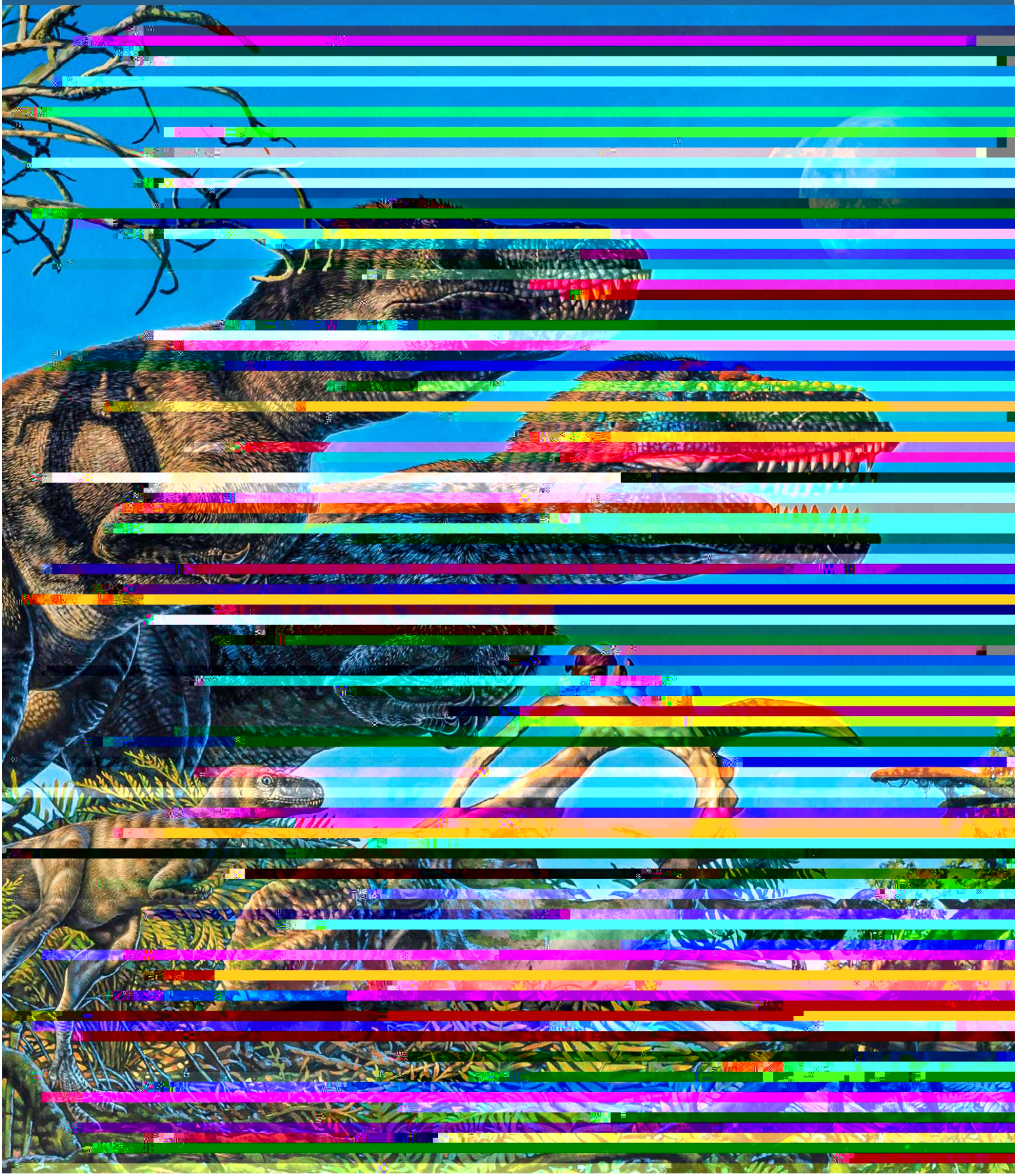


$ _ ; • 0 ð - l ño

!;-7 lou;:

!o-7v7 0ub7];v -m7 rbr;tbm;v bm t-vh- ‰btt =-tt -r-u
0;1-†v;]uo†m7 |_-‰v mo| omt‹ 0;m;-|_ |_;l 0†| -tvo

