

*“The past history of our globe must be explained by what can be seen to be happening now. No powers are to be employed that are not natural to the globe, no action to be admitted **except those of which we know the principle**”*

James Hutton

## Strandlines and Mud Volcano erosion: Evidence and Implications of a Global Cataclysmic Marine Flood

Ronnie Gallagher

18<sup>th</sup> - 20<sup>th</sup> November 2024

St Petersburg - Third International Conference on the Aral Sea Problems,

Refer to Second Conference slides:- <https://www.zin.ru/conferences/Aral2019/PDFs/Gallagher.pdf>.

# Quotations



*It is another property of the human mind that whenever men can form **no idea of distant and unknown things**, they judge them by what is familiar and at hand.*

*- Giambattista Vico*

*All history must be mobilized, if one would understand the present.*  
*- Fernand Braudel*



*Ideas without precedent are generally looked upon with disfavor and men are shocked if their conceptions of an orderly world are challenged.*

*- J. Harlen Bretz, 1928*

*Scientific Process' – Humanity's Greatest Invention.*

*extraordinary claims require extraordinary evidence“*  
*- Carl Sagan*



*‘From a drop of water, a logician could infer the possibility of an Atlantic or a Niagara without having seen or heard of one or the other.’*

*‘When you have eliminated the impossible, whatever remains, **however improbable, must be the truth?**’*  
*- Sherlock Holmes*

*It is not enough to discover and prove a useful truth previously unknown, but that **it is necessary also to be able to propagate it and get it recognized***

*- Jean-Baptiste Lamarck*



# My Background

- **Teacher Biology/Chemistry** (Glasgow / Shetland)

- **Oil Industry Environmental Management and Monitoring.**

- Shetland Oil Terminal monitoring programmes. Assessment
- **Risk Management.**
- Response Planning.
  - Shetland Wildlife Response Plan
- Environmental Impact Assessment



- **.Countries Worked.**

- Scotland, Kuwait, Azerbaijan
- Abu Dhabi (2), Angola, Algeria, Iraq.

- **Ongoing Research**

- Catastrophic flooding impact and influence on pre-history.
- Scotland's Megaliths, Rock Art and Ancient Sites.

- **Azerbaijan Puzzles**

- Cart Ruts
- Past Caspian Sea Levels. Strandlines and Erosion features.
- Rock Art involving counting and solar orientation.
- Anthropomorphic Landscape imagery
- **Perceived Cultural connections Egypt/ Azerbaijan.**

- **Conferences attended to find answers to Flood.**

- Russia
  - Gelendzhik (Russia) 2007
  - Moscow State University, 2010
  - St Petersburg (2019, 2024)
- Turkey (2)
- Georgia
- Greece
- England
- Azerbaijan
  - **Thor Heyerdahl – Ancient Navigation,**
  - National Academy of Science
  - Caspian Western University, Khazar University
  - History Group, Round Table etc.....



**Moscow State University**

**Scientists baffled by extreme flood events. Unstudied and Evidence disregarded**  
**Only one consistent and mindboggling explanation,**

# Aims of Talk

- Review and update flood evidence
  - Freshwater flood during Ice Age **126m a.s.l.**
  - Cataclysmic flood, maximum **310m a.s.l.**
- Examine Scientific Evidence
  - Geological
    - Sandwaves
  - Biological
  - Climate
  - Archaeological
  - Geographical
  - Historical
- Consider a theoretical cause of the flood.
- Implications



# **Ice Age Flood Puzzle**

Raised Terrace

126m above sea level

Sumqayat

50km

Siyasan

**Raised Terrace  
near Gilazi**  
(front edge around  
100m asl)

**50km long level raised terrace**

**How was it  
created?  
Tectonically  
(uplift)  
or by a  
transgression  
(flooding)**

126m asl,  
Bosporus  
spillway ?

