Climate melioration and plenty of environment friendly energy for Australia

with construction of

Environment similar to Amazonia on NW Australia
Using huge power of mother nature + human help
for water erosion transport and sedimentation
to construct erosion trigger channel and increase it
to river size and fill up huge saline lake depresions

Using

water erosion with huge tides
water erosion with rain water
water erosion with underground water
Increasing volume of water in rivers by
removing obstruction to free water flow

notes:

Tides are up to 12m high. = huge erosion
Rain water catchement is 80 km3 per year
Uderground water is 10m down and often artesian.
Sandridges are very efficient obstruction
Construction of openings in sandridges
is necessary for free water flow

plenty of energy
more rain,
more winter rain
cooler climate,
less cyclones,
less floods,
less bush fires

ACROSS AUSTRALIA

ENERGY AND CLIMATE

preliminary
version 2

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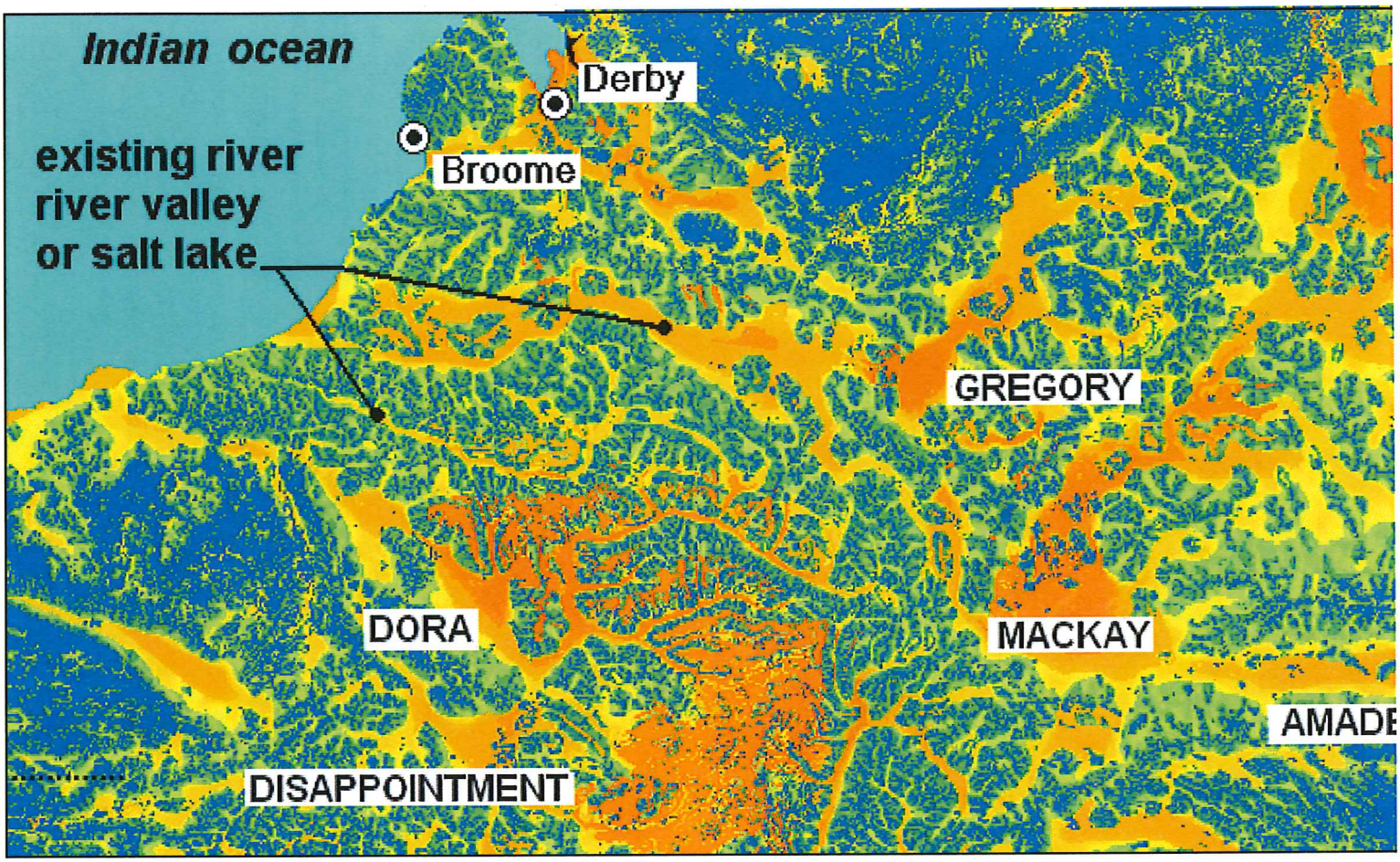

salt lakes	elevation	area	water in lake in flood
AMADEUS	456 m	1 993 km2	4 km3
MACKAY	361 m	5 488 km2	11 km3
GREGORY	269 m	1 043 km2	2 km3
DORA	237 m	517 km2	1 km3
DISAPPOINTMENT	325 m	375 km2	0.4 km3

Water from lakes should be channeled into proposed erosion trigger channe

There is also myriad of smaller saline lakes where water accumulates salt and myriad of sandridges that obstruct free water flow.

Canning basin is huge 520 000 km2

Catchement per year for Great Sandy Desert - Canning basin is approx. 80 km3 of rainwater.

Canning basin contains approx. 12 000 km3 of underground saline water.

Canning basin underground saline water is only 10m down for 60% of Canning basin area and often artesian.

Salinity of underground water is less than sea water 1800 ml per litre. (sea water 3500 ml per litre).

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HUGE SALINE LAKES AND MYRIAD OF SAND RIDGES.

Deserts are full of salt, salt is not taken away by rivers to sea.
salt accumulates in deserts.
Average height of sand ridges is 12m
Average width of sand ridges at bottom is 36 m.
Sand ridges are about 12000 years old.
Sand ridges are formed with wind erosion of valley between sand ridges.
(sand storm elsewhere)
Erosion of valley beween sand ridges is approx 1 mm per year.
Sand ridges have more vegetation than valley between sand ridges.
Sand ridges contain fresh water.