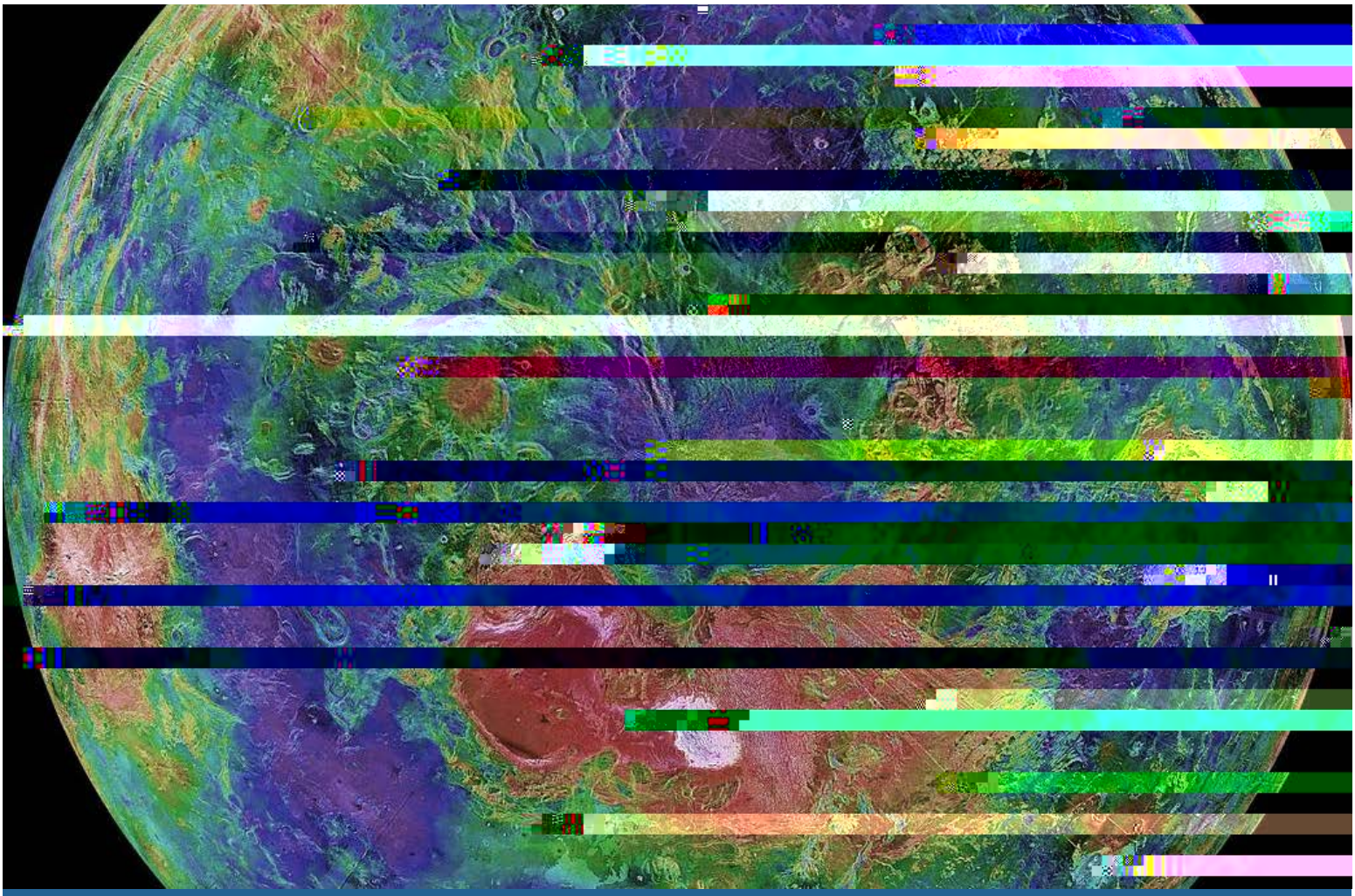
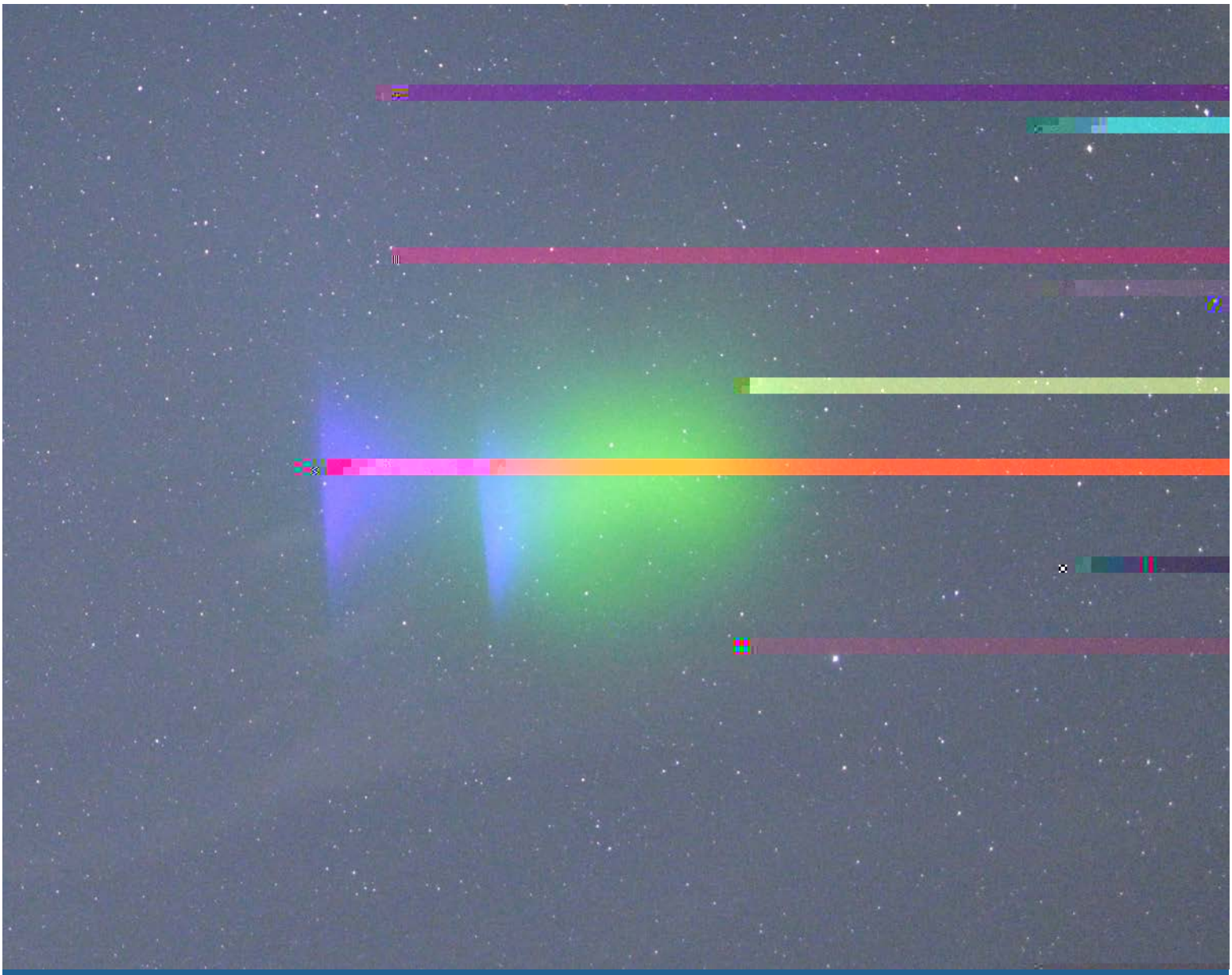