26m  
Level with  
Manych spillway

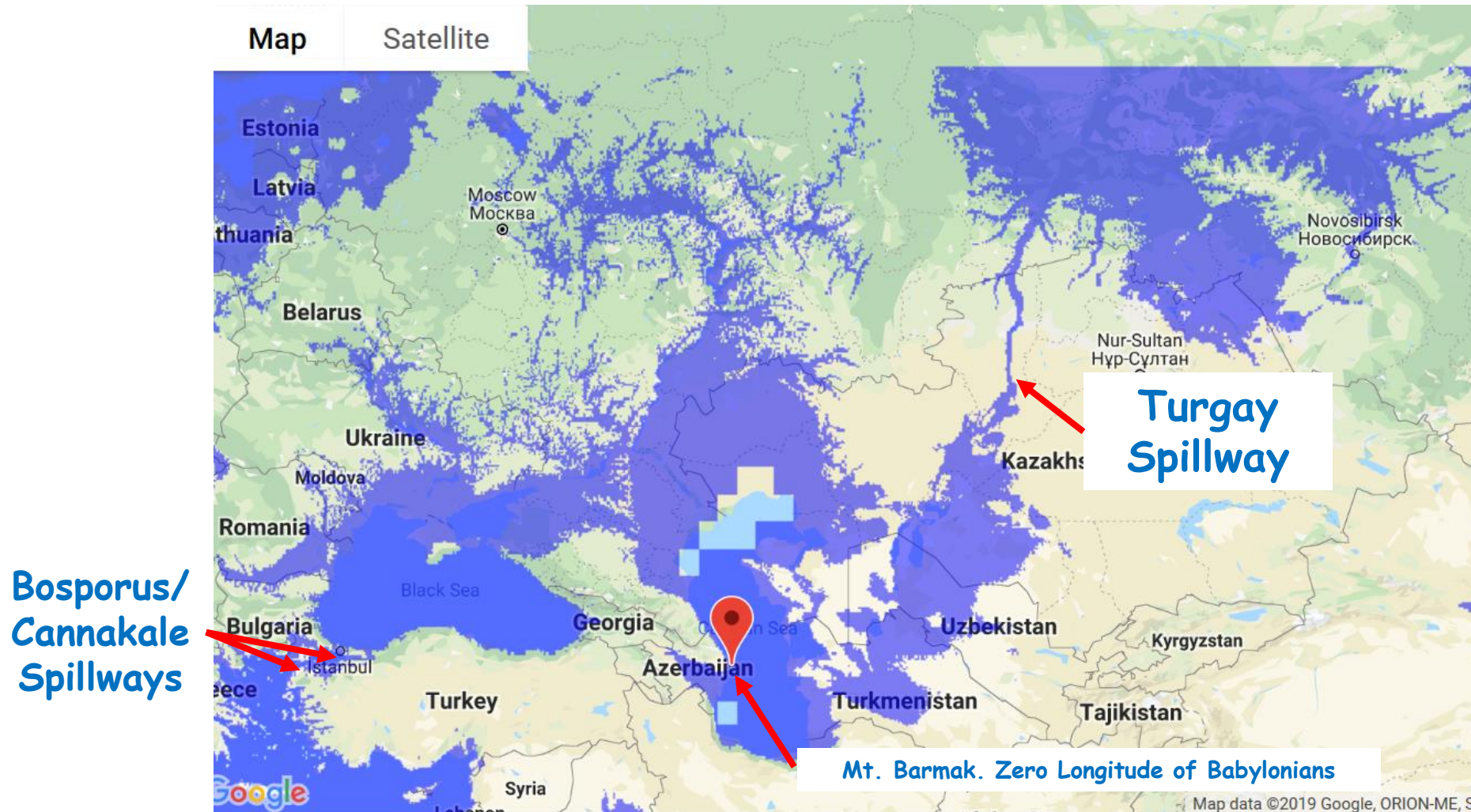
Local Scientist's say the land had risen. Surely unlikely over 50km!

**Note**

**At +26m the Caspian Flows to the Black Sea**

**So, What Caused the Flood?**

# Scale of Eurasian Lake with 126m Pleistocene Highstand



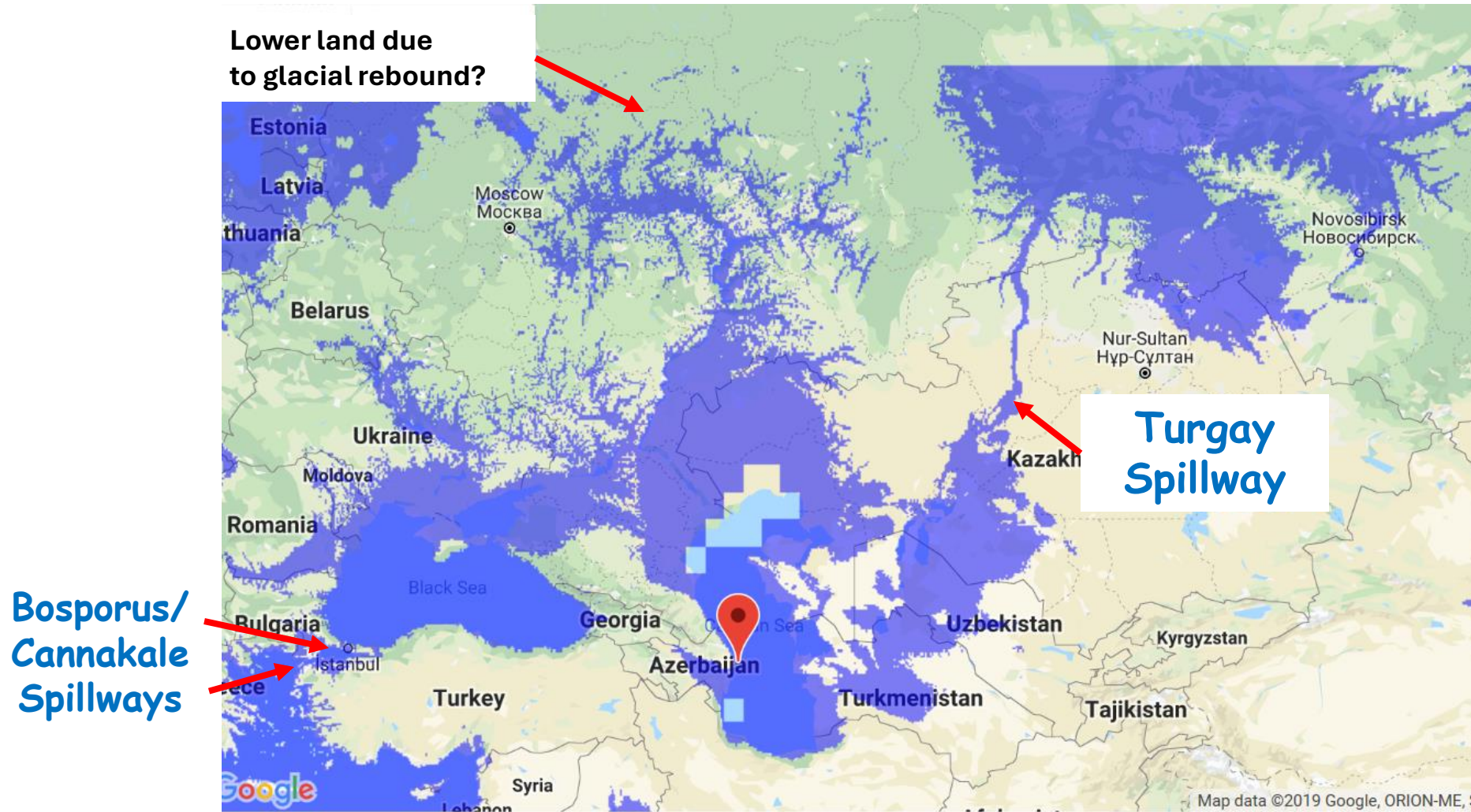
Scientific study shows that the Bosphorus opened some 10,000 years ago. Previously it was a land bridge. Factor in a cataclysmic 222m / 730 ft flood and this would gouge open the channel as a spillway.

