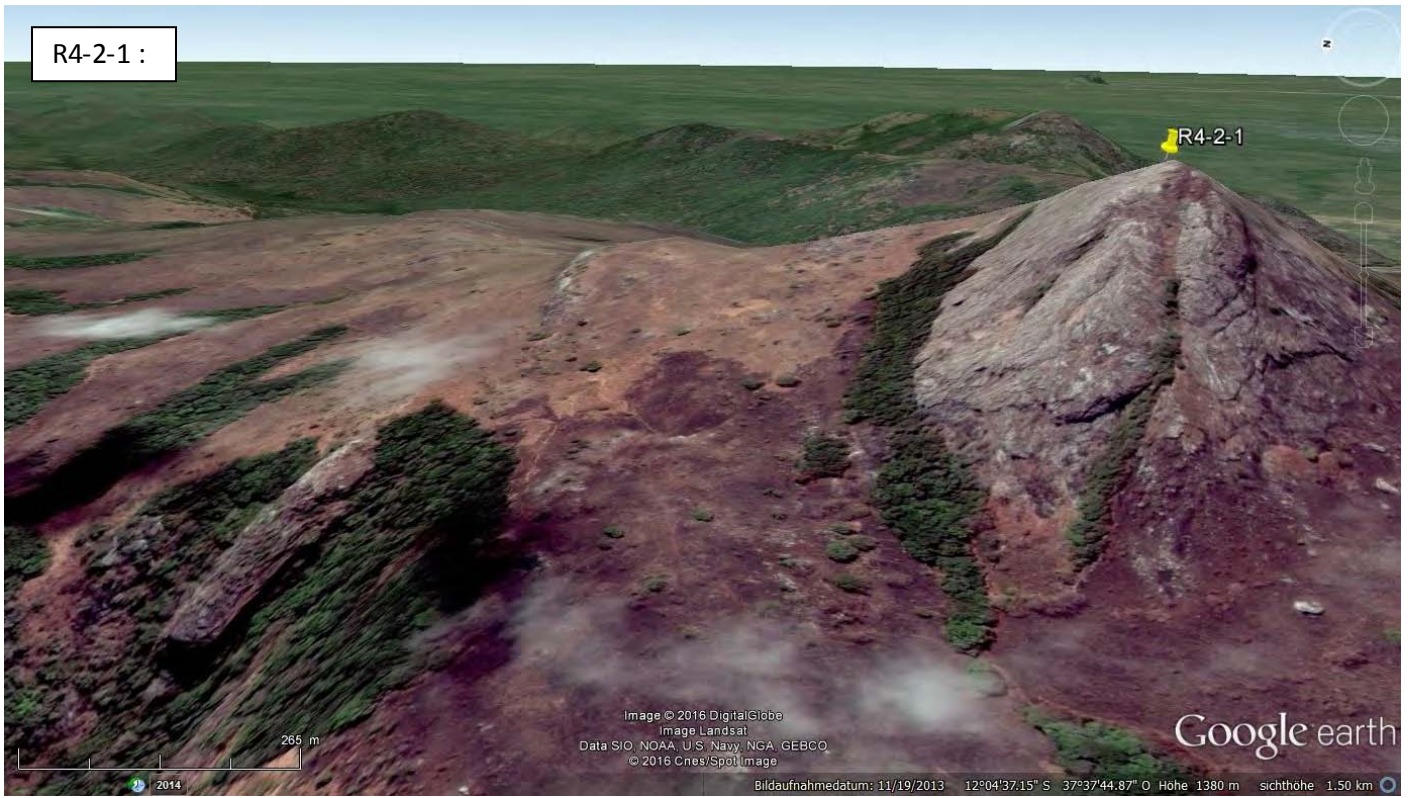
R4-1-6 :



R4-1-7 :

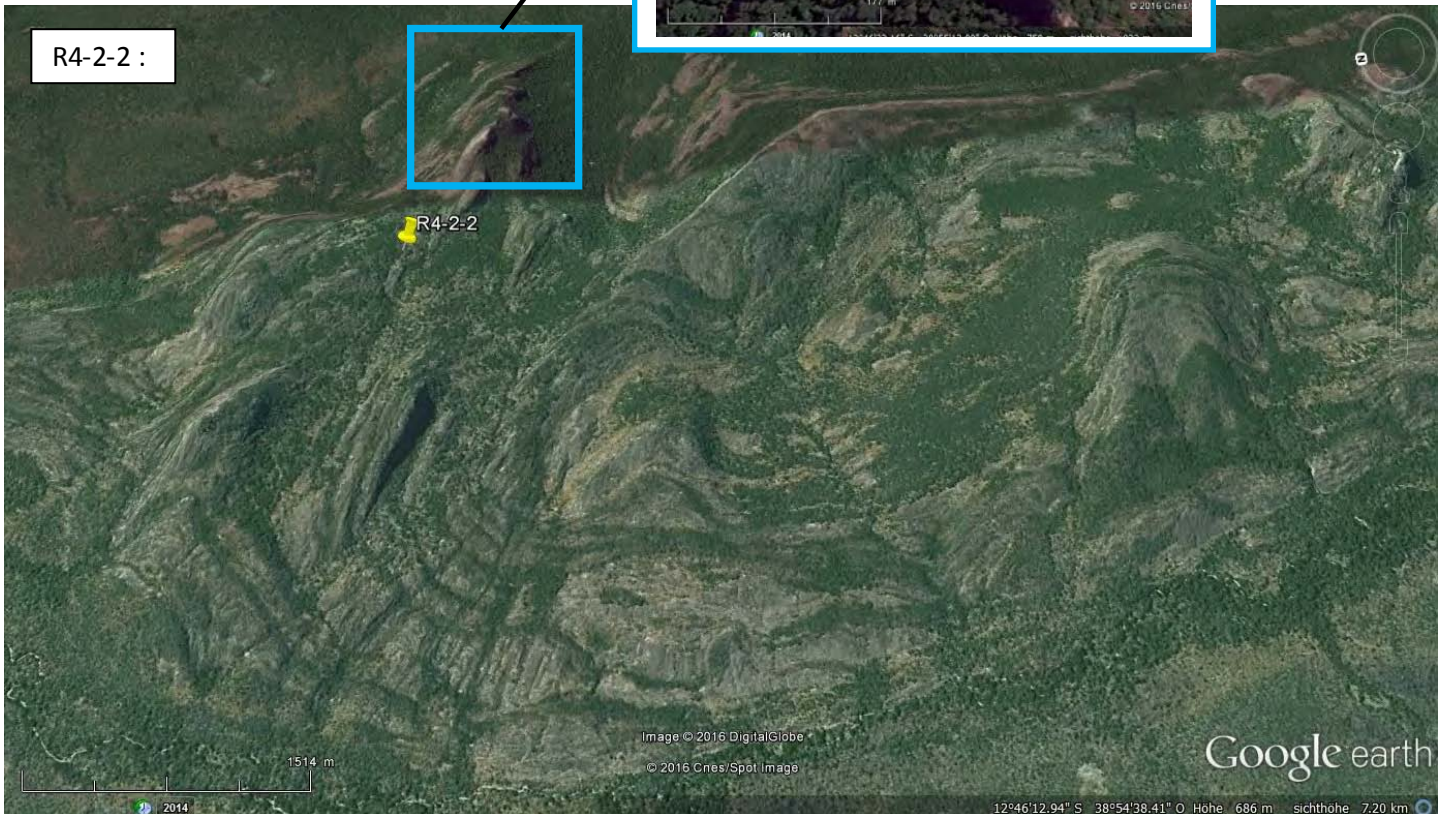


R4-2-1 :