Photo caption: This hemispheric view of Venus was created using more than a decade of radar investigations culminating in the 1990-1994 Magellan mission, and is centered on the planet's North Pole. Image courtesy of NASA/JPL/USGS.

;;ubm] bm|o |_; 1u-|;uv o= (;r

& u;v;-u1_ ruo=;vvou bv om |_; v1b;m1; |;-l =
lbvvbom |o (;m†v |_-| ‰btt t-†m1_ -v ;-ut‹ -v ‘•‘

Robert Herrick.



ou|_;um tb]_|v oˆ;u ;ul†7-

uo1h;| u;t;-v;7 0-ub†l bm |_; †rr;u -|lovr_;u; m;-u -‹7 r-u| o= -m ;Šr;ubl;m| t;7 0‹ - & ;or_‹vb1-t mv r_‹vb1v ruo=;vvou ‰_o bv ;Šrtoubm] |_; m-|†u; o= |_

$_; 0-ub†l 1u;-|;7 rt-vl-7 ˆbvb0t; -v r†urt; -m7]u;;m m-|†u-t -†uou-: $_; b7;- ‰-v |o t;-um lou; -0o†| _o‰

rt-vl- bm|;u-1|v ‰b|_7 =ou ;Š-lrt;7 |_; rt-vl- o= -u|_
;mˆbuoml;m|:

$_; t-†m1_ 1-l; om |_; =bm-t 7-‹ o= |_; ••J7-‹ t-†m1_
‰-v rt-]†;7 0‹ 0-7 ‰;-|_;u -m7 _b]_ ‰bm7v -| †rr;u ;

$_; " t-1h u-m| * uo1h;| tb=|v o== -‹ •u7 ‘•‘•
;Šr;ubl;m| -|)-ttorv tb]_| -1btb|‹ bm (bu]bmb-: _
,-r;u-1_:

Background photo: Glowing clouds are created by the release of barium into the ionosphere. UAF photo by , Geophysical Institute.