Note location of Mt. Barmak. It is a logical location for a zero meridian of a seafaring civilisation.

Implication. Black Sea to Mediterranean is a limited discharge spillway.



# Extent of Eurasian Lake with 125m Pleistocene Highstand

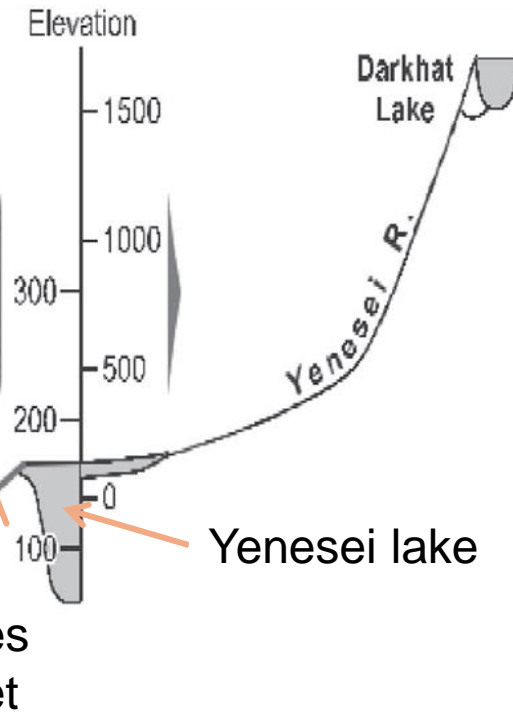
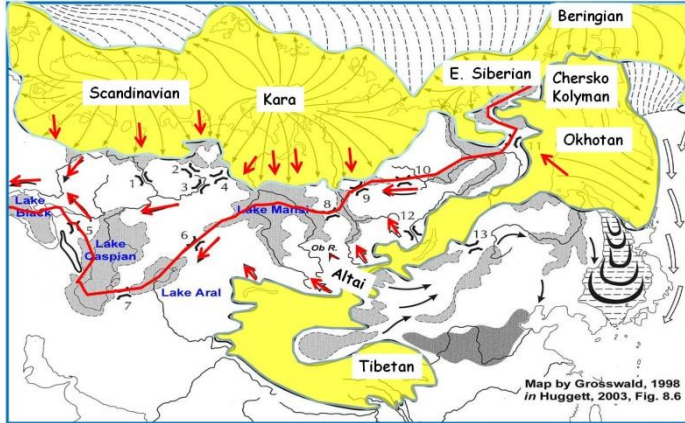


Scientific study shows that the Bosphorus opened some 10,000 years ago. **Previously there was a land bridge.**

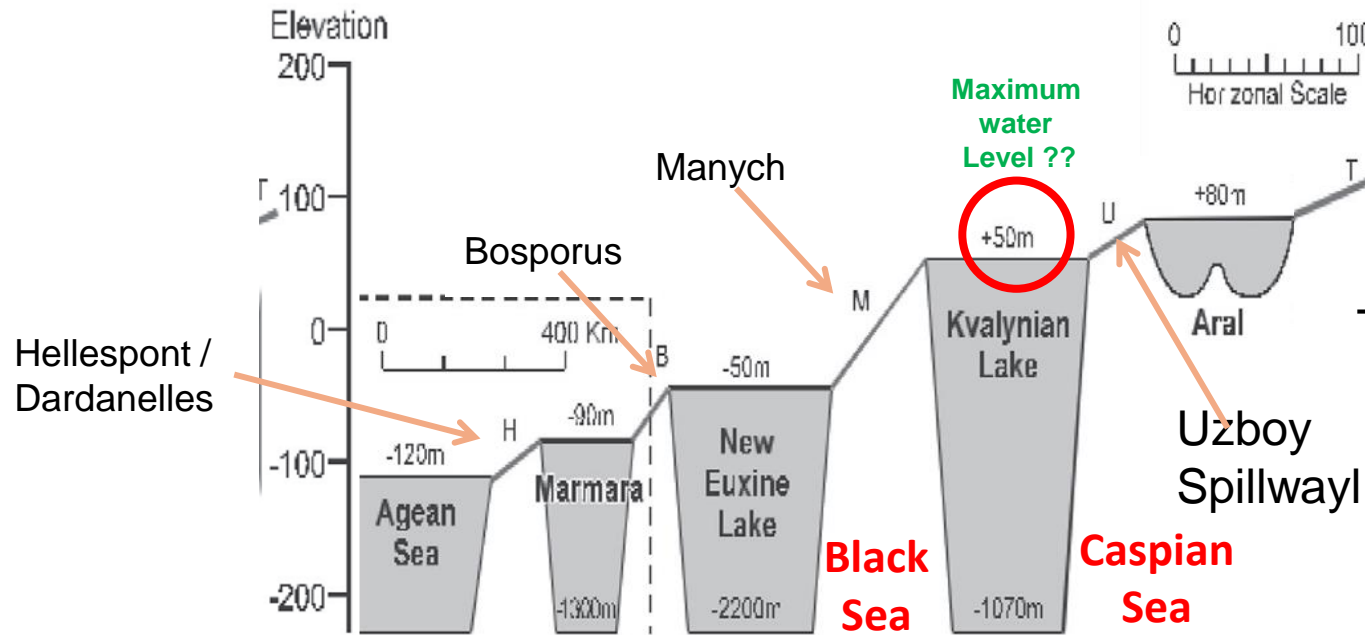
Introduce a cataclysmic 222m / 730 ft flood and this would gouge open the channel as a spillway.