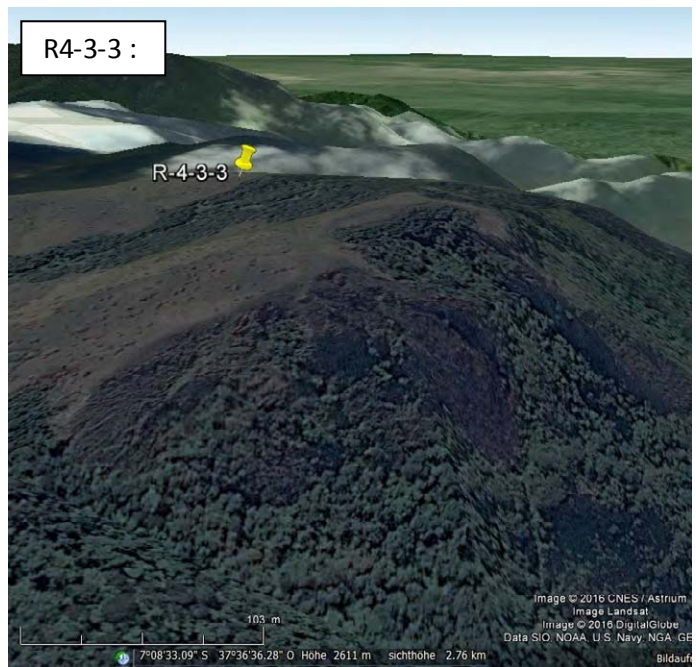
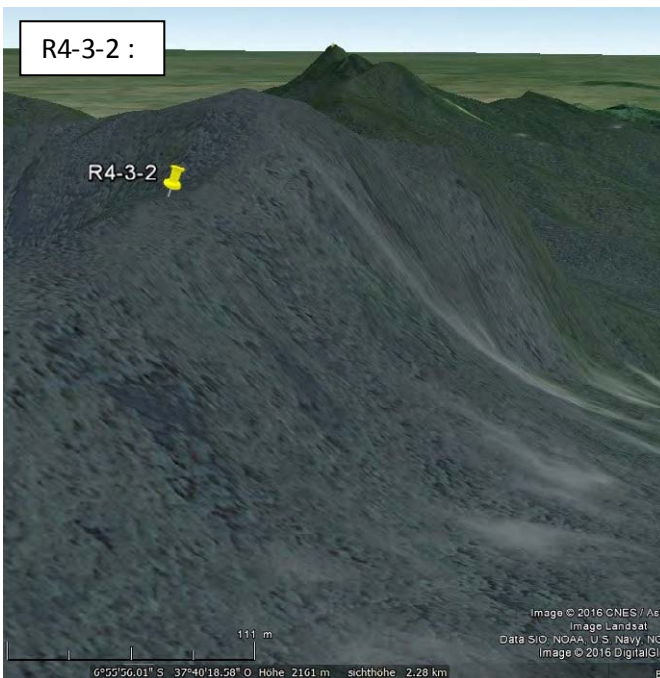
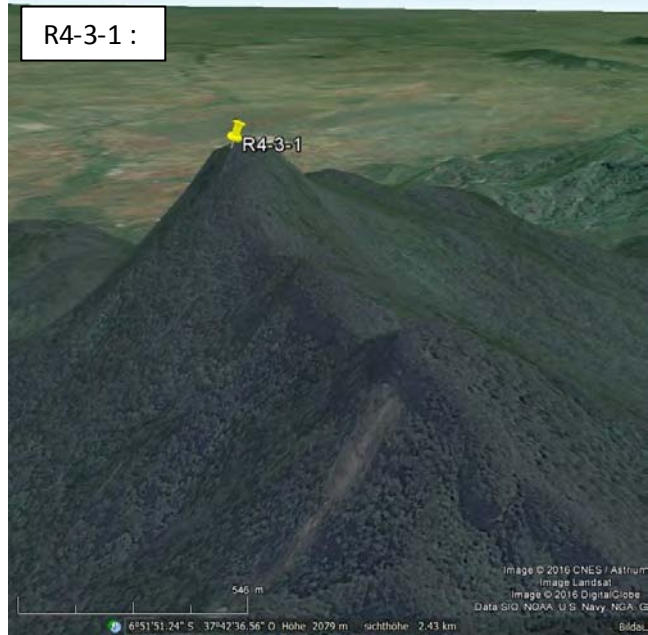
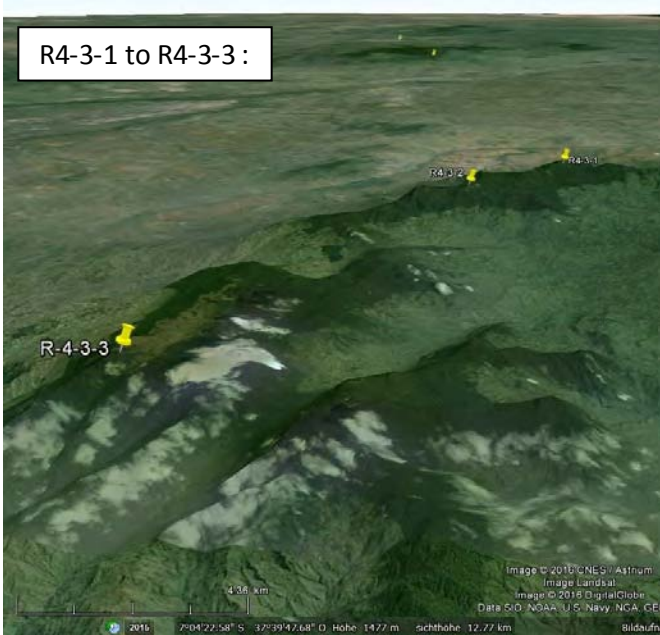
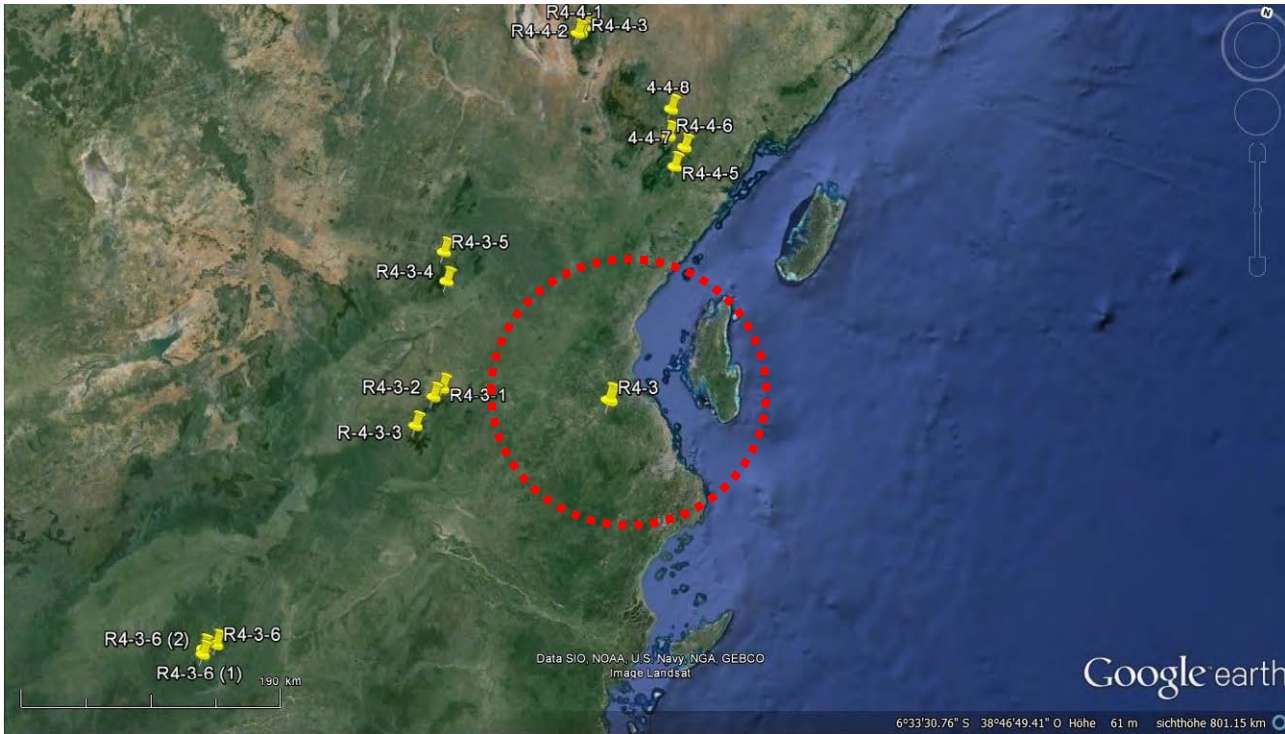