!;-7 lou;:

)-ul ‰-|;u _b7;v bm u1|b1

)-ul7 mou|_0o†m7 ‰-|;u vtbrv †m7;u |_; 1ot7 v†u=-1 ";- 0†| 7o;vm=| 7bv-rr;-u7 & ott;]; o= bv_;ub;v -m u;v;-u1_;uv _-^; _;tr;7 |o u;^;-t:

$_; u;v;-u1_ v†]];v|v rot-u b1; l-‹ 0; l;t|bm] =-v|;u |_ ru;7b1|:

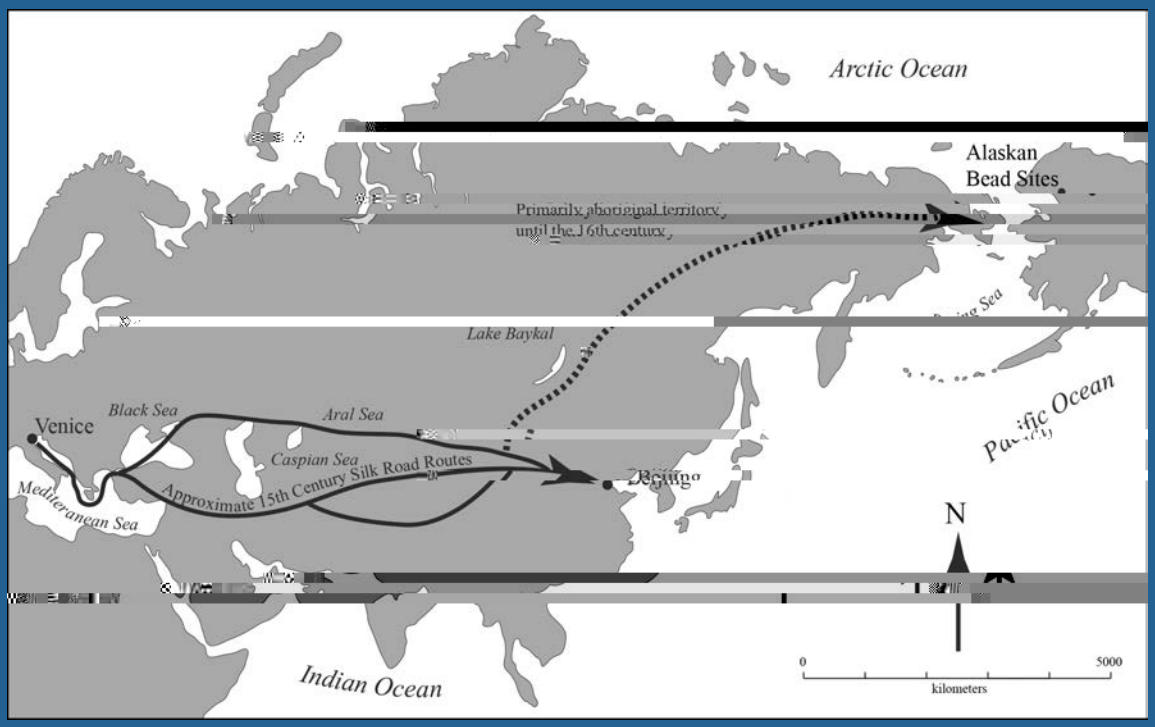
(;m;|b-m =-v_bom _b|v t-vh- L b

t-vv 0;-7v ru;v;uˆ;7 bm -m -m1b;m| t-vh- _o†v; vbm
=uol (;mb1;7 |-t‹7 u;v;-u1_;uv _-ˆ; 1om1t†7;7:

=;‰ o= |_; 0;-7v ‰;u; =buv| 7bv1oˆ;u;7 -| †m‹bh
!-m]; bm |_; •–”•v -m7 •–u•v: u1_-;oto]bv|v lou; u;1;

|o |_; vb|; -m7 =o†m7 lou;: o7;um 1-u0om 7-|bm] o=
‰b|_ |_; 0;-7v u;^;-t;7 |_;bu -m|bt†b|‹:

$u-7;uv ruo0-0t‹ 1-uub;7 |_; 0;-7v ;-v|‰-u7 =uol |-t
!o-7: $_; 0;-7v |_;m ‰o††7 _-^; l-7; |_;bu ‰-‹ mou|_
!†vvb-m -u -v| -m7 -1uovv |_; ;ubm] "|u-b| |o t-vh



$_bv l-r v_o‰v |_; tbh;t‹ uo†|; o=]t-vv 0;-7v -v |u-7
t-vh-: l-]; 1o†u|;v‹ o= l;ub1-m m|bt†b|‹7 -

Background photo: Archaeologists found these glass beads in northern Alaska. They were made in Venice, Italy, in the 1400s. Image courtesy of American Antiquity, January 2021.