**Implication. Black Sea to Mediterranean - a restricted discharge spillway.**





**Question.**  
With 2,500,000 years of Ice Ages and 23 separate glaciations, **Why is the Caspian Sea Salty?**  
11 ppt / 1011 kg/m<sup>3</sup>



**There was an assumption.**  
**Rivers overspilled basins and eventually discharged to the Aegean.**

**Was once worlds Longest River\***

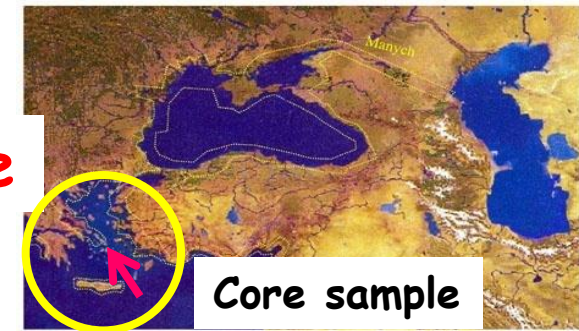
**8000 km Late Pleistocene Deglaciation (Victor Baker)** Nile River - 6,650 km

**But...there is a problem with the model !**

# Bosporus Opens 10,000 yrs ago. Outflow begins

This confirms there was a massive freshwater Eurasian lake

## Discharge Record from Black Sea Aegean Core Sample - Depth 630 m



### Indices

Dinoflagellate cysts  
Brigantedinium  
Simplex. B simplex

Benthic foraminiferal oxygen  
index (BFOI) estimation  
of bottom water oxygenation,

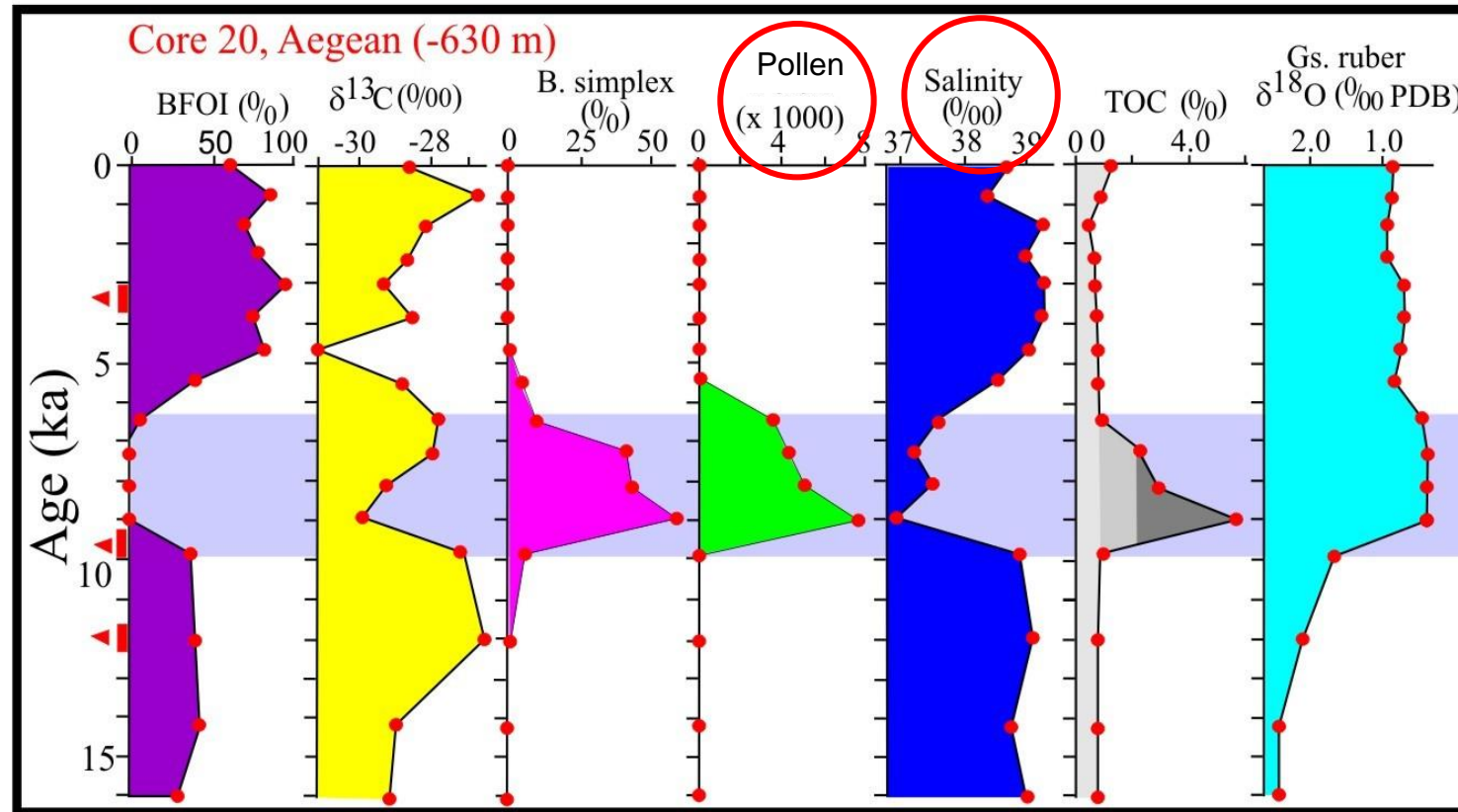
Significant  
OUTFLOW  
PERIOD

6,500 BP

What caused this huge outflow?