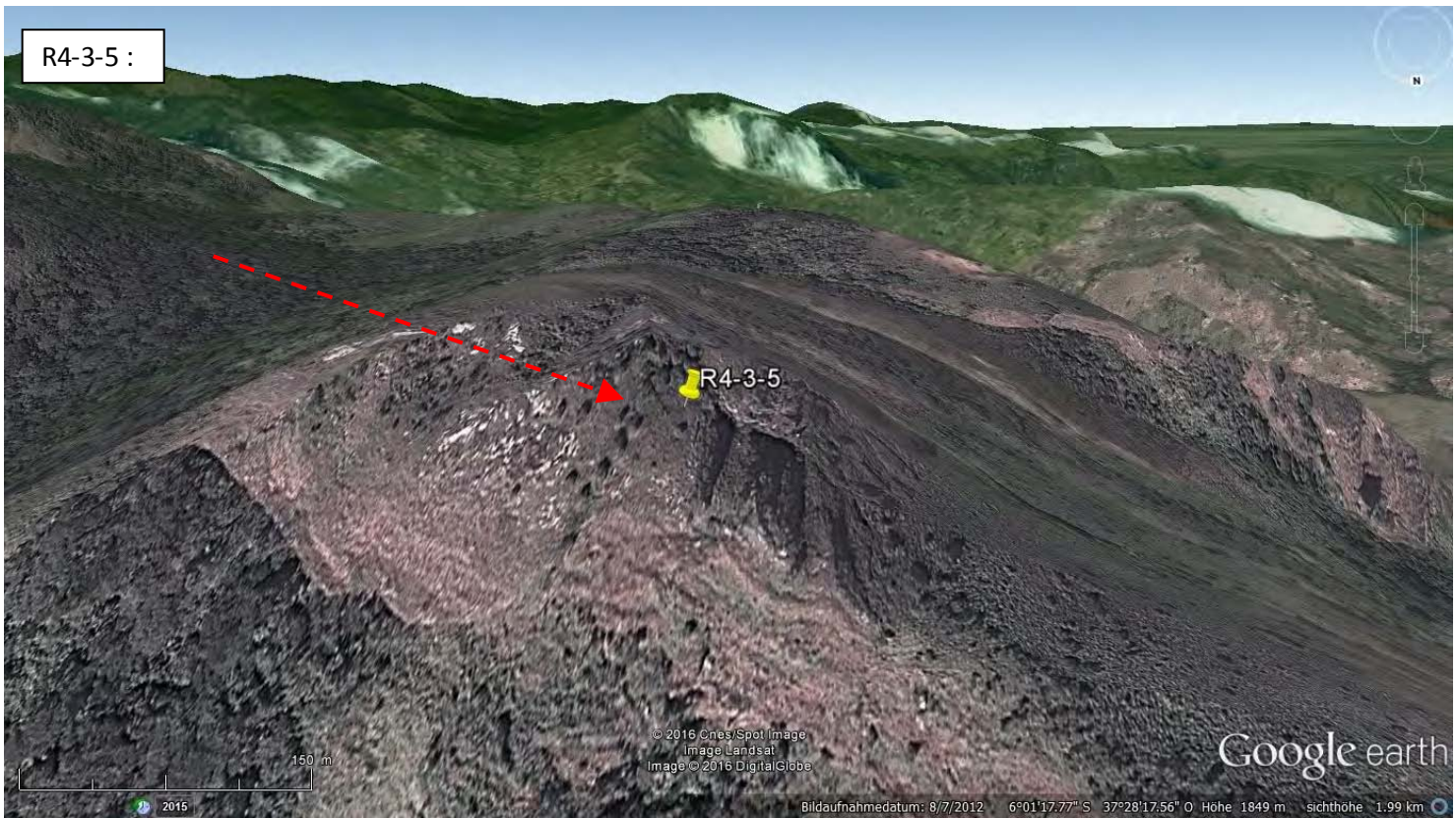
81

R4-2-2 :