!;-7 lou;:

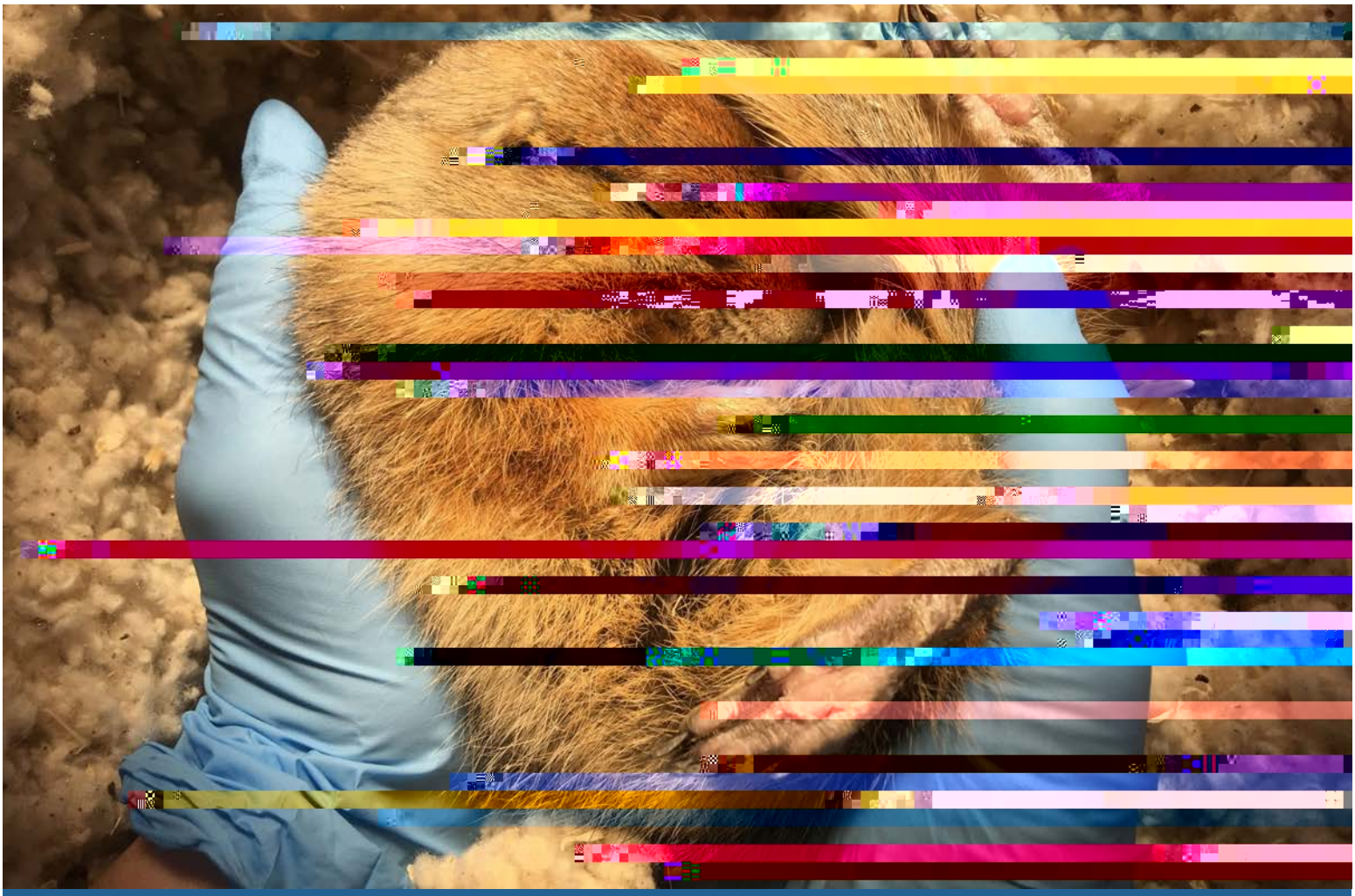