10,000 BP

No  
deglaciation  
outflow  
WHY?



Sediment Core Indicators Showing Holocene outflow into the Aegean Sea  
ca 10,000 to 6,500 years BP  
Source: Aksu et al.

# Great Flood Puzzle

Strandlines 222m above sea level



# Gilazi Valley Triple Strandlines Puzzle Azerbaijan

Obviously  
caused by a  
high water  
level.

Strandlines are  
impossibly  
high.

How were they  
created?

It's taken 22  
years to find  
a possible,  
though  
mindboggling  
explanation



Professor Victor Baker – Can't explain but are 'relatively recent' (i.e.Holocene)  
Professor Jan Mangerud also cannot explain strandlines.



310m strandlines near Tartar in Azerbaijan



3 strandlines  
Write a description for your map

Triple Tartar Valley Strandlines,  
310m asl

Google Earth

Legend

Google Earth

image © 2024 Maxar Technologies  
image © 2024 Airbus

Slide 1

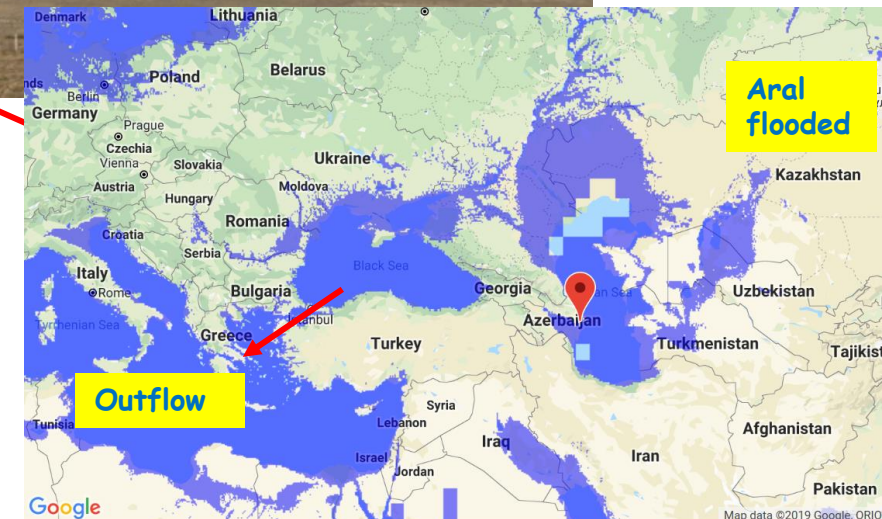
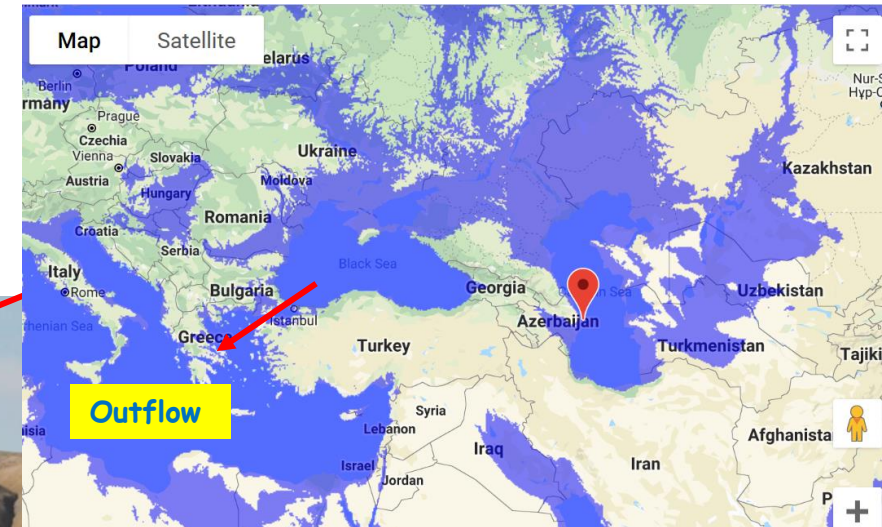
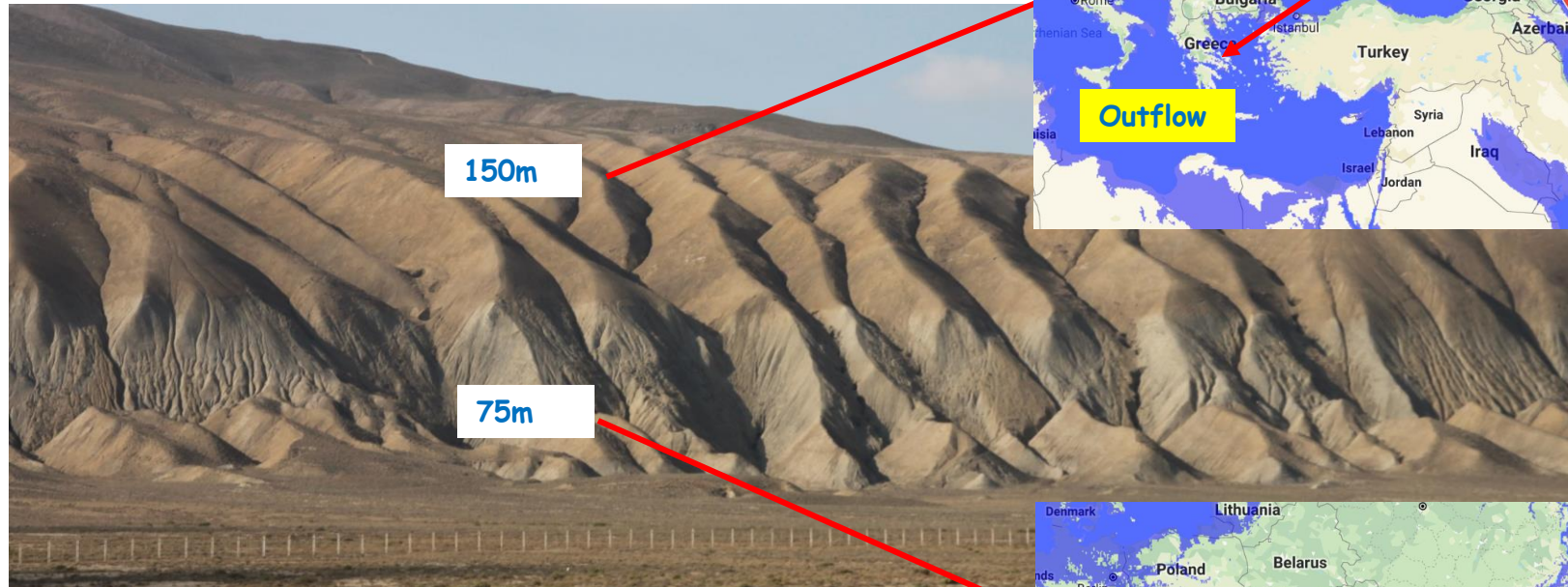
Tartar town