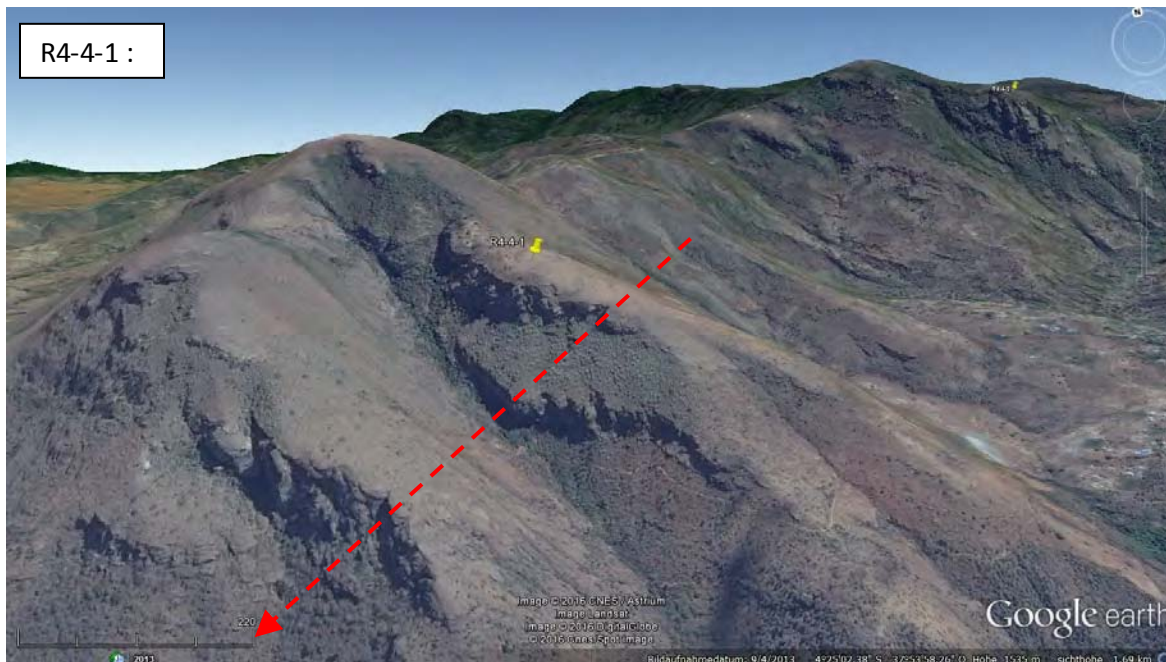
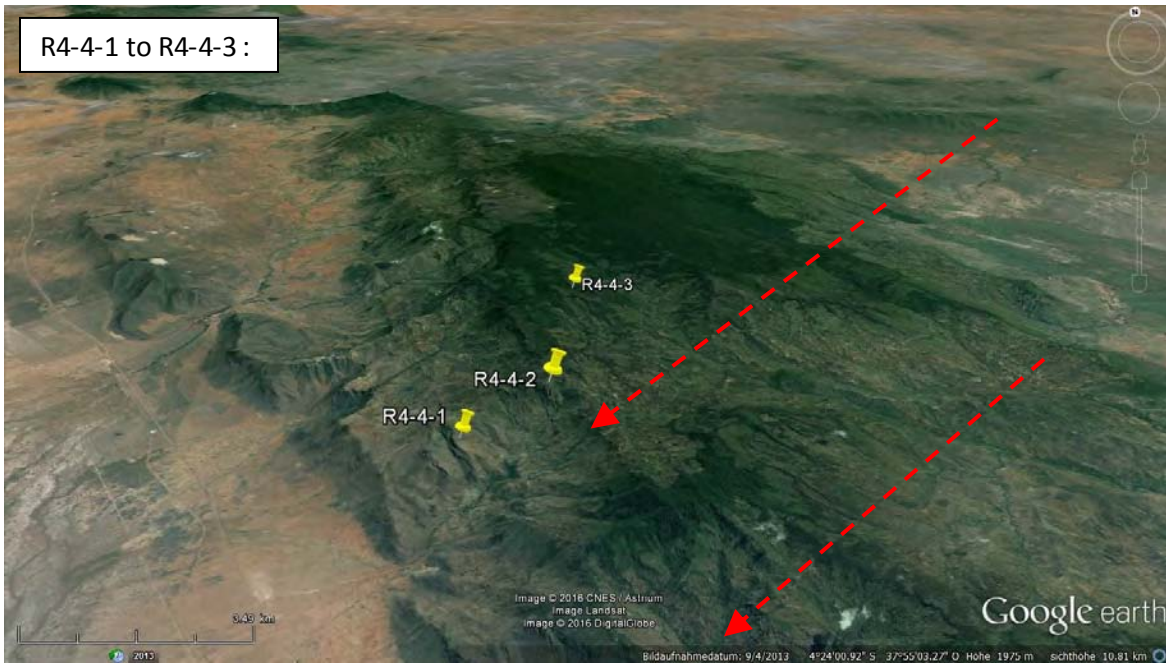
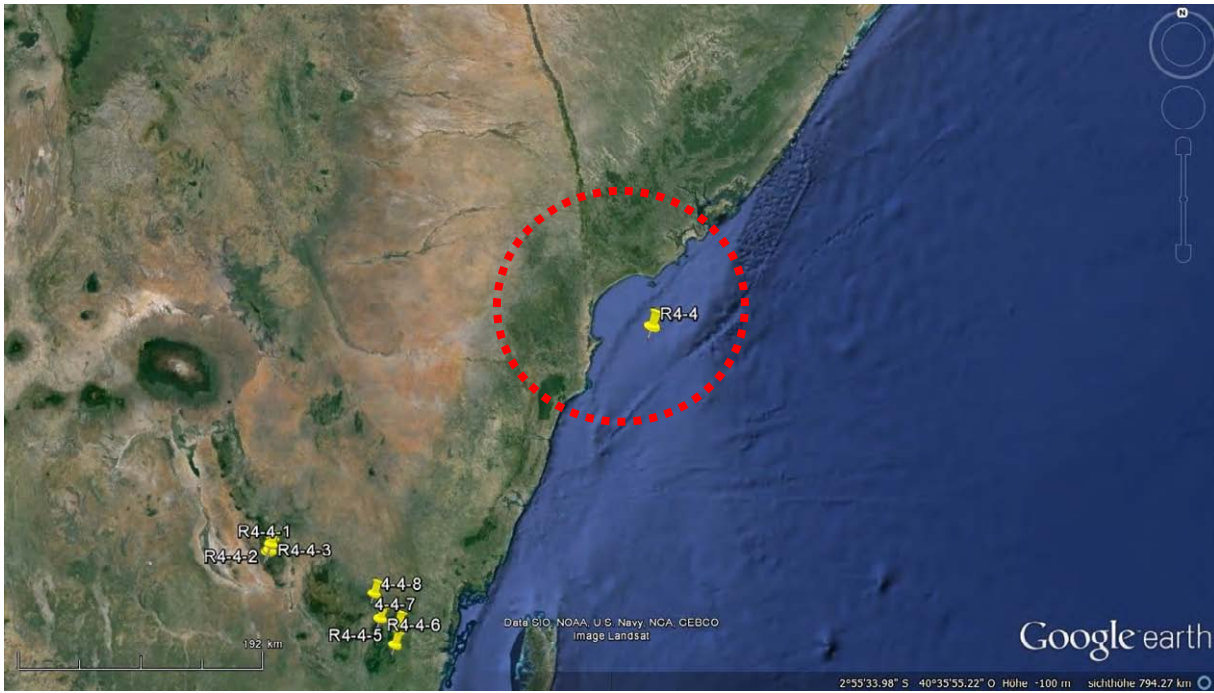


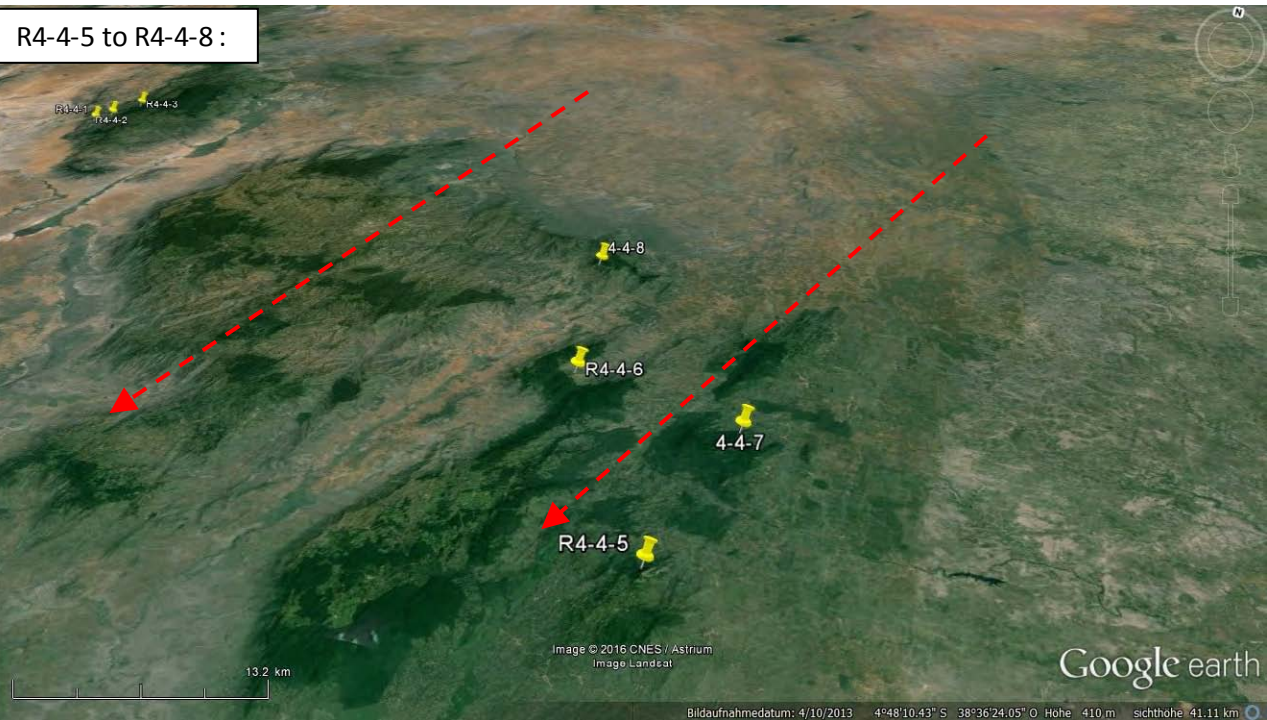
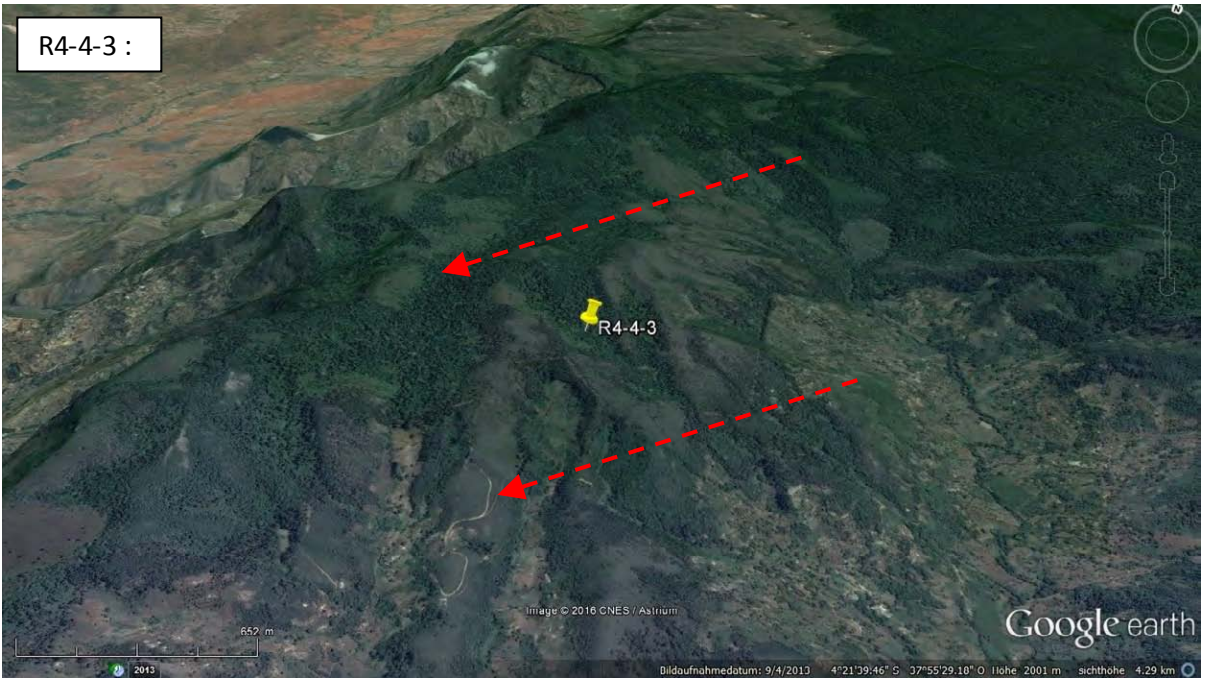
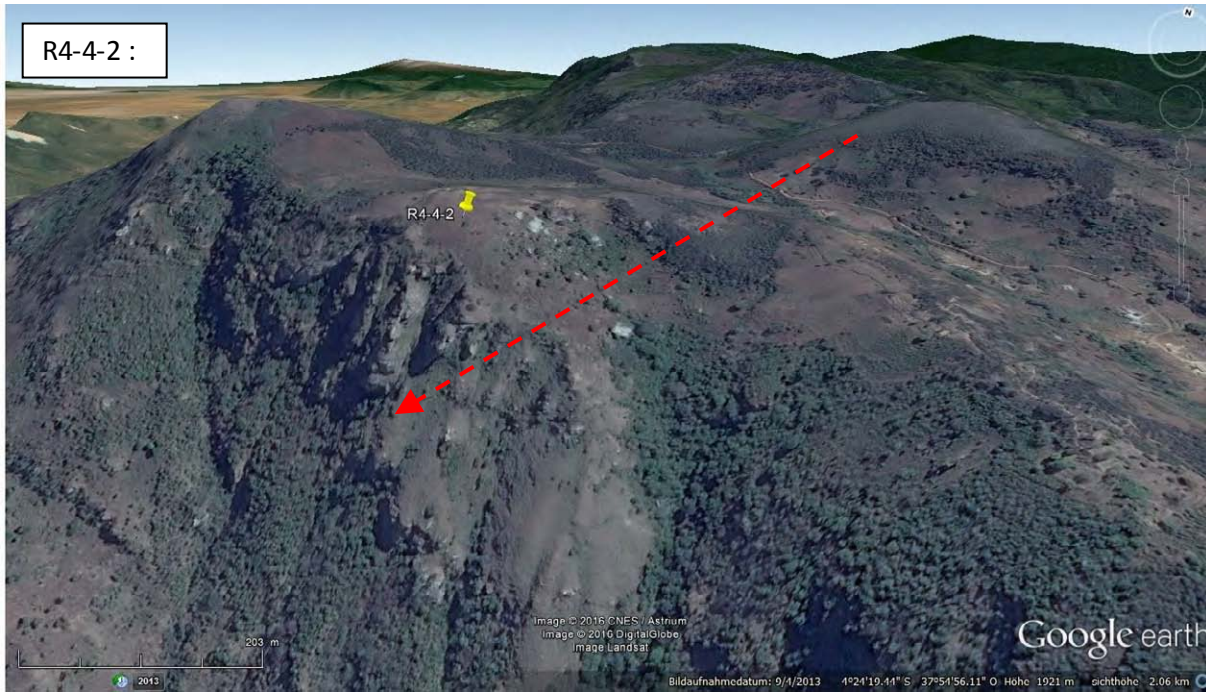
Crater Area R4-3 : (Crater approx. $\varnothing \sim 200$ km)



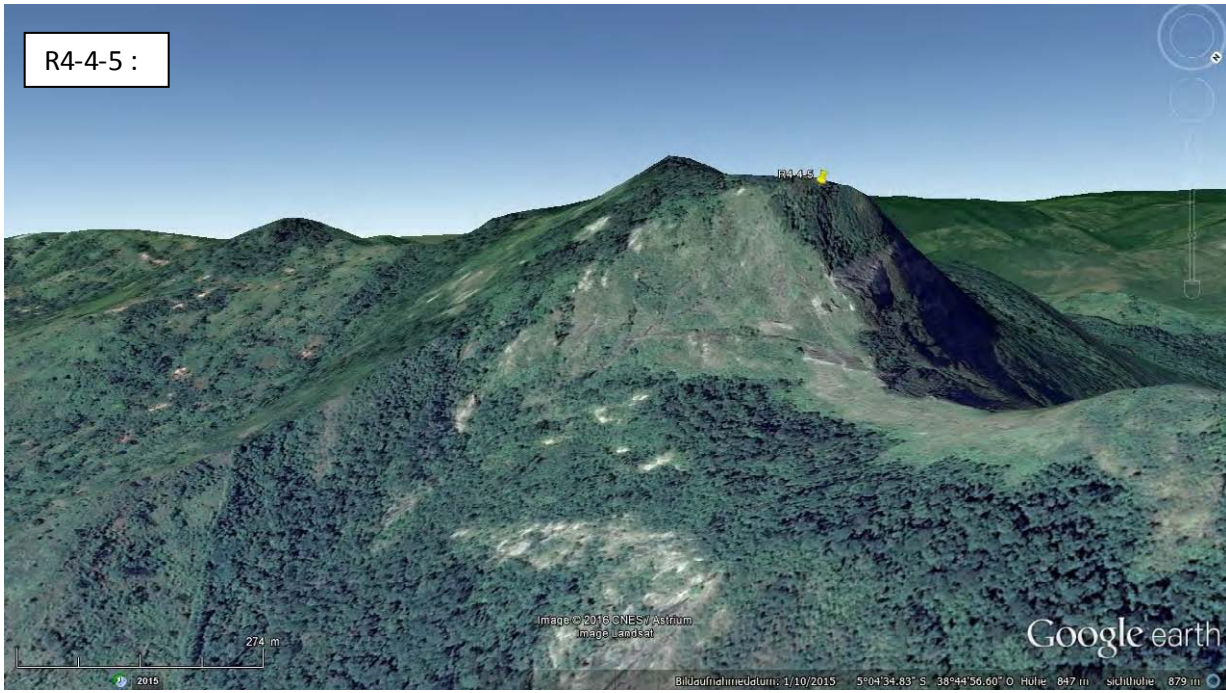


Crater Area R4-4 : (Crater R4-4 approx. $\varnothing \sim 200$ km)

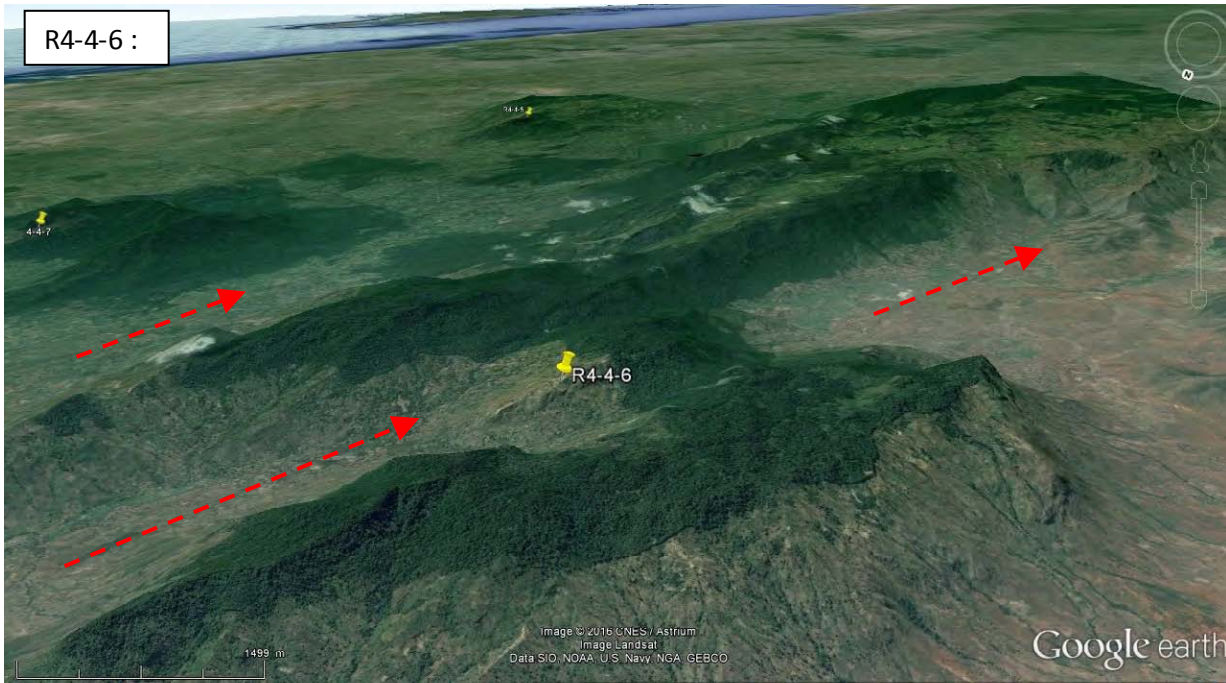




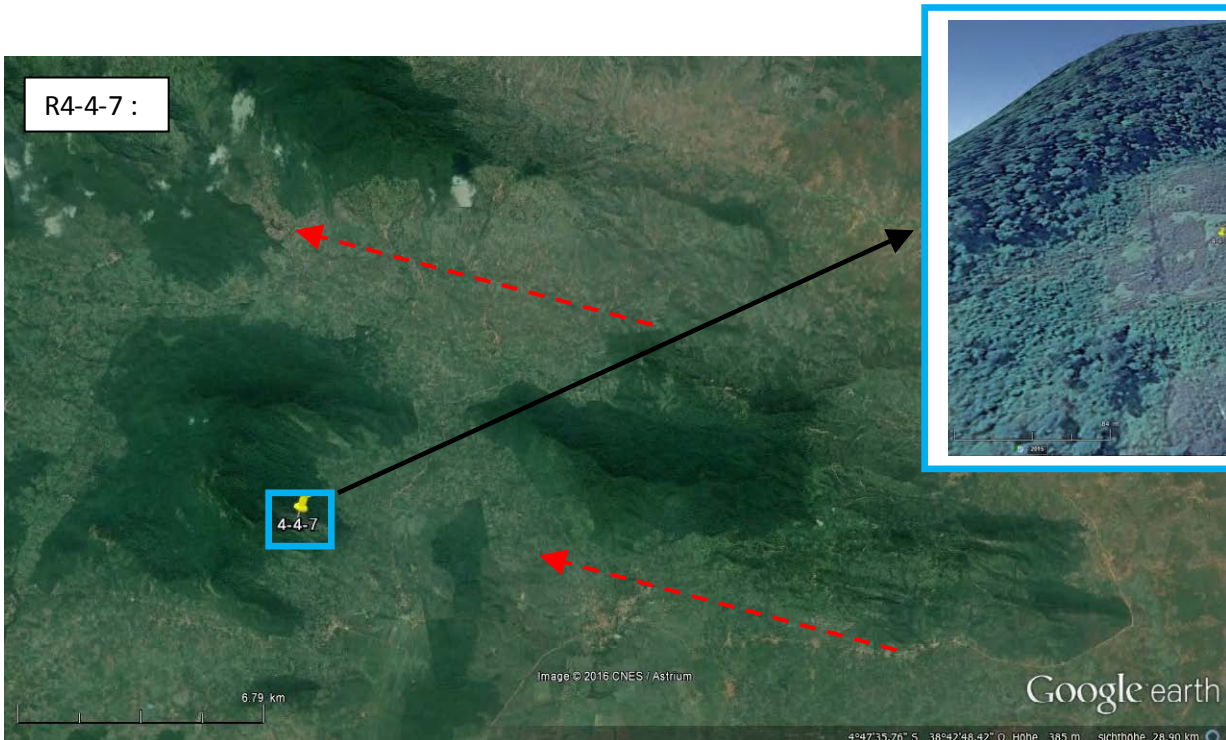
R4-4-5 :



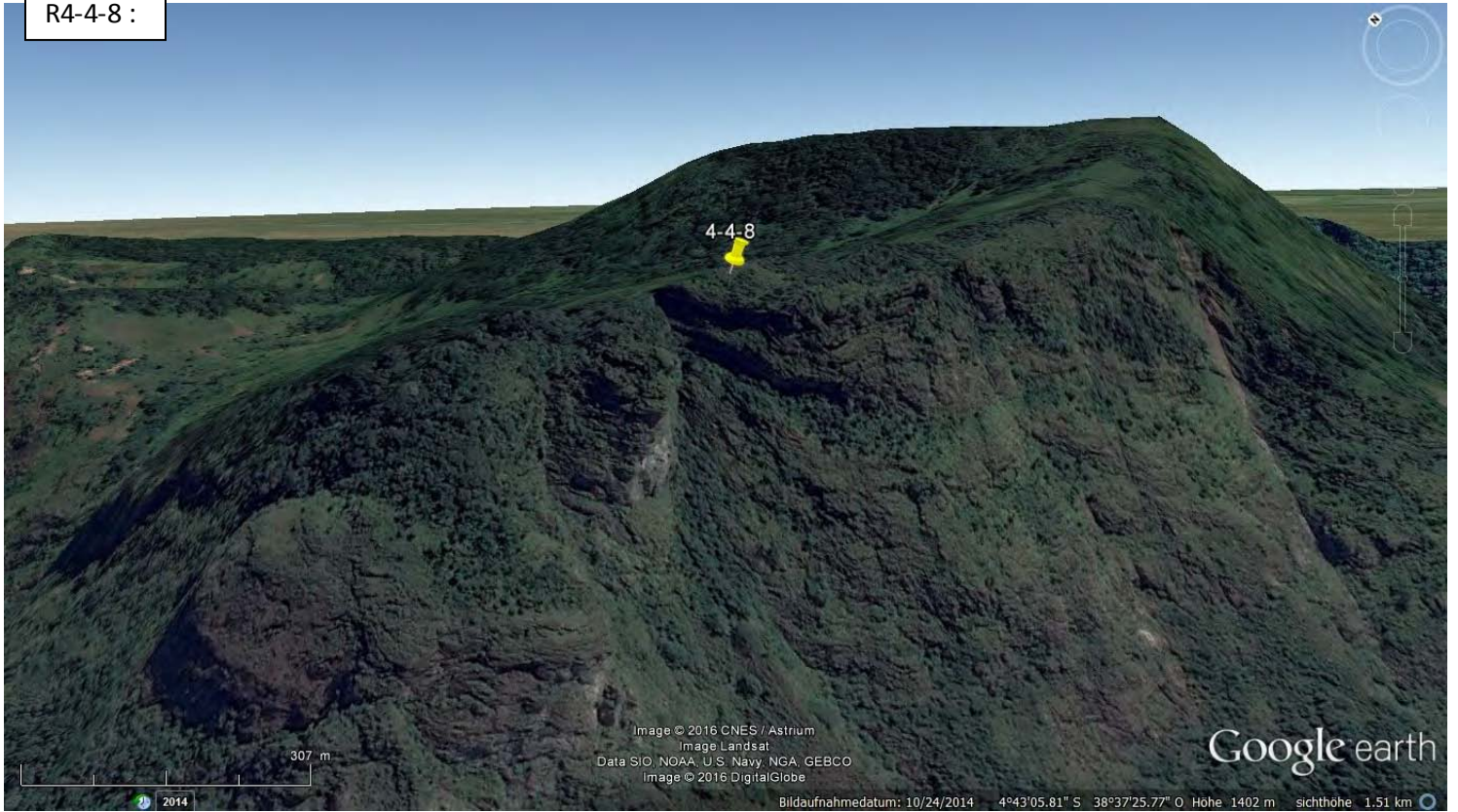
R4-4-6 :



R4-4-7 :



R4-4-8 :



87

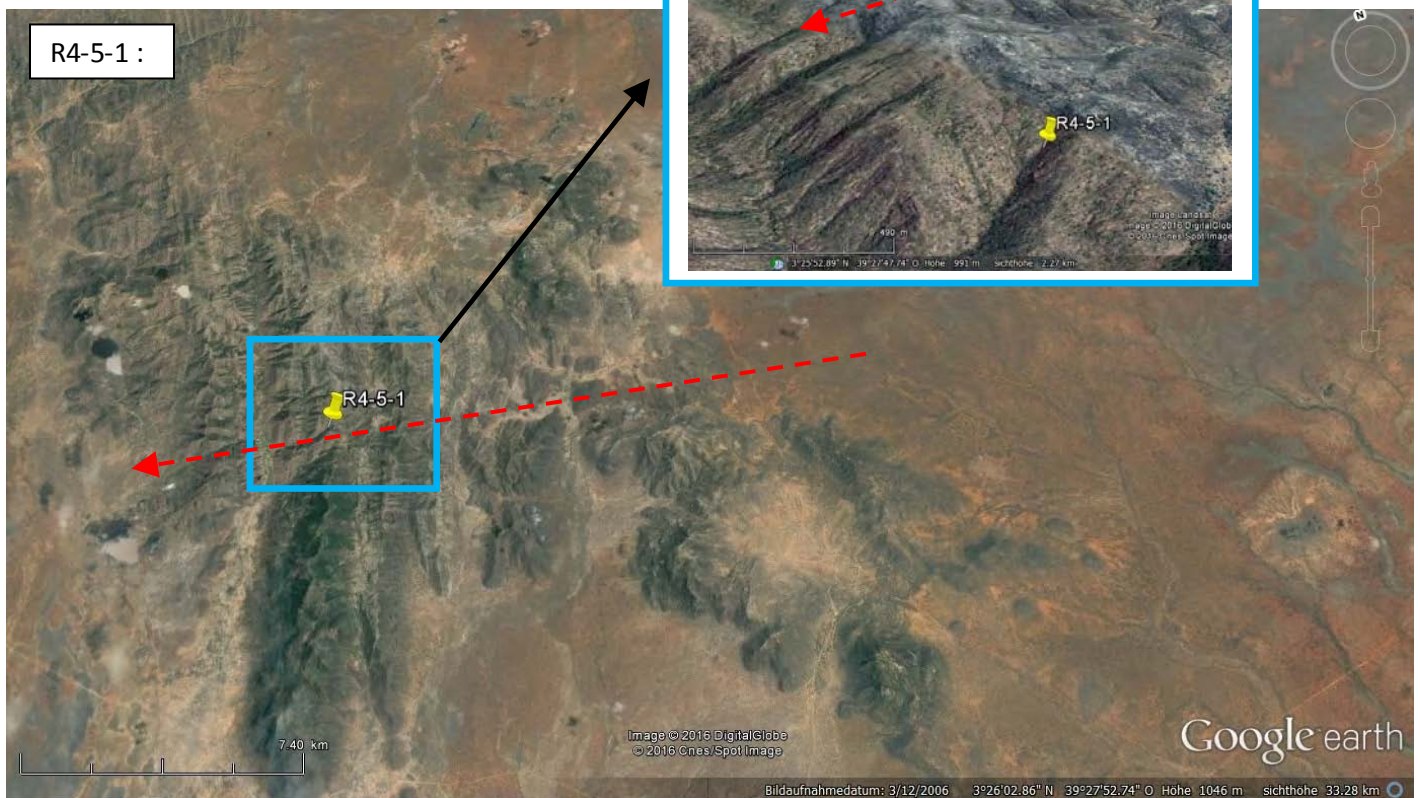
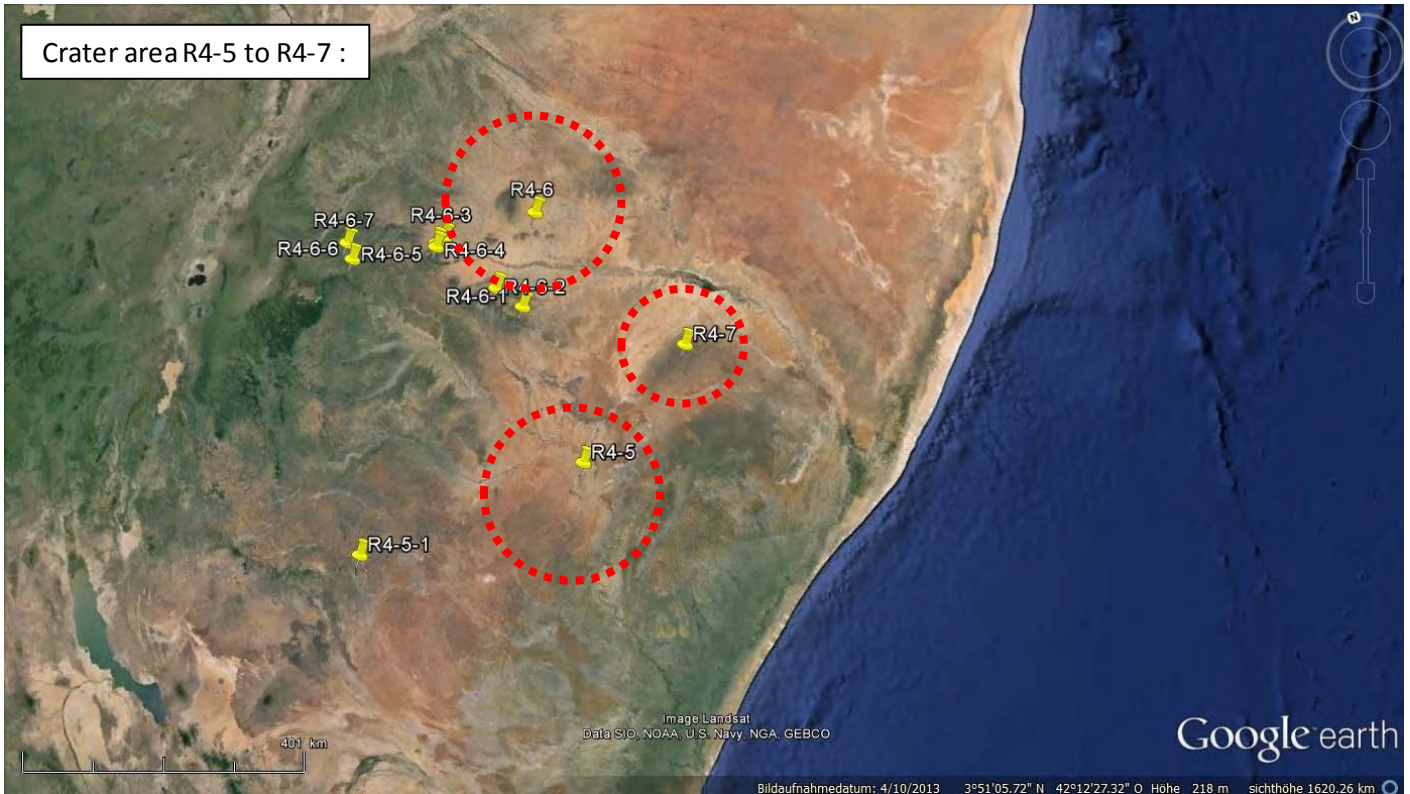
R4-4-9 & R4-4-10:



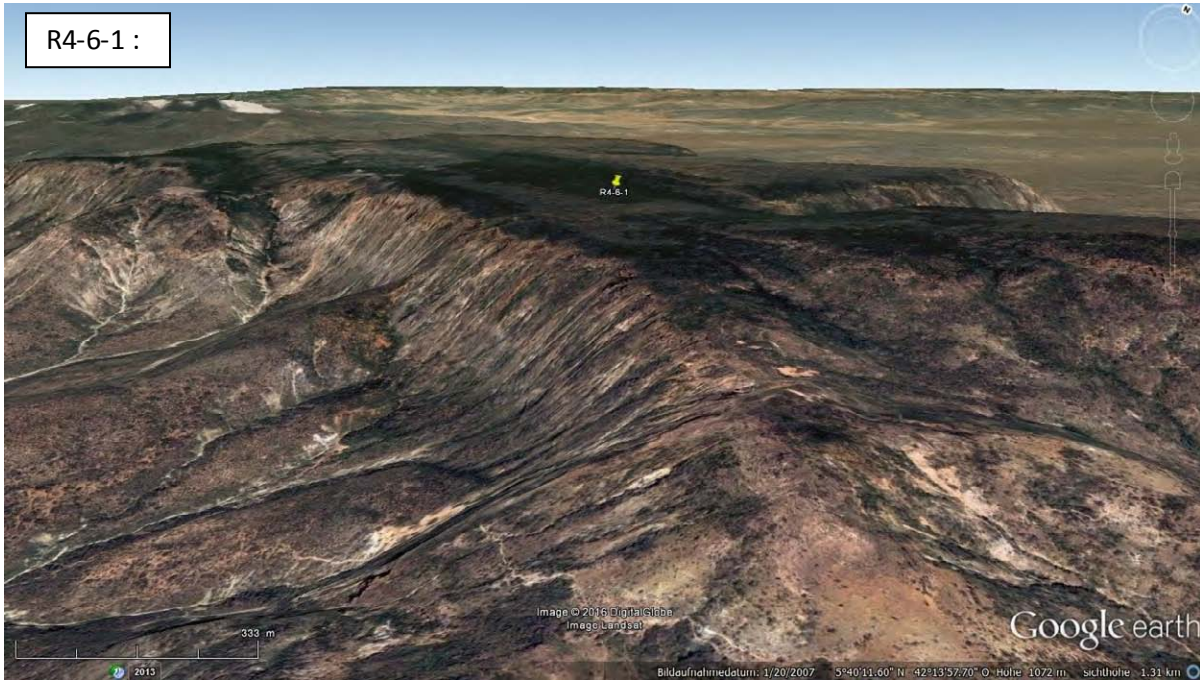
87

Crater Area R4-5 to R4-7 : (R4-5 & R4-6 approx. ~ Ø 250 km and R4-7 ~ Ø 150 km)

The Craters R4-5 to R4-7 are covered by thick layers of sediments and magmatic material. And crater floor area will be difficult to reach, even with deep drill equipment. However there are probably some remains of crater-wall areas or ejecta areas which may be easy accessible. See the following images ! But note that the whole area where the Ejecta Ray R4 impacted, along the east-african coast, was heavily deformed by tectonic forces which were triggered by this large scale Impact Event. Therefore many of the remaining fragments of the original impact structures are considerably deformed and not on the original location anymore !



R4-6-1 :



R4-6-2 :