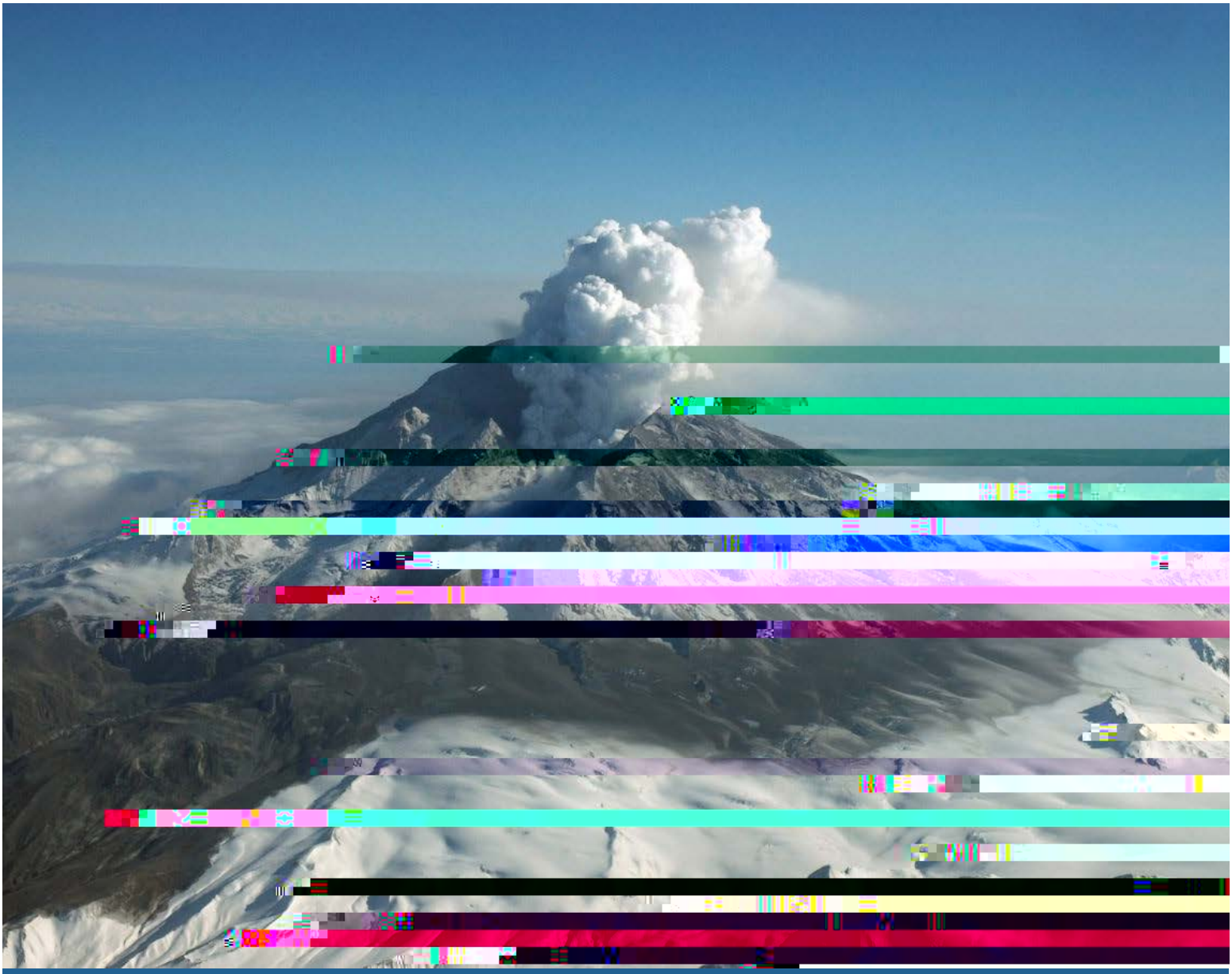