2 km





# Boyuk Kanizadagh Flood Levels in Context



- Confirms large inland Sea/Lake.
- Drainage via Bosphorus. Eroded by water
- Aral flooded.
- Erosion opens channel 10,000 years ago.
- Explains Holocene Outflow puzzle.
- Biodiversity / human implications.



# Davilidagh Mud Volcano near village of Cheyildagh





40°16'52.14"N 49°16'44.64"E

264m 40°16'46.61"N 49°13'53.74"E

255m 232m

273m

256m

Strandline sequence

258m

242m

228m

Mud Volcano strandlines



# **What Evidence is there for an increase in relative sea level?**

**Sandwaves are evidence of submersion and either the action of waves or flowing water.**



# Dynamics of Sand Ripples

Abigail Koss, Justin Kao, and Taylor Perron

Massachusetts Institute of Technology

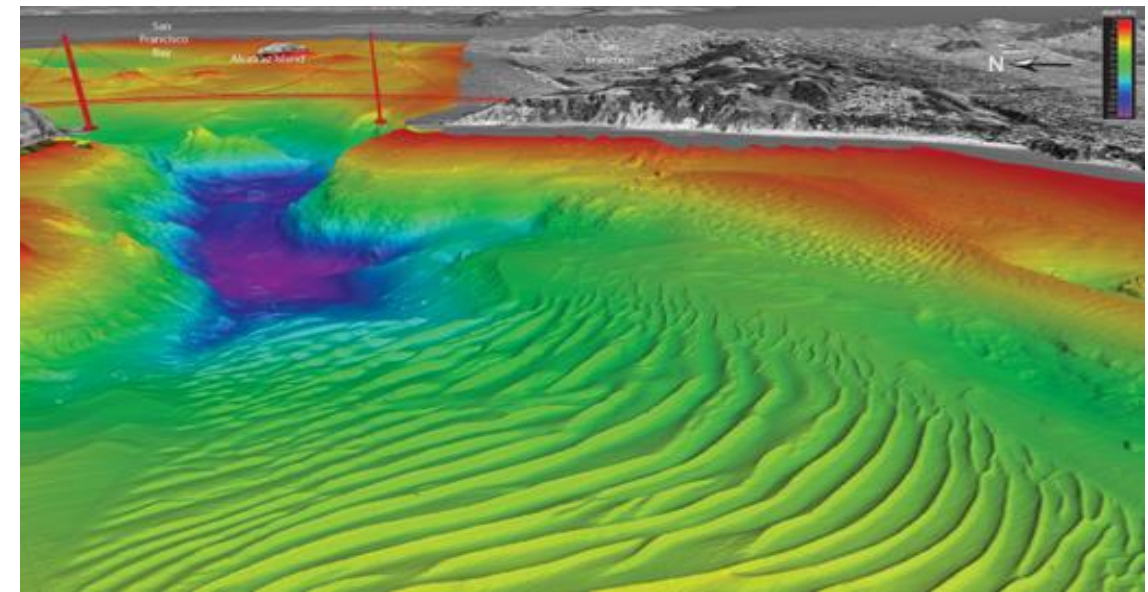
<https://youtu.be/uY2QdZLLRP8>



Ripples on a Beach

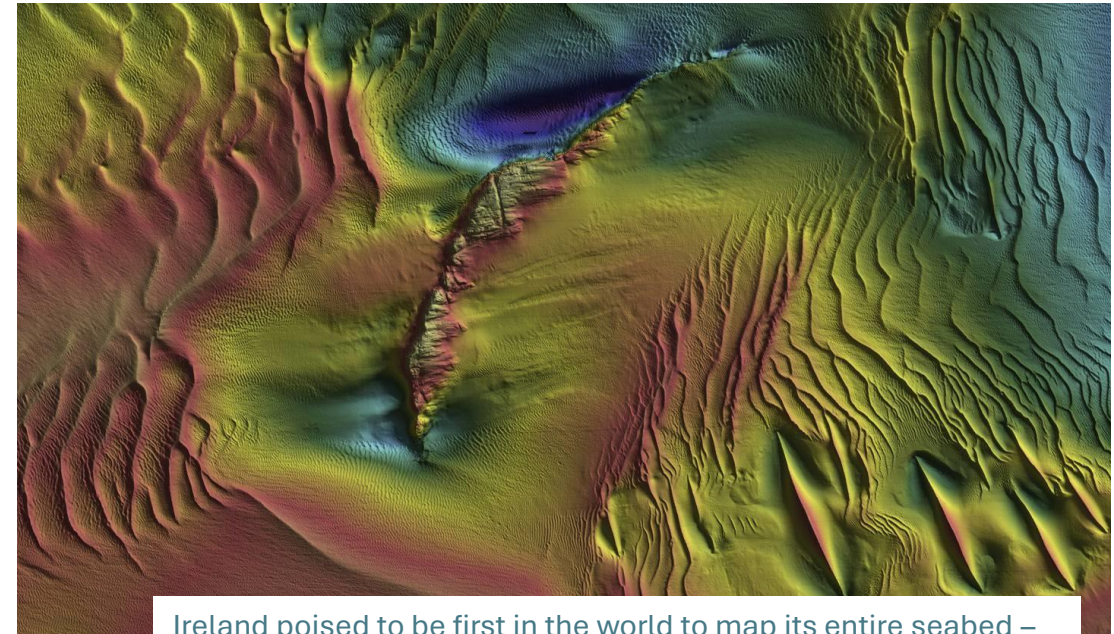
**Flowing water  
creates seabed  
ripples.**

**Ripples are mobile and  
interact with each other.  
Scale is dependent on  
depth and current  
strength / resonance.**



Sand Waves at the Mouth of San Francisco Bay, California | Mch Deniz Arařtırmaları (mch-tech.com)

**San Francisco Harbour/ Golden Gate Bridge area**



Ireland poised to be first in the world to map its entire seabed –  
[The Irish Times](#)

**Irish Sea, Donegal, Sandwaves**



# Sandbanks, sandwaves and megaripples on Spitsbergenbanken, Barents Sea

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<https://doi.org/10.1016/j.margeo.2019.105998>

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Fig. 2. Megaripples (top panel, 20cm grid), ....Horizontal scales and colour scales (brown (shallow) to white (deep)) are different for each panel

## Examples of seabed sandbanks, sandwaves and megaripples with interference patterns (1)

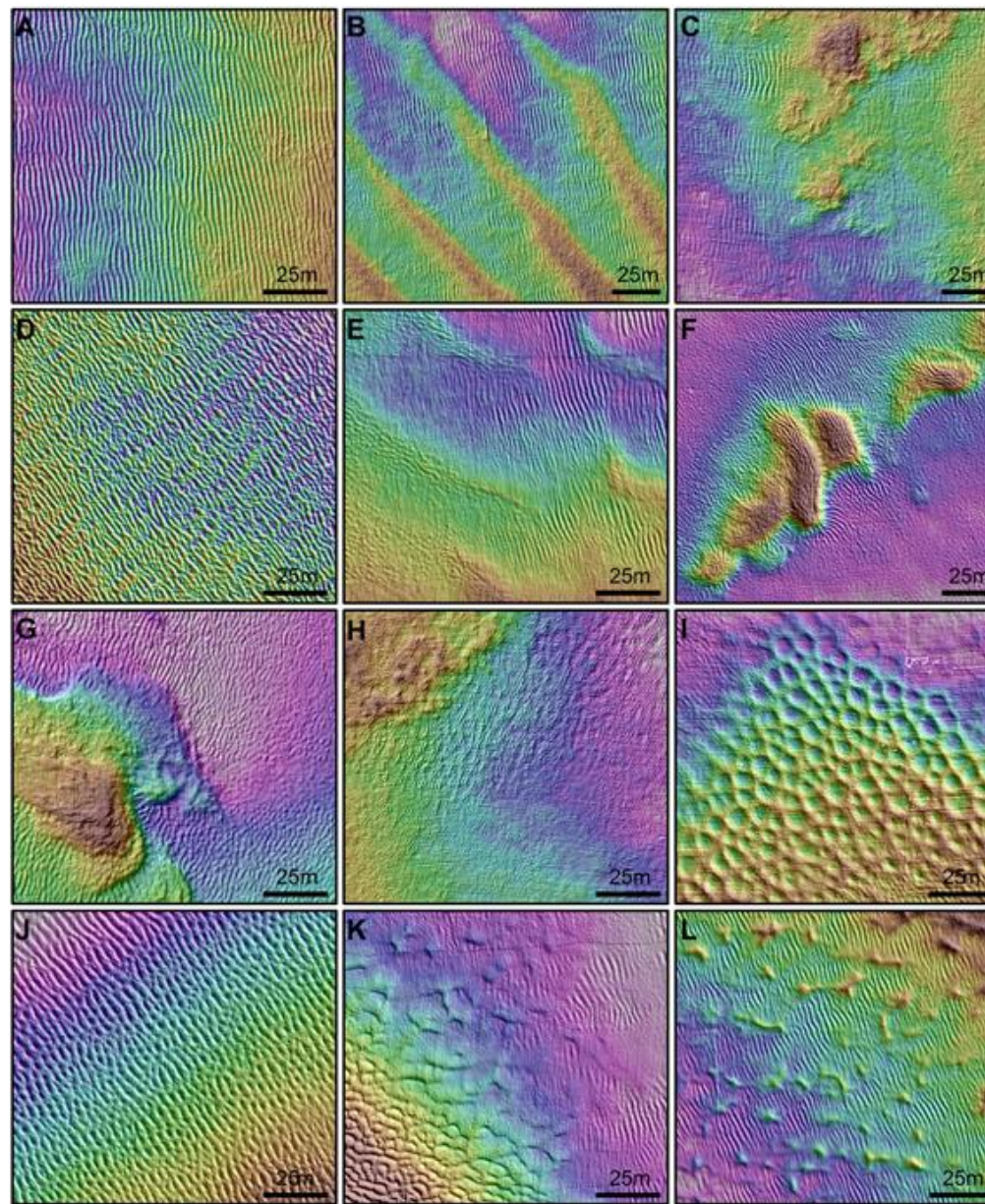


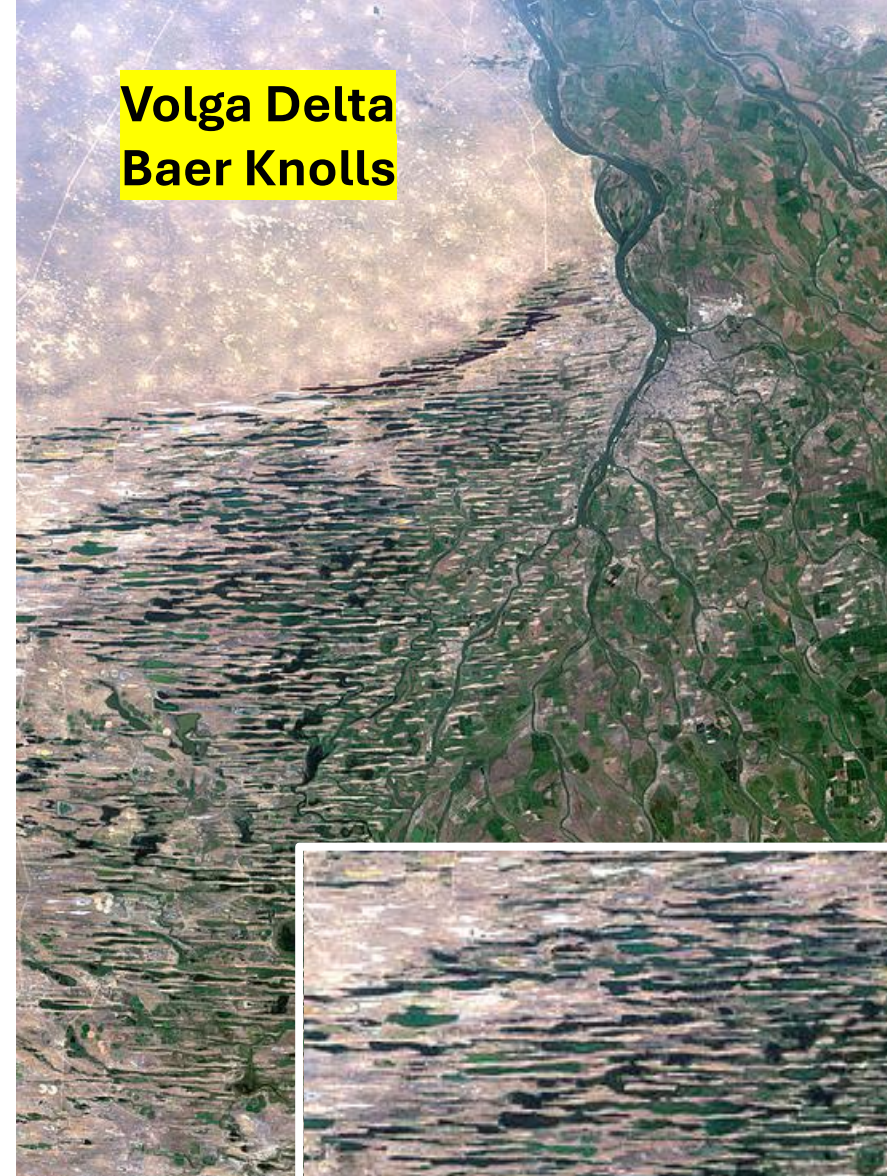
Fig. 3. Five different types of megaripples are observed in the 20 cm grid (colour scale in all panels: white is deeper, brown is shallower). North towards the top of all panels. A–C show N–S trending megaripples (type 1) interpreted as wave ripples. D–H show megaripples (types 2 and 3) likely formed by bottom currents. Megaripples (type 2) in D–F show NW–SE orientation, with panel E showing wave megaripples in low areas and NW–SE current megaripples in high areas, whereas megaripples (type 3) in G–H have NNE–SSW orientation. I–J show interference megaripples (type 4 – complex megaripples) formed by wave and bottom currents with panel I showing polygonal megaripples and panel J showing ladder megaripples. K–L display lunate/lingoid megaripples (type 5) transitional between the other types. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)



**Camas Prairie  
NW America.  
Missoula Floods**



**Volga Delta  
Baer Knolls**



Note the difference in the  
appearance of the ripples.  
Catastrophic floods v  
laminar flow.

**Ice Dam  
Collapse  
Giant Ripples  
Altai Region**