Existing dry ancient river or river valley above silted up ancient river have sufficient slope for water to run to sea
problem is myriad of sandridges.
sandridges that cross water courses across the country and prevent free water flow to sea

We need to cut oppenings in sand ridges for free water flow
For desalination of country and for more water in rivers to start erosion necessary for function of rivers.
Free water flow to sea is necessary to desalinate desert country above ground and underground to lower underground saline water level.
In some places water is trying to cut through sand ridges and siltation deposit between saline ponds or lakes in huge acient river bed.
60 % of Great Sandy Desert - Canning basin has underground saline water only 10 m down and often artesian.
In lowest place in river valley water is probably less than 10 m down.
= if erosion trigger channel is 12 m deep
= water in channel will be 2 m deep just by underground water sipping in..
If erosion trigger channel is only 2m deep,
flood + artesian water + water from lakes will keep water flowing and removing salt from land to sea
and lowering underground saline water level.
= desalination of land = greener country.

Great Sandy Desert - Canning basin underground saline water is on many places artesian and could be tapped to increase water volume in proposed erosion trigger channel.
Lake Amadeus when dry has underground water 30 cm down.

Top of flat hills in desert indicate original level of country
before erosion eroded earth material between flat hills.

Top of sandridges indicates level of flat country
about 12 000 years ago.

before wind erosion of valleys between sandridges

Average erosion is about 1mm per year = 12m of erosion
= everage height of sandridges 12m.

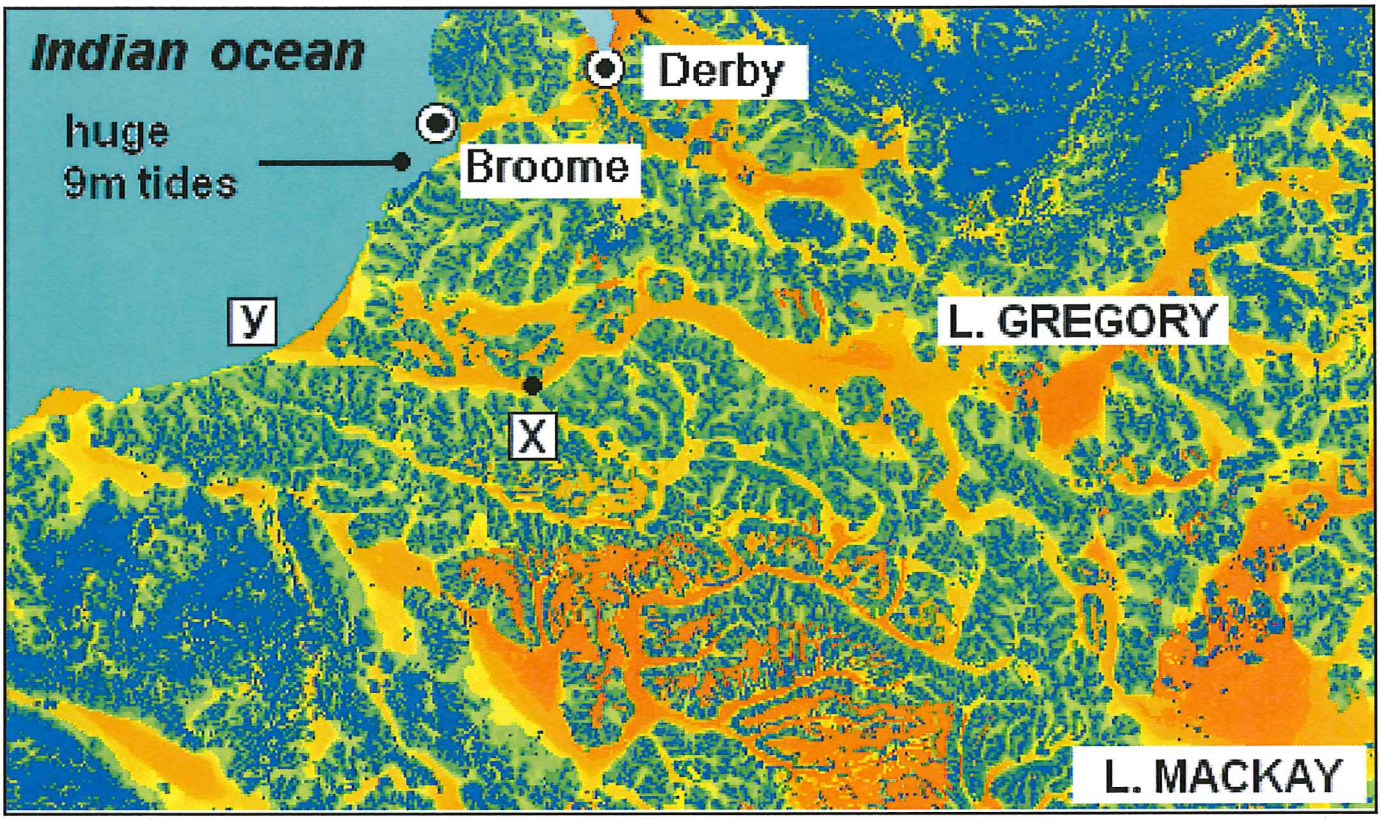
Rock and stones were not eroded by wind erosion and remain
today ground surface between sandridges has plenty of rocks.
such ground was named macadam and heats much more than
sandridges.

Sandridges contain fresh water
= more vegetation on sandridges than valley between sandridges
= less wind erosion of sandridges than valleys
= valley between sandridges gets lower,
= sandridges gets higher

Valleys between sandridges are rocky and more saline
with underground saline water closer to ground surface
= less vegetation
= less evapotranspiration
= dry hot air
= more wind erosion of fine particles
= sand storm elsewhere
= rocks remain
= macadam

King George Square in Brisbane is small and surounded
by tall buildings.
The courier mail recorded temperature there 56 Celsius
after renovation was done without vegetation or trees.

No vegetation or trees = no evapotranspiration
Evapotranspiration = evaporative cooling
similar to evaporative airconditioner
less vegetation in towns = "town heat effect"



Distance from point y on coast to point x is approx. 250 km
Elevation in existing river valley above ancient river is
y = elevation 0 x = elevation 100 m

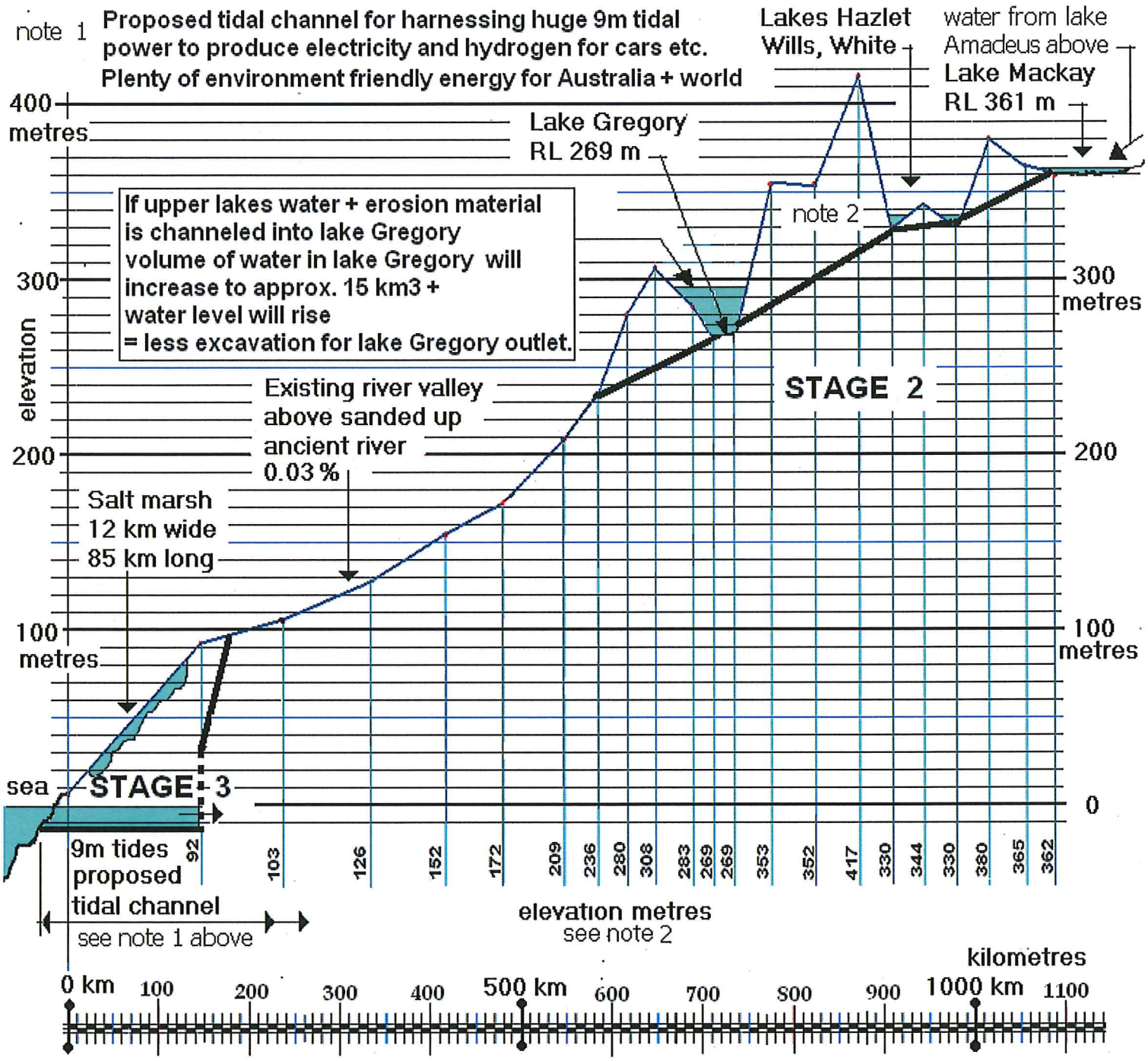
12 000 years ago there was no sandridges
12 000 years ago in lake Gregory was fresh water.
We need as much water as possible to start erosion of
trigger channel for future river – tidal and non-tidal

Sandridges are very efficient obstruction to free water flow
sandridges could be up to 300 km long,
we need openigs in sandridges for free water flow
Openigs could be made with blasting and than waiting for flood
or with earthwork machinery.

Huge tides would provide energy for hydro power stations
and electricity to produce Hydrogen to drive our cars, ships, planes etc.

Amazon has 5m tides and tides reach about 1000 km inland.
80 % of energy for Brasil provide huge hydro power station on Amazon
river and they are constructing another hydroelectrical power station.

Erosion could be increased with closing watergates at high tide
and open watergates at low tide.



River fall comparison:		
	Murray river.....	0.01%
	Amazon river ..	0.0002%

note 2 on site better rut for water courses will be found with less excavation necessary.

SEQUENCE OF EARTH WORKS

STAGE 1: Cutting - blasting openings in sandridges for more water in rivers and lakes necessary to increase erosion.

STAGE 2: Connecting lakes with earthwork + erosion + blasting and filling up saline lakes with erosion and blasting material for less excavation necessary for outflow from lake.

STAGE 3: Using water from stage 1 and 2 + huge tides + blasting to increase erosion to construct first section of proposed tidal river.

STAGE 4: Increasing size of proposed river with blasting + other technology. and silting up huge saline lakes.

LONGITUDINAL SECTION

Sea - Lake Gregory - Lake Mackay

Longitudinal section on page 5 is long proposed water course

Possibility exist that water from lakes above

if channeled into lake Gregory

would fill lake Gegory to overflow and start desalinating the country

More water in lake Gregory - if overflow - erosion may help with construction of proposed erosion trigger channel

Falls from lake Amadeus all the way to sea are sufficient for water flow.

If taking shorter rut for water course - bypassing lake Gregory there would be less excavation

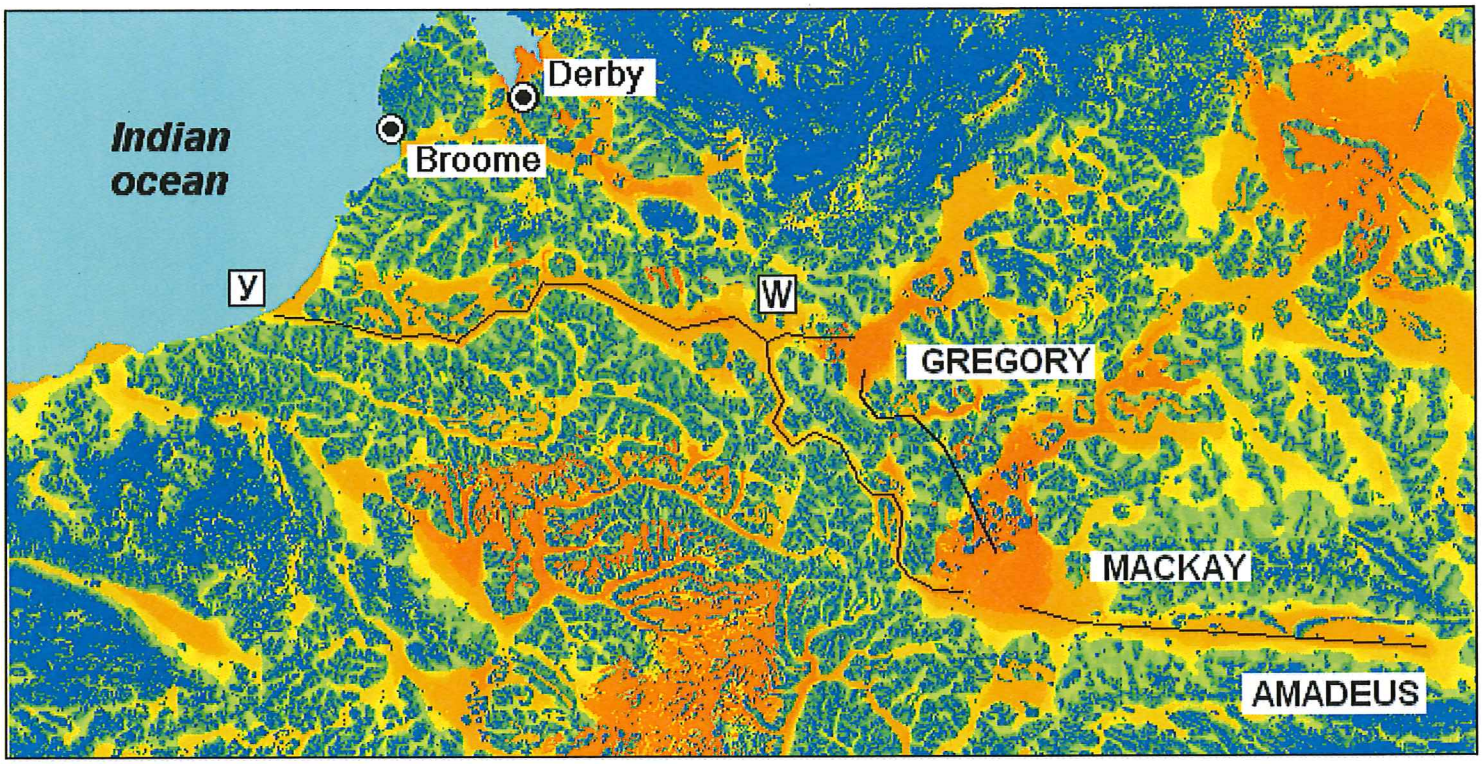
lake	elevation	area	water in lake in flood	
AMADEUS	456 m	1 993 km2	4.00 km3	
NEAL	450 m	304 km2	0.61 km3	
HOPKINS	441 m	130 km2	0.26 km3	total volume km3
LEWIS	551 m	385 km2	0.77 km3	
BENNETT	542 m	86 km2	0.17 km3	
MACDONALD	411 m	321 km2	0.64 km3	
MACKAY	361 m	5 488 km2	11.00 km3	17.45 km3
HAZLET	327 m			
WILLS	330 m	227 km2	0.45 km3	
WHITE	332 m	650 km2	1.30 km3	
GREGORY	269 m	1 043 km2	2.10 km3	21.30 km3

Data for volume of water in lakes can not be found on internet and was approximately estimated

Lake Mackay has still water in lake after 6 month of evaporation.

Opening in sandridges will increase volume of water in lakes. and rivers,.

Catchement per year for Great Sandy Desert - Canning basin is about 80 km3 of rain water.



salt lakes	elevation	area	water in lake in flood
AMADEUS	456 m	1 993 km2	4 km3
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Indicates existing ancient river or lake.
Or existing river valley above silted up ancient river

RUT 1: Y ← W ← GREGORY ← MACKAY ← AMADEUS

RUT 2 : Y ← W ← MACKAY ← AMADEUS

Rut 1 requires more earthworks than rut 2 but would desalinate more area.
see longitudinal section page 5
Possibly exist pass for erosion trigger channel where less earthworks will be necessary.

Rut 2 much less earthworks if lake Gregory is not connected to proposed erosion trigger channel.

More comprehensive detailed study of whole area is necessary to establish best locations for erosion trigger channels - future rivers.

Volume of water km3 in lakes to be verified and established before and after openings in sandridgers are made and other obstructions to free water flow removed.

At present there are no data about volume of water in saline lakes in Great Sandy Desert. In flood some roads in great Sandy Desert are half a meter under water.

PROPOSED LOCATION OF EROSION TRIGGER CHANNELS

FUNCTION OF EROSION TRIGGER CHANNEL.

is to start erosion for big future river.
birth of all rivers was small creek
that grew into river with erosion,

Erosion trigger channels will remove
salt + silt + water
from lakes Amadeus + Mackay + smaller lakes
+ eroded material from erosion trigger channel
and deposited it into lake Gregory.
Water level in lake Gregory will rise.
= less excavation for outlet from lake Gregory necessary
= desalination of lake Gregory
Every lake must have inlet and outlet
to desalinate saline lake
or prevent fresh water lake to become salt lake

Rain water should not accumulate in saline lakes
but should be used to:

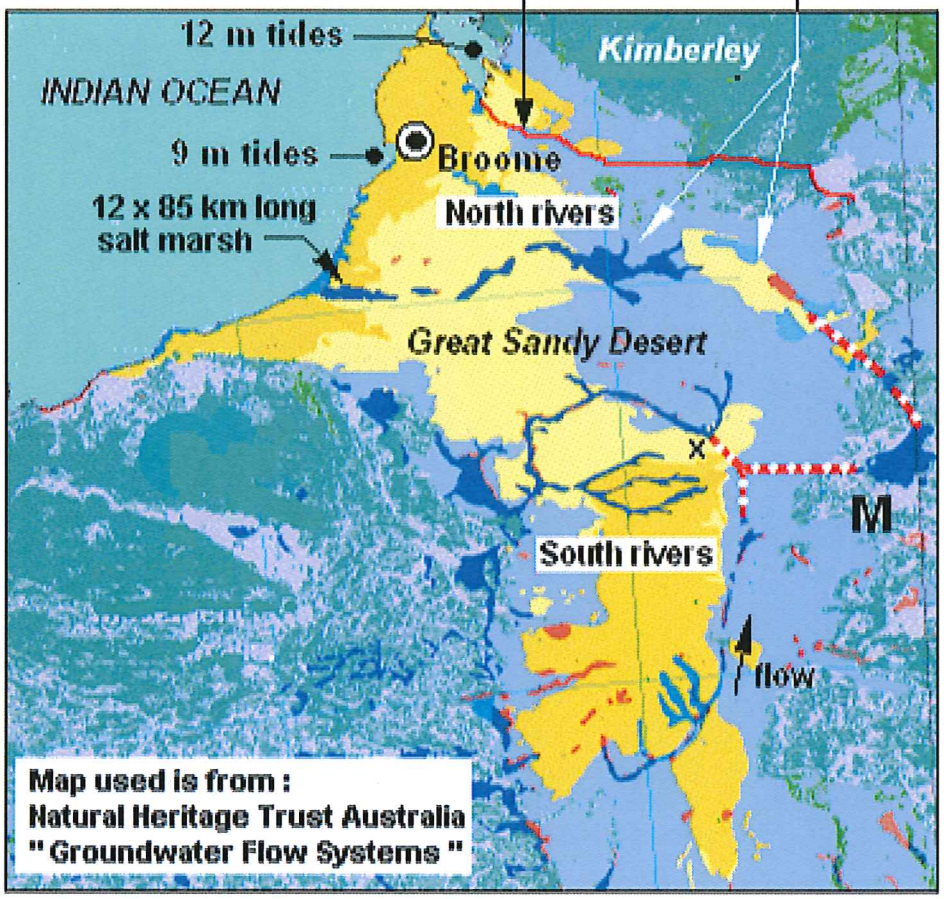
1. desalinate lakes
2. used for erosion of erosion trigger channels for future river.
3 used to transport erosion material to saline lakes
4. used to transport eroded material to sea.

5. it is not necessary for all eroded material from
erosion trigger channel or future river
to be transported all the way to sea.
some erosion material
should be used to fill huge lakes to lift bottom of lake
what will reduce earthworks for lake outflow channel
or perhaps lake may overflow in huge flood

6. Nature is already forming new rivers on NW Australia
- needs human help - see enlarged Google maps.

Fitzroy river is tidal and can be useful to reduce construction costs of tidal channels or used in proposed tidal river system.

NORTHERN RIVERS SYSTEM. is underground.
see longitudinal section page 5
Above underground ancient river is river valley with good nearly continuous slope
= less excavation



SOUTHERN RIVERS SYSTEM.
are dry saline rivers and lakes above ground.

Point x - in existing dry river channel is about 30 metres lower than lake Mackay.

distance between lake Mackay to point x is 170 km.

before point x are
Wilson cliffs about 50 km wide.
with average elevation 420 m
probably pass could be found.

From lake Mackay to Wilson cliffs is 120 km with average elevation 375 m

LEGEND

Proposed canals.

Ancient river or lake.

LAKE MACKAY indicated **M** is 361 meters above sea level.

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Huge saline lakes when in flood contain huge volume of water
also there are many smaller lakes and swamps.
Connection to sea with trigger channel - Future river
will gradually change saline lakes into fresh water lakes and
future rivers gradualy to fresh water river.

Once proposed rivers start functioning erosion will increase
depth of rivers and underground saline water level will fall.
= deeper tree roots and more vegetation = greener country.

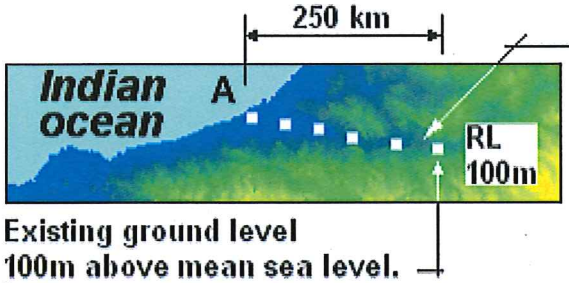
When depth of river increases,
underground water sippage into river increases.

At times whole desert is flooded
fresh rain water runs into saline lakes and becomes salty
= useless for plants.

Flood waters
+ huge volume of water in saline lakes
+ underground saline water
+ more water because of opening in sandridges and
other obstructions to free water flow removed
+ more trees and other vegetation
= more evapotranspiration
= undeground saline water level will fall
Rain forest has huge evaporation area = huge transpiration
more moisture on sky works similar to cloud seeding.

Revival of old rivers and lakes will improve climate across
Australia.
More winter rain and less summer rain = less floods and bush fires.
More hydro energy on NW Australia using extremely high tides +
+ new river water from lakes
Huge hydroelectric power stations could be constructed
on new tidal river

80% of Brasile energy comes from hydroelectric power stations.
and they are building another big power station on Amazon river.



250 km long proposed future tidal river. (shown dotted) constructed with help of rainwater and huge 9m tidal erosion tidal river is important to increase slope of inland rivers - that are important for desalination of desert.

Huge hydroelectrical power stations can be constructed. on proposed tidal river using huge power of huge 9m tides.

Existing ground level 100m above mean sea level.

Existing river valleys with remnants salt lakes and salt marshes above sanded up ancient rivers

12m tide

Derby

9m tide

Broome

Indian ocean

A

RL 100m

lake Gregory

White

Wills

Hazlet

Percival

Tobin

lake Dora

Auld

lake Mackay

Bennett

Lewis

Blanche

Disappointment

Depression

Macdonald

Hopkins

Neal

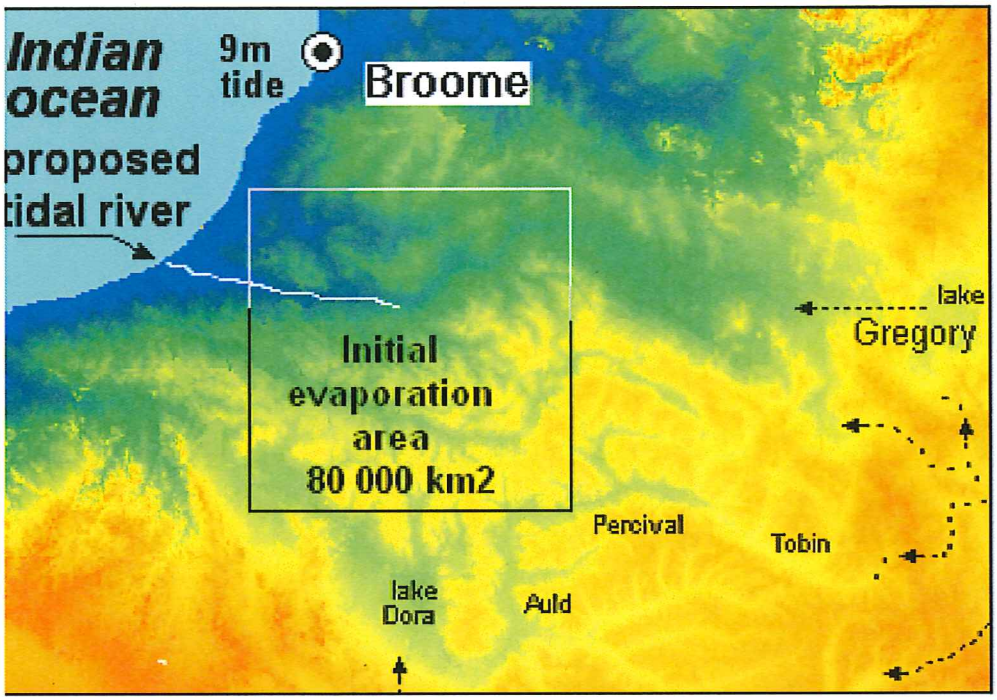
Amadeus

Burnside

Ancient river valley (approx 1200 km)

0 100 200 300 400 500 600 700 800 900 1000 Km

sea



0 100 200 300 400 Km

Initial evaporation
area = 80 000 km2

evaporation 4000 mm per year
evaporated water = 320 km3

Comparison:
Murray rivey discharge
into sea is 20 km3 per year

Initial evapotranspiration will produce rain more times since about 80% of fallen rain evaporates again
and
Initial evapotranspiration will produce also more rain because
additional humidity on sky works similar to cloud seeding

Initial evapotranspiration
= more clouds across Australia
= more shade to soil and plants
= less evaporation
= more water in soil, rivers, lakes, dams.
= cooler climate

note
Evaporation area is shown for size comparison only and not for location or shape.

Apart from better climate and environment
huge hydroelectrical power stations can be constructed on new tidal river.
To produce electricity and electricity can be used to produce hydrogen to run cars, airplanes, ships + +, environment frendly way.

Other solutions for location of tidal river and future rivers are possible.
And better pass for future river may be found.

EVAPOTRANSPIRATION 320 km3 + per year

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EVAPOTRANSPIRATIVE COOLING OF COUNTRY

King George Square in Brisbane is small and surounded by tall buildings.
The Courier Mail recorded temperature there 56 Celsius after renovation was done without vegetation or trees.

No vegetation or trees = no evapotranspiration
Evapotranspiration = evaporative cooling
similar to evaporative airconditioner
less vegetation in towns = "town heat effect"

Similar to King George Square happens in desert in valleys between sandridges with lots of rocks, very little fresh water very litle trees or other vegetation and low ground between sandridges with little wind.
And underground saline water is only few metres down is generator of heat for whole country.

Vegetation transpiration cools plants
for transpiration is necessary water and wind
more wind = more evapotranspiration = more cooling.
Evapotranspiration removes ground heat away to sky.

Evaporative cooling
= human wet skin + wind
= land + water + wind

Deserts are full of salt above ground and underground.
Saline water evaporates less than fresh water
= more water goes underground
= less evaporation = less cooling
= less chance for rain in desert and elsewhere downstream
= high underground saline water level
(10m down in Great Sandy Desert)
River to sea will take salt to sea and
also lower undeground saline water level.
= more vegetation = more evapotranspiration = more cooling
= more rain in desert and elsewhere downstream
= more fresh water in soil, rivers and lakes across the country.

WATER BAG

Water bag used in Australian outback hanging from tree branch or fixed in front of car for more wind.
Water bag outside surface is wet and evaporates more with wind.
On very hot day water inside water bag is cool.

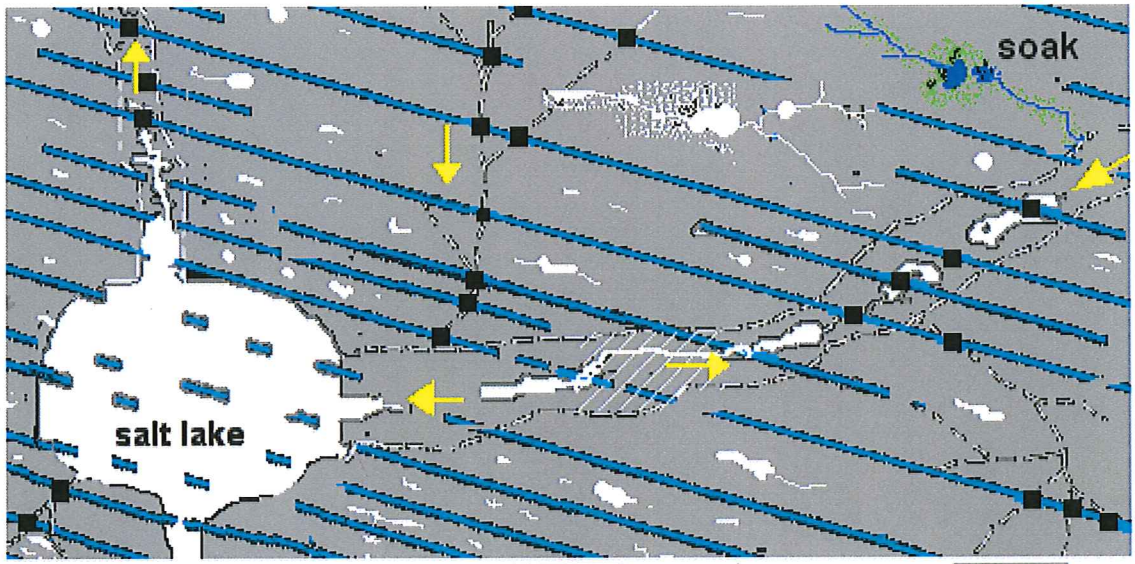
After rain is cooler
= wet country
= evaporative cooling
= cooler country

Trees take water from underground and transpire
= evaporative cooling
Deserts lack fresh water so no evaporative cooling
Deserts underground water is saline
Trees can not use saline water
= no trees, no vegetation
= no transpiration
= no transpiration cooling
= hot dry desert air

With evaporation - transpiration
water bag gets cooler water
lake water gets cooler
sea water gets cooler
water in ground gets cooler
river water gets cooler
country gets cooler climate

Sandridges contain fresh water, have more trees and more vegetation cover than valleys
= more transpiration cooling

Generator of arid desert heat and sandstorms are valleys between sandridges.



For more detail see satellite maps.

fall

sallt pond

ancient creek
existing or underground with probably existing creek valley

ancient river
existing or underground with existing river valley above.

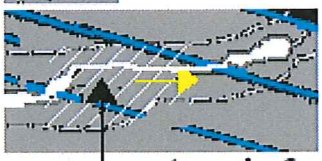
salt marsh

silted ancient river bed

sandridge

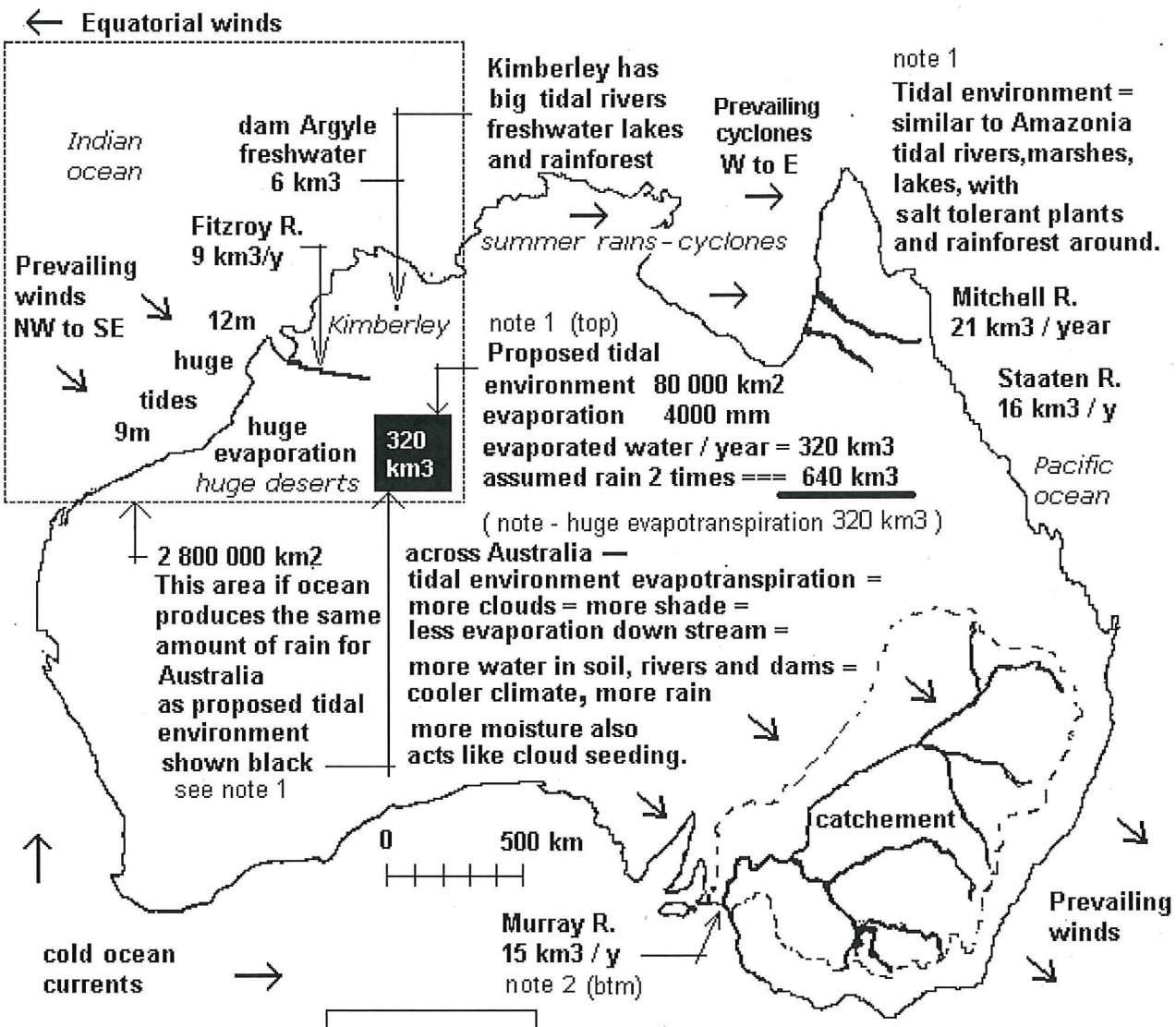
soak – fresh water
Soak (Au) = Oasis
fresh water must have outlet to remain fresh.

cut - opening in sand ridge indicated ■



nature is forming new river in ancient river bed connecting two saline lakes

Sandridges obstruct free water flow of ancient rivers, creeks, gullies and surface water.
Sandridges obstruct free water flow out of saline lakes.
Salt accumulates in big saline lakes, small saline lakes, ponds,saltmarshes, between sandridges and underground in saline water.
Sandridges in Great Sandy Desert are static - not shifting sand
Average height of sandridges is 12 m.
Average width at bottom is 36 m.
Average length of sandridges is 45 km (300 km long max).
Average distance between sandridges is 700 m
Long sandridges are very efficient obstruction to free water = salt accumulation = plants die (white death) = desert.



Australia ··3600 km3
north 2/3 ··2400 km3
south 1/3 ··1200 km3
Avg. rain per year for Australia (3596km3)

Huge tides
= huge erosion
+ blasting
= economical excavation

Indian ocean evaporation 1.150 m / year
90% rain back to sea
10% rain to land = 0.115 m
2 800 000 km2 x 0.000115 km === 322 km3 / year

Proposed tidal environment
evapotranspiration 4 m / year
80 000 km2 x 0.004 km ======== 320 km3 / year

COMPARISON

Aral sea	irrigation 80 000 km2 ·· main channel 1300 km long.
Irak marshes	draining 40 000 km2
NW Australian desert	Proposed tidal environment 80 000 km2 ·· main channel 1000 km long Excavation assisted by erosion with huge 12m tides. Huge evapotranspiration from tidal environment 4 m/year

initial evaporation for southern Australia rain	→	rain twice (note 3)	+	more vapor acts similar to cloud seeding and long way across Australia	=	more rain
Indian ocean 600 km3	=	1200 km3	+	seeding	=	more rain
tidal environment 320 km3	=	640 km3	+	seeding	=	more rain

note 3 Rain twice = rain from initial evaporation + rain from evapotranspiration of an earlier rain.
In Amazonia sometimes evaporated water rains back to the same groud from where was evaporated.

Evaporation areas are shown for size comparison only - and not for location or shape. see note 1

note 2 Murray river in big drought stops flowing ...
Thinking is that : One km3 more water might save Murray R. ?

COMPARISON

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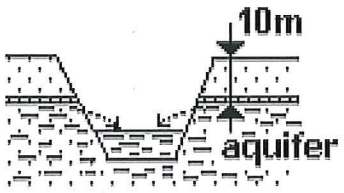
In many huge areas of Great Sandy Desert underground water is only 10m down
Salinity is about half of sea water with small exceptions.



Huge Canning aquifer has plenty of water required for erosion.

Underground water and water from existing rivers and creeks

specially constructed barges + blasting.
+ erosion by huge tides
= transport of eroded material and salt to sea.
= start of desalination

impervious layer

artesian water

ergs
sand dunes
sandstone
salt, clay

flow

blasting hard rock

salt is heavier and runs into depth of the sea

sea

huge Canning basin
sandstone

10m

tidal excavation.
erosion by huge tides

blasting (undermining)
to increase erosion
if necessary

not much hard rock in kilometres thick sandstone deposit. —

G.S. Desert area was in ancient times sea.

If river is deeper than level of underground water than underground water will run into river and river will have running water also in drought or low tide.

Deep river will desalinates the country

River - erosion will undercut banks (+ blasting) and rain, floods, will transport sand and salt into river and river further to sea.

No more " white death " - salt

At present eroded material and salt is accumulating in salt marshes, salt lakes, and underground water.

= salinity is increasing

= " white death " = desert is increasing.

EROSION

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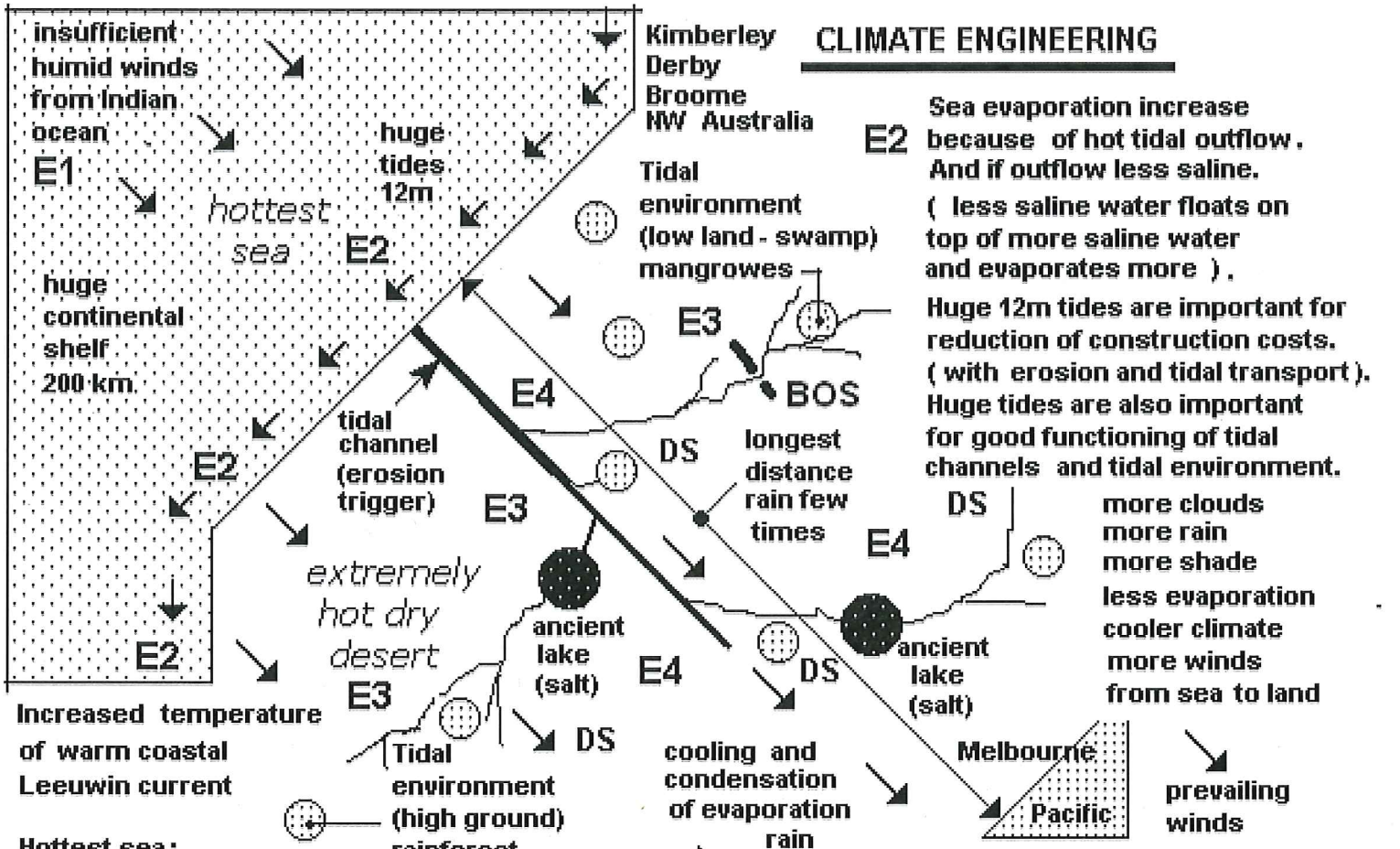

Hottest sea:
NW has the hottest sea pool of water winter or summer. Warm water will enter tidal channels and even warmer will discharge into sea.
Important for sea and tidal environment evaporation on NW and evaporation from Leeuwin current.

Huge tidal rivers and lakes with plenty of life in water and tidal environment around, were long ago on NW Australia.
And Australia got much more rain from evaporation on NW Australia.

E3 huge evaporation 4 m per year

DS desalination (hyper) (removal of salt).

E1 sea evaporation insufficient.

E4 evapotranspiration from fallen rain

tidal environment. (mangroves etc. + rainforest)

BOS Blasting openings in sand ridges across desert and removing other obstructions for free water flow.

EROSION

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