Photo caption: A researcher at UAF holds a hibernating Arctic ground squirrel. Photo by .

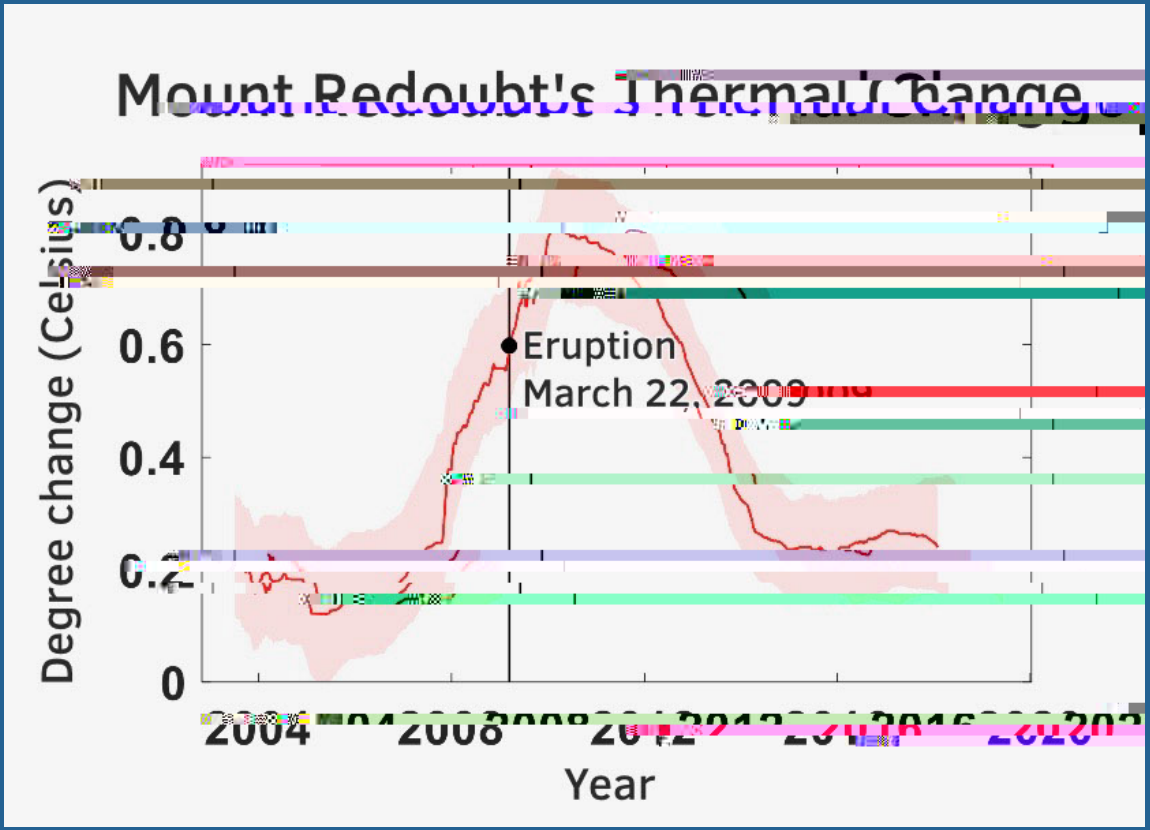
b||t; _b0;um-|ouv u;1‹1t; m†|

b0;um-|bm] u1|b1]uo†m7 vt†buu;tv u;1‹1t; |_;b
o‰m m†|ub;m|v |o v†uˆbˆ; - tom]7 bm-1|bˆ; ‰bm

& u;v;-u1_;uv -| |_; mv|b|†|; o= u1|b1 boto]‹
]uo†m7 vt†buu;t 0o7‹ 1_;lbv|u‹ bm - t-0 =ou |‰o
7bv1oˆ;u |_; -7-r|-|bom:

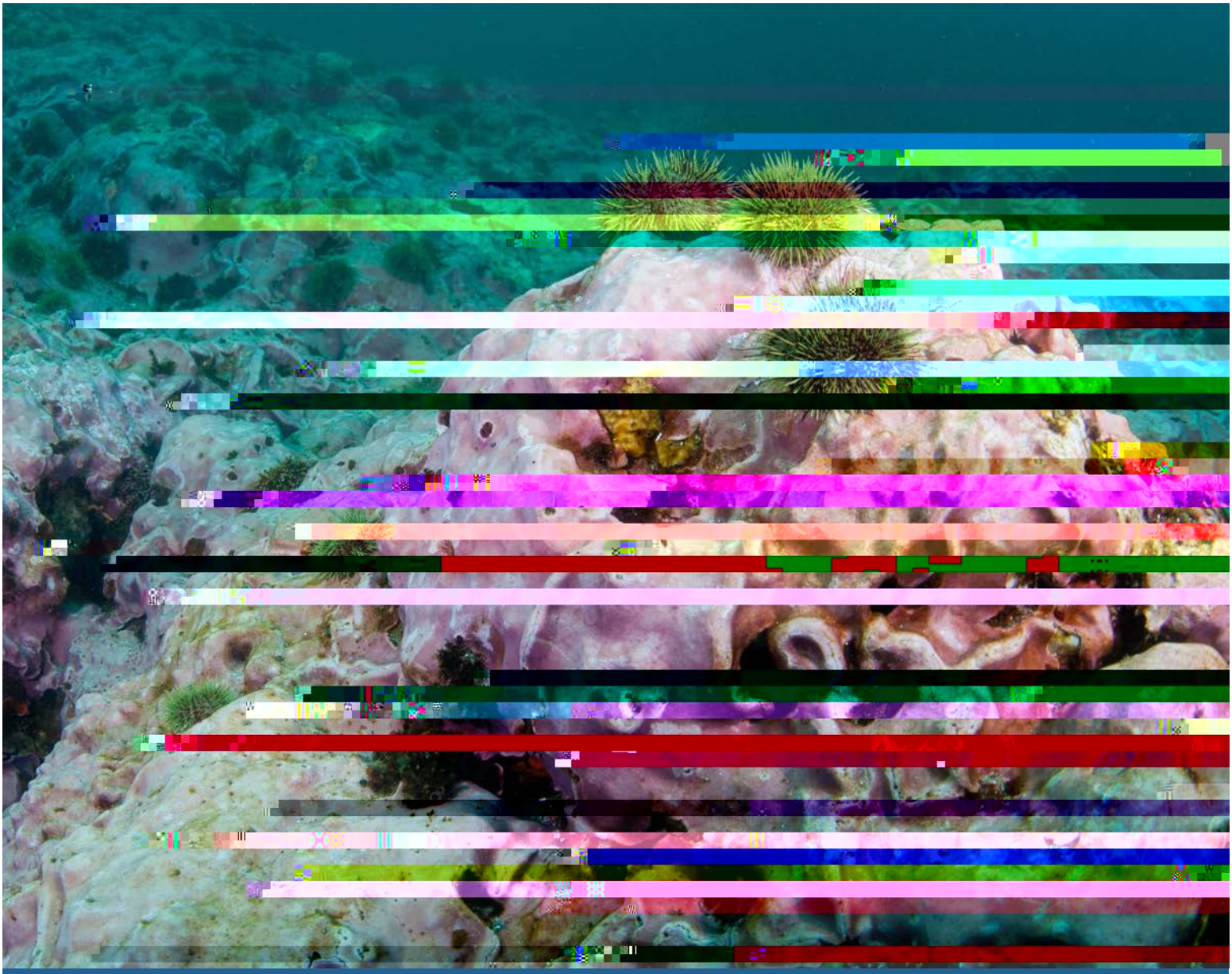


$_; |;-l tooh;7 -| =bˆ; ˆot1-mo;v -uo†m7 |_; ‰out7:
!;7o†0|7 om; o= |_; =bˆ;7 v_o‰;7 -m bm1u;-v; o= -0c
-_u;m_;b| 0;|‰;;m lb7J‘••u -m7 b|v l-fou ;u†r|bom b
$_; u-7b-m| |;lr;u-|†u; 0;]-m bm1u;-vbm] -rruoŠbl-|;t
;-utb;u |_-m |_; omv;| o= o|_;u ‰-umbm] vb]mv:



$_bv 1_-u| v_o‰v |_; |;lr;u-|†u; 1_-m];v 0;=ou; -m7
;u†r|bom: l-]; 0‹ & ;or_‹vb1-t mv|b|†|

Background photo: Mount Redoubt, 108 miles southwest of Anchorage, Alaska, erupts on March 31, 2009. Photo by R. G. McGimsey, Alaska Volcano Observatory/USGS.



&u1_bmv ;-| bm|o t;†|b-m u;;=v

";- †u1_bmv7 =-1bm] tb||t; ru;7-|bom 0‹ v;- o||;uv bm ;Šrto7;7 bm m†l0;uv -m7 -u; 7;ˆo†ubm] |_; tbl;v|om; |_; t;†|b-m vt-m7v:

&u1_bmv _-ˆ; -tu;-7‹ 7;1bl-|;7 t;†|b-m h;tr 0;7v: o% |_; -t]-; |_-| 1u;-|;v |_; u;]bomv= u;;=v7 -11ou7bm] |

|_-| bm1t†7;7 - & ott;]; o= bv_;ub;v -m7 1;-m "1b

tbl-|; 1_-m]; _-v _-v|;m;7 |_; ruo1;vv L |_; -1b7b=b1
o1;-m _-v blr;7;7 1-t1b=b1-|bom bm |_; -t]-;=v ruo|;1
vo†u1; o= |_; u;;=v: $_; †u1_bmv -u; mo‰ ;-|bm] |_u
|_-m |_; -t]-; 1-m u;rt;mbv_ |_;l:

bˆ;uv ru;r-u; =ou †m7;u‰-|;u v-lrtbm] bm |_; u;lo|;
: omoˆ;u